Appendix C – Drainage Report

407 TRANSITWAY – WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400

MINISTRY OF TRANSPORTATION - CENTRAL REGION

PARSONS

Drainage Report

407 Transitway From West Hurontario Street to East of Highway 400

GWP: 14-20001, CA 2014-E-0013

Submitted to:

Ministry of Transportation Ontario

July 20, 2018

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1. Introduction

1.1 PROJECT DESCRIPTION

Parsons was retained by the Ministry of Transportation Ontario (MTO) to undertake the Planning Phase, Environmental Assessment, and Preliminary Design for the proposed 407 Transitway (407 TWY) from west of Hurontario Street in the City of Brampton, Region of Peel, to east of Highway 400 in the City of Vaughan, Region of York.

The study will follow the Transit Project Assessment Process (TPAP) prescribed in Ontario Regulation 231/08, Transit Projects and Metrolinx Undertakings under the Environmental Assessment Act. This includes submission of the Environmental Project Report (EPR), which summarizes the results of the planning stage. As part of the EPR, a Drainage and Stormwater Management (SWM) study has been prepared to address any potential stormwater runoff impacts resulting from the proposed road improvement plans.

The EPR was submitted on November 2017 and comments from the review agencies were received in February 2018. This report addresses all comments received and is part of the PDR stage of the project.

1.2 PROJECT BACKGROUND

The proposed 407 TWY will be a two-lane, fully grade separated transit facility on an exclusive right-of-way, running along the 407 Corridor. This segment (refer to **Figure 1-1**) of the 407 TWY will be a total distance of approximately 23 km. Seven (7) stations are proposed along the study limits at the following locations: Hurontario Road, Dixie Road, Airport Road, Goreway Road, Highway 50, Highway 27, and Pine Valley Drive. The station layouts will include vehicular and pedestrian access, park and ride and pick-up/drop off (PPUDO) facilities, bus lay bay facilities, on-street integration with local transit, shelters, buildings, and other amenities.

The proposed 407 TWY falls predominately in the jurisdiction of the Toronto and Region Conservation Authority (TRCA), with a small segment extending into the jurisdiction of Credit Valley Conservation (CVC). The segment within TRCA's jurisdiction crosses three (3) watersheds: Etobicoke Creek, Mimico Creek, and Humber River. The short segment within the CVC jurisdiction crosses Fletcher watershed.

1.3 SCOPE OF WORK

The purpose of this study is to analyze and characterize the existing and potential site drainage and SWM facilities associated with the proposed transitway. This study will focus on the development of a drainage and stormwater management plan for the proposed 407 TWY that minimizes impacts on the existing watercourses and drainage patterns. Hydrologic and hydraulic analyses have been undertaken for the proposed water crossings and mitigation measures have been recommended where necessary. There are twenty-four (24) watercourses within the study limits, of which twenty-one

(21) cross the 407 TWY. The remaining watercourses were identified as minor conveyance features with small localized tributary areas that the proposed TWY will not affect because of grade difference.

This study includes the following:

- hydrologic analysis of the proposed 407 TWY to assess any negative impacts on the existing watercourses;
- identification of possible measures to minimize stormwater runoff impacts to fisheries, surface water, groundwater, and wetlands;
- design of SWM facilities for each station site to provide quantity and/or quality control;
- update of existing HEC-RAS models provided by TRCA to establish base models that could be used to assess the impact of the proposed 407 TWY;
- creation of new HEC-RAS models for water crossings that are not included in the TRCA hydraulic models found within the study area;
- hydraulic analysis of proposed 407 TWY structures;
- review and update of existing floodplain mapping within the study area received from TRCA to include the proposed 407 TWY to ensure no increases in water levels are expected beyond the MTO property; and
- creation of new floodplain maps for the creek crossings within the study limits for which existing floodplain maps were unavailable.

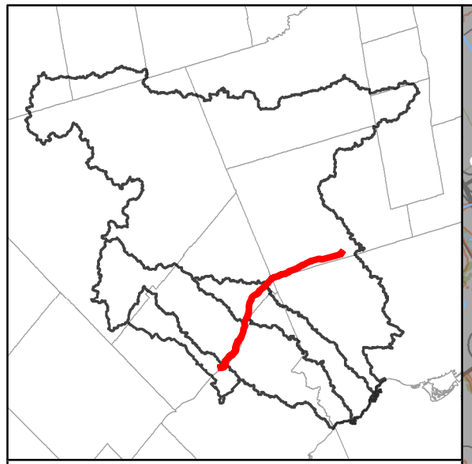
This report is intended to illustrate how the drainage system is affected by the proposed 407 TWY and to identify possible mitigation measures required to ensure the stormwater management criteria can be met. In addition, a preliminary hydrologic model has been developed to calculate the storage requirements of stormwater management facilities to ensure Ministry of the Environment and Climate Change (MOECC) and TRCA quality and quantity control criteria are achieved for each watershed.

1.4 OBJECTIVES

The objectives of this study are as follows:

- develop a drainage and stormwater management plan for the proposed 407 TWY that minimizes impact on the existing watercourses and drainage system;
- maintain existing watershed boundaries and drainage patterns;
- manage post-development runoff from road drainage within ROW infrastructure, where feasible;
- improve post-development runoff water quality prior to discharge to the identified site;
- outlet design;
- provide safe drainage conveyance to reduce potential flood risks, and prevent damage to private and public properties;
- undertake a hydrologic and hydraulic analyses of the proposed water crossings; and

- provide mitigation measures where necessary.



LEGEND

- Fletchers
- Etobicoke Creek
- Humber River
- Mimico Creek
- CVC / TRCA Watershed Boundary
- Proposed Transitway
- Project Limits
- Contour (5 m)
- Watercourse
- Waterbody
- Wetland
- Wooded Area

HUMBER RIVER
MIMICO CREEK
ETOBICOKE CREEK
FLETCHERS

SANDALWOOD PKY
HUMBER WEST PKY
BOVAIRD DR
WILLIAMS PKY
TORBRAM RD
QUEEN ST
BRAMALEA RD
DIXIE RD
AIRPORT RD
THE GORE RD
West Humber River
Mimico Creek
HWY 27
HWY 7
PINE VALLEY DR
East Humber River
WESTON RD
STEELES AVE
Black Creek
ALBION RD
FINCH AVE
KIPLING AVE
FINCH AVE W
Emery Creek
JANE ST
SHEPPARD AVE
GOREWAY DR
MARTIN GROVE RD
ISLINGTON AVE
Berry Creek
REXDALE BLVD
Etobicoke Creek
KENNEDY RD
MAIN ST
STEELES AVE
DERRY RD
Spring Creek
MCLAUGHLIN RD
TOMKEN RD
HURONTARIO ST
MAVIS RD
EGLINTON AVE
RENFORTH DR
Renforth Creek
RATHBURN RD
DIXON RD
Humber Creek
SCARLETT RD
ROYAL YORK RD
BLACK CREEK DR
WESTON RD
Silver Creek

410 427 407 400 409 401 403

DATE	PROJECT NO.
NOVEMBER 2017	602896

0 1 2 km

SOURCE: TRCA, LIO, NRCA
MTM Zone 10N NAD83

Ontario

PARSONS

625 COCHRANE DRIVE, SUITE 500
MARKHAM ON L3R 9R9
TEL: 905-943-0500
FAX: 905-943-0400

407 TRANSITWAY STUDY AREA

407 TRANSITWAY (G.W.P. 14-20001)
FROM WEST OF HURONTARIO ST TO EAST OF HWY 400

FIGURE NO.
1.1

2 Hydrologic Analysis

The existing study area, including the existing subwatershed boundaries, water crossings, and the drainage patterns for the 407 TWY corridor are shown in **Figure 1-1**. During the initial phase of the study, field investigations were carried out to inspect the existing structures and surrounding environment within the project limits. The findings of these investigations are shown in **Appendix A.**

2.1 EXISTING CONDITIONS

The existing drainage patterns of the 407 TWY from west of Hurontario St. to east of Highway 400 cross a variety of land use types, ranging from dense commercial/industrial areas to undeveloped open spaces. Overall, drainage is from the north to south. The 407 TWY crosses four (4) major watersheds, three (3) within TRCA jurisdiction, and one (1) within a CVC watershed. The 407 TWY transverses Fletchers Creek (CVC), Etobicoke Creek, Mimico Creek, and Humber River watersheds (TRCA). A small segment of the proposed 407 TWY included in this study falls within Fletchers Creek watershed. This segment ends 55m east of Fletcher's Creek tributary, and thus, is not considered within this study.

As shown in **Figure 1-1,** the Etobicoke Creek watershed is a long and narrow watershed that crosses Caledon, Brampton, Mississauga, and Toronto. The majority of this watershed has been urbanized, however, large sections of the land within the proposed 407 TWY alignment consists of undeveloped, vacant land. Approximately, 1,102.5ha of the Etobicoke Creek watershed is considered as part of the 407 TWY analysis.

For Mimico Creek, approximately 783ha of existing land in the watershed is considered in this study. The 407 TWY drainage areas within this watershed are predominately high density residential, commercial, and agricultural lands. A similar land use composition is found in the Humber River watershed within the proposed 407 TWY corridor. Approximately 786.5ha of the study area lies within the Humber River watershed. The overall catchments within these three watersheds vary in topography with an average slope of 4.2%.

Figures 1-2 through **1-4** show the existing drainage properties of the study area.

FLETCHER CREEK — ETOBICOKE WATERSHED — ETOBICOKE WATERSHED — MIMICO WATERSHED

METRIC

100–TWY | 1.02 | 24

HURONTARIO ST

407 ETR

FLETCHER'S CREEK

HYDRO CORRIDOR

KENNEDY RD

HWY 410

676–TWY | 1.61 | 31

MATCH LINE A-A

E1

E2

E3

E4

E5

603–TWY | 2.84 | 45

251–TWY | 1.84 | 90

248–TWY | 1.13 | 36

235–TWY | 0.11 | 74

227–TWY.1 | 0.75 | 32

FARMHOUSE COURT

MATCH LINE A-A

TOMKEN RD

DIXIE RD

BRAMALEA RD

CNR HALTON

TORBRAM RD

MATCH LINE B-B

179–TWY | 0.79 | 30

E6

E7

E8

227–TWY.2 | 3.13 | 32

210–TWY | 1.39 | 21

443–TWY | 0.78 | 59

655–TWY | 0.28 | 61

171–TWY | 0.65 | 18

700–TWY | 1.28 | 57

99–TWY | 0.12 | 38

M1

M2

M3

125–TWY | 0.56 | 38

104–TWY | 0.77 | 45

ETOBICOKE CREEK

Ontario PARSONS IBI GROUP

SCALE

0 100m 200m

1:2000

LEGEND

TRANSITWAY LIMITS

WATER COURSE

WATERCOURSE CROSSING E8

SUBWATERSHED DRAINAGE AREA BOUNDARY 123

EXISTING POND

AREA (ha) 98-1 | 0.44 | 90 — AREA ID / % IMPERVIOUS

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
EXISTING CONDITIONS

DRAWING SET
DRAINAGE AREA MAP

FIGURE
1-2

DATE
JUNE 2018

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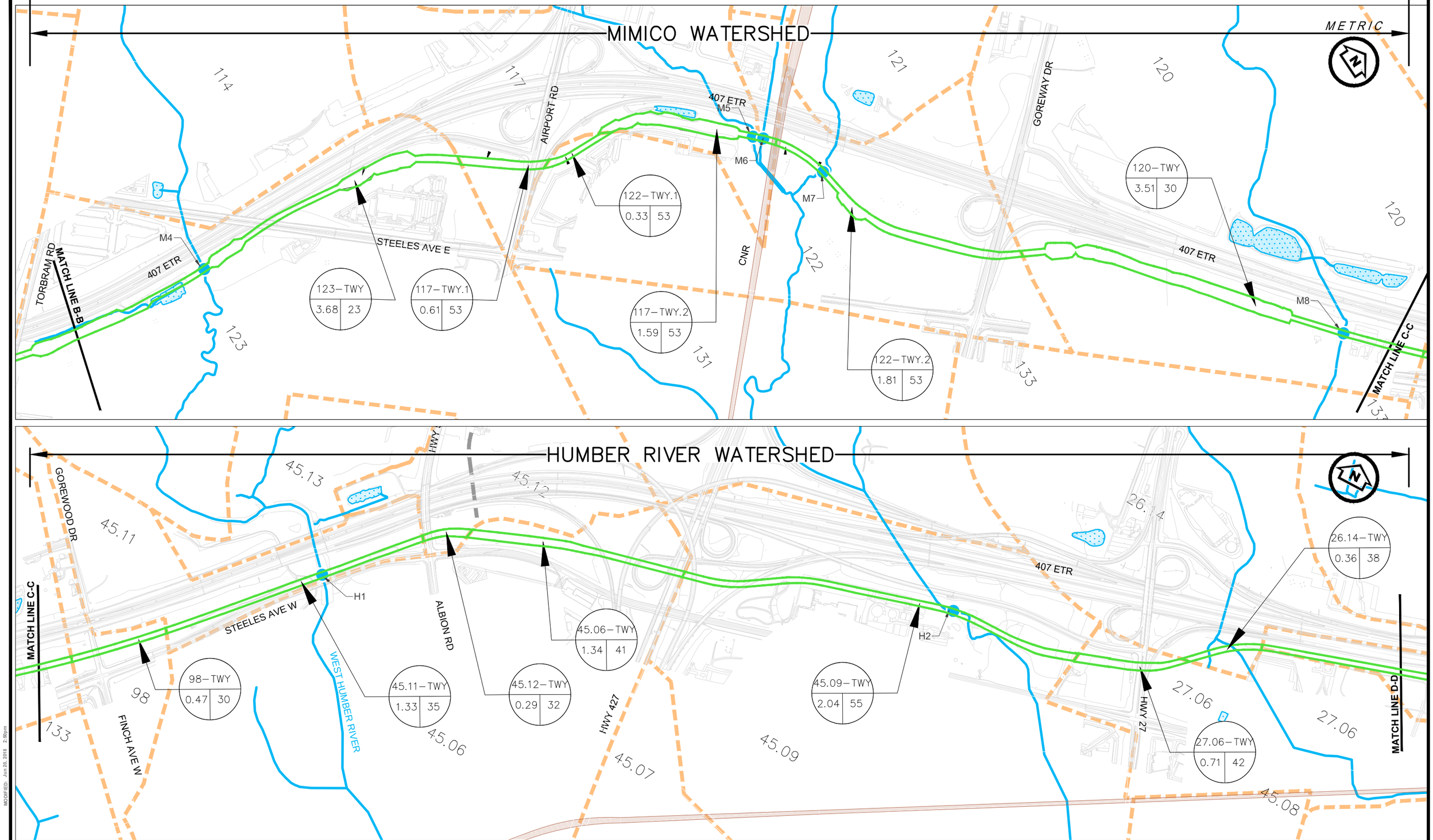

Ontario PARSONS IBI GROUP

SCALE
0 100m 200m
1:2000

LEGEND
TRANSITWAY LIMITS
WATER COURSE
WATERCOURSE CROSSING E8
SUBWATERSHED DRAINAGE AREA BOUNDARY 123
EXISTING POND
AREA (ha) 98-1 0.44 90 AREA ID % IMPERVIOUS

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
EXISTING CONDITIONS

DRAWING SET
DRAINAGE AREA MAP

FIGURE
1-3

DATE
JUNE 2018

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HUMBER RIVER WATERSHED

METRIC

FUTURE KIPLING AVE

MARTIN GROVE RD

EXISTING KIPLING AVE.

C.P.R. MACTIER

PINE VALLEY DR

407 ETR

ISLINGTON AVE

HUMBER RIVER

MATCH LINE D-D

MATCH LINE E-E

POTENTIAL FUTURE INTERCHANGE

26.1 | 26.02 | 27.09 | 27.1 | 26.09 | 26.01 | 27.05 | 27.04 | 27.07

26.09—TWY: 2.41 | 25

26.02—TWY: 0.56 | 25

27.09—TWY: 0.11 | 23

27.1—TWY: 0.63 | 48

26.01—TWY: 1.05 | 23

H3 H4 H5 H6 H7 H8

HUMBER RIVER WATERSHED

WESTON RD

HIGHWAY 400

407 ETR

27.08 | 27.07 | 46.04 | 46.01

MATCH LINE E-E

H8

27.07—TWY: 6.03 | 43

PARSONS | IBI GROUP

SCALE: 0 100m 200m

LEGEND

- TRANSITWAY LIMITS
- WATER COURSE
- WATERCOURSE CROSSING — E8
- SUBWATERSHED DRAINAGE AREA BOUNDARY — 123
- EXISTING POND
- AREA (ha) — 98-1 (0.44 | 90) — AREA ID / % IMPERVIOUS

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
EXISTING CONDITIONS

DRAWING SET
DRAINAGE AREA MAP

FIGURE 1-4

DATE JUNE 2018

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2.1.1 Water Crossings

There are twenty-four (24) water crossings within the TRCA-governed watersheds that have been identified within the 407 TWY study limits. Among the 24 watercourses, twenty-one (21) cross the proposed TWY corridor. **Figure A.1** in **Appendix A** shows the location of all existing water crossings. Details of the existing water crossings are summarized in **Table 2-1.**

Table 2-1: Existing Water Crossing Details

No.	WC ID	TWY Chainage	River Reach	Existing TRCA HEC_RAS Model	Existing FP Map from TRCA	Watercrossing Characteristic	Flow/Thermal Regime	Subwatershed ID(Hydrologic Analysis)	TRCA Tributary Name	Note
1	E1	2+138.08	Etobicoke Creek	No; HEC-RAS model started from scratch		Ditch	Warmwater - Intermittent	568	Etobicoke Creek	
2	E2			No; HEC-RAS model started from scratch		Ditch	Warmwater - Intermittent	251	Etobicoke Creek	
3	E3	3+012.44		No; HEC-RAS model started from scratch		Ditch	Warmwater - Intermittent	251	Etobicoke Creek	
4	E4	3+291.72		No; HEC-RAS model started from scratch		Ditch	Warmwater - Intermittent	251	Etobicoke Creek	
5	E5	4+721.14		HEC-RAS Model	eto_21	Creek	Warmwater - Permanent	227	Etobicoke Creek(West Branch)	
6	E6	5+859.92		No; HEC-RAS model started from scratch		Creek	Warmwater - Permanent	210	Etobicoke Creek(West Branch)	
7	E7	6+817.14		No; HEC-RAS model started from scratch		Creek	Warmwater - Permanent	655	Spring Creek	
8	E8	7+030.90		HEC-RAS Model	eto_14a,eto_14b,eto_15	Creek	Warmwater - Permanent	171	Spring Creek	
9	M1	8+205.86	Mimico Creek	No; HEC-RAS model started from scratch		Ditch	Warmwater - Permanent	99	Mimico Creek	
10	M2	8+434.40		No; HEC-RAS model started from scratch		Ditch	Warmwater - Ephemeral	125	Mimico Creek	
11	M3	8+813.26		No; HEC-RAS model started from scratch		Ditch	Warmwater - Permanent	124*	Mimico Creek	
12	M4	9+618.88		HEC-RAS Model	mim_16,mim_17,mim_18	Ditch	Warmwater - Permanent	123	Mimico Creek	
13	M5	11+343.04		No; HEC-RAS model started from scratch		Ditch	Warmwater - Permanent	117	Mimico Creek	
14	M6	11+522.92		No; HEC-RAS model started from scratch		Ditch	Warmwater - Permanent	117	Mimico Creek	
15	M7	11+582.9		HEC-RAS Model	mim_10,mim_11,mim_12	Creek	Warmwater - Permanent	122	Mimico Creek	
16	M8	13+209		No; HEC-RAS model started from scratch		Ditch	Warmwater - Intermittent	120	Mimico Creek	
17	H1	14+221.94	Humber Creek	HEC-RAS Model	hum_107,hum_108,hum_109	River	Warmwater - Permanent	45.06	West Humber River	
18	H2	16+161.99		No; HEC-RAS model started from scratch		Ditch	Warmwater - Intermittent	45.09	Albion Creek	
19	H3			No; HEC-RAS model started from scratch		Ditch	Coldwater - Intermittent	27.05	Lower Humber River	
20	H4			No; HEC-RAS model started from scratch		Ditch	Coldwater - Ephemeral	26.09	Rainbow Creek	
21	H5	18+341.15		HEC-RAS Model	hum_25	Ditch	Coldwater - Permanent	26.09	Rainbow Creek	
22	H6	18+710		HEC-RAS Model	hum_24	Creek	Coldwater - Permanent	26.02	Rainbow Creek	
23	H7	19+588.08		HEC-RAS Model	hum_23,hum_26	River	Warmwater - Permanent	27.09	Lower Humber River	
24	H8	21+298.05		No; HEC-RAS model started from scratch		Ditch	Warmwater - Permanent	27.07		

Note: * M3 is on the boundary of both Subarea 124 and 104

2.1.2 Site Soil Conditions

Ontario Geological Survey maps were reviewed to determine the soil conditions within the study area, as shown in **Figure A.2** in **Appendix A.** The predominant soil type within the study area is Peel clay; however, there is some variability across watersheds. In Etobicoke, there are sections of Cashel clay and bottom land type soils. The internal drainage in these sections is slow, but contains sufficient fall towards nearby watercourses to allow for adequate external drainage. Typically, these soils can be found within the floodplain. Malton clay, east of Spring Creek, is the soil type that predominately transitions between the Etobicoke and Mimico watersheds. For the most part, the soil conditions in Mimico within the 407 TWY limits are similar to Etobicoke. The Humber River watershed has the greatest variability in soil conditions within the study area limits. While the soil conditions are mostly peel clay, there are instances of sandy loam, including Fox sandy loam east of Emery Creek, Caledon loam along the Mimico border, and Berrien sandy loam near Pine Valley Drive. Clay type soils, including Malton clay, Chinguacousy clay loam, and Jeddo clay can be found along Weston Rd., and just west of Black Creek.

The general topography of the watersheds within the 407 TWY study area is from north to south with an average slope of 4.2%. The smooth, gently sloping nature of the topography creates low internal drainage, thus most sections along the proposed 407 TWY corridor fall into the Hydrologic Soil Group (HSG) C and D classification. These soils groups have the highest runoff potential. There are pockets within the study area that fall into HSG AB, indicating high infiltration capability. Areas such as near Pine Valley Drive and the 407 within the Humber River watershed fall into this category. The soil composition in the watersheds will be confirmed through the geotechnical investigation during the Preliminary Design stage.

2.1.3 Rainfall Data

The 12-hour AES design storm was selected for application in the Etobicoke Creek, Mimico Creek, and 6-hour AES was selected for Humber River watersheds hydrologic and hydraulic modelling. As noted in previous 407 TWY studies, the TRCA requested the AES distribution be applied to the hydrologic modelling of all watersheds. It was selected over both the U.S. Soil Conservation Service (SCS) and Chicago distributions, as it is more suitable for a Southern Ontario study area.

The 4-hour Chicago design storm was selected by MTO for the determination of upstream flows at water crossings where TRCA models were unavailable (refer to **Section 3.1** for details), roadway drainage design, and station stormwater management facility design. This design storm was generated using IDF curves for the year 2092 to account for climate change and the service life of the proposed infrastructure. The rainfall files were developed in Visual OTTHYMO Version 2.4 (VO2) using the latest IDF curves provided by MTO (refer to IDF Curve Look-up, MTO included in **Appendix B**). These IDF curves were generated by interpolating between two existing rain gauges to generate a rain gauge at the midpoint of the 407 TWY located near the interchange between the 407 ETR and Highway 427.

Additionally, design of the storage facilities proposed within this study considered both 4hr Chicago and 12hr AES or 6hr AES(for Humber Watershed) storm events, and a comparison of modelling results is summarized in several tables in the

report. The 12hr AES or 6hr AES remains the design storm as per TRCA's hydrologic modelling of the watershed; the 4hr Chicago is used to comply with the MTO criteria.

2.1.4 Methodology

CVC and TRCA provided watershed maps and hydrologic models for Fletchers Creek, Etobicoke Creek, Mimico Creek, and Humber River for this study. **Figures B.1 to B.4,** included in **Appendix B**, show the watersheds digitized in CAD using original maps from TRCA.

The Etobicoke Creek hydrologic model received from TRCA was developed as part of the Etobicoke Creek Hydrology Update carried out by MMM Group Limited in April 2013. For the existing conditions analysis, each catchment area that transverses the proposed 407 TWY was subdivided to represent areas upstream, downstream, and part of the future 407 TWY right-of-way. The 407 TWY sub-areas were delineated along the extents of the transitway grading to the toe of the embankments or the edge of the retaining walls. The sum of these areas is equal to the total area for each affected catchment area. This process was also applied to the received Humber River and Mimico Creek models. Similarly, these models were recently updated by the TRCA; Humber River in 2015, and Mimico Creek in 2009. **Table B.1** in **Appendix B** show the modification of the TRCA model area parameters for the application of this study.

Figures B.5 and **B.6** in **Appendix B** demonstrate the hydrologic modelling methodology applied for this study. For existing conditions, the input modelling parameters for each 407 TWY sub-area were selected to match the original VO2 input parameters included in the TRCA provided models. **Tables B.2 to B.4** in **Appendix B** show the parameters used in the TRCA model for each watershed. In cases where the larger subwatershed was modelled as a STANDHYD, the same command was used for the analysis of the TWY sub-areas; however, the imperviousness was adjusted to 20%. Similarly, where the larger subwatershed was modelled as a NASHYD/WILLHYD, the same command and input parameters were used to define the 407 TWY sub-area, to be conservative.

For the proposed condition, the input modelling parameters for each 407 TWY sub-area were adjusted to reflect the proposed condition with an impervious level of 90%. **Tables B.2 to B.4** in **Appendix B** show the parameters used in the TRCA model for each watershed, with the exception of the impervious level adjusted to 90%. There were three (3) cases in which the existing condition catchment was modelled as a NASHYD. To reflect the high impervious level, the STANDHYD command was used and the impervious level adjusted to reflect the proposed scenario. These catchments are within the Humber watershed and have the IDs 26.01, 26.09, and 26.02.

2.1.5 Allowable Flow Rates

The land use within the proposed 407 TWY corridor varies from high dense commercial/industrial areas to large swaths of open spaces. Relevant policies from the TRCA generally require any post-development peak flows match to pre-development levels. In the case of Etobicoke, post-development peak flows must be controlled to allowable unit flow rates (TRCA SWM Criteria, 2012).

The TRCA hydrologic (VO2) models were used to determine the peak flow rates based on existing conditions. The calculated peak flow rates for the 407 TWY drainage areas under existing conditions are summarized in **Table 2-2** to **Table 2-5** for the watersheds within this study. As shown in **Figure B.1**, there is only one catchment for Fletchers creek watershed. There was no model provided for Fletcher's Creek. A VO2 model was developed for the 407 TWY area based on available information on the existing site conditions. Detailed hydrological modelling outputs are attached in **Appendix B**.

Table 2-2: Existing Condition Peak Flows (m³/s), Fletchers Creek Watershed (12hr AES)

Return Period (12hr-AES)	TWY Sub-Area	100
	VO2 ID	100
	A (ha)	1.020
	2-yr	0.031
	5-yr	0.046
	10-yr	0.058
	25-yr	0.071
	50-yr	0.081
	100-yr	0.092

Table 2-3: Existing Condition Unit Peak Flows (m³/s), Etobicoke Creek Watershed (12hr AES)

Return Period (12hr-AES)	TWY Sub-Area	171	179	210	227	235	248	251	443	603	655	676	700
	VO2 ID	171-TWY	179-TWY	210-TWY	227-TWY	235-TWY	248-TWY	251-TWY	443-TWY	603-TWY	655-TWY	676-TWY	700-TWY
	Basin	7	7	4	4	4	5	5	7	5	7	4	7
	A (ha)	0.650	0.790	1.390	3.880	0.110	1.130	1.840	0.780	2.840	0.280	1.610	1.280
	2-yr	0.021	0.025	0.045	0.126	0.004	0.044	0.071	0.025	0.110	0.009	0.052	0.041
	5-yr	0.028	0.034	0.061	0.171	0.005	0.059	0.095	0.034	0.147	0.012	0.071	0.055
	10-yr	0.033	0.040	0.073	0.203	0.006	0.069	0.112	0.040	0.173	0.014	0.084	0.065
	25-yr	0.040	0.048	0.087	0.243	0.007	0.081	0.133	0.048	0.205	0.017	0.101	0.079
	50-yr	0.045	0.055	0.098	0.272	0.008	0.091	0.148	0.054	0.228	0.019	0.113	0.088
	100-yr	0.050	0.061	0.108	0.303	0.009	0.100	0.163	0.060	0.252	0.022	0.126	0.098

*Refer to Table B.5 in Appendix B for Unit Flow Relationships

Table 2-4: Existing Condition Peak Flows (m³/s), Mimico Creek Watershed (12hr AES)

Return Period (12hr-AES)	TWY Sub-Area	98	99	104	117	120	122	123	125
	VO2 ID	98-TWY	99-TWY	104-TWY	117-TWY	120-TWY	122-TWY	123-TWY	125-TWY
	A (ha)	0.470	0.120	0.770	2.200	3.510	2.140	3.680	0.560
	2-yr	0.015	0.004	0.028	0.090	0.109	0.088	0.151	0.021
	5-yr	0.021	0.006	0.039	0.123	0.157	0.120	0.206	0.029
	10-yr	0.026	0.007	0.047	0.146	0.191	0.142	0.245	0.035
	25-yr	0.031	0.009	0.056	0.175	0.234	0.170	0.293	0.042
	50-yr	0.036	0.010	0.064	0.196	0.266	0.191	0.329	0.048
	100-yr	0.040	0.011	0.071	0.218	0.298	0.213	0.365	0.053

Table 2-5: Existing Condition Unit Peak Flows (m³/s), Humber River Watershed (6hr AES)

Return Period	TWY Sub-Area	26.010	26.020	26.090	26.140	27.060	27.070	27.090	27.100	45.060	45.090	45.110	45.120
	VO2 ID	26.01-TWY	26.02-TWY	26.09-TWY	26.14-TWY	27.06-TWY	27.07-TWY	27.09-TWY	27.10-TWY	45.06-TWY	45.09-TWY	45.11-TWY	45.12-TWY
	A (ha)	1.050	0.560	2.410	0.360	0.710	6.030	0.110	0.630	1.340	2.040	1.330	0.290
	2-yr	0.010	0.006	0.021	Quantity Flood Control Not Required	Quantity Flood Control Not Required	0.038	Quantity Flood Control Not Required	0.005	Quantity Flood Control Not Required			
	5-yr	0.015	0.009	0.033			0.057		0.008				
	10-yr	0.019	0.011	0.040			0.069		0.009				
	25-yr	0.024	0.013	0.051			0.086		0.011				
	50-yr	0.028	0.016	0.060			0.100		0.013				
	100-yr	0.031	0.018	0.067			0.114		0.015				

Note:

1. Refer to Table B.6 in Appendix B for Unit Flow Relationships
2. Sub-Areas labelled with green lie in the Sub-Basin 36, and pink areas lie in Sub-basin 46.
3. Sub-Areas labelled with orange are in the basin where quantity controll is not required.

2.2 PROPOSED CONDITIONS

The proposed 407 TWY will cross several catchments within the Fletchers Creek, Etobicoke Creek, Mimico Creek, and Humber River watersheds. The existing drainage patterns will be affected, resulting in a disruption of conveyance of flow due to the proposed roadway. As shown in **Figure B.5**, the larger watersheds areas were further discretized to determine upstream catchment areas, TWY subcatchments, and downstream areas to carry out the analysis of proposed conditions. The following describes the hydrologic analysis completed to determine the impact of the proposed 407 TWY.

Figures 2-1 through **2-3** show the proposed drainage properties of the study area.

2.2.1 Analysis of 407 TWY Sub-Areas

The drainage areas along the proposed 407 TWY were delineated based on the high points and low points along the road profile.

The methodology for determining the outlet controlled rates for the TWY sub-areas (refer to **Figure C.1** in **Appendix C**) was conducted as follows:

- In post-development condition, the assumption was that sub-areas drain from high points to low points. In cases where a sub-area crosses a potential water feature, the strategy was to discharge at such a point. If this was the case, then the area was further subdivided.
- The resulting sub-areas could potentially cross-over two or more larger subwatersheds.
- For sub-areas that drain within the Mimico Creek and Humber River watersheds, the release rates are based on the pre-development peak flow for the 407 TWY sub-area within the larger subwatershed where the discharge point is located.
- For Etobicoke Creek, the release rates are set at each sub-area based on the outlet/low point location using the designated unit rates.

The post-development condition uncontrolled scenario was run to demonstrate the need for stormwater management facilities within the study limits. **Table 2-2-6** to **Table 2-2-9** show the difference in peak flows between the existing and post-development uncontrolled condition. Modelling results indicate that an overall significant increase of approximately 0% to 110% is noted within Fletchers Creek, Mimico Creek and Humber River watersheds. Higher increases up to 180% are noted in Etobicoke watershed due to more stringent criteria for quality control within this watershed (i.e.: unit rates). Modelling results indicate that SWM facilities are required to meet the existing/allowable rates within each subwatershed. Model output files for the uncontrolled scenario for the 407 TWY sub-areas analyzed in V02 are included in **Appendix C**.

FLETCHER CREEK — ETOBICOKE WATERSHED — METRIC

100–TWY1 | 0.08 | 90
603–TWY3 | 0.49 | 90
251–TWY1 | 1.82 | 75
251–TWY2 | 0.51 | 90
251–TWY3 | 0.46 | 90
248–TWY2 | 1.24 | 60
100–TWY2 | 0.22 | 90
603–TWY2 | 0.34 | 90
100–TWY3 | 0.71 | 45
603–TWY1 | 0.60 | 45
251–TWY4 | 0.44 | 24
248–TWY1 | 0.49 | 36
227–TWY1 | 3.14 | 60

HURONTARIO STREET STATION
UNDERPASS PUMPED TO POND

ETOBICOKE WATERSHED — MIMICO WATERSHED

179–TWY1 | 2.67 | 75
179–TWY2 | 1.37 | 90
700–TWY1 | 0.61 | 90
700–TWY2 | 0.65 | 90
123–TWY1 | 1.34 | 75
123–TWY2 | 1.44 | 75
227–TWY2 | 1.71 | 75

DIXIE ROAD STATION

SCALE
0 100m 200m
1:2000

LEGEND
TRANSITWAY LIMITS
ENCLOSED TRANSITWAY
PROPOSED 407 TRANSITWAY
WATER COURSE
SUBWATERSHED DRAINAGE AREA BOUNDARY
OVERLAND FLOW ROUTE
STATION DRAINAGE AREA
WATERCOURSE CROSSING
ENHANCED SWALE
HIGH POINT
LOW POINT
AREA (ha)
AREA ID
% IMPERVIOUS

PARSONS

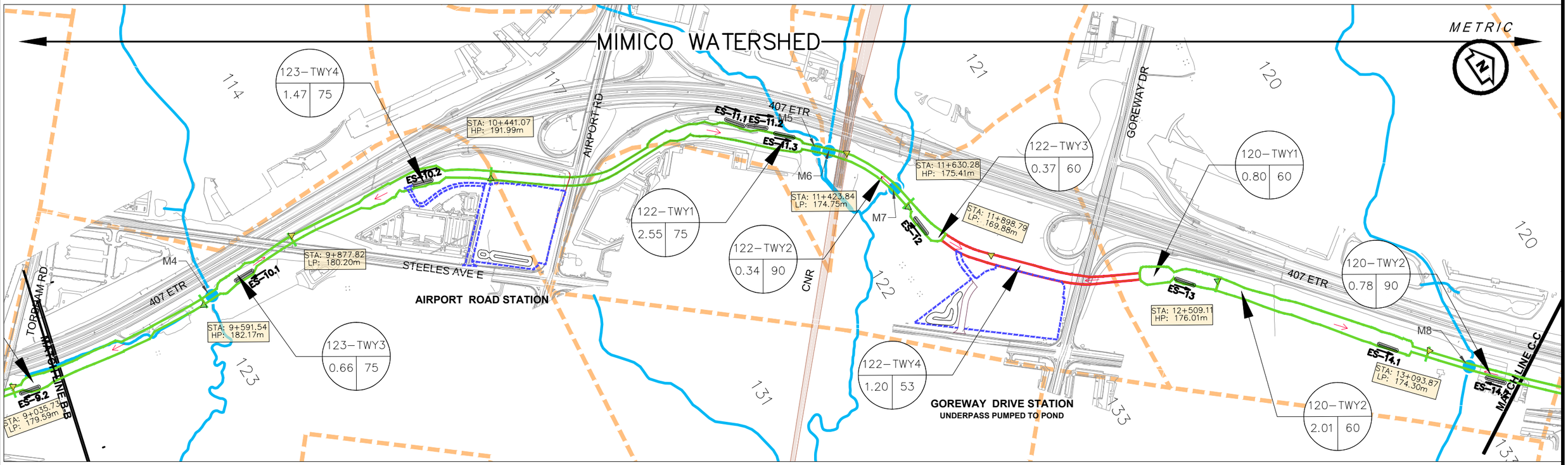
407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
PROPOSED CONDITION

DRAWING SET
DRAINAGE AREA MAP

FIGURE
2-1

DATE
JUNE 2018

DRAWING NAME: J:\Div\on\TT\Drainage\602896 - 407_Transitway Hurononario\CAD\Design\Drainage Mosaic\602896 - Drainage Mosaic - PROP-COND.dwg
MODIFIED: Jun 20, 2018 5:43pm
CREATED: RM3



Ontario PARSONS IBI GROUP

SCALE
0 100m 200m
1:2000

LEGEND
TRANSITWAY LIMITS
ENCLOSED TRANSITWAY
PROPOSED 407 TRANSITWAY
WATER COURSE
SUBWATERSHED DRAINAGE AREA BOUNDARY 123
OVERLAND FLOW ROUTE
STATION DRAINAGE AREA
WATERCOURSE CROSSING E8
ENHANCED SWALE ES-1.2
HIGH POINT
LOW POINT
AREA ID 98-1
AREA (ha) 0.44 90 % IMPERVIOUS

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
PROPOSED CONDITION

DRAWING SET
DRAINAGE AREA MAP

FIGURE
2-2

DATE
JUNE 2018

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MODIFIED: Jun 20, 2018 5:48pm

HUMBER RIVER WATERSHED

METRIC

MARTIN GROVE RD

FUTURE KIPLING AVE

EXISTING KIPLING AVE.

C.P.R. MACTIER

PINE VALLEY DR

407 ETR

26.01TWY2
1.53 | 90

27.07TWY1
2.10 | 43

STA: 18+997.27
LP: 141.19m

H3 H4 H5 H6 H7 H8

ES-17.3 ES-17.4 ES-17.5 ES-17.6 ES-17.7 ES-18 ES-18.1

MATCH LINE D-D

MATCH LINE E-E

HUMBER RIVER

ISLINGTON AVE

PINE VALLEY DRIVE STATION
UNDERPASS PUMPED TO POND

27.07TWY2
0.36 | 90

POTENTIAL FUTURE INTERCHANGE

26.1 26.02 26.09 26.01 27.1 27.09 27.07 27.05 27.04

HUMBER RIVER WATERSHED

27.08 407 ETR WESTON RD HIGHWAY 400 407 ETR 46.04 46.01 27.07

27.07TWY3
3.75 | 90

H8

MATCH LINE E-E

ES-19.2 ES-19.3 ES-19.4 ES-19.5

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MODIFIED: Jun 20, 2018 5:52pm
CREATED: RM3

Ontario PARSONS IBI GROUP

SCALE
0 100m 200m
1:2000

LEGEND

- TRANSITWAY LIMITS
- ENCLOSED TRANSITWAY
- PROPOSED 407 TRANSITWAY
- WATER COURSE
- SUBWATERSHED DRAINAGE AREA BOUNDARY
- OVERLAND FLOW ROUTE
- STATION DRAINAGE AREA
- WATERCOURSE CROSSING
- 123
- E8
- ENHANCED SWALE
- HIGH POINT
- LOW POINT
- AREA ID
- AREA (ha) 98-1 (0.44 | 90) % IMPERVIOUS

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
PROPOSED CONDITION

DRAWING SET
DRAINAGE AREA MAP

FIGURE
2-3

DATE
JUNE 2018

Table 2-2-6: Comparison of Existing and Post-Development (Uncontrolled) Conditions Peak Flows, Fletchers Creek Watershed (12hr AES)

Return Period (12hr-AES)	TWY Sub-Area	100-1		
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	% Increase Prop Q_{peak}
	VO2 ID	100	1001, 1002, 1003	
	A (ha)	1.020	1.010	
	2-yr	0.031	0.037	19.355%
	5-yr	0.046	0.052	13.043%
	10-yr	0.058	0.063	8.621%
	25-yr	0.071	0.077	8.451%
	50-yr	0.081	0.087	7.407%
	100-yr	0.092	0.097	5.435%

Table 2-2-7: Comparison of Existing and Post-Development (Uncontrolled) Conditions Peak Flows, Etobicoke Creek Watershed (12hr AES)

Return Period (12hr-AES)	TWY Sub-Area	179			227		
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}
	VO2 ID	179-TWY	1791, 1792		227-TWY	2271, 2272	
	A (ha)	0.79	4.04		3.88	4.85	
2-yr		0.025	0.183	631.204%	0.126	0.205	63.021%
5-yr		0.034	0.244	615.287%	0.171	0.279	62.981%
10-yr		0.040	0.287	610.385%	0.203	0.330	62.934%
25-yr		0.048	0.340	601.515%	0.243	0.394	62.474%
50-yr		0.055	0.380	596.817%	0.272	0.442	62.253%
100-yr		0.061	0.420	592.337%	0.303	0.490	61.929%

Return Period (12hr-AES)	TWY Sub-Area	248			251		
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}
	VO2 ID	248-TWY	2481, 2482		251-TWY	2511, 2512, 2513, 2514	
	A (ha)	1.13	1.73		1.84	3.23	
2-yr		0.044	0.069	57.255%	0.071	0.144	101.547%
5-yr		0.059	0.096	63.723%	0.095	0.194	103.189%
10-yr		0.069	0.114	66.011%	0.112	0.228	103.905%
25-yr		0.081	0.138	69.546%	0.133	0.270	103.719%
50-yr		0.091	0.155	70.628%	0.148	0.303	104.844%
100-yr		0.100	0.173	72.368%	0.163	0.335	104.982%

Return Period (12hr-AES)	TWY Sub-Area	603			700		
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}
	VO2 ID	603-TWY	6031, 6032, 6033		700-TWY	7001, 7002	
	A (ha)	2.84	1.43		1.28	1.26	
2-yr		0.110	0.065	-41.058%	0.041	0.065	60.294%
5-yr		0.147	0.088	-40.285%	0.055	0.085	53.789%
10-yr		0.173	0.104	-39.740%	0.065	0.099	51.239%
25-yr		0.205	0.123	-39.872%	0.079	0.116	47.718%
50-yr		0.228	0.137	-39.993%	0.088	0.128	44.865%
100-yr		0.252	0.152	-39.742%	0.098	0.141	43.451%

Table 2-2-8: Comparison of Existing and Post-Development (Uncontrolled) Conditions Peak Flows, Mimico Creek Watershed (12hr AES)

Return Period (12hr-AES)	TWY Sub-Area	120			122			123		
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	% Increase Prop Q_{peak}
	VO2 ID	120-TWY	1201, 1202, 1203		122-TWY	1221, 1222, 1223, 1224		123-TWY	1231, 1232, 1233, 1234	
	A (ha)	3.51	3.59		2.14	4.46		3.68	4.91	
	2-yr	0.109	0.154	41.284%	0.088	0.182	106.818%	0.151	0.224	48.344%
	5-yr	0.157	0.211	34.395%	0.120	0.252	110.000%	0.206	0.302	46.602%
	10-yr	0.191	0.249	30.366%	0.142	0.299	110.563%	0.245	0.354	44.490%
	25-yr	0.234	0.297	26.923%	0.170	0.359	111.176%	0.293	0.420	43.345%
	50-yr	0.266	0.334	25.564%	0.191	0.403	110.995%	0.329	0.469	42.553%
	100-yr	0.298	0.370	24.161%	0.213	0.448	110.329%	0.365	0.519	42.192%

Table 2-2-9: Comparison of Existing and Post-Development (Uncontrolled) Conditions Peak Flows, Humber River Watershed (6hr AES)

Return Period (6hr-AES)	TWY Sub-Area	26.01			27.07		
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}
	VO2 ID	26.01-TWY	26011, 26012		27.07-TWY	27071, 27072, 27073	
	A (ha)	1.05	5.78		6.03	6.21	
2-yr		0.010	0.491	4837.420%	0.038	0.445	1057.451%
5-yr		0.015	0.661	4212.819%	0.057	0.611	972.211%
10-yr		0.019	0.776	4031.063%	0.069	0.723	945.726%
25-yr		0.024	0.921	3789.069%	0.086	0.873	909.280%
50-yr		0.028	1.030	3606.684%	0.100	0.984	881.912%
100-yr		0.031	1.138	3537.067%	0.114	1.094	858.936%

Return Period (6hr-AES)	TWY Sub-Area	45.06			45.09		
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}
	VO2 ID	45.06-TWY	4506		45.09-TWY	45091, 45092	
	A (ha)	1.34	1.34		2.04	1.92	
2-yr		Quantity not Required	0.061		Quantity not Required	0.156	
5-yr			0.092			0.212	
10-yr			0.113			0.250	
25-yr			0.146			0.298	
50-yr			0.168			0.334	
100-yr			0.191			0.370	

Return Period (6hr-AES)	TWY Sub-Area	45.11			45.12		
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	% Increase Prop Q_{peak}
	VO2 ID	45.11-TWY	4511		45.12-TWY	4512	
	A (ha)	1.33	1.56		0.29	0.29	
2-yr		Quantity not Required	0.141		Quantity not Required	0.024	
5-yr			0.189			0.033	
10-yr			0.220			0.038	
25-yr			0.260			0.046	
50-yr			0.290			0.051	
100-yr			0.319			0.058	

2.2.2 Determination of Upstream Flow for Analysis of Water Crossings

There are twenty-one (21) water crossings that will be directly affected by the proposed 407 TWY. TRCA provided the hydraulic model for ten (10) water crossings: E5, E7, E8, M4, M7, M8, H1, H5, H6, and H7. No further hydrologic modelling was completed for these crossing. For the remaining water courses, a hydrologic analysis of the drainage areas upstream of the proposed 407 TWY was undertaken. Drainage area maps were delineated for the eleven (11) water crossings and are included in **Appendix D**.

The original model parameters from TRCA were maintained in the hydrologic analysis, and areas were adjusted to reflect the drainage boundary at the upstream side of the proposed 407 TWY. The Chicago 4-hr distribution using MTO's IDF curves was used in this analysis and peak flows for all upstream areas are summarized in **Tables 2-10 – 2-12**. These flows were further used in the HEC-RAS analysis of the proposed structures (refer to **Section 3**). VO2 modelling output files are included in **Appendix D**.

Table 2-10: Determination of Upstream Flows for Water Crossings, Etobicoke Watershed

Etobicoke Creek Watershed	WC ID - E1	WC ID - E3	WC ID - E4	WC ID - E7	WC ID - E8
Contributing Catchments	Catchments: • 603-A • 605-A • 568-A • 559-A • 561 (major only)	Catchments: • 248-A • 251-A • 709-A	Catchments: • 251-E4 • 643-A	Catchments: • 655-A	Catchments: - see map in Appendix D
Drainage Area (ha)	72.01	112.10	14.84	100.13	3620.34
V02 IDs	2605, 100603	1002481, 4129, 100251	1002511, 4472	100655	5171
Return Period	12hr AES Q (m^3/s)	12hr AES Q (m^3/s)	12hr AES Q (m^3/s)	12hr AES Q (m^3/s)	12hr AES Q (m^3/s)
2-year	1.29	2.19	0.16	3.62	41.99
5-year	1.69	3.07	0.22	4.80	58.66
10-year	2.06	3.69	0.27	5.60	70.12
25-year	2.62	4.49	0.34	6.62	85.22
50-year	3.08	5.10	0.39	7.37	97.08
100-year	3.56	5.73	0.44	8.13	100.96
Check Flow	4.62	7.45	0.58	10.57	131.25
Regional	7.56	11.13	1.17	11.52	314.67

Check Flow - For Scour – 130% of 100-year

Table 2-11: Determination of Upstream Flows for Water Crossings, Mimico Creek Watershed

Mimico Creek Watershed	WC ID - M1	WC ID - M2	WC ID - M3	WC ID - M5	WC ID - M6
Contributing Catchments	Catchments: • 99-A	Catchments: • 124-A1 • 125-A	Catchments: • 124-A2	Catchments: • 115-A • 117A1 • 117-A2	Catchments: • 118-A • 117-A3 • 122-A1
Drainage Area	43.89	4.99	80.19	320.10	79.86
V02 ID	10099	1001241	1001242	115, 1001171, 1001172	118,1001173, 100122
Return Period	12hr AES	12 hr AES Q (m^3/s)	12hr AES Q (m^3/s)	12-hr AES Q (m^3/s)	12-hr AES Q (m^3/s)
2-year	1.62	0.21	3.44	8.09	3.27
5-year	2.27	0.28	4.66	11.10	4.48
10-year	2.73	0.34	5.49	13.17	5.31
25-year	3.30	0.40	6.55	15.81	6.36
50-year	3.73	0.45	7.34	17.78	7.14
100-year	4.17	0.50	8.13	19.77	7.93
Check Flow	5.42	0.65	10.57	25.70	10.31
Regional	6.15	0.71	11.44	44.26	11.32

Check Flow - For Scour – 130% of 100-year

Table 2-12: Determination of Upstream Flows for Water Crossings, Humber River Watershed

Humber Watershed	WC ID - H2	WC ID - H5**	WC ID - H6**	WC ID - H8
Contributing Catchments	Catchments: • 45.09-A • 45.10	Catchments: • 26.09-A • 26.1-A • 26.14-A • 26.11	Catchments: • 26.02-A	Catchments: • 27.07-A.3 • 27.08-A • 27-15 • 27.14
Drainage Area (ha)	235.95	227 ha	63 ha	350.26
V02 IDs	666, 2241 (route ch downstream of 667)			27 (separate VH model created for this crossing)
Return Period	12hr AES Q (m^3/s)	4hr CH - MTO Q (m^3/s)	4hr CH - MTO Q (m^3/s)	12hr AES - MTO Q (m^3/s)
2-year	2.30	10.48	0.19	13.58
5-year	3.58	16.67	0.39	18.77
10-year	4.51	20.78	0.54	22.45
25-year	5.74	26.28	0.77	27.01
50-year	6.67	30.69	0.95	30.45
100-year	7.60	37.99	1.13	33.88
Check Flow	9.88	49.39	1.47	44.04
Regional	18.28	25.70	5.05	49.27

*Check Flow - For Scour – 130% of 100-year

** Hydraulic model for water crossing provided by TRCA and includes additional upstream areas not found in this study. The Hydraulic models use TRCA flows, not the ones shown in this table

3 Hydraulic Analysis

The proposed 407 TWY contains twenty-four (24) watercourses within the study limits, of which twenty-one (21) cross the 407 TWY corridor. The remaining watercourses were identified as minor conveyance features with small localized tributary areas that the proposed TWY will not affect because of grade differences. **Table 2-1** (in **Section 2**) provides details of all crossings within the study limits and summarizes information reviewed from a variety of sources such as hydrologic modelling documentation, watershed studies, available approved hydraulic models, and floodplain maps received from CVC and TRCA. In addition, **Table 2-1** identifies each potential water crossing along the proposed 407 TWY. A HEC-RAS modelling analysis was undertaken to design new structures at each water crossing location to evaluate and identify any effects due to the 407 TWY construction.

3.1 METHODOLOGY

TRCA regularly generates, maintains, and updates HEC-RAS models and floodplain maps for a majority of the creeks within its jurisdiction. Parsons received several HEC-RAS models from TRCA for the watercourses within the 407 TWY study area. Each model was reviewed carefully and the approximate location of watercourses within the 407 TWY were identified. For crossings in which a TRCA model was received, the cross sections located within the 407 TWY corridor were updated based on the recent survey completed by J.D. Barnes. For water crossings without any available HEC-RAS model, a new geo-referenced model was created. During the modelling process, it was noted that all TRCA HEC-RAS models have been set up on the UTM coordinate system while all surveyed data and AutoCAD files were based in the MTM coordinate system. Transferring the MTM-based AutoCAD files to an UTM coordinate system is a labour-intensive process. It was decided that all TRCA files were to remain in the UTM coordinate system for the update of the models; and for all new HEC-RAS models, the MTM coordinate system was assigned. **Figure A.1** in **Appendix A** shows the location of each crossing within the study limits, and indicates the availability of TRCA HEC-RAS models.

The approach for the update and development of the new HEC-Ras model commenced with the creation of a digital surface from the survey data using AutoCAD Civil 3D. Once the surface was established, cross sections were generated within the 407 TWY corridor upstream and downstream of existing and proposed structures at 50 m intervals. For creeks with an available HEC-RAS model, only the sections within the corridor were updated, and flow data was left unchanged as these models contained extensive flow information from upstream drainage areas. For other creeks without an existing TRCA model, cross sections were exported to HEC-RAS model to create a georeferenced geometry file, and flows input based on the upstream flows shown in **Table 2-10** to **Table 2-12**. Flow rates were calculated upstream of 407 TWY based on the watershed areas discharging to a specific watercourse. For the details of the flow rate calculations, refer to **Section 2.2.2**.

Two scenarios were considered to understand the influence of the proposed 407 TWY on the existing water crossings. The Existing Condition scenario included only the hydraulic structures presently at the 407 ETR, as well as any local structures immediately upstream or downstream that could have a potential impact. The Proposed Condition analysis included the proposed 407 TWY structure. **Table 3-2** provides a summary of the existing and proposed structures.

3.2 HYDRAULIC DESIGN CRITERIA

The following standards from MTO Highway Drainage Design Standards (Jan 2008) were used:

Table 3-1: Summary of Hydraulic Design Criteria

WC-1: Design Flows (Bridges and Culverts)

Functional Road Classification	*Return Period of Design Flows (Years)*		*Check Flow for Scour*
	Total Span less than or equal to 6.0 m	*Total Span greater than 6.0 m*	
Freeways, Urban Arterial	50	100	130% of 100 Year

WC-2: Freeboard and Clearance at Bridge Crossings

- The minimum freeboard is measured vertically from the High-Water Level for the Design Flow (50-yr/100-yr WL) to the edge of the travelled lane, the freeboard at bridge crossings shall be greater than or equal to 1m for freeways
- The clearance is measured vertically from the High-Water Level of the Design Flow to the lowest point on the soffit; the clearance for freeways shall be greater than or equal to 1m.
- The WL generated by the Check Flow shall not exceed the elevation of the edge of the travelled lane.

WC-7: Culverts Crossings on a Watercourse

- Freeboard for the design flow should be at least one (1) m. Minimum freeboard is measured vertically from the high-water level for the design flow to the edge of the travelled lane
- Clearance for open footing culverts should be 0.3m clearance is measured vertically from the high-water level for the design flow to the straight soffit.

WC-8: Minimum Culvert Size

- 800mm minimum diameter for circular culverts
- 900mm minimum rise for box culverts

3.3 HYDRAULIC ANALYSIS

Table 3-2 summarizes the hydraulic analysis of all water crossings and their respective structures. **Tables 3-3** through **3-5** identify water crossings and compares the water levels for the 50-year, 100-year, and regional storm events immediately upstream of the proposed TWY crossings.

Table 3-2: 407 TWY - Water Crossings (Culverts/Bridges) Design Parameters and Structure Performance, Proposed Condition

GENERAL INFO			HIGHWAY 407 ROADWAY DATA			EX 407 ETR STR*	Flow Data (12hr AES)				PROP 407 TWY STRUCTURE DESIGN PARAMETERS												Design Flow		HYDRAULICS				CULVERT/BRIDGE PERFORMANCE							
WATER CROSSING No.	Type	Proposed Transitway Station	CL Elev.	EOTL Elev	Lowest Point of the Soffit	Size /span	50-yr	100-yr	Check Flow	Regional Flow	Inverts		Length	Slope	Span x Rise	Opening	Diameter	CL-Elev.	EOTL-Elev.	Span	Lowest point on the Soffit	Material	HDDS 2008 (WC-1)		Computed HW Elevation (m)				Freeboard at Bridges	Clearance at Bridges	Freeboard at Culverts	EOTL - Check Flow WL at Bridges	Compliance to Standard			
											Upstr	Downstr											Span > 6m ?	Return Period (yr)	50-yr	100-yr	Regional	Check Flow	(STD WC-2)	(STD WC-2)	(STD WC-7)	(STD WC-2)	Freeboard at Bridges	Clearance at Bridges	Freeboard at Culverts >1	At Bridges
			(m)	(m)	(m)	(mm)	(m^3/s)	(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)	(%)	(m)	(m)	(m)	(m)	(m)	(m)	(m)								(m)	(m)			>1	>1		WL < EOTL
E1	Structural Box Culvert	2+138.08	204	203.85	--	3.5 x 2.5	3.08	3.56	4.62	7.56	198.40	198	20.00	2.0%	3.5x 2.5	3.5	-	204.1	204.0			Conc	no	50	199.75	199.77	199.94	199.83	-	-	4.23	-	-	-	yes	-
E3	Structural Box Culvert	3+012.44	196.00	195.85	--	3 x 2.2	5.10	5.73	7.45	11.13	192.00	191.50	15.00	3.3%	3x2.2	3.0	-	197.512	197.362			Conc	no	50	193.02	193.11	193.72	193.32	-	-	4.34	-	-	-	yes	-
E4	Pipe	3+291.72	199.50	199.35	-	1.00	0.39	0.44	0.58	1.17	189.93	189.56	15.00	2.5%	-	1.0	1.000	196.005	195.855			Conc.	no	50	190.44	190.47	190.87	190.56	-	-	8.91	-	-	-	yes	-
E5	Middle Bridge	4+710	189.04	188.89	186.51	68000	79.62	90.27	132.96	270.64			15.00				-	187.147	186.997	160	185.500	Conc	yes	100	181.74	181.82	183.42	182.06	5.18	3.68	-	4.94	yes	yes	-	yes
E6	Bridge	5+859.92	180.20	180.05	--	5.5 x 2.8	47.06	50.94	66.22	81.23			15.00					190.607	190.457	100	188.600	Conc	yes	100	179.86	179.92	180.37	180.17	10.54	8.68	-	10.29	yes	yes	-	yes
E7	Structural Twin Box Culvert	6+817.14	183.60	183.45	--	4.62 x 2.85	7.37	8.13	10.66	11.52	175.87	175.76	19.00	0.6%	4.62 x 2.85	9.2	-	182.600	182.450			Conc	yes	100	179.61	179.68	180.54	179.94	-	-	2.77	-	-	-	yes	-
E8	South and North Bridge	7+030.90	184.32	184.17	184.79	43000	97.08	108.96	157.10	314.67			15.00				-	186.400	186.250	120	183.900	Conc	yes	100	180.09	180.19	181.33	180.53	6.06	3.71	-	5.72	yes	yes	-	yes
M1	Twin Box Culvert	8+205.86	194.74	194.59	--	7.2 x 2.7	3.73	4.17	5.42	6.15	179.15	179.10	20.00	0.3%	7.2 x 2.7	14.4	-	192.878	192.728			Conc	yes	100	179.66	179.70	179.80	179.76	-	-	13.03	-	-	-	yes	-
M2	Pipe	8+434.40	190.53	190.38	--	1.20	0.45	0.50	0.65	0.71	180.07	179.34	20.00	3.6%	2.5 x 1.5	2.5	-	190.483	190.333			Conc	no	50	180.26	180.28	180.33	180.32	-	-	10.07	-	-	-	yes	-
M3	Box Culvert	8+813.26	181.37	181.22	--	4.7 x 2.55	7.34	8.13	10.57	11.44	177.70	177.59	15.00	0.7%	4.7 x 2.55	4.7	-	182.830	182.680			Conc	no	50	178.97	179.01	179.17	179.12	-	-	3.71	-	-	-	yes	-
M4	Twin Box Culvert	9+618.88	181.59	181.44	--	4 x 3	47.00	55.00	71.50	87.40	175.86	175.74	20.00	0.6%	4 x 3	8.0	-	182.175	182.025			Conc	yes	100	177.87	178.48	179.43	178.98	-	-	3.55	-	-	-	yes	-
M5	Twin Box Culvert	11+343.04	176.67	176.52	--	4.5 x 3.5	17.78	19.77	44.26	25.70	172.25	172.19	15.00	0.4%	6 x 2	12.0	-	175.220	175.070			Conc	no	50	173.02	173.08	173.68	173.22	-	-	2.05	-	-	-	yes	-
M6	Box Culvert	11+371.61	176.67	176.52	--	6.3 x 1.5	7.14	7.93	10.31	11.32	172.27	172.11	15.00	1.1%	6.3 x 1.5	6.3	-	174.936	174.786			Conc	yes	100	172.91	172.94	173.05	173.09	-	-	1.85	-	-	-	yes	-
M7	North Bridge	11+582	176.17	176.02	173.00	48800	28.20	33.70	43.81	100.80								175.257	175.107	60	173.000	Conc	yes	100	172.60	172.80	174.05	173.34	2.31	0.20	--	1.77	yes	no	-	yes
M8	Box Culvert	13+209	175.48	175.33	--	6 x 2	24.61	27.69	35.997	34.66	171.27	171.22	15.00	0.3%	6 x 2	6.0	-	175.351	175.201			Conc	no	50	173.16	173.32	173.80	174.22	-	-	2.04	-	-	-	yes	-
H1	South Bridge	14+221	174.09	173.94	171.00	141692	172.62	197.78	257.11	672.76								172.890	172.740	120	170.200	Conc	yes	100	166.58	166.55	168.20	166.62	6.19	3.65	-	6.12	yes	yes	-	yes
H2	Box Culvert	16+356.70	180.63	180.48	--	5 x 2	46.91	53.00	68.90	36.85	170.50	170.30	20.00	1.0%	5 x 2	5.0	-	180.630	180.480			Conc	no	50	171.54	171.64	172.43	171.86	-	-	8.94	-	-	-	yes	-
H5	Pipe	18+341.15	155.47	155.32	--	1.00	30.69	37.99	49.39	25.70	150.30	150.25	10.00	0.5%	-	1.0	1.000	159.271	159.121			Conc	no	50	-	154.05	-	-	-	-	5.071	-	-	-	yes	-
H6	South Bridge	18+710	145.18	145.03	143.00	52100	1.20	1.41	1.83	4.99			15.00					145.684	145.534	45	142.900	Conc	yes	100	136.96	136.99	137.28	137.03	8.54	5.91	-	8.50	yes	yes	-	yes
H7	South Bridge	19+588.08	143.85	143.70	141.51	13165	229.90	268.10	348.5	920.30			15.00					143.678	143.528	45	141.530	Conc	yes	100	137.27	137.59	141.36	139.31	5.94	3.94	-	4.22	yes	yes	-	yes
H8	Bridge	21+298.05	163.16	163.01	160.92	1000	30.45	33.88	44.04	49.67			15.00					164.125	163.975	45	163.000	Conc	yes	100	162.21	162.30	162.65	162.53	1.67	0.70	-	1.44	yes	no	-	yes

(*) Based on background data review (to be confirmed during detailed design)
(**) in these cases the vertical alignment of the corridor slopes to the underground and measures are needed to avoid water entering the underground portion of the corridor
(***) Controlled flow results from SWM Pond Upstream - Refer to report

Notes:
Culverts/bridges with a total span less than or equal to 6.0m are designed for 50yr storm (MTO Standard WC-1)
Culverts/bridges with a total span greater than 6.0 are design for the 100 yr storm (MTO Standard WC-1)
Freeboard calculated as the difference between the WL generated by the design flow and the EOTR
Clearance calculated as the difference between the lowest point on the soffit and the design flow
Check flow criteria was assessed for crossing included in the HEC-RAS ROUGE model (HEC.prj) created by Parsons
Check flow criteria for TRCA models assessed in the report
[1] Flood Depth at culverts is calculated as follows:

Table 3-3: Water Crossing Headwater Levels, Etobicoke Creek Watershed

Water Crossing	Return Period	HEC-RAS Station	Existing Water Level	Proposed Water Level	Difference
			(m)	(m)	(m)
E1	50-Yr	257.06	199.73	199.75	0.02
	100-Yr		199.75	199.77	0.02
	Regional		199.91	199.94	0.03
E3	50-Yr	93.1	192.37	193.02	0.65
	100-Yr		192.39	193.11	0.72
	Regional		192.56	193.72	1.16
E4	50-Yr	142.99	190.12	190.44	0.32
	100-Yr		190.13	190.47	0.34
	Regional		190.22	190.87	0.65
E5	50-Yr	25.164	181.68	181.74	0.06
	100-Yr		181.74	181.82	0.08
	Regional		183.39	183.42	0.03
E6	50-Yr	29.155	179.88	179.86	-0.02
	100-Yr		179.95	179.92	-0.03
	Regional		180.43	180.37	-0.06
E7	50-Yr	149.79	179.60	179.61	0.01
	100-Yr		179.68	179.69	0.01
	Regional		180.53	180.55	0.02
E8	50-Yr	422.08	179.54	180.09	0.55
	100-Yr		179.61	180.19	0.58
	Regional		180.33	181.33	1.00

Table 3-4: Water Crossing Headwater Levels, Mimico Creek Watershed

Water Crossing	Return Period	HEC-RAS Station	Existing Water Level	Proposed Water Level	Difference
			(m)	(m)	(m)
M1	50-Yr	409.63	180.05	179.66	-0.39
	100-Yr		180.07	179.70	-0.37
	Regional		180.19	179.80	-0.39
M2	50-Yr	192.95	180.14	180.26	0.12
	100-Yr		180.14	180.28	0.14
	Regional		180.16	180.33	0.17
M3	50-Yr	266.08	179.01	178.97	-0.04
	100-Yr		179.06	179.01	-0.05
	Regional		179.22	179.17	-0.05
M4	50-Yr	4.017	177.66	177.87	0.21
	100-Yr		177.70	178.48	0.78
	Regional		0.00	0.00	0.00
M5	50-Yr	208.5	172.99	173.02	0.03
	100-Yr		173.03	173.08	0.05
	Regional		173.15	173.22	0.07
M6	50-Yr	343.05	173.57	173.57	0.00
	100-Yr		173.62	173.62	0.00
	Regional		173.75	173.75	0.00
M7	50-Yr	7.023	172.60	172.60	0.00
	100-Yr		172.80	172.80	0.00
	Regional		173.99	174.05	0.06
M8	50-Yr	60.13	172.79	173.16	0.37
	100-Yr		172.83	173.32	0.49
	Regional		172.91	173.80	0.89

Table 3-5: Water Crossing Headwater Levels, Humber River Watershed

Water Crossing	Return Period	HEC RAS Station	Existing Water Level	Proposed Water Level	Difference
			(m)	(m)	(m)
H1	50-Yr	4045.633	166.56	166.56	0.00
	100-Yr		166.51	166.51	0.00
	Regional		167.99	167.99	0.00
H2	50-Yr	200	-	171.54	-
	100-Yr		-	171.64	-
	Regional		-	172.43	-
H6	50-Yr	1020.58	-	-	-
	100-Yr		136.90	136.99	0.09
	Regional		-	-	-
H7	50-Yr	27.411	137.26	137.27	0.01
	100-Yr		137.58	137.59	0.01
	Regional		141.37	141.36	-0.01
H8	50-Yr	1744.2	162.00	162.21	0.21
	100-Yr		162.10	162.30	0.20
	Regional		162.46	162.65	0.19

3.3.1 Etobicoke Creek Watershed

Seven (7) tributaries cross the 407 TWY within the Etobicoke Creek watershed. These water crossings have been named as E1 to E8. Although E2 does not traverse the 407 TWY, it has a confluence point with E3 south of 407 TWY; therefore a single HEC-RAS model was created for E2 and E3. A new HEC-RAS model was created For E1 and E4, and existing TRCA HEC-RAS models were obtained for E5, E6, E7 and E8. **Table 3-6** describes the changes made to the HEC-RAS models for this study.

Appendix D includes figures that show the delineation of the upstream catchment areas of the proposed 407 TWY structures and **Appendix E** includes the floodplain maps that show the location of all HEC-RAS cross-sections used in the HEC-RAS model as well as the delineation of the existing and proposed Regulatory floodline, which is the Regional event for this project.

For the watercourse (tributary area: 3.77 hectares) between Kennedy and 410 that was not defined in the drainage data map, a pipe culvert with 900mm diameter is sufficient for conveyance after going through the preliminary hydraulic analysis. In the detailed design stage, further investigation and analysis should be undertaken to consider any changes related to HuLRT Maintenance and Storage Facility (MSF) south of 407 ETR. Modelling Results can be found in **Appendix D.**

Table 3-6: HEC-RAS Model Considerations for Etobicoke Creek Water Crossings

Water Crossing ID	HEC-RAS Model	Coordinate System	Modifications to HEC-RAS Model
E1	NEW MODEL	MTM	-
E2-E3	NEW MODEL	MTM	-
E4	NEW MODEL	MTM	-
E6	TRCA MODEL	UTM	Sections updated within the TWY corridor except those upstream and downstream of Dixie Road. Model runs via HEC-RAS 4.01 version. Highway 407 culvert size revised in TRCA HEC-RAS model according to as-built drawing.
E5-E7-E8	TRCA MODEL	UTM	The model runs with HEC-RAS 4.1 version. To include E8 in TRCA model, a portion of the creek was extended northward. The tributary including E7 was shifted to its correct location. For E5, the model had a geo-reference issue. TRCA and Parsons cross sections were compared in an Excel file and sections within the TWY corridor were updated.

Water crossing E1 is one of the western tributaries of Etobicoke Creek, located between Hurontario Street and Kennedy Road within the 407 TWY study limits. The tributary flows north to south, traversing Highway 407 through a 3.5m x 2.5m box culvert. A structure of the same size was considered for the E1 water crossing. **Figure D.1** in **Appendix D** shows the location of the creek. As there was no TRCA HEC-RAS model available for this crossing, a new model was created. **Table D.1** in **Appendix D** presents the results of modelling.

The HEC-RAS modelling results show that minimal increases in water levels occur upstream of the 407 ETR, however, no impacts exist downstream of the proposed 407 TWY. **Figure E1** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

Water crossing E3 is located east of Kennedy Road within the 407 TWY corridor. This tributary flows north to south, crossing the Highway 407 through a 3m x 2.2 m box culvert. A structure of equivalent size was considered for the E3 water crossing. **Figure D.4** in **Appendix D** shows the location of the creek. There was no TRCA HEC-RAS model available for this crossing therefore a new model was created. **Table D.3** in **Appendix D** presents the results of modelling.

The modelling results show that the water level increased between two structures upstream of TWY. The increase is within the TWY ROW limit, and there is no negative impact to the upstream of Highway 407 or downstream of TWY; therefore, the

modelling results are acceptable. **Figure E2** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

Water crossing E4 is one of the western tributaries of Etobicoke Creek and is located west of Highway 410 within the 407 TWY corridor. The tributary flows north to south, crossing Highway 407 through a 1.0 m dia. pipe culvert. A structure of the same size was considered for the E4 water crossing. **Figure D.4** in **Appendix D** shows the location of the creek. There was no TRCA HEC-RAS model available for this crossing therefore a new model was created. **Table D.4** in **Appendix D** presents the results of modelling.

The modelling results show that the water level increased between two structures, on the section right upstream of the 407 TWY only; however, the increase is within the TWY ROW limit. There is no negative impact to the upstream condition of Highway 407 and downstream of the 407 TWY. **Figure E2** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

Water crossing E5 is located between Highway 410 and Tomken Road within the 407 TWY corridor, flowing north to south, crossing highway 407 through a bridge structure. Proposed 407 TWY bridge has a span of 160m. **Figure D.11** in **Appendix D** shows the location of the creek. The TRCA HEC-RAS model was available for this crossing. Cross sections located within the TWY corridor were updated to reflect the new survey information. **Table D.5** in **Appendix D** presents the results of modelling.

The modelling results show that the water level slightly increased between the two structures, upstream of the proposed 407 TWY within the TWY ROW limit. As there is no negative impact to the upstream condition of Highway 407 and downstream of the 407 TWY beyond the ROW limit, therefore the modelling results are considered acceptable. **Figure E3** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

Water crossing E6 is one of the tributaries of Etobicoke Creek, located between Highway 410 and Dixie Road within 407 TWY corridor. It flows north to south, crossing Highway 407 through a 5.5x2.8 m twin box culvert and Dixie Road through an arch culvert. Proposed 407 TWY bridge has a span of 100m. **Figure D.11** in **Appendix D** shows the location of the creek. There is a TRCA HEC-RAS model available for this crossing. Sections located within the TWY corridor were updated to reflect the new survey information. **Table D.6** in **Appendix D** presents the results of modelling.

The modelling results show a slight increase in water levels associated with the smaller storm events, up to 10-yr in the section of the creek located between 407 TWY and Dixie Rd. There is no negative impact to the downstream of Dixie Station. **Figure E4** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

Water crossing E7 is one of the main tributaries of Etobicoke Creek. It is located east of Dixie Road within the 407 TWY corridor, flowing north to south. It crosses Highway 407 through a 4.62x2.80 m twin box culvert. A structure of equivalent size was considered for the E7 water crossing. **Figure D.11** in **Appendix D** shows the location of the creek. A TRCA HEC-RAS model available for this creek, however the model extended up to the junction of E7 and E8, downstream of 407 ETR. The model was extended by Parsons to include E7 and E8 reaches/crossings. Sections located within the TWY corridor were updated to reflect the new survey information. **Table D.7** in **Appendix D** presents the results of the modelling.

The modelling show that the water level increased slightly between the two structures; however, the water level changes are within the ROW limit. There is no negative impact upstream of Highway 407 or downstream of the 407 TWY. **Figure E5** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

Water crossing E8 is a main tributary of Etobicoke Creek. It is located west of Bramalea Road within the 407 TWY corridor. It flows from north to south, crossing Highway 407 through a bridge structure. Proposed 407 TWY bridge has a span of 120m. **Figure D.11** in **Appendix D** shows the location of the creek. There was a TRCA HEC-RAS model available for this crossing. Sections located within the 407 TWY corridor were updated to reflect the new survey information. **Table D.8** in **Appendix D** presents the results of the modelling.

As shown in the modelling results, the water level increased slightly between two structures, but this increase is limited within the ROW. Thus, there is no negative impact upstream of the Highway 407 and downstream of the 407 TWY. **Figure E6** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

3.3.2 Mimico Creek Watershed

The Mimico Creek watershed extends approximately from Bramalea Road to Goreway Drive. There are eight (8) locations in which the creek's tributaries traverse the proposed 407 TWY. The crossings have been named, west to east, as M1 to M8. For crossings M1, M2, M3, M5, and M6, new HEC-RAS models were created. Crossings M4, M7, and M8 were identified in the HEC-RAS models obtained from TRCA. **Table 3-7** describes the modifications that have been made to the obtained TRCA models.

Table 3-7: HEC-RAS Model Considerations for Mimico Creek Water Crossings

WATER CROSSING NO.	HEC-RAS MODEL	COORDINATE SYSTEM	MODIFICATIONS TO HEC-RAS MODEL
M1-M2	NEW MODEL	MTM	
M3	NEW MODEL	MTM	
M5-M6	NEW MODEL	MTM	
M4-M7-M8	TRCA MODEL	UTM	Model based on HEC-RAS 4.01 version. Cross sections located within the 407 TWY corridor were updated.

Water crossings M1 and M2 are located east of Bramalea Road and have a confluence point south of future 407 TWY. They flow from north to south, crossing Highway 407 through a 7.2m x 2.7m box culvert and a 1.2 m dia. pipe, respectively.

The proposed 407 TWY structure for M1 is 7.2 x 2.7m, whereas the proposed structure for M2 is a box culvert of 2.5x1.5 to ensure no negative impacts upstream or downstream of the proposed TWY.

Figure D.18 in **Appendix D** shows the location of these crossings. There was no TRCA HEC-RAS model available for these crossings and a new model was created. **Table D.9** and **Table D.10** in **Appendix D** present the results of modelling.

The modelling results for M1 show that the water level decreased slightly between the two structures. There is no negative impact to the upstream condition of Highway 407, or downstream of the 407 TWY. **Figure E7** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

The modelling results for M2 show that the water levels slightly increased between the two structures, but are contained within the ROW. There is no negative impact to the upstream condition of Highway 407 or downstream of the 407 TWY. **Figure E8** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

Water crossing M3 is located west of Tomken Road within the 407 TWY corridor. This tributary flows north to south, crossing Highway 407 through a 4.7m x 2.55m box culvert. An equivalent-sized structure was considered for the M3 water crossing. **Figure D.18** in **Appendix D** shows the location of the creek. As there was no TRCA HEC-RAS model available for this crossing, a new model was created. **Table D.11** in **Appendix D** presents the results of the modelling.

The modelling results show that the water level increased between two structures and upstream of Highway 407; however, the water level changes are within the ROW limit. There is no negative impact upstream of Highway 407, or downstream of TWY. **Figure E9** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

Water crossing M4, located between Tomken Road and Airport Road within the 407 TWY corridor, is a major tributary of Mimico creek. This tributary flows from north to south, crossing Highway 407 through a 4m x 3.0m twin box culvert. A structure of the same size was considered for M4 water crossing at the 407 TWY. **Figure D.18** in **Appendix D** shows the location of the creek. A TRCA HEC-RAS model was available for this crossing, therefore the sections within the 407 TWY corridor were updated to reflect the latest survey information. **Table D.12** in **Appendix D** presents the results of modelling.

The modelling results show increases in water levels between Highway 407 and 407 TWY, however they are contained within the two highways. Upstream of the existing 407 ETR there is a slight increase in the Regional event between Highway 407 and Steels Ave. due to the proximity of the two structures. There is no negative impact downstream of 407 TWY. **Figure E10** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline.

Water crossings M5 and M6 are major tributaries within the Mimico Creek Watershed. These crossings are located between Tomken Road and Airport Road within the 407 TWY corridor. The tributaries flow from north to south, with a confluence point south of the 407 TWY. Water crossings M5 and M6 transverse Highway 407 through a 4.5m x 3.5m and 6.3m x 1.5m box culverts, respectively. The proposed 407 TWY structures are 6m x 2m for M5 and 6.3m x 1.5m for M6.

Figure D.27 in **Appendix D** shows the locations of the creeks. There was no TRCA HEC-RAS model available for these crossings therefore a new HEC-RAS model was created for M5 and M6. **Table D.13** and **Table D.14** in **Appendix D** present the modelling the results.

The modelling results for M5 show slight increases in water levels between Highway 407 and proposed 407 TWY, however, water levels are contained within the ROW. There is no negative impact on the upstream condition of Highway 407 or downstream of the 407 TWY.

The modelling results for M6 show that there is no negative impact upstream of Highway 407 or downstream of 407 TWY. **Figure E11** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline for both crossings.

Water crossing M7 is located east of the Canadian National Rail (CNR) crossing, conveying flows from north to south. M7 has a confluence point with M5 and M6 south of 407 TWY (refer to **Figure D.27** in **Appendix D**). This tributary traverses Highway 407 via a bridge structure of approximately 35m. In the proposed condition analysis, the structure proposed for the M7 crossing of 407 TWY is a bridge with a span of 60m. The existing TRCA HEC-RAS model was updated to reflect survey information, however the model will need further refinements during detailed design; it was observed that structures downstream of the proposed TWY are considerably reduced in size and some of them (culvert on Steels Ave. – 9.1m x 3.1m and culvert on Goreway Ave, 4.9 x 1.72m.) are modelled with no slope. Modelling results indicate that the 60m bridge proposed on 407 TWY does not meet the MTO standards for clearance to the soffit of the bridge, however this structure provides the largest opening compared to all existing structures for this creek in the vicinity of the proposed TWY. A berm at approximately 174m top elevation is proposed to be constructed between the existing Highway 407 and the proposed TWY to ensure the spread of Regional water level is contained in the vicinity of the M7 structure and it will not create a negative impact on the Goreway Sttaion. **Table D.15** in **Appendix D** presents the results of the modelling.

The modelling results indicate that there are no increases in water levels upstream of downstream of he proposed structure. **Figure E12** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline for this crossings.

Water crossing M8 is located west of Gorewood Drive, flowing north to south. It crosses Highway 407 through a 6.0m x 2.0 m box culvert. A structure of the same size was considered for M8 water crossing. **Figure D.33** in **Appendix D** shows the location of the creek. The available TRCA HEC-RAS model was updated to reflect survey information. **Table D.16** in **Appendix D** presents the results of modelling.

The modelling results show that there is no negative impact upstream of Highway 407 or downstream of 407 TWY. **Figure E13** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline for this crossing.

3.3.3 Humber River Watershed

There are six (6) locations at which tributaries cross the proposed 407 TWY within the Humber River watershed. The crossings are identified from west to east, as H1 to H8. It should be noted that H3 and H4 will not cross the 407 TWY, as they are located south of the alignment. **Table 3-8** shows the modifications applied to the TRCA models.

Table 3-8: HEC-RAS Model Considerations for Humber River Water Crossings

WATER CROSSING NO.	HEC-RAS MODEL	COORDINATE SYSTEM	MODIFICATIONS TO HEC-RAS MODEL
H1	TRCA MODEL	UTM	H1 located on at Reach 4- West branch, Trib H3. TRCA file did not include Highway 407 bridge piers; therefore, bridge piers were included in the model update
H2	NEW MODEL	MTM	
H5	NEW MODEL	MTM	H5 and H6 were located in TRCA model but the configuration of the confluence point of H5 and H6 was not correct. Separate models were created for these crossings and TRCA model flows were utilized to perform the modelling.
H6	NEW MODEL	MTM	
H7	TRCA MODEL	UTM	H7 is located in Main Humber
H8	NEW MODEL	MTM	No Highway 407 structure was included in the model because the creek starts just downstream of the 407

Water crossing H1 is a major tributary within the Humber River watershed. It is located between Gorewood Drive and Highway 50 and conveys flows from north to south. The tributary crosses Highway 407 through a bridge structure of approximately 140m. A structure of equivalent size (120m span bridge) was considered for the H1 water crossing. **Figure D.36** in **Appendix D** shows the location of the creek. A TRCA HEC-RAS model was available for this crossing, and the sections within the 407 TWY corridor were updated to reflect the survey information. **Table D.17** in **Appendix D** presents the results of modelling.

The modelling results show that there is no negative impact upstream of Highway 407 or downstream of the 407 TWY. **Figure E14** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline for this crossing.

Water crossing H2 is located on Albion Creek between Highway 427 and Highway 27, transversing Highway 407 through a long box culvert. A structure of the same dimensions as the Highway 407 culvert was considered for the H2 water crossing. **Figure D.36** in **Appendix D** shows the location of the creek. There was no TRCA HEC-RAS model available for this crossing, therefore a new model was created for the proposed condition. The existing conditions were not modeled due to the ongoing realignment of Albion Creek as part of 407 ETR Patrol Yard Expansion project on an adjacent property (see **Figure**

D.39 in Appendix D). Once construction has finished on these adjacent lands, an investigation may take place to gather the necessary information to provide a valid comparison between existing and proposed conditions. The enclosure of the creek through Hwy 27 station was discarded in response to TRCA's comments. An open channel has been designed to convey flows across the proposed TWY and parking lot, towards Steels Ave. No road overtopping is expected and although the Regional water levels exceed the channel storage capacity just upstream of the proposed TWY they are fully contained within the channel that is proposed to run through the parking lot.

The HEC-RAS modelling results indicate that the water levels pose no negative impact upstream of Highway 407 or downstream of the transitway. In addition, modelling results show that water levels would not flood the 407 ETR off-ramp. Table D18 summarizes the proposed water levels at all cross sections analyzed. Figure E15 in Appendix E shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline for this crossing. The two proposed ponds for the Hwy 27 station are located outside the Regional water levels.

Water crossings H5 and H6 are located east of Martin Grove Road, with a confluence located south of the 407 TWY. H5 and H6 traverse Highway 407 through a pipe and a bridge structure respectively. Similar structures were considered at the H5 and H6 water crossing locations. There was a TRCA HEC-RAS model available, however, it was determined after review of the file that the confluence point of H5 and H6 did not represent the existing configuration accurately. A detailed field investigation was completed in early September 2017. Results of the site visit are shown in Appendix A. A large channel was found north of Highway 407. In conveys flows from west to east and converges upstream of the watercourse leading to H6. The inlet of H5 was found along this large channel but is the remnant of the historic water course. Most flows presently bypass this connection and are conveyed downstream through the channel with the crossing noted as H6. The H5 water crossing was modelled using HY-8, which used headwater levels generated from the TRCA model as inputs.

Table. D.19 in Appendix D presents the results of modelling for water crossing H6. The modelling results show that there is no negative impact on the upstream condition of Highway 407 or downstream of the 407 TWY.

Water crossing H7 is located west of Islington Avenue, carrying flow from north to south across Highway 407 through a bridge structure. Since the same flow will pass through the structure at the 407 TWY, a structure of similar size was considered for the H7 water crossing. There was a TRCA HEC-RAS model available for this crossing; the sections within the 407 TWY limit were updated to reflect the survey information. Table D.20 in Appendix D presents the results of the modelling.

The modelling results show that there are minimal increases in water levels upstream of Highway 407 however no increases are expected downstream of 407 TWY. Figure E18 in Appendix E shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline for this crossing.

Water crossing H8 is located east of Pine Valley Drive, conveying flows from north to south. Highway 407 drainage contributes to watercourse headwaters, and similar to the H5 crossing, there is a 1m-diameter pipe under the 407 Highway at this location. It appears that only the highway drainage is conveyed downstream via the 1m dia. pipe. Figure D.50 in Appendix D shows the location of the creek. There was no TRCA HEC-RAS model available for this crossing; therefore, a new HEC-RAS model was created.

Review of the topography indicated an upstream drainage area of 279ha. The initial assessment concluded that a 1m-diameter pipe would not be appropriate for a drainage area of this magnitude. To confirm the drainage area, a field investigation was completed in early September 2017. The results of the field visit are summarized in **Appendix A**. Visual inspection indicated a drainage divide between Highway 407 and the subdivision north of the highway. Dry ponds exist on both the northwest and southwest side of the highway ramps; however, the outlets for the 407 highway ponds could not be confirmed. It is suspected that the subdivision drains to the Aviva Park Pond, City of Vaughan Pond #80, where runoff is treated and discharged to the watercourse leading to H8. These details will be investigated further at the Preliminary Design stage. Quantification and modelling of the Aviva Park Pond and other existing SWM controls in the area could reduce the amount of flow leading to H8; however, the worst-case scenario was considered for this report, which assumes runoff from all 350ha flow to water crossing H8.

A bridge spanning 45m was proposed for this crossing. Dredging was proposed at this location to convey large flows, as the transitway alignment at this crossing is near the existing grade. The channel would need to be lowered by approximately 3m to meet freeboard requirements; further dredging would be required to meet clearance requirements. The feasibility of dredging in this area will be analyzed during detailed design stage. The 407 TWY profile has been raised providing the highest elevation possible at this location, considering the transmission cables. The revised profile clears the 100-yr water levels.

The modelling results indicate that the water level has increased between two structures only within the TWY ROW limit, and causes no negative impact to the upstream of Highway 407. **Figure E19** in **Appendix E** shows the HEC-RAS cross sections used in the hydraulic model and the delineation of the regulatory floodline for this crossing.

4 Stormwater Management

4.1 STORMWATER MANAGEMENT CRITERIA

Through consultation with the Ministry of Transportation (MTO) Drainage, TRCA, and CVC, the following stormwater management criteria will apply to the 407 TWY and stations.

Table 4-1: Stormwater Management Criteria

Quantity Control	• CVC – Fletchers Creek Watershed: Post to Pre-control of peak flows to the appropriate watershed. • TRCA – o Mimico Creek Watershed: Control post-development peak flows to pre-development levels for all storms up to and including the 100-year storm (Mimico Hydrology Update, Marshall Macklin Monaghan, 2009) o Etobicoke Creek Watershed: Unit flow rates have been established and should be used for all sites that require control (TRCA Stormwater Management Criteria, V 1.0, Aug 2012) o Humber River Watershed: Control post-development peak flows to pre-development levels for all storms up to and including the 100-year storm (i.e., 2, 5, 10, 25, 50, and 100 year storms) except for the main branches of the Lower, Main, East, Upper and West. Unit flow relationships have been established and should be used for all other sites located in the Humber River Watershed not discharging to the main channels listed above. (Humber River Watershed Hydrology Update, Aquafor Beech Ltd., Nov. 2002)
Quality Control	Enhanced protection (Level-1) criteria to determine the minimum permanent pool size for wet pond facilities Table 3.2 of the Stormwater Management Planning and Design Manual (MOECC, 2003) Where applicable, water quality controls should be further informed by goals and objectives arising out of applicable subwatershed studies and source water protection plans. [CVC SWM criteria, 2012)
Erosion Control	At minimum, 5 mm retention for each station area, as per TRCA SWM Criteria (2012) CVC – - At minimum detail 5 mm on site where conditions do not warrant a detailed analysis - For sites with SWM ponds, 25mm – 48hr detention may be required, depending on the results of the erosion assessment.
Thermal Considerations	3m permanent pool depth and others (e.g.: cooling trenches) (Guidance for Development Activities in Redside Dace Protected Habitat, MNRF V 1.1 (2014) To minimize thermal impacts, preventative measures (i.e. LID practices) and mitigation measures should be applied) (CVC, 2012)
Water Balance	For low volume groundwater recharge areas (LGRA), site specific water balance analyses are typically not required, and best efforts to maintain recharge are expected. For natural features (woodlands, wetlands, watercourses) maintain hydrologic regimes and hydroperiods.

	Planning and design of infiltration facilities must consider soil conditions, depth of water table, and the presence of vulnerable areas such as Wellhead Protection Areas (WHPA's). Infiltration of untreated stromwater from some sources (e.g, industrial facilities, roads, parking lots) to the groudwater may be prohibited. Consultation with TRCA is required to establish water balance methodologies and criteria, particularly for sensitive ecological features where baseline monitoring is necessary to establish appropriate criteria.

4.2 PROPOSED STORMWATER MANAGEMENT STRATEGY

The stormwater management strategy proposed for the 407 TWY corridor is to implement enhanced swales. The strategy is proposed in previous 407 TWY studies, and is an accepted mitigation solution as wet ponds are not feasible due to associated drainage areas being less than the 5.0ha requirement. The proposed strategy is shown in **Figure C.1** and **C.2** in **Appendix C**.

4.2.1 407 Transitway Corridor

A hydrologic analysis was undertaken for the project to quantify the amount of storage required to achieve the allowable discharges within each subwatershed. This section discusses the post-development condition controlled scenario undertaken for the 407 TWY sub-areas. In addition, five stations are proposed along the study limits and their stormwater management strategy is presented in **Section 4.2.1.4** of this report.

The 407 TWY sub-areas delineated along the proposed 407 TWY alignment are shown in **Figures C.1 in Appendix C**. The drainage area at each 407 TWY outlet is less than 5 ha, therefore wet ponds are not feasible to be constructed to provide quality and quantity control for the paved area of the running way. A treatment train approach is implemented consisting of grassed embankments to promote sheet flow, grassed swales on both sides of the 407 TWY and enhanced grassed swales/dry ponds located before each outlet from the 407 TWY. The drainage strategy of the 407 TWY sub-areas within each subwatershed including details related to discharge points of each swale as well as quantity control criteria are presented in **Table C.1 in Appendix C.**

4.2.1.1 PROPOSED ENHANCED SWALE DESIGN

Grassed swales are proposed along the entire length of the 407 TWY. Since the swales will follow the slope of the road, which in some instances is steep, segments of enhanced swales are proposed before any stormwater discharge to a watercourse or any other type of outlet. The enhanced swales would cover approximately 50 m length and are designed to have a trapezoidal cross-section, flat bottom (4 m wide), 2:1 side slopes and a depth of 1.5 m. A longitudinal slope of maximum 0.2% is proposed for all swales to provide settlement of sediment and to reduce flow velocities from upstream segment. To increase the time of flow in the swales and to promote infiltration at the same time, two cells are proposed with a 0.5 m layer of clear stone covered by 0.3 m of topsoil below the invert of the swale. The enhanced swales were designed in a form of dry ponds with a formal outlet control structure to provide quality and quantity control for 407 TWY sub-areas. The outlet is comprised of a 100-mm perforated pipe proposed to be installed at the bottom of each swale that is further connected to a hickenbottom structure equipped with a 75-mm orifice plate. Some enhanced swales applied along the 407 TWY only have 75-mm orifice for the outlet structure, but for some others, a length of 0.15m Weir with different hydraulic heads (0.5m, 0.4m and 0.2m) is also included in the outlet. Details of outlet type selected for swales in different 407 TWY sub-areas are showed in the notes of **Table 4-2 to Table 4-5.**

Swale details are shown in **Figure C.2** in **Appendix C.**

The maximum volume that can be stored in an enhanced swale is calculated to be 525 m^3. The controlled discharge rate from the swale was calculated to be 0.015 m^3/s using the orifice equation (75 mm diameter), 0.112 m^3/s is calculated using orifice and weir with 0.5 m hydraulic head, 0.084 m^3/s is calculated using orifice and weir with 0.4 m hydraulic head, 0.039 m^3/s is calculated using orifice and weir with 0.2 m hydraulic head, – refer to **Table C.1** to **C.4** in **Appendix C**.

For modelling purposes, it is considered that the swale volume used is maximized, and the maximum discharge would be used. This approach is conservative since we are using the minimum allowable orifice and providing more storage than required.

4.2.1.2 QUANTITY CONTROL

Table C.5 in **Appendix C** shows the storage requirements for each proposed swale. **Figures 2-1** through **2-3** show the locations of all swales identified along the 407 TWY. Where volume requirements exceed the maximum available for a single swale unit (i.e. 525 m^3), additional swales are proposed to provide the required volume.

Based on the quantity control requirements summarized in **Table C.5**, hydrologic modelling was conducted to demonstrate the performance of mitigation measures.

Table 4-2 to **Table 4-4** show the results of the hydrologic analysis for all conditions analyzed. The results indicate that no increases are expected within the entire watersheds.

4.2.1.3 QUALITY CONTROL

To support our use of enhanced swales and to prove the efficiency of the enhanced swales for 407 TWY sub-areas, Parsons undertook a literature review (see reference materials 1 to 4 at the end of this Report). The removal efficiency of grassed swales is noted in several reference materials. As noted in Reference 9 (“Highway Runoff Water Quality Literature Review, MAT-92-13, MTO Research and Development Branch, April 1992”) and Reference 10 (“Performance Assessment of a Swale and Perforated Pipe Stormwater Infiltration System”), the enhanced grassed swales can achieve between 76% and 90% reduction in total suspended solids generated by highway runoff.

Oil grit-separators (OGS) are well known for their application in urban areas where there is limited space for stormwater management facilities. They are most likely to be used in defined impervious areas where the storm runoff is concentrated and collected in a piped system. In addition, the units provide only 50% TSS removal as indicated by the New Jersey Department of Environmental Protection.

Due to the reasons listed above, Parsons recommends the use of treatment train approach consisting of grassed embankments, grassed swales and enhanced grassed swales to provide quality and quantity control of 407 TWY sub-areas.

Table 4-2:Modelling Results - Proposed Condition with SWM Peak Flows (m³/s) - 407 TWY Sub-Areas (Fletchers Creek & Etobicoke Creek Watersheds - 12hr AES)

Return Period (12hr-AES)	Swale Area	ES-1				ES-2				ES-3, ES-4				ES-5			
	Stations	HP: 0+750		LP: 0+948.40		LP: 1+585.52		HP: 2+072.18		HP: 2+072.18		LP: 3+355.20		LP: 3+925		HP: 4+197.13	
	Contributing TWY Sub-Areas	100-TWY-1, 100-TWY-2				603-TWY-2, 603-TWY-3				251-TWY-1, 251-TWY-2, 251-TWY-3				248-TWY-2			
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}
	A (ha)	1.02	1.01	1.01		2.84	1.43	1.43		1.84	3.23	3.23		1.13	1.73	1.73	
	2-yr	0.031	0.037	0.023	-25.81%	0.110	0.065	0.030	-72.80%	0.071	0.144	0.034	-52.41%	0.044	0.069	0.025	-43.02%
	5-yr	0.046	0.052	0.035	-23.91%	0.147	0.088	0.042	-71.50%	0.095	0.194	0.057	-40.30%	0.059	0.096	0.036	-38.60%
	10-yr	0.058	0.063	0.043	-25.86%	0.173	0.104	0.050	-71.03%	0.112	0.228	0.087	-22.19%	0.069	0.114	0.050	-27.19%
	25-yr	0.071	0.077	0.053	-25.35%	0.205	0.123	0.074	-63.83%	0.133	0.270	0.124	-6.44%	0.081	0.138	0.074	-9.08%
	50-yr	0.081	0.087	0.061	-24.69%	0.228	0.137	0.093	-59.27%	0.148	0.303	0.151	2.08%	0.091	0.155	0.091	0.18%
	100-yr	0.092	0.097	0.069	-25.00%	0.252	0.152	0.110	-56.39%	0.163	0.335	0.177	8.30%	0.100	0.173	0.108	7.61%

Return Period (12hr-AES)	Swale Area	ES-6				ES-7				ES-8			
	Stations	HP: 4+197.13		HP: 5+627.12		HP: 5+627.12		HP: 7+428.68		HP: 7+428.68		HP: 8+821.45	
	Contributing TWY Sub-Areas	227-TWY-1, 227-TWY-2				179-TWY-1, 179-TWY-2				700-TWY-1, 700-TWY-2			
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unotrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}
	A (ha)	3.88	4.85	4.85		1.72	4.04	4.04		1.280	1.26	1.26	
	2-yr	0.126	0.205	0.041	-67.40%	0.054	0.183	0.036	-33.93%	0.041	0.065	0.017	-58.08%
	5-yr	0.171	0.279	0.085	-50.35%	0.074	0.244	0.049	-34.02%	0.055	0.085	0.042	-24.01%
	10-yr	0.203	0.330	0.131	-35.32%	0.088	0.287	0.070	-20.42%	0.065	0.099	0.059	-9.87%
	25-yr	0.243	0.394	0.201	-17.11%	0.106	0.340	0.093	-11.87%	0.079	0.116	0.077	-1.95%
	50-yr	0.272	0.442	0.251	-7.86%	0.119	0.380	0.111	-6.51%	0.088	0.128	0.090	1.86%
	100-yr	0.303	0.490	0.301	-0.53%	0.132	0.420	0.128	-3.09%	0.098	0.141	0.102	3.77%

Note:
1. Qp-ex is the allowable flow.
2. ES-1, ES-2, ES-4 are individual enhanced swales which have 75mm orifice only.
3. ES-8 are individual enhanced swales which have 75mm orifice and weir with 0.5m hydraulic head.
3. ES-5 is one enhanced swale which has 75mm orifice and weir with 0.5m hydraulic head.
4. ES-3 includes two individual enhanced swales which have 75mm orifice and weir with 0.4m hydraulic head.
5. ES-6 includes four individual enhanced swales which have 75mm orifice and weir with 0.5m hydraulic head.
6. ES-7 includes four individual enhanced swales which have 75mm orifice and weir with 0.2m hydraulic head.
7. ES-2 might not be needed, since the proposed uncontrolled flow is smaller than existing allowable flow.

Table 4-3:Modelling Results - Proposed Condition with SWM Peak Flows (m^3/s) - 407 TWY Sub-Areas (Mimico Creek Watershed - 12hr AES)

Return Period (12hr-AES)	Swale Area	ES-9, ES-10				ES-11, ES-12				ES-13, ES-14			
	Stations	HP: 8+244.93		HP: 10+441.07		HP: 10+441.07		LP: 11+709		LP: 12+300		HP: 13+584.71	
	Contributing TWY Sub-Areas	123-TWY-1, 123-TWY-2, 123-TWY-3, 123-TWY-4				122-TWY-1, 122-TWY-2, 122-TWY-3				120-TWY-1, 120-TWY-2, 120-TWY-3			
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}
	A (ha)	3.68	4.91	4.91		2.14	4.46	4.46		3.51	3.59	3.59	
	2-yr	0.151	0.224	0.051	-66.225%	0.088	0.182	0.057	-35.227%	0.109	0.154	0.030	-72.477%
	5-yr	0.206	0.302	0.099	-51.942%	0.120	0.252	0.084	-30.000%	0.157	0.211	0.073	-53.503%
	10-yr	0.245	0.354	0.162	-33.878%	0.142	0.299	0.102	-28.169%	0.191	0.249	0.108	-43.455%
	25-yr	0.293	0.420	0.237	-19.113%	0.170	0.359	0.165	-2.941%	0.234	0.297	0.150	-35.897%
	50-yr	0.329	0.469	0.290	-11.854%	0.191	0.403	0.207	8.377%	0.266	0.334	0.179	-32.707%
	100-yr	0.365	0.519	0.343	-6.027%	0.213	0.448	0.247	15.962%	0.298	0.370	0.219	-26.510%

Note:
1. Qp-ex is the allowable flow.
2. ES-9 includes two individual swales which have 75mm orifice and weir with 0.5m hydraulic head.
3. ES-10 includes two individual swales which have 75mm orifice and weir with 0.5m hydraulic head.
4. ES-11 includes three individual swales which have 75mm orifice and weir with 0.4m hydraulic head.
5. ES-12 is one swale which only has 75mm orifice.
6. ES-13 is one swale which has 75mm orifice and weir with 0.5m hydraulic head.
7. ES-14 includes two individual swales which have 75mm orifice and weir with 0.5m hydraulic head.

Table 4-4: Modelling Results - Proposed Condition with SWM Peak Flows (m^3/s) - 407 TWY Sub-Areas (Humber River Watershed - 6hr AES)

Return Period (6hr-AES)	Swale Area	ES-15				ES-16				ES-17				ES-18, ES-19					
	Stations	HP: 13+584.71		LP: 14+500		LP: 15+530.09		HP: 16+457.60		HP: 16+457.60		LP: 19+923		LP: 21+100			HP: 23+700		
	Contributing TWY Sub-Areas	45.11-TWY				45.09-TWY-2				26.01-TWY-1, 26.01-TWY-2				27.07-TWY-2, 27.07-TWY-3					
		$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}	$Q_{p\text{-}ex}$	$Q_{p\text{-}unctrl}$	$Q_{p\text{-}ex\text{-}underground}$	$Q_{p\text{-}prop\text{-}vo}$	$Q_{p\text{-}prop}$	% Increase Prop Q_{peak}
	A (ha)	1.33	1.56	1.56		2.04	1.92	1.92		4.02	5.78	5.78		6.03	6.21	2.10	4.11	6.21	
2-yr		Quantity Control Not Required	0.141	0.012	Quantity Control Not Required	Quantity Control Not Required	0.156	0.033	Quantity Control Not Required	0.037	0.491	0.042	13.863%	0.038	0.445	0.015	0.030	0.045	17.247%
5-yr			0.189	0.016			0.212	0.047		0.057	0.661	0.057	0.346%	0.057	0.611	0.022	0.041	0.063	11.140%
10-yr			0.220	0.019			0.250	0.056		0.070	0.776	0.067	-3.807%	0.069	0.723	0.027	0.048	0.075	8.551%
25-yr			0.260	0.023			0.298	0.069		0.088	0.921	0.080	-8.878%	0.086	0.873	0.034	0.057	0.091	5.052%
50-yr			0.290	0.025			0.334	0.078		0.103	1.030	0.089	-13.551%	0.100	0.984	0.039	0.064	0.103	3.051%
100-yr			0.319	0.028			0.370	0.087		0.116	1.138	0.098	-15.495%	0.114	1.094	0.045	0.070	0.115	0.564%

Note:
1. Qp-ex is the allowable flow.
2. Qp-ex-underground is the unit rate flow applied on the drainage area 27.07-TWY-1 where TWY running way going underground.
3. Qp-prop-vo is the controlled proposed peak flow coming from the 27.07-TWY-2 and 27.07-TWY-3.
4. ES-15 includes two individual enhanced swales with 75mm orifice only.
5. ES-16 includes two individual enhanced swales with 75mm orifice only.
6. ES-17 includes seven individual enhanced swales with 75mm orifice only.
7. ES-18 is one enhanced swale with 75mm orifice only.
8. ES-19 includes five individual enhanced swales with 75mm orifice only.

4.2.1.4 WATERCOURSE REALIGNMENT WITHIN TRAINSTWAY R.O.W.

Rainbow Creek between stations 19+300 and 19+500 of the 407 TWY was considered for realignment as the channel is currently in close proximity to the proposed transitway. The Rainbow Creek watershed drains to form two waterways which intersect the proposed transitway at water crossings H5 and H6, which is located East of Martin Grove Road and South of Highway 407. These two waterways converge immediately south of the transitway and continue flowing eastward as the main branch of Rainbow Creek. This creek then connects to the main branch of the Humber River just south of Highway 407 and the proposed water crossing H7, which is located West of Islington Avenue.

The proposed 407 TWY runs near Rainbow Creek between stations 19+300 and 19+500, however, the proposed roadway does not cross the creek as they are parallel to each other. Near station 19+500 the edge of the transitway is approximately 10 m from the bank of channel. **Figure E.17.b** in **Appendix E** shows the floodplain map of this area. The figure shows that the 100-yr floodline reaches an elevation of 137.34 m which encroaches onto the proposed transitway ROW at approximately station 19+450. However, it should be noted that the proposed elevations of the transitway at stations 19+400 and 19+500 are 143.13 m and 143.43 m respectively, which is approximately 6.0 m above the 100-yr floodline.

Therefore, the channel will not need to be realigned with the use of retaining walls; however, a fluvial geomorphology study is recommended at the detailed design stage to study the influence of a retaining wall on the flow characteristics of the creek.

4.2.1.5 ENCLOSED LOW POINTS AND PUMPING

The proposed transitway alignment passes beneath existing roadways in several locations where the transitway will be enclosed. In five (5) of these locations the alignment dips below the existing roadway to meet clearance criteria and thus creates a low point at which roadway drainage will converge. The treatment methodology using enhanced swales cannot be incorporated at these low points since they are enclosed and below ground. These locations were analysed to discern the feasibility of gravity drainage solutions. Pumping is proposed in cases where roadway drainage cannot be conveyed to an outlet by gravity only. **Table 4-5** summarizes the enclosed transitway low points.

Table 4-5: Enclosed Transitway Low Points Potential Discharge Locations

Nearby Feature	Stationing	TWY Elevation	Potential Location to Discharge by Gravity	Pumping Required	Pumping Discharge Location
Hurontario Station	1+078	194.84	-	Yes	Hurontario Station SWMF-1B
Hwy 410	3+670	179.30	-	Yes	Hwy 410 Roadside Ditch
Tomken Rd.	5+130	181.75	Water Crossing E5	No	-
Goreway Station	11+890	169.88	-	Yes	Goreway Station SWMF-4
Hwy 50 Station	14+714	166.44	Humber River	No	-

Table 4-5 shows that of the five enclosed low points, only two of them may drain by gravity, while the other three require pumping. The discussion for each low point is as follows:

- The low point at ST 1+078 has no nearby infrastructure in which it can drain to by gravity; therefore, pumping is proposed at this location, whereby drainage will be treated at SWMF-1B at Hurontario Station.
- The low point at ST 3+370 has no nearby infrastructure in which it can drain to by gravity; therefore, pumping is proposed at this location, whereby drainage will require a treatment facility to meet quality and quantity control requirements.
- The low point at ST 5+130 may drain via. closed conduit downstream of water crossing E5. The outlet would be outside of the transitway ROW to discharge at a suitable elevation downstream along the alignment of the creek. A treatment facility should be designed to provide quantity and quality control
- The low point at ST 11+890 has no nearby infrastructure in which it can drain to by gravity; therefore, pumping is proposed at this location, whereby drainage will be treated at SWMF-4 at Goreway Station.
- The low point at ST 14+714 may discharge to Humber River at water crossing H1 in a closed conduit without issue; however, a treatment facility should be designed to provide quantity and quality control.

4.2.2 Proposed 407 TWY Stations

There are seven (7) stations proposed along the 407 TWY (refer to **Figures 2-1** through **2-3**). The locations include Hurontario St., Dixie Road, Airport Road, Goreway Drive, HWY 50, HWY 27, and Pine Valley Drive. A preliminary hydrologic analysis was completed, using VO2, to determine the volume requirements for the stormwater management facilities. The approach applied in the Existing Condition is similar in approach to the 407 TWY analysis. The TRCA subwatershed was identified in which each station was located. The VO2 input parameters of each specific subwatershed was utilized for the station area. The VO2 modelling has been undertaken primarily utilizing one characteristic area that aggregates each station subcatchments that drains to each proposed SWM facility on the lot. The Post-Development Condition consisted of all stations being modelled as Standhyd assuming TIMP = 90% and XIMP = 50%. The other remaining parameters are consistent with the TRCA hydrologic (VO2) models received. The drainage area maps of all stations area included in **Figures F.1** to **F.7** in **Appendix F**.

Results of the existing and post-development condition hydrologic analysis for each station are summarized in **Tables F-1** to **F-7** provided in **Appendix F**. Modelling Schematics as well as VO2 model output files of each stations are also included in **Appendix F**. The proposed SWM facilities are shown in **Figures F.1** to **F.7** and the design details are shown in **Table 4-7** to **Table 4-35** below. The SWM strategy primarily includes wet ponds with controlled structures consisting of multiple orifices and/or weirs. A hydrologic analysis has been undertaken for each site and modelling results show no increase in post-development peak flows compared to existing levels or allowable unit flow rates. Outlet details for each stormwater management facility are summarized in **Table 4-6**.

Table 4-6: Stormwater Management Facility Outlet Details

SWM Facility	Type	407 TWY Station	Drainage Area (ha)	Water Quality Protection Level	Outlet Characteristic	Street Name	TRCA Tributary Name	Flow/Thermal Regime
SWMF-1A	Wet Pond	Hurontario Station	3.84	Enhanced	Ditch	-	Fletchers Creek	Coldwater - Permanent
SWMF-1B	Wet Pond	Hurontario Station	2.20	Enhanced	Ditch	-	Fletchers Creek	Coldwater - Permanent
SWMF-2A	Wet Pond	Dixie Road Station	4.43	Enhanced	Creek	-	tobicoke Creek(West Branch	Warmwater - Permanent
SWMF-2B	Wet Pond	Dixie Road Station	1.42	Enhanced	Creek	-	tobicoke Creek(West Branch	Warmwater - Permanent
SWMF-3	Wet Pond	Airport Road Station	5.20	Enhanced	Ditch	-	Mimico Creek	Warmwater - Permanent
SWMF-4	Wet Pond	Goreway Drive Station	7.84	Enhanced	Ditch	-	Mimico Creek	Warmwater - Permanent
SWMF-5A	Wet Pond	Hwy 50 Station	3.82	Enhanced	Ditch	-	West Humber River	Warmwater - Permanent
SWMF-5B	Wet Pond	Hwy 50 Station	3.16	Enhanced	Ditch	-	West Humber River	Warmwater - Permanent
SWMF-6A	Wet Pond	Hwy 27 Station	2.29	Enhanced	Open Channel	-	Albion Creek	Warmwater - Intermittent
SWMF-6B	Wet Pond	Hwy 27 Station	2.79	Enhanced	Open Channel	-	Albion Creek	Warmwater - Intermittent
SWMF-7	Wet Pond	Pine Valley Station	6.47	Enhanced	Ditch	-	Humber River	Warmwater - permanent

4.2.2.1 HURONTARIO STATION

Hurontario Street Station has a total catchment area of 7.46 ha. Due to grading constraints, two SWM facilities are proposed for this lot. SWMF-1A will provide quality and quantity control for the northern section of the Station, including the north parking access road, for a total catchment area of 3.84 ha. The southern half of Hurontario Station, including the bus loop, access road, and area 100-TWY-1, 100-TWY-2, 603-TWY-2 of the transitway, a total of 0.64 ha, will be directed to SWMF-1B; a wet pond that will provide quality and quantity control. The drainage area of each SWM facility is summarized in Table 4-7 and Table 4-8.

Table 4-7: Summary of Hurontario Station SWMF-1A Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
H-1	2.69	2.42
H-2	0.19	0.17
H-3	0.30	0.27
H-4	0.65	0.58
SWMF-1A Drainage Area Total	3.84	3.46
*Assumed 90% imperviousness for developed areas	For an area of 3.84 ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 192m^3	

Table 4-8: Summary of Hurontario Station SWMF-1B Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
H-5 (From Transitway)	0.29	0..26
H-6	0.17	0.15
H-7	0.11	0.10
H-8	0.86	0.77
H-9	0.63	0.57
H-10 (From Transitway)	0.13	0.12
H-11 (Unpaved Area)	0.68	
H-12 (Unpaved Area)	0.74	
SWMF-1B Drainage Area Total	2.20	1.98
*Assumed 90% imperviousness for developed areas	For an area of 2.06 ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 110 m^3	

Development of the station land significantly increases peak flow rates during storm events, as indicated in Table 4-9.

Table 4-9: Comparison of Allowable and Post- Development (Uncontrolled) Release Rates at Hurontario Station (SWMF-1A & 1B Drainage Areas)

12hr AES Return Period	Allowable Release Rates (A = 7.33 ha) EX Q_p	Post-Development Condition Uncontrolled Peak Flow	Increase from Allowable to Post-Development (Uncontrolled) Peak Flow
	(m^3/s)	(m^3/s)	(%)
2-yr	0.213	0.340	59.62%
5-yr	0.322	0.459	42.55%
10-yr	0.396	0.540	36.36%
25-yr	0.492	0.640	30.08%
50-yr	0.564	0.715	26.77%
100-yr	0.637	0.789	23.86%

SWMF-1A is an extended detention wet pond with a total available volume of 4,873 m^3. The permanent pool has a depth of 1.9 m and a volume of 629.72 m^3 for quality control. **Table F.1A-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as the stage-storage, stage-discharge relationships of the pond are included in **Table F.1A-e** in **Appendix F**. **Table F.1A-f** in **Appendix F** shows that the minimum orifice size required to attenuate the 25 mm storm in 48 hr is 75 mm; thus the outlet structure will be equipped with a 75 mm orifice (invert elevation of 200.50m) to provide erosion control and meet the 25 mm storm retention criteria. To provide temperature control prior to discharge to the tributary to Fletchers Creek, which is a Redside Dace temperature sensitive area, the permanent pool has a depth of 1.9m and a preliminary cooling trench is proposed after the pond outlet.

To achieve the quantity control requirements, one orifice and one weir are proposed:

- Orifice #1: Diameter = 300 mm, invert elevation = 200.95 m
- Weir #1: width = 1200 mm, invert elevation = 201.24 m

Storage and discharge characteristics of SWMF-1A are included in **Table 4-10.** Allowable release rates and post-development controlled to allowable peak flows are for the whole drainage area of Hurontario Station.

Table 4-10: Storage and Discharge Characteristics of SWMF-1A

12hr AES Return Period	Allowable Release Rates Existing Conditions Flow Rates $Q_{allowable}$	SWMF-1B CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	0.213	3312	685	0.053	-108.82%
5-yr	0.322	3312	905	0.097	-95.15%
10-yr	0.396	3312	1049	0.118	-85.92%
25-yr	0.492	3312	1187	0.195	-57.69%
50-yr	0.564	3312	1271	0.271	-35.58%

100-yr	0.637	3312	1325	0.350	-19.51%

A 525 mm STM outlet pipe is proposed for SWMF-1A. It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 1360 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.1A-i** in **Appendix F.** To provide filtration of large debris, the pond is equipped with a hickenbottom draw pipe connected to the outlet structure. Outlet structure details for SWMF-1A can be found in **Figure F.1** in **Appendix F**.

SWMF-1B is also an extended detention wet pond with a total volume of 2,473 m^3. The permanent pool has an average depth of 1.22 m and a volume of 458 m^3 for quality control. **Table F.1B-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as the stage-storage, stage-discharge relationships of the pond are included in **Table F.1B-e** in **Appendix F**. **Table F.1B-f** in **Appendix F** shows that the minimum orifice size required to attenuate the 25 mm storm in 48 hr is 75 mm; thus the outlet structure will be equipped with a 75 mm orifice (invert elevation of 200.98 m) to provide erosion control and meet the 25 mm storm retention criteria.

To achieve the quantity control requirements, one weir is proposed:

- Weir #1: width = 135 mm, invert elevation = 201.35 m

Storage and discharge characteristics of SWMF-1B are summarized in **Table 4-11.** Allowable release rates and post-development controlled to allowable peak flows are for the whole drainage area of Hurontario Station.

Table 4-11: Storage and Discharge Characteristics of SWMF-1B

12hr AES Return Period	Allowable Release Rates Existing Conditions Flow Rates $Q_{allowable}$	SWMF-1B CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	0.213	2156	606	0.014	-108.82%
5-yr	0.322	2156	763	0.025	-95.15%
10-yr	0.396	2156	866	0.034	-85.92%
25-yr	0.492	2156	986	0.047	-57.69%
50-yr	0.564	2156	1072	0.056	-35.58%
100-yr	0.637	2156	1155	0.066	-19.51%

An open channel serving as outlet conveyance is proposed for SWMF-1B (**Table F.1B-h** in **Appendix F**). It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 810 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.1B-i** in **Appendix F**. To provide filtration of large debris, the pond is equipped with a hickenbottom draw pipe connected to the outlet structure. Outlet structure details for SWMF-1B can be found in **Figure F.1** in **Appendix F**.

4.2.2.2 DIXIE STATION

Dixie Road Station has a total catchment area of 5.85 ha. Two (2) parking lots are proposed at this location, an East and a West lot. Two (2) SWM facilities are proposed for this lot. SWMF-2A (West Station) will provide quality and quantity control for the western section of the Station, including the bus loop, and access road, for a total catchment area of 4.43 ha. The eastern half of Dixie Station, a total of 1.42 ha, will be directed to SWMF-2B; a wet pond that will provide quality and quantity control. The drainage area of each SWM facility is summarized in **Table 4-12** and **Table 4-13**.

Table 4-12: Summary of Dixie Road Station SWMF-2A Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
D-1	3.8	3.42
D-2	0.3	0.27
D-3	0.33	0.30
SWMF-2A Drainage Area Total	4.43	3.99
*Assumed 90% imperviousness for developed areas	For an area of 4.42 ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 221 m^3	

Table 4-13: Summary of Dixie Road Station SWMF-2B Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
D-4	1.42	1.28
SWMF-2B Drainage Area Total	1.42	1.28
*Assumed 90% imperviousness for developed areas	For an area of 1.42 ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 71 m^3	

Development of the station land significantly increases peak flow rates during storm events, as indicated in

Table 4-14 and **Table 4-15.**

Table 4-14: Comparison of Allowable and Post- Development (Uncontrolled) Release Rates at Dixie Road Station (SWMF-2A Drainage Areas)

12hr AES Return Period	Allowable Release Rates (A = 4.43ha) EX Q_p	Post-Development Condition Uncontrolled Peak Flow	Increase from Allowable to Post-Development (Uncontrolled) Peak Flow
	(m^3/s)	(m^3/s)	(%)
2-yr	0.144	0.172	19.74%
5-yr	0.196	0.228	16.60%

10-yr	0.231	0.265	14.54%
25-yr	0.277	0.313	12.99%
50-yr	0.311	0.347	11.51%
100-yr	0.346	0.382	10.51%

Table 4-15: Comparison of Allowable and Post- Development (Uncontrolled) Release Rates at Dixie Road Station (SWMF-2B Drainage Areas)

12hr AES Return Period	Allowable Release Rates (A = 1.42 ha) EX Q_p	Post-Development Condition Uncontrolled Peak Flow	Increase from Allowable to Post-Development (Uncontrolled) Peak Flow
	(m^3/s)	(m^3/s)	(%)
2-yr	0.046	0.055	19.51%
5-yr	0.063	0.073	16.52%
10-yr	0.074	0.085	14.67%
25-yr	0.089	0.100	12.68%
50-yr	0.100	0.111	11.34%
100-yr	0.111	0.123	11.07%

SWMF-2A is an extended detention wet pond with a total available volume of 2756 m^3. The permanent pool has an average depth of 1.02 m and a volume of 907 m^3 for quality control. **Table F.2A-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as the stage-storage, stage-discharge relationships of the pond are included in **Table F.2A-e** in **Appendix F**. **Table F.2A-f** in **Appendix F** shows that the minimum orifice size required to attenuate the 25 mm storm in 48 hr is 80 mm; thus the outlet structure will be equipped with a 80mm orifice (invert elevation of 180.18 m) to provide erosion control and meet the 25 mm storm retention criteria.

To achieve the quantity control requirements, one weir is proposed:

- Weir #1: width = 2300 mm, invert elevation = 180.76 m

Storage and discharge characteristics of SWMF-2A are summarized in **Table 4-16.**

Table 4-16: Storage and Discharge Characteristics of SWMF-2A

12hr AES Return Period	Allowable Release Rates Etobicoke Unit Flow Rates $Q_{allowable}$	SWMF-2A CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	0.144	1825	1020	0.065	-120.99%
5-yr	0.196	1825	1094	0.124	-57.70%
10-yr	0.231	1825	1132	0.161	-43.70%
25-yr	0.277	1825	1191	0.223	-24.22%

50-yr	0.311	1825	1234	0.273	-13.98%
100-yr	0.346	1825	1273	0.319	-8.36%

A 700 mm STM outlet pipe is proposed for SWMF-2A. It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 1250 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.2A-i** in **Appendix F**. To provide filtration of large debris, the pond is equipped with a hickenbottom draw pipe connected to the outlet structure. Outlet structure details for SWMF-2A can be found in **Figure F.2** in **Appendix F**.

SWMF-2B is also an extended detention wet pond with a total available volume of 1,305 m^3. The permanent pool has an average depth of 0.98 m and a volume of 290 m^3 for quality control. **Table F.2B-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as the stage-storage, stage-discharge relationships of the pond are included in **Table F.2B-e** in **Appendix F**. **Table F.2B-f** in **Appendix F** shows that the minimum orifice size required to attenuate the 25 mm storm in 48 hr is 75 mm; thus the outlet structure will be equipped with a 75 mm orifice (invert elevation of 179.42 m) to provide erosion control and meet the 25 mm storm retention criteria.

To achieve the quantity control requirements, one weir is proposed:

- Weir #1: width = 1100 mm, invert elevation = 179.79 m

Storage and discharge characteristics of SWMF-2B are summarized in **Table 4-17.**

Table 4-17: Storage and Discharge Characteristics of SWMF-2B

12hr AES Return Period	Allowable Release Rates Etobicoke Unit Flow Rates $Q_{allowable}$	SWMF-2B CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	0.046	1007	316	0.020	-130.11%
5-yr	0.063	1007	340	0.040	-56.63%
10-yr	0.074	1007	352	0.052	-42.55%
25-yr	0.089	1007	370	0.073	-21.58%
50-yr	0.100	1007	383	0.089	-12.02%
100-yr	0.111	1007	397	0.100	-10.75%

A 800 mm STM outlet pipe is proposed for SWMF-2B. It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 400 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.2B-i** in **Appendix F**. To provide filtration of large debris, the pond is equipped with hickenbottom draw pipe connected to the outlet structure. Outlet structure details for SWMF-2B can be found in **Figure F.2** in **Appendix F**.

4.2.2.3 AIRPORT STATION

Airport Station has a total catchment area of 5.20 ha. **Table 4-18** provides a summary of the drainage areas at the station.

Table 4-18: Summary of Airport Road Station SWMF-3 Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
A-1	0.35	0.32
A-2	4.14	3.73
A-3	0.51	0.46
A-4	0.20	0.18
SWMF-3 Drainage Area Total	5.2	4.68
*Assumed 90% imperviousness for developed areas	For an area of 5.2 ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 260 m^3	

Development of the station land significantly increases peak flow rates during storm events, as indicated in **Table 4-19**.

Table 4-19: Comparison of Allowable and Post- Development (Uncontrolled) Release Rates at Airport Road Station (SWMF-3 Drainage Areas)

12hr AES Return Period	Allowable Release Rates (A = 5.20 ha) EX Q_p	Post-Development Condition Uncontrolled Peak Flow	Increase from Allowable to Post-Development (Uncontrolled) Peak Flow
	(m^3/s)	(m^3/s)	(%)
2-yr	0.206	0.262	27.18%
5-yr	0.283	0.343	21.20%
10-yr	0.336	0.398	18.45%
25-yr	0.403	0.466	15.63%
50-yr	0.453	0.517	14.13%
100-yr	0.504	0.568	12.70%

SWMF-3 is an extended detention wet pond with a total available volume of 3,816 m^3. The permanent pool has an average depth of 1.03 m and a volume of 1,107 m^3 for quality control. **Table F.3-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as the stage-storage and stage-discharge relationships of the pond are included in **Table F.3-e** in **Appendix F**. **Table F.3-f** in **Appendix F** shows that the minimum orifice size required to attenuate the 25 mm storm in 48 hr is 90 mm; thus the outlet structure will be equipped with a 90 mm orifice (invert elevation of 179.67 m) to provide erosion control and meet the 25 mm storm retention requirements.

To achieve the quantity control requirements, one weir is proposed:

- Weir #1: width = 2200 mm, invert elevation = 180.18 m

Storage and discharge characteristics of SWMF-3 are summarized in **Table 4-20.**

Table 4-20: Storage and Discharge Characteristics of SWMF-3

12hr AES Return Period	Allowable Release Rates Existing Conditions Flow Rates $Q_{allowable}$	SWMF-3 CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	0.206	2680	1284	0.079	-160.76%
5-yr	0.283	2680	1464	0.187	-51.34%
10-yr	0.336	2680	1571	0.267	-25.84%
25-yr	0.403	2680	1684	0.360	-11.94%
50-yr	0.453	2680	1757	0.422	-7.35%
100-yr	0.504	2680	1821	0.485	-3.92%

A 900 mm STM outlet pipe is proposed for SWMF-3. It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 1860 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.3-i** in **Appendix F**. To provide filtration of large debris, the pond is equipped with hickenbottom draw pipe connected to the outlet structure. For outlet structure details of SWMF-3 refer to **Figure F.3** in **Appendix F**.

4.2.2.4 GOREWAY STATION

Goreway Drive Station has a total catchment area of 7.84 ha. **Table 4-21** provides a summary of the drainage areas at the station.

Table 4-21: Summary of Goreway Drive Station SWMF-4 Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
G-1	4.98	4.48
G-2 (Transitway area)	0.37	0.22
G-3 (Transitway area)	0.80	0.48
G-4 (Unpaved Area)	1.20	0.64
G-5 (Unpaved Area)	0.22	0.13
G-6 (Unpaved Area)	0.27	0.14
SWMF-4 Drainage Area Total	7.84	6.09
*Assumed 90% imperviousness for developed areas	For an area of 6.34 ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 317 m^3	

Development of the station land significantly increases peak flow rates during storm events, as indicated in

Table 4-22.

Table 4-22: Comparison of Allowable and Post- Development (Uncontrolled) Release Rates at Goreway Drive Station (SWMF-4 Drainage Areas)

12hr AES Return Period	Allowable Release Rates (A = 7.84 ha) EX Q_p	Post-Development Condition Uncontrolled Peak Flow	Increase from Allowable to Post-Development (Uncontrolled) Peak Flow
	(m^3/s)	(m^3/s)	(%)
2-yr	0.290	0.363	25.17%
5-yr	0.405	0.489	20.74%
10-yr	0.490	0.574	17.14%
25-yr	0.594	0.681	14.65%
50-yr	0.671	0.759	13.11%
100-yr	0.757	0.837	10.57%

SWMF-4 is an extended detention wet pond with a total available volume of 4,775 m^3. The permanent pool has an average depth of 1.18 m and a volume of 1,495 m^3 for quality control. **Table F.4-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as the stage-storage and stage-discharge relationships of the pond are included in **Table F.4-e** in **Appendix F**. **Table F.4-f** in **Appendix F** shows that the minimum orifice size required to attenuate the 25 mm storm in 48 hr is 95 mm; thus the outlet structure will be equipped with a 95 mm orifice (invert elevation of 173.22 m) to provide erosion control and meet the 25 mm storm retention requirements.

To achieve the quantity control requirements, one weir is proposed:

- Weir #1: width = 2000 mm, invert elevation = 173.84 m

Storage and discharge characteristics of SWMF-4 are summarized in **Table 4-23.**

Table 4-23: Storage and Discharge Characteristics of SWMF-4

12hr AES Return Period	Allowable Release Rates Existing Conditions Flows Rates $Q_{allowable}$	SWMF-4 CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	0.290	3277	1749	0.115	-152.17%
5-yr	0.405	3277	1998	0.264	-53.41%
10-yr	0.490	3277	2160	0.382	-28.27%
25-yr	0.594	3277	2339	0.528	-12.50%

50-yr	0.671	3277	2453	0.624	-7.53%
100-yr	0.757	3277	2554	0.715	-5.87%

A 1100 mm STM outlet pipe is proposed for SWMF-4. It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 2740 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.4-i** in **Appendix F**. To provide filtration of large debris, the pond is equipped with hickenbottom draw pipe connected to the outlet structure. Outlet structure details for SWMF-4 can be found in **Figure F.4** in **Appendix F**.

4.2.2.5 HWY 50 STATION

HWY 50 station lies in the Sub-Basin 46 in Humber River Watershed where quantity control is not required (Stormwater Management Criteria, TRCA, August 2012), therefore, two stormwater management facilities are proposed only for quality control purpose.

SWMF-5A will provide quality control for the section of the station north of the 407 TWY, including the bus loop and access road, a total catchment area of 4.18 ha. SWMF-5B will provide quality control for the Station south of the 407 TWY, including the station itself and the access road; a total catchment area of 3.16 ha. The drainage areas for each facility are summarized in **Table 4-24** and **Table 4-25** respectively.

Table 4-24: Summary of HWY 50 Station SWMF-5A Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
H-1	0.47	0.42
H-2	1.43	1.29
H-3 (Pervious area)	1.43	0.42
H-4	0.49	0.44
H-7	0.36	0.32
SWMF-5A Drainage Area Total	2.75	2.48
*Assumed 90% imperviousness for developed areas	For an area of 2.75 ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 137.5 m^3	

Table 4-25: Summary of HWY 50 Station SWMF-5B Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
H-5	0.40	0.36
H-6	2.76	2.48
SWMF-5B Drainage Area Total	3.16	2.84
*Assumed 90% imperviousness for developed areas	For an area of 3.16 ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 158 m^3	

Development of the station land significantly increases peak flow rates during storm events, as indicated in

Table 4-26 and **Table 4-27.**

Table 4-26: Comparison of Allowable and Post- Development (Uncontrolled) Release Rates at HWY 50 Station (SWMF-5A Drainage Areas)

12hr AES Return Period	Allowable Release Rates (A = 2.75 ha)	Post-Development Condition Uncontrolled Peak Flow	Increase from Allowable to Post-Development (Uncontrolled) Peak Flow
	(m^3/s)	(m^3/s)	(%)
2-yr	No Quantity Control Required	0.236	No Quantity Control Required
5-yr		0.320	
10-yr		0.377	
25-yr		0.448	
50-yr		0.501	
100-yr		0.553	

Table 4-27: Comparison of Allowable and Post- Development (Uncontrolled) Release Rates at HWY 50 Station (SWMF-5B Drainage Areas)

12hr AES Return Period	Allowable Release Rates ID 10 (A = 3.16 ha) EX Q_p	Post-Development Condition Uncontrolled Peak Flow	Increase from Allowable to Post-Development (Uncontrolled) Peak Flow
	(m^3/s)	(m^3/s)	(%)
2-yr	No Quantity Control Required	0.260	No Quantity Control Required
5-yr		0.358	
10-yr		0.423	
25-yr		0.505	
50-yr		0.566	
100-yr		0.627	

SWMF-5A is an extended detention wet pond with a total available volume of 1,885 m^3. The permanent pool has an average depth of 1.2 m and a volume of 575 m^3 for quality control. **Table F.5A-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as the stage-storage and stage-discharge relationships of the pond are included in **Table F.5A-e** in **Appendix F**. **Table F.5A-f** in **Appendix F** shows that the minimum orifice size required to attenuate the 25 mm storm in 48 hr is 75 mm; thus the outlet control structure will be equipped with a 75 mm orifice (invert elevation of 173.80 m) to provide erosion control and meet the 25 mm storm retention requirements.

Storage and discharge characteristics of SWMF-5A are summarized in **Table 4-28.**

Table 4-28: Storage and Discharge Characteristics of SWMF-5A

12hr AES Return Period	Allowable Release Rates Existing Condition Flows Rates $Q_{allowable}$	SWMF-5A CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	No Quantity Control Required	1331	753	0.010	No Quantity Control Required
5-yr		1331	1043	0.012	
10-yr		1331	1239	0.013	
25-yr		1331	1485	0.015	
50-yr		1331	1670	0.016	
100-yr		1331	1853	0.017	

A 800 mm STM outlet pipe is proposed for SWMF-5A. It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 1810 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.5A-i** in **Appendix F**. To provide filtration of large debris, the pond is equipped with hickenbottom draw pipe connected to the outlet structure. Outlet structure details are provided in **Figure F.5** in **Appendix F**.

SWMF-5B is also an extended detention wet pond with a total available volume of 2,495 m^3. The permanent pool has an average depth of 1.04 m and a volume of 623 m^3 for quality control. **Table F.5B-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as the stage-storage and stage-discharge relationships of the pond are included in **Table F.5B-e** in **Appendix F**. **Table F.5B-f** in **Appendix F** shows that the minimum orifice size required to attenuate the 25 mm storm in 48 hr is 75 mm; thus the outlet control structure will be equipped with a 75 mm orifice (invert elevation of 175.46 m) to provide erosion control and to meet 25 mm storm retention requirements.

Storage and discharge characteristics of SWMF-5B are summarized in **Table 4-29.**

Table 4-29: Storage and Discharge Characteristics of SWMF-5B

12hr AES Return Period	Allowable Release Rates Existing Condition Flow Rates $Q_{allowable}$	SWMF-5B CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	No Quantity Control Required	1845	845	0.009	No Quantity Control Required
5-yr		1845	1181	0.010	
10-yr		1845	1409	0.011	
25-yr		1845	1697	0.012	
50-yr		1845	1913	0.013	
100-yr		1845	2127	0.014	

A 850 mm STM outlet pipe is proposed for SWMF-5B. It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 2060 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.5B-i** in **Appendix F**. To provide filtration of large debris, the pond is equipped with hickenbottom draw pipe connected to the outlet structure. Outlet structure details are provided in **Figure F.5** of **Appendix F**.

4.2.2.6 HWY 27 STATION

In existing conditions, the alignment of Albion Creek passes through HWY 27 Station. This location of the creek is relatively flat and includes a wetland. The proposed station will occupy this land; therefore, Albion Creek is proposed to be realigned and the wetland is proposed to be relocated north of the transitway and south of the Highway 407 off-ramp. Albion Creek is proposed to be realigned as shown in **Figure F.6** in **Appendix F**. The creek is proposed to be open in a V open channel within the HWY 27 station area after the proposed culvert structure (5m x 2m), which will outlet at the existing culvert found north of Steeles Ave. W., for a total length of 132.5 m.

HWY 27 station lies in the Sub-Basin 46 in Humber River Watershed where quantity control is not required (Stormwater Management Criteria, TRCA, August 2012), therefore, two stormwater management facilities are proposed only for quality control purpose. HWY 27 Station has a total catchment area of 5.09 ha. The proposed grading of the station resembles existing drainage patterns in which runoff drains toward the middle of the station. Therefore, the total station area was divided into its western and eastern parts. The areas of subdivided catchments are 2.8 ha; thus, two identical SWM facilities are proposed on either side of the drainage outlet at the middle of the station. 2.8 ha was used in the station SWM analysis for each wet pond design with 90% imperviousness. The drainage area of each SWM facility is summarized in **Table 4-30**.

Table 4-30: Summary of HWY 27 Station SWMF-6 Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
H-1 (West)	2.29	2.1
H-2 (East)	2.80	2.52
SWMF-6 Drainage Area Total	5.09	4.62
*Assumed 90% imperviousness for developed areas	For an area 5.60 of ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 255 m^3	

Development of the station land significantly increases peak flow rates during storm events, as indicated in

Table 4-31.

Table 4-31: Comparison of Allowable and Post- Development (Uncontrolled) Release Rates at HWY27 Station (SWMF-6 Drainage Areas)

12hr AES Return Period	Allowable Release Rates (A = 2.8 ha) EX Q_p	Post-Development Condition Uncontrolled Peak Flow	Increase from Allowable to Post-Development (Uncontrolled) Peak Flow
	(m^3/s)	(m^3/s)	(%)
2-yr	No Quantity Control Required	0.239	
5-yr		0.325	
10-yr		0.383	

25-yr		0.455	No Quantity Control Required
50-yr		0.509	
100-yr		0.562	

SWMF-6 is an extended detention wet pond with a total available volume of 1,684 m³. The permanent pool has an average depth of 0.88 m and a volume of 563 m³ for quality control. **Table F.6-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as stage-storage and stage-discharge relationships of the pond are included in **Table F.6-e** in **Appendix F**. **Table F.6-f** in **Appendix F** shows that the minimum orifice size required to attenuate the 25 mm storm in 48 hr is 75 mm; thus the outlet control structure will be equipped with a 75 mm orifice (invert elevation of 172.42 m) to provide erosion control and meet the 25 mm storm retention criteria.

Storage and discharge characteristics of SWMF-6 are summarized in **Table 4-32.**

Table 4-32: Storage and Discharge Characteristics of SWMF-6

12hr AES Return Period	Allowable Release Rates Existing Conditions Flow Rates $Q_{allowable}$	SWMF-6 CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	o Quantity Control Required	1097	748	0.010	No Quantity Control Required
5-yr		1097	1046	0.012	
10-yr		1097	1247	0.013	
25-yr		1097	1500	0.014	
50-yr		1097	1690	0.015	
100-yr		1097	1877	0.016	

A 800 mm STM outlet pipe is proposed for SWMF-6. It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 1840 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.6-i** in **Appendix F**. To provide filtration of large debris, the pond is equipped with hickenbottom draw pipe connected to the outlet structure. Outlet structure details can be found in **Figure F.6** in **Appendix F**.

4.2.2.7 PINEVALLEY STATION

Pine Valley has a total catchment area of 6.47 ha. **Table 4-33** provides a summary of the drainage areas at this station. runoff from the access road leading to the transitway on the eastern side of the station will drain toward the transitway and be treated as part of the roadway drainage design.

Table 4-33: Summary of Pinevalley Station SWMF-7 Drainage Areas

Drainage Area ID	Area (Ha)	Post-Development Impervious Area* (Ha)
P-1	0.94	0.85
P-2	0.47	0.42
P-3	4.66	4.19
P-4	0.40	0.36
SWMF-7 Drainage Area Total	6.47	5.82
*Assumed 90% imperviousness for developed areas	For an area of 6.47 ha, the 5mm retention volume (TRCA SWM Criteria, 2012) is 323.5 m^3	

Development of the station land significantly increases peak flow rates during storm events, as indicated in **Table 4-34**.

Table 4-34: Comparison of Allowable and Post- Development (Uncontrolled) Release Rates Pinevalley Station (SWMF-7 Drainage Areas)

12hr AES Return Period	Allowable Release Rates (A = 6.47 ha) EX Q_p	Post-Development Condition Uncontrolled Peak Flow	Increase from Allowable to Post-Development (Uncontrolled) Peak Flow
	(m^3/s)	(m^3/s)	(%)
2-yr	0.041	0.521	1173.69%
5-yr	0.061	0.721	1089.15%
10-yr	0.074	0.855	1062.13%
25-yr	0.092	1.023	1011.49%
50-yr	0.107	1.148	976.66%
100-yr	0.121	1.272	947.94%

SWMF-7 is an extended detention wet pond with a total available volume of 6,536 m^3. The permanent pool has an average depth of 1.76 m and a volume of 1,087 m^3 for quality control. **Table F.7-d** in **Appendix F** shows the design parameters of the proposed pond. Details of the outlet structure, as well as stage-storage and stage-discharge relationships of the pond are included in **Table F.7-e** in **Appendix F**. **Table F.7-f** in **Appendix F** shows that the minimum orifice size required to

attenuate the 25 mm storm in 48 hr is 92 mm; thus the outlet control structure will be equipped with a 92 mm orifice (invert elevation of 157.74 m) to provide erosion control and meet 25 mm storm retention criteria.

To achieve the quantity control requirements, one weir is proposed:

- Weir #1: width = 70 mm, invert elevation = 158.25 m

Storage and discharge characteristics of SWMF-7 are summarized in **Table 4-35.**

Table 4-35: Storage and Discharge Characteristics of SWMF-7

12hr AES Return Period	Allowable Release Rates Unit Flow Rates $Q_{allowable}$	SWMF-7 CHARACTERISTICS			Decrease Post-Development Controlled to Allowable Peak Flow
		Storage Provided	Storage Required	Release Rate	
	(m^3/s)	(m^3)	(m^3)	(m^3/s)	(%)
2-yr	0.041	5226	1670	0.028	-46.09%
5-yr	0.061	5226	2175	0.050	-21.26%
10-yr	0.074	5226	2548	0.067	-9.81%
25-yr	0.092	5226	3005	0.090	-2.27%
50-yr	0.107	5226	3345	0.108	1.27%
100-yr	0.121	5226	3688	0.124	2.11%

A 1200 mm STM outlet pipe is proposed for SWMF-7. It was sized to convey uncontrolled flows from the pond in case of clogging or emergency. The 4170 mm overflow weir (Height: 0.3m) at the top of the pond serves as an emergency overflow spill for the pond, which can be found in **Table F.7-i** in **Appendix F**. To provide filtration of large debris, the pond is equipped with hickenbottom draw pipe connected to the outlet structure. Outlet structure details are provided in **Figure F.7** in **Appendix F**.

5 Erosion and Sediment Control During Construction

The erosion and sediment control (ESC) practices to be developed during detailed design should follow the latest MTO's reference documents including the Environmental Reference for Highway Design (MTO, June 2013), the Environmental Guide for Erosion and Sediment Control during Construction of Highway Projects (MTO, September 2015), as well as the Ontario Provincial Standards for Roads and Public Works (OPSS), and the Erosion and Sediment Control Guidelines for Urban Construction (Golden Horseshoe, Dec 2006).

Impacts on the surrounding environment related to highway projects can be mitigated by proper erosion and sediment control measures. MTO

It is recommended that a multi-barrier approach be undertaken during construction using the following measures as a minimum:

- Stabilize exposed soils with vegetation where possible to reduce the amount of sediments that would be conveyed further downstream to existing watercourses;
- Implement construction phasing to limit the duration of soil exposure;
- Install heavy-duty double silt fence at each water crossing;
- Double silt fence to be supported by straw-bale;
- Install rock check dams to reduce high flow velocities in the ditches/swales adjacent to the proposed 407 TWY;
- Erosion and sediment control blankets for the road embankments;
- Dewatering, temporary channel diversions; and
- Use erosion prevention controls and sediment control measures as necessary

6 Conclusions and Considerations

1. Due to the road profile sloping underground, pumping may be required at three locations along the proposed 407 TWY: Hurontario Station (ST 1+078), Highway 410 (ST 3+670), Goreway Station (11+890). Details related to pump sizes should be provided during detailed design.
2. A treatment train approach is proposed for the TWY corridor consisting of grass embankments, long grassed swales, and enhanced swales. Quantity control of transit flows is proposed to be provided through enhanced swales. These were designed as dry ponds with a formal outlet control structure consisting of 100 mm perforated pipe, hickenbottom structure and a 75 mm orifice plate. A single typical enhanced swale design was used throughout the roadway drainage analysis however a more detailed analysis should be undertaken during detailed design.
3. The SWM strategy for the stations include wet ponds with control structures consisting of multiple orifices and/or weirs. Wet ponds were designed for each station to provide quantity, quality, and erosion and sediment control. All of the stormwater management facilities meet MOECC and MTO criteria.
4. The Hydraulic analysis was undertaken using HEC-RAS, and in some cases HY-8, for 22 crossings within the study limits. TRCA provided 5 HEC-RAS models, while Parsons created the models for the remaining crossings. HY-8 was used for the preliminary analysis of water crossings H5. Further investigation is recommended for the following water crossings:
    a. The analysis undertaken for H2 excluded existing conditions as ongoing construction at the 407 Patrol Yard is in the process of realigning Albion Creek.
    b. The analysis undertaken for H5 used water levels generated from the TRCA model as inputs into an HY-8 model. It is recommended to conduct a field investigation during detail design to confirm the inlet properties of the existing 1.0 m dia. culvert, and to refine the hydraulic model at the flow split between the existing 1.0 m dia. Culvert and the large channel flowing from west to east located north of Highway 407.
    c. The analysis undertaken for H8 used a worst-case scenario assuming all runoff from 350 ha of upstream drainage area drains toward this crossing. Quantification and modelling of the Aviva Park Pond and other existing SWM controls in the area could reduce the amount of flow leading to H8. Additionally, the feasibility of dredging in this area should be analyzed at a future stage.
5. The results of the hydraulic analysis show that water levels increase from existing conditions to proposed conditions at most proposed crossings; however, these increases are confined within MTO's ROW and have no impacts on upstream nor downstream riparian and private properties.
6. All structures meet MTO's design criteria with regards to freeboard and clearances with two exceptions, proposed structure for M7 and proposed structure for H8.

    Further analysis is recommended to be undertaken for the M7 crossing since the proposed TWY provides the largest span compared to all structures along M7 near the proposed TWY. The comparison of existing and

proposed water levels show no increases upstream of the existing Highway 407 and downstream of the 407 TWY. Increases are noted only on the first section upstream of the TWY and they are localized.

In regards to crossing for H8, the 407 TWY profile at this location has been raised providing the highest elevation possible at this location, considering the transmission cables.

7. Rainbow Creek runs parallel to the proposed transitway between stations 19+300 and 19+500 of the 407 TWY and was considered for realignment due to its proximity to the transitway. Realignment was avoided with the use of retaining walls; however, a fluvial geomorphology study is recommended in the detailed design stage to study the flow characteristics of this location further.

Drainage Lead:

Richard Morales, M.Eng., P.Eng.
Project Manager, Water Division
PARSONS

Project Engineer:

Cristina Iliescu, M.Eng, P.Eng.
Project Engineer, Water Division
PARSONS

References

The following documents were used in preparation for this report:

1 Contract drawings for 407 ETR received from MTO

2 Hydrologic maps and models and floodline mapping for Etobicoke Creek, Mimico Creek, and Humber River watersheds available from TRCA

3 Highway Drainage Design Standards, Ministry of Transportation, January 2008

4 Environmental Reference for Highway Design (MTO, June 2013)

5 Environmental Guide for Erosion and Sediment Control during Construction of Highway Projects (MTO, September 2015)

6 Etobicoke Creek Floodplain Mapping Update Final Report, Aquafor Beech Limited, December 2016

7 Humber River Hydrology Update, Final Report, CIVICA, June 2015

8 Mimico Creek Hydrologic Modelling Final Report, MMM Group, December 2009

9 Performance Assessment of two types of oil grit separator for stormwater management control in parking lot applications, Markham & Toronto, Ontario (a report prepared by Stormwater Assessment Monitoring and performance (SWMP) Program for MOECC, TRCA, Municipal Engineers Association of Ontario and the City of Toronto, July 2004)
http://sustainabletechnologies.ca/wp/wp-content/uploads/2013/03/OGS-ES.pdf

10 Performance Assessment of a Swale and Perforated Pipe Stormwater Infiltration System, Toronto, Ontario (a report prepared by Stormwater Assessment Monitoring and Performance (SWMP) Program for Great Lakes Sustainability Fund of the Government of Canada, Ontario Ministry of Environment and Energy, TRCA, Municipal Engineers Association of Ontario, City of Toronto, May 2002)
http://www.trca.on.ca/dotAsset/26187.pdf

11 Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation (Government of Canada, Lead Authors: Fionna Warren and Donald S.Lemmen, Natural Resources Canada, 2014)
http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/assess/2014/pdf/Full-Report_Eng.pdf

APPENDIX A

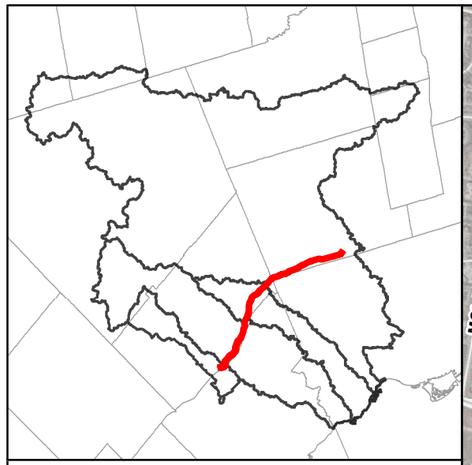
Existing Environment Characterization

APPENDIX A: Existing Environment Characterization

Figure A.1: 407 TRANSITWAY DATA REVIEW: WATER CROSSINGS
Figure A.2: 407 TRANSITWAY WATERSHEDS (SOIL GROUPS)

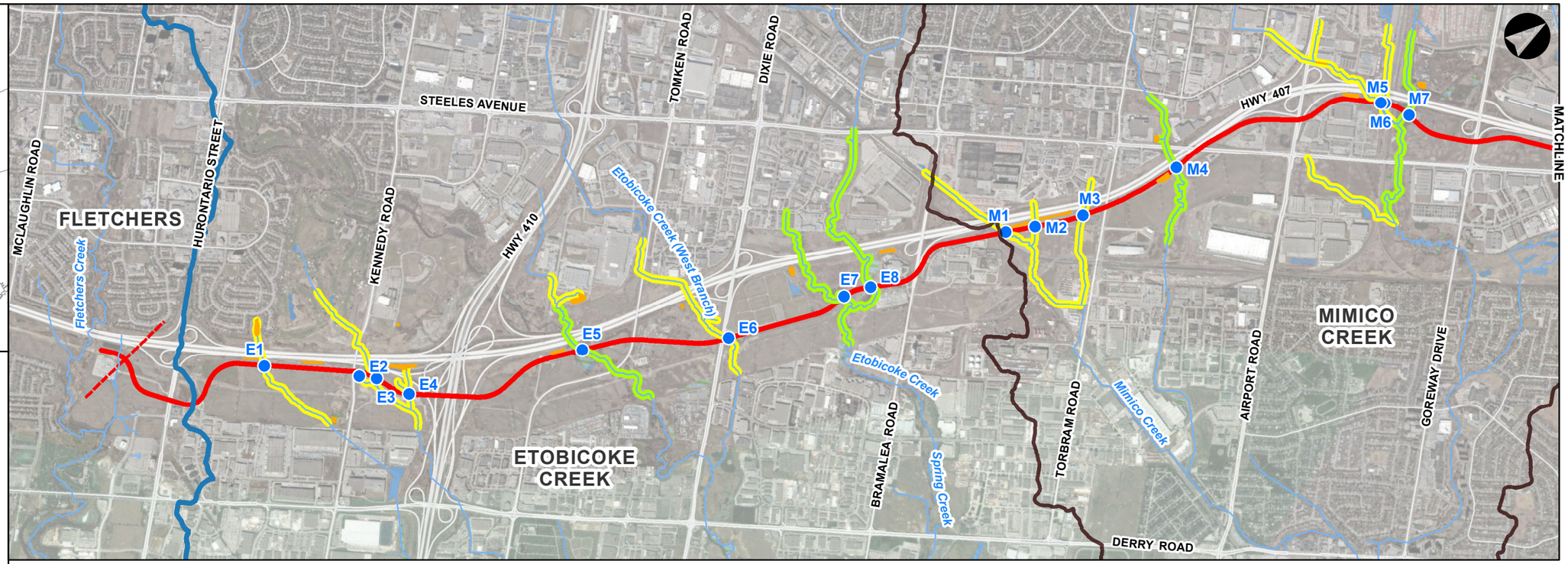
Field Investigation - April, 2017

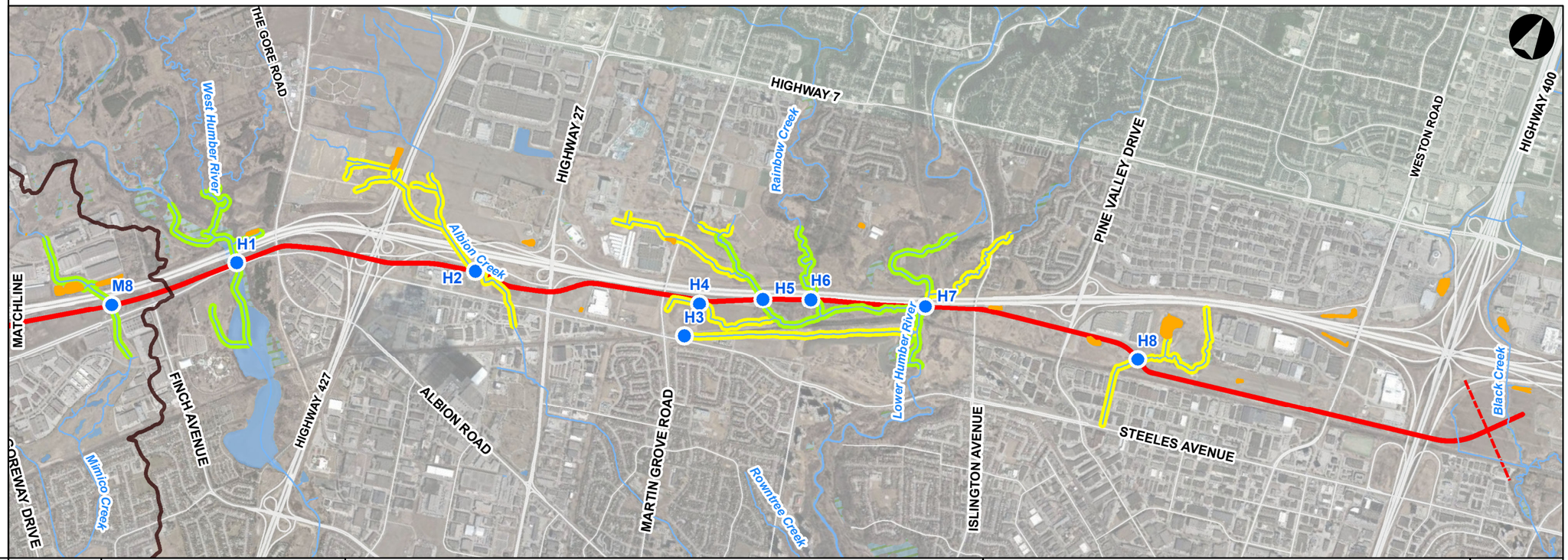
Field Investigation - September, 2017



LEGEND

- Water Crossing
- Watercourse
- "Non-Modelled" Watercourse
- "Modelled" Watercourse
- Proposed Transitway
- Project Limits
- Stormwater Pond
- Subwatershed
- CVC / TRCA Watershed Boundary





DATE	PROJECT NO.
JULY 2017	602896

0 0.5 1 km

SOURCE: TRCA, LIO, NRCA
MTM Zone 10N NAD83

Ontario

PARSONS

625 COCHRANE DRIVE, SUITE 500
MARKHAM ON L3R 9R9
TEL: 905-943-0500
FAX: 905-943-0400

407 TRANSITWAY DATA REVIEW: WATER CROSSINGS

407 TRANSITWAY (G.W.P. 14-20001)
FROM WEST OF HURONTARIO ST TO EAST OF HWY 400

FIGURE NO.
A.1

LEGEND

- Subwatershed
- CVC / TRCA Watershed Boundary
- Proposed Transitway
- Watercourse

Soils

- Berrien Sandy
- Brookton Sandy
- Bottom Land
- Brighton Sandy Loam
- Burford
- Caledon
- Cashel Clay
- Chinguacousy Clay
- Fox Sandy
- Jeddo Clay
- King Clay
- Malton Clay
- Muck
- Onedia Clay
- Peel Clay
- Schomberg Silt
- Water

HUMBER RIVER
MIMICO CREEK
ETOBICOKE CREEK
FLETCHERS
SANDALWOOD PKY
HUMBERWEST PKY
BOVAIRD DR
WILLIAMS PKY
TORBRAM RD
QUEEN ST
BRAMALEA RD
DIXIE RD
KENNEDY RD
MAIN ST
MCLAUGHLIN RD
DERRY RD
HURONTARIO ST
MAVIS RD
TOMKEN RD
AIRPORT RD
GOREWAY DR
FINCH AVE
ALBION RD
STEELES AVE
EGLINTON AVE
RENFORTH DR
HWY 27
THE GORE RD
HWY 7
KIPLING AVE
MARTIN GROVE RD
ISLINGTON AVE
REXDALE BLVD
RATHBURN RD
DIXON RD
ROYAL YORK RD
SCARLETT RD
JANE ST
SHEPPARD AVE
BLACK CREEK DR
WESTON RD
PINE VALLEY DR
WESTON RD
West Humber River
East Humber River
Mimico Creek
Etobicoke Creek
Spring Creek
Fletchers Creek
Berry Creek
Emery Creek
Black Creek
Humber Creek
Silver Creek
Renforth Creek
407
410
427
409
400
401
403

DATE	PROJECT NO.
JULY 2017	602896

0 1 2 km SOURCE: TRCA, LIO, NRCA MTM Zone 10N NAD83

Ontario

PARSONS

625 COCHRANE DRIVE, SUITE 500
MARKHAM ON L3R 9R9
TEL: 905-943-0500
FAX: 905-943-0400

407 TRANSITWAY WATERSHEDS (SOIL GROUPS)

407 TRANSITWAY (G.W.P. 14-20001)
FROM WEST OF HURONTARIO ST TO EAST OF HWY 400

FIGURE NO.
A.2

Field Investigation - April, 2017

PARSONS

Inspection Notes – C1

INLET:

- Site cannot be seen or accessed. A tall fence close to site C2 may provide access to this site however the gate is locked.

OUTLET:

- Site cannot be accessed because of a fence on the South side however, a pond access road (from Hwy 407 near Exit 44) can be used to get to this area. See photo C1-01.

PHOTOS:

PARSONS

Inspection Notes – C2

INLET/OUTLET:

- Accessed from walking trail off Meadowlark Drive.
- 2 bridges, 2 spans each (each span is 50 m wide).
- For scaling reference:
    - SW corner of bridges, abutment height = 2 m
    - NW corner of bridges, abutment height = 3.3 m

PHOTOS:

PARSONS

Inspection Notes – C3

INLET:

- Site cannot be seen or accessed. A tall fence close to site C2 may provide access to this site however the gate is locked.

OUTLET:

- Site cannot be accessed because of a fence on the South side however, a pond access road (from Hwy 407) can be used to get to this area. See photo C3-01.

PHOTOS:

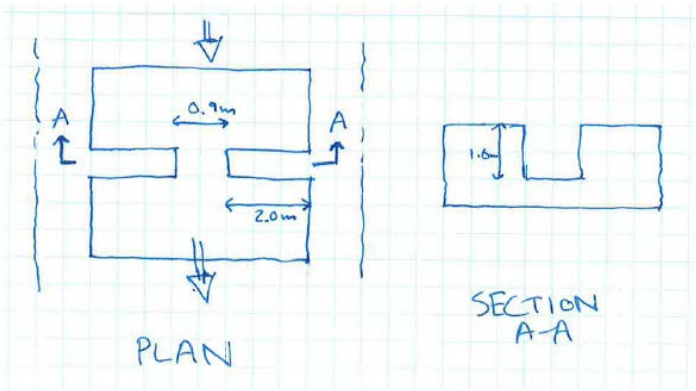
PARSONS

Inspection Notes – E1

INLET:

- Site accessed by climbing short fence on Havelock Drive.
- Box culvert with >1.5 m cover.
- Wetland area ~100 m U/S of Inlet with rip-rap spillway (see photos E1-04 and E1-05).

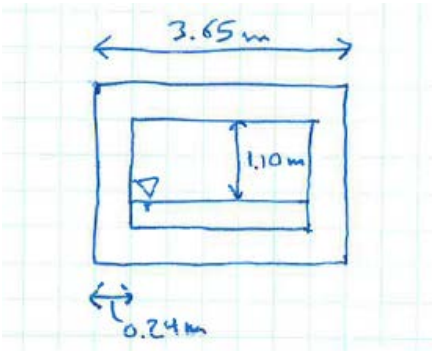
SKETCH OF WETLAND SPILLWAY:



OUTLET:

- Site accessed from Hurontario / Hwy 407 Park & Ride.
- Box culvert with > 2 m cover.

SKETCH OF BOX CULVERT:



PHOTOS:

PARSONS

Inspection Notes – E2

INLET:

- Access from residential private property on SW corner of Hwy 407 / Kennedy Road
- Water depth ~ 0.1 m (after rainfall on previous day)
- CSP culvert (1400 mm dia.), >4 m of cover

OUTLET:

- Access road from Kennedy Road leads directly to culvert
- Water depth ~ 0.5 m (after rainfall on previous day)
- CSP culvert (1400 mm dia.), 0.7 m of cover

~200 M DOWNSTREAM OF OUTLET CROSSING GRAVEL ACCESS ROAD:

- CSP culvert (0.4 dia), 0.1 m cover
- Ponding on upstream side of culvert

PHOTOS:

PARSONS

Inspection Notes – E3

INLET:

- Access Road off Kennedy Road
- Heavy vegetation at inlet
- Box culvert (see sketch below)

OUTLET:

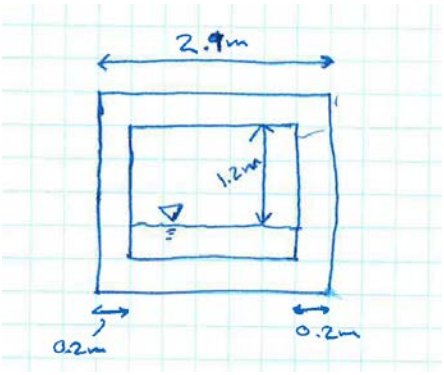
- Access Road off Kennedy Road, close to culvert
- Climbed short fence to get to culvert (see E3-06)
- Heavy vegetation at outlet
- Box culvert (see sketch below)

~350 M DOWNSTREAM OF OUTLET CROSSING GRAVEL ACCESS ROAD:

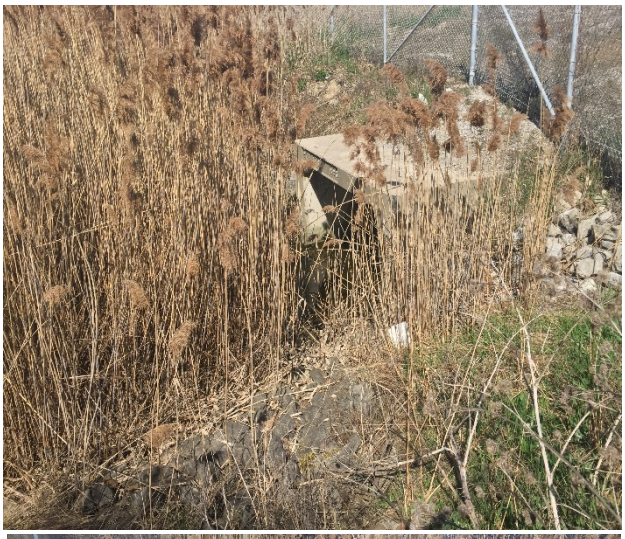
- 0.4 m dia CSP culvert with 0.1 m cover

SKETCH:

- Elevation difference from water level to soffit – Inlet = 1.2 m (dry day)
- Elevation difference from water level to soffit – Outlet = 0.6 m (after rainy day)



PHOTOS:



PARSONS

Inspection Notes – E4

INLET:

- No access - Middle of 407 Ramps

OUTLET:

- No access – blocked by fence
- Very low visibility of culvert – heavy vegetation
- Smooth steel pipe culvert

~30 M DOWNSTREAM OF OUTLET:

- Rip rap erosion protection

~40 M DOWNSTREAM OF OUTLET:

- Wetland zone with rip-rap spillway

~70 M DOWNSTREAM OF OUTLET CROSSING GRAVEL ACCESS ROAD:

- Twin CSP culvert (0.45 mm dia. each), 0.2 m cover

PHOTOS:

PARSONS

Inspection Notes – Culvert ~100 m West of E4

INLET:

- No access - Middle of 407 Ramps

OUTLET:

- No access – blocked by fence
- No visibility of culvert – heavy vegetation

~200 M DOWNSTREAM OF OUTLET CROSSING GRAVEL ACCESS ROAD:

- Twin CSP culverts (~900 mm dia. each), 0.3 m cover

PHOTOS:

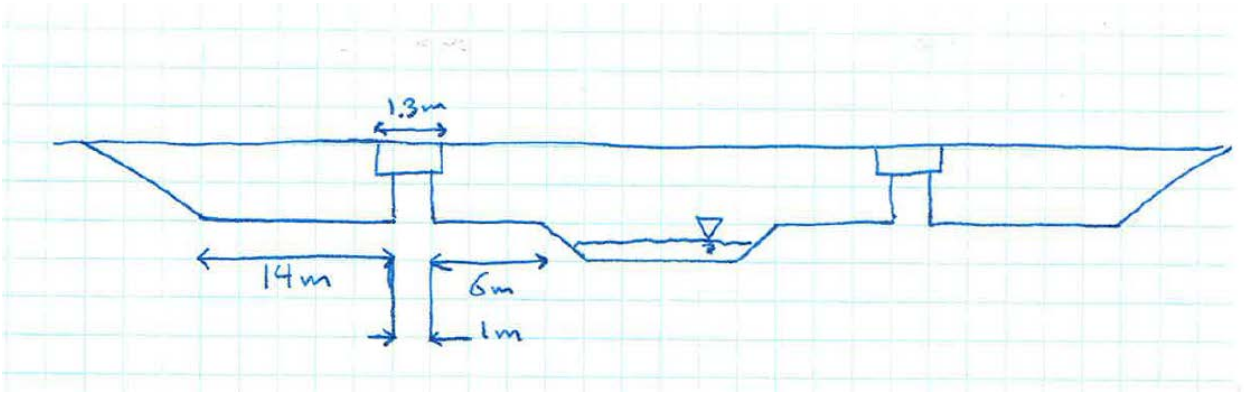
PARSONS

Inspection Notes – E5

INLET/OUTLET:

- 3 bridges with 3 spans each
- Bridge widths as follows:
  - South bridge – 31 m wide
  - Middle bridge – 26 m wide
  - North bridge – 17 m wide

SKETCH (LOOKING UPSTREAM):



PHOTOS:

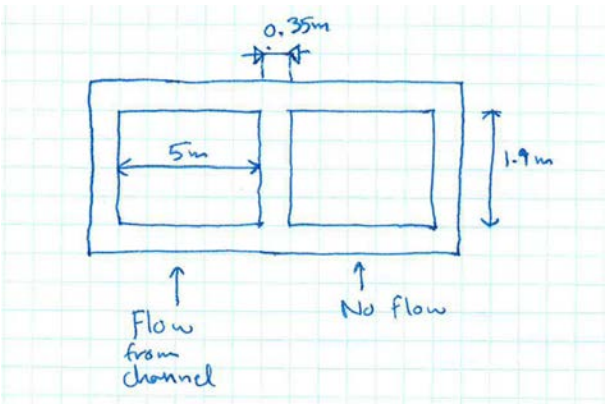
PARSONS

Inspection Notes – E6

INLET/OUTLET:

- Inlet access from parking lot just North of site
- Outlet access from service road off Dixie Road
- Concrete twin box culvert
- No flow through Western side of culvert due to ground obstructions at inlet

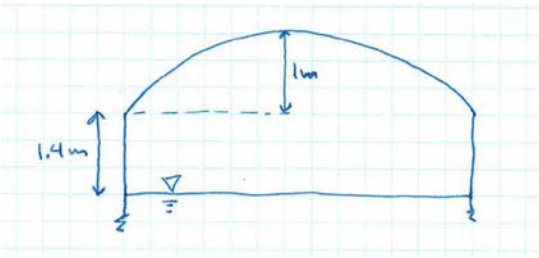
SKETCH OF E6 STRUCTURE (AT INLET, LOOKING SOUTH):



~350 M DOWNSTREAM OF OUTLET CROSSING DIXIE ROAD:

- Single span concrete arch bridge

SKETCH OF DIXIE ROAD BRIDGE:



PHOTOS:

PARSONS

Inspection Notes – E7

PHOTOS:

PARSONS

Inspection Notes – E8

PHOTOS:

PARSONS

Inspection Notes – H1

PHOTOS:

PARSONS

Inspection Notes – H2 EAST

PHOTOS:

PARSONS

Inspection Notes – H2 EAST

PHOTOS:

PARSONS

Inspection Notes – H2 WEST

PHOTOS:

PARSONS

Inspection Notes – H3

PHOTOS:

PARSONS

Inspection Notes – H4

PHOTOS:

PARSONS

Inspection Notes – H5

PHOTOS:

PARSONS

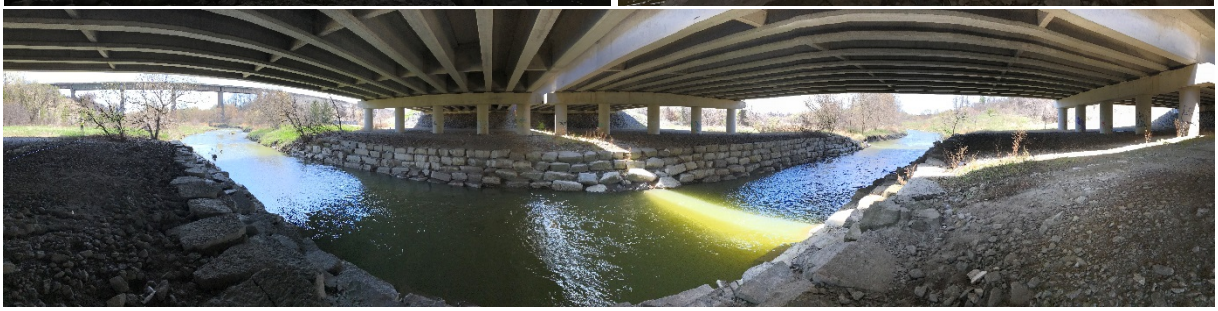
Inspection Notes – H6

PHOTOS:

PARSONS

Inspection Notes – H7

PHOTOS:



PARSONS

Inspection Notes – H8

PHOTOS:

PARSONS

Inspection Notes – M1

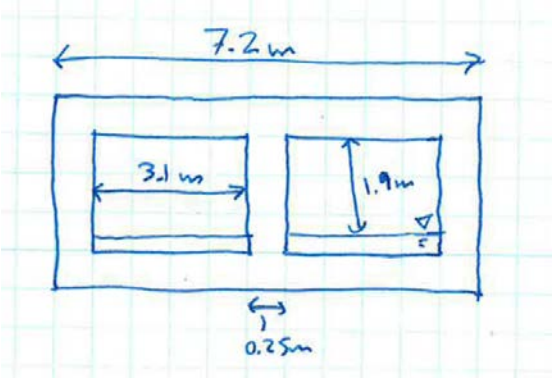
INLET:

- Culvert inlet is in Canadian Tire property (permission required)

OUTLET:

- Culvert accessed from Del Industrial Metals property
- Concrete twin box culvert with > 5 m of cover

SKETCH:



PHOTOS:

PARSONS

Inspection Notes – M2

INLET:

- Culvert inlet is in Canadian Tire property (permission required)

OUTLET:

- Culvert could not be accessed and measured because of tall fence

PHOTOS:

PARSONS

Inspection Notes – M3

INLET:

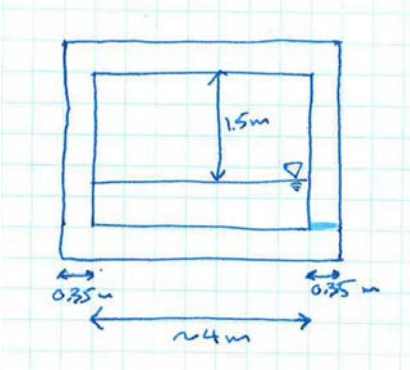
- Access from parking lot off Melanie Drive
- Concrete box culvert

OUTLET:

- Inaccessible due to heavy vegetation and fences
- Barely visible due to heavy vegetation
- Access is from Hwy 407 fence gate

SKETCH:

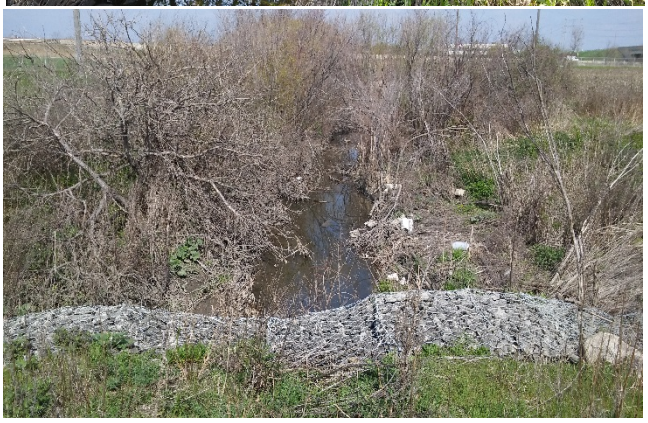
- Elevation difference between water level and soffit – Inlet = 1.5 m



~120 M D/S OF OUTLET CROSSING GRAVEL ROAD:

- Twin CSP culverts (0.5 m dia. each), ~0.5 m cover

PHOTOS:



PARSONS

Inspection Notes – M4

INLET:

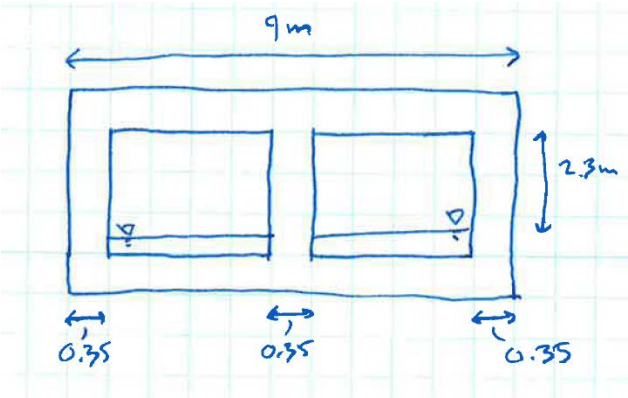
- Access from plaza parking lot (SE corner of Steeles Avenue and Torbram Road)
- Concrete twin box culvert with >1 m of cover
- Another concrete twin box culvert just ~15 m upstream (crossing Steeles Avenue)

OUTLET:

- Access from Waste Management Facility Parking Lot
- Concrete twin box culvert with >1 m of cover

SKETCH:

- Elevation difference between water level and soffit – Outlet = 2.3 m



~100 M D/S OF OUTLET CROSSING GRAVEL ROAD:

- Multiple culverts for crossing gravel road (see photo M4-04)

PHOTS:

PARSONS

Inspection Notes – M5

INLET:

- Inaccessible: Need permission to enter CN property

OUTLET:

- Inaccessible due to heavy vegetation and fences
- Barely visible due to heavy vegetation

PHOTOS:

PARSONS

Inspection Notes – M6

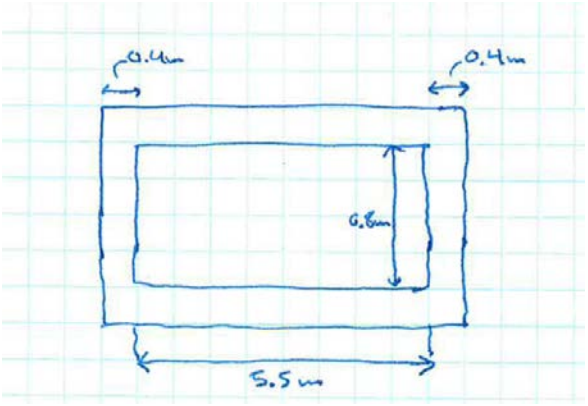
INLET:

- Inlet of culvert is on CN Property which cannot be accessed with permission

OUTLET:

- Access from Flea Market parking lot
- Concrete box culvert with >1 m of cover

SKETCH:



~100 M D/S OF OUTLET CROSSING RAILWAY TRACKS:

- Twin CSP culverts (3.6 m dia. each), > 4 m of cover

PHOTOS:

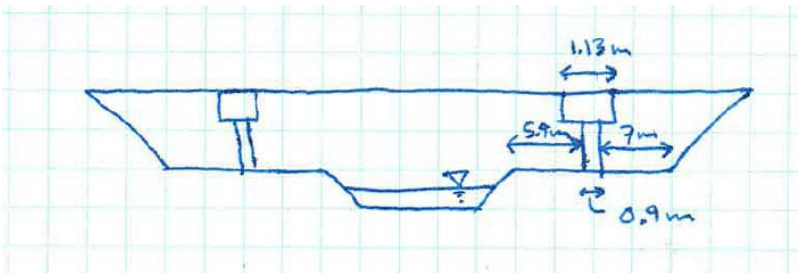
PARSONS

Inspection Notes – M7

INLET/OUTLET:

- Access from Intermodal Drive however, a long walk through dense vegetation is required
- 2 bridges with 3 spans each, channel passes underneath middle span
- Westbound bridge width = 28 m
- Eastbound bridge width = 24.8 m

SKETCH:



PHOTOS:

PARSONS

Inspection Notes – M8

INLET:

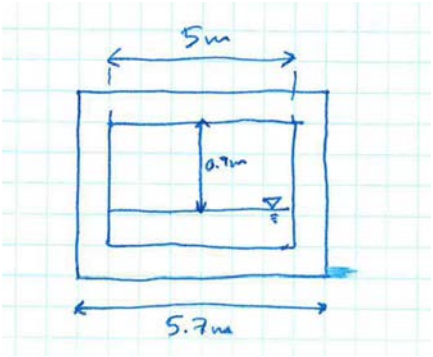
- Inaccessible due to tall fence
- Barely visible due to heavy vegetation

OUTLET:

- Access from private property on Steeles Avenue
- Concrete twin box culvert, >2 m of cover
- Measurements could not be taken without going into the stream

~130 M D/S OF OUTLET CROSSING STEELES AVENUE:

- Concrete box culvert with 0.3 m of cover
- Elevation difference between water level and soffit – Outlet = 0.9 m (2 days after rainfall)



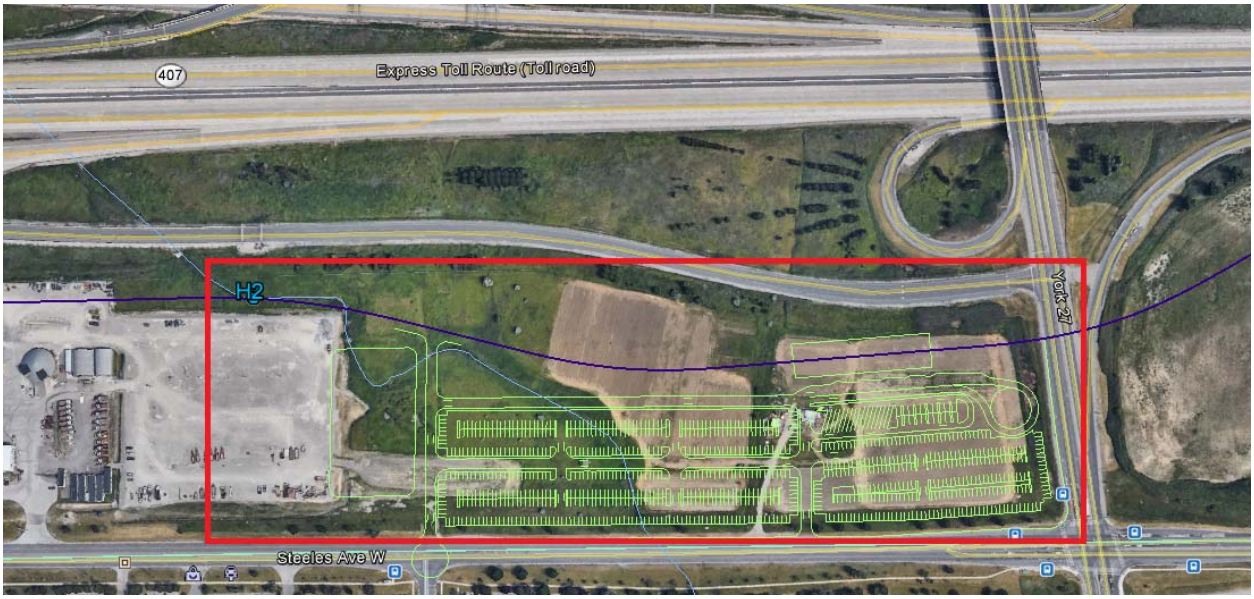
PHOTOS:

Field Investigation - September, 2017

Inspection Notes - Highway 27 Station/H2

This field investigation was conducted on September 7, 2017 at the proposed Highway 27 Station and water crossing H2. The purpose of this investigation was to:

- Determine the creek alignment downstream of the 407 ETR and compare it to satellite images
- Inspect the culvert on the North side of Steeles Avenue West and find outlet
- Determine flow direction of ditch on the North Side of Steeles Avenue West
- Inspect the North-West side of the intersection of Steeles and Highway 27



September 7, 2017 Field Investigation Study Area

407 ETR OFF-RAMP OUTLET

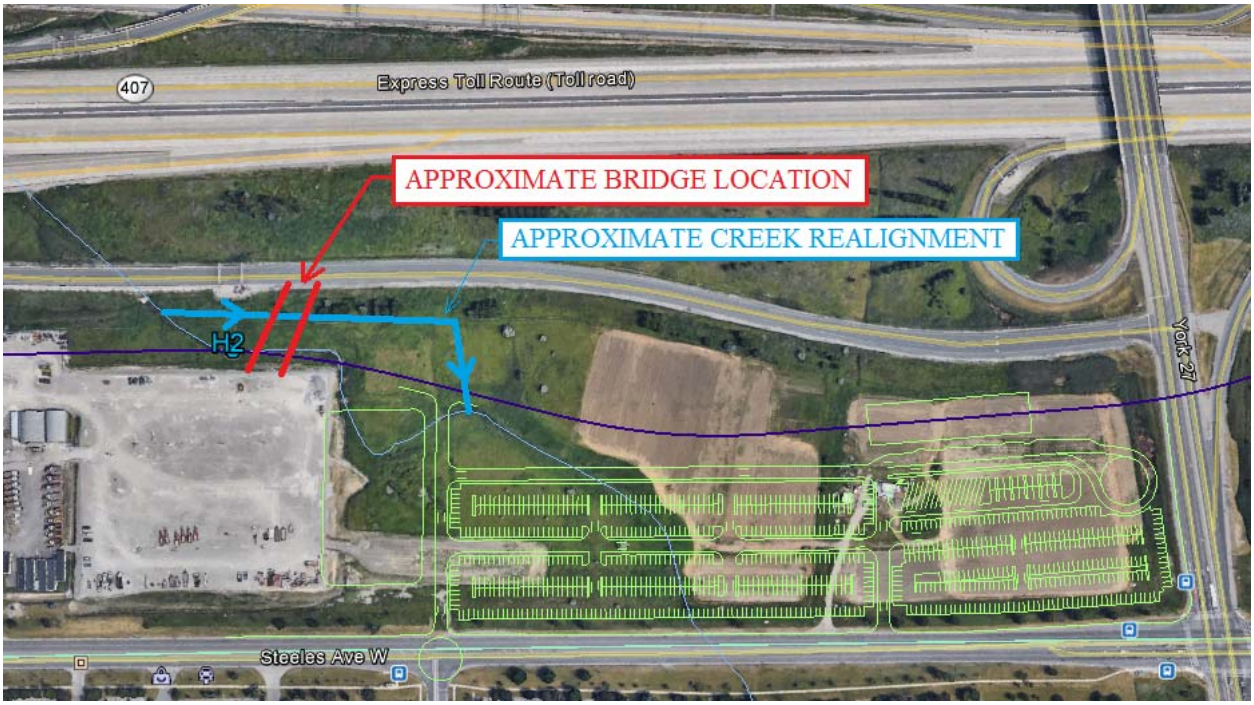
- Concrete Box Culvert H = 1.5 m, W = 4.0 m
- Creek flowing in dry weather
- Creek was under construction
    - Surrounded by silt fence barriers, workers were inspecting newly planted trees/bushes
    - Realigned due to construction of the 407 ETR Patrol Yard Expansion

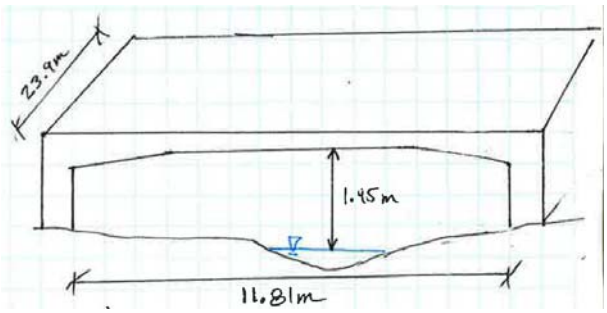
Photos

NEWLY CONSTRUCTED BRIDGE/BOX STRUCTURE

- Concrete box structure H = 2.0 m, W = 12.0 m, L = 24.0 m
- Newly constructed, not picked up on satellite photos from Google Earth
- Creek alignment has been altered to pass under beneath this structure
- Crossing intended to grant 407 ETR maintenance vehicle easier access to the 407 ETR by merging onto the off-ramp of the 407 and then crossing Highway 27 where they can merge onto the 407 on-ramp.

Photos

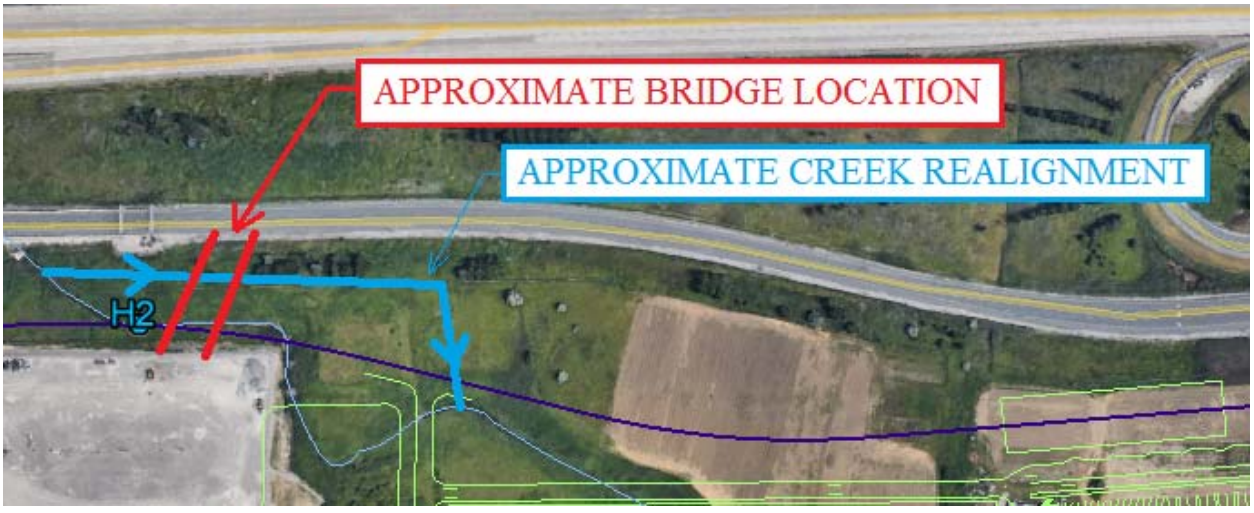

407
Express Toll Route (Toll road)
APPROXIMATE BRIDGE LOCATION
APPROXIMATE CREEK REALIGNMENT
H2
York 27
Steeles Ave W


23.9m
1.45m
11.81m

CREEK REALIGNMENT

- Albion Creek has been realigned as part of the construction of the 407 ETR Patrol Yard Expansion. The alignment has moved north of its original position where it reconnects to the existing creek after bending around a newly paved road on the North-East corner of the Patrol Yard site
- Creek flowing in dry weather
- Creek was currently under construction
    - Surrounded by silt fence barriers, workers were inspecting newly planted trees/bushes

Photos



407 ETR PATROL YARD CONSTRUCTION

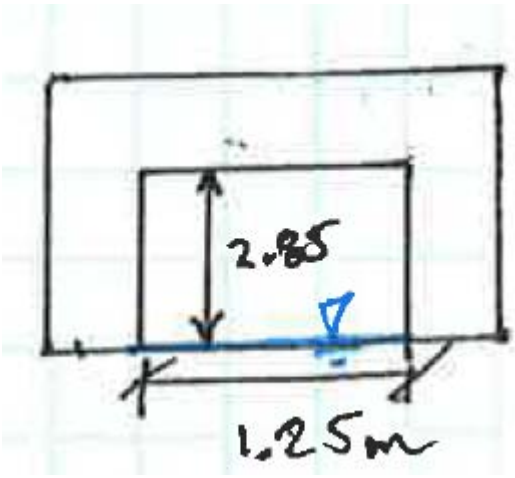
- Construction on site appears to encroach onto 407 TWY property and the proposed SWM Area
    - It was later confirmed that what is being built is temporary and will be replaced upon the construction of the 407 TWY.
- The proposed road on the Western side of the proposed Highway 27 Station has been constructed by the 407 ETR in the same position as drawn in the proposed Highway 27 Station plan.
- Temporary sediment pond noted on Eastern side of Patrol Yard Site

Photos

ALBION CREEK CULVERT ON NORTH SIDE OF STEELES

- Concrete box culvert H = 2.85 m, W = 1.25 m, L = Unknown (Culvert continues enclosed downstream)
- Ditching on North Side of Steeles Avenue West noted to flow towards this culvert from both East and West
- Wetland upstream of culvert

Photos



NORTH-WEST DITCH AT INTERSECTION OF STEELES AND HWY 27

- Ø 1.0 m fiber-reinforces plastic culvert observed
- Ditching North of 407 ETR conveys flows from highway to this culvert

Photos

Inspection Notes – H8

This site was inspected at part of the field investigation that was conducted on September 14, 2017 to examine the drainage characteristics of the area contributing flows to water crossing H8, and to confirm the presence of a culvert on the 407 ETR. The purpose of this site visit was to:

- Inspect the wet pond north of crossing H8 and to determine inlet and outlet locations as well as the inlet origins
- Confirm the presence of a ø 1.0m culvert at the 407 ETR
- Determine drainage patterns and flow direction of ditch North of the 407 ETR

September 14, 2017 Field Investigation Study Area – H8

POND INLET SOUTH-EAST SIDE

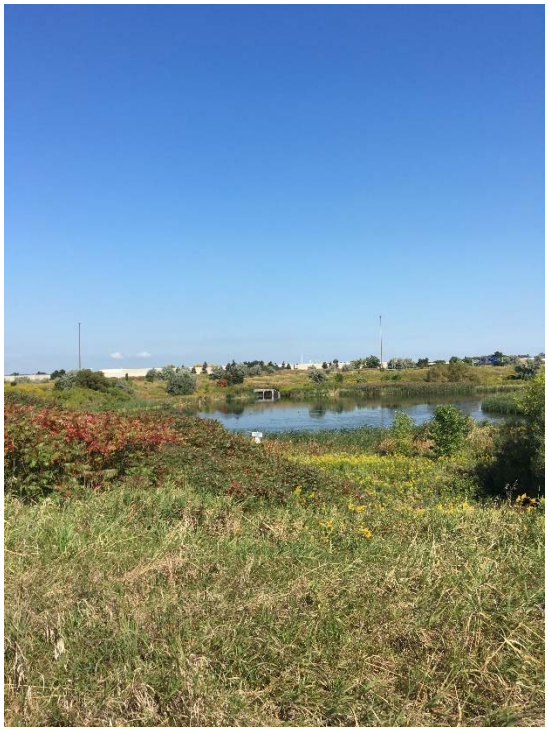
- Inlet located on South-East side of Aviva Park Pond (Vaughan City Pond #80)
- Concrete pipe ø 1.85 m conveys flow coming from the East from the Aviva Park development
- Concrete Headwall top width = 2.50 m, bottom width = 4.0 m, wingwall length = 3.50 m
- Dry weather had very small flow ~2.0 mm depth
- Some debris caught on metal grate fixed at the end of the pipe

Photos

POND INLET NORTH SIDE

- Inlet located on North side of Aviva Park Pond (Vaughan City Pond #80)
- Concrete twin culverts. Unable to measure dimensions due to high water level
- Concrete headwall top width = 7.50 m, wingwall length ~ 7.5 m
- Origin of flows unknown though it is suspected that it comes from industrial development north of the 407 ETR

Photos



POND OUTLET

- Concrete outlet structure located on the South side of Aviva Park Pond (Vaughan City Pond #80)
- Could not take measurements of structure due to high water level and lack of proper equipment (ladders)
- Pond outlets to the creek upstream of H8 where the water level is significantly high leaving the outlet conduit almost at full capacity
- Debris covering the metal grate on inlet of structure and outlet

Photos

407 ETR CULVERT

- Ø1.0m culvert observed
- Culvert was more than half full in dry weather flow conditions
- Culvert drains south into wetland area south of the 407 ETR

Photos

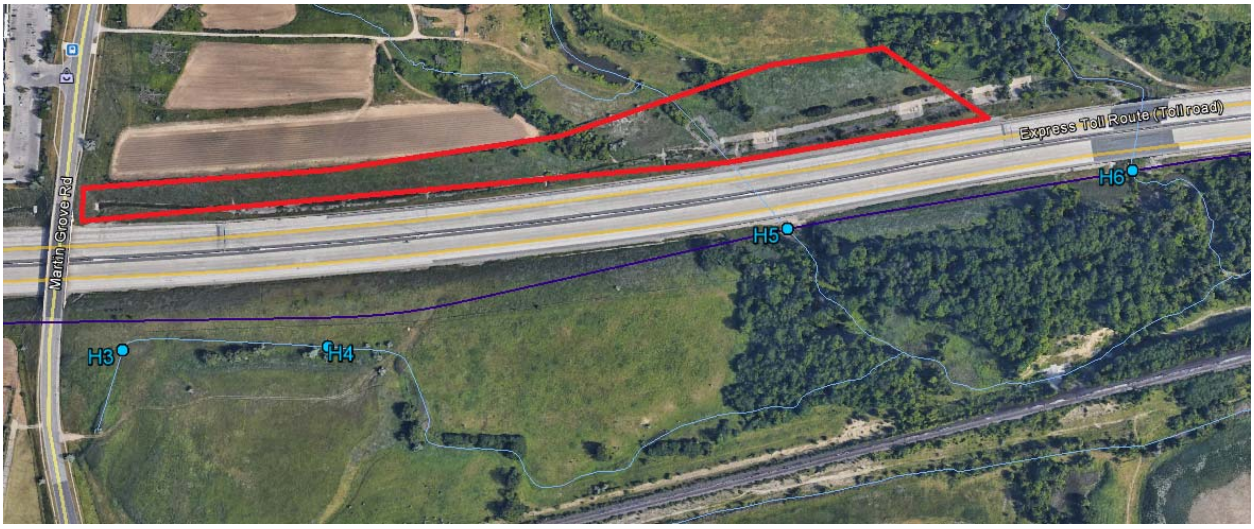
CONSTRUCTION SITE

- Construction ongoing in area South-East of pond and North of Creek
- Land use will become paved and hydrologic models should be update to reflect this

Photos

Inspection Notes – H5

This site was inspected at part of the field investigation that was conducted on September 14, 2017 to examine the drainage characteristics of the area contributing flows to water crossing H5, and to confirm the presence of a ø 1.0 m culvert on the 407 ETR.



September 14, 2017 Field Investigation Study Area – H5

CHANNEL NORTH OF 407 ETR

- Could not access upstream of crossing H5 on the North side of the 407 ETR
    - Gate locked, 407 ETR Patrol would be required to park on the shoulder of the 407 ETR
    - Did not confirm the presence of ø 1.0 m culvert at H5 on the 407 ETR
- Large channel observed to run Eastward toward H5. Later confirmed using satellite imagery that this channel continues past H5 toward H6. However, there is a split where some water will be taken by the ø 1.0 m culvert at H5 before continue on to H6.

Photos

APPENDIX B

Hydrologic Analysis - Existing Conditions

APPENDIX B: Hydrologic Analysis - Existing Conditions

Figure : Rainfall Data(MTO IDF Curve)

Figure B.1: Fletchers Watershed Map

Figure B.2: Etobicoke Watershed Map

Figure B.3: Mimico Watershed Map

Figure B.4: Humber Watershed Map

Figure B.5: Hydrologic Modelling Methodology

Figure B.6: SK-1 Hydrologic Modelling 407 TWY Sub-Areas – Existing Condition

Table B.1: Modification of TRCA Model Parameters

Table B.2: Original VO2 Input Parameters - TRCA model – Etobicoke Watershed

Table B.3: Original VO2 Input Parameters - TRCA model – Mimico Watershed

Table B.4: Original VO2 Input Parameters - TRCA model – Humber Watershed

Table B.5: Etobicoke Watershed Quantity Control Strategy - Unit Flow Rates

Table B.6: Humber Watershed Quantity Control Strategy - Unit Flow Rates

407 TWY SUB-AREAS - EXISTING CONDITION

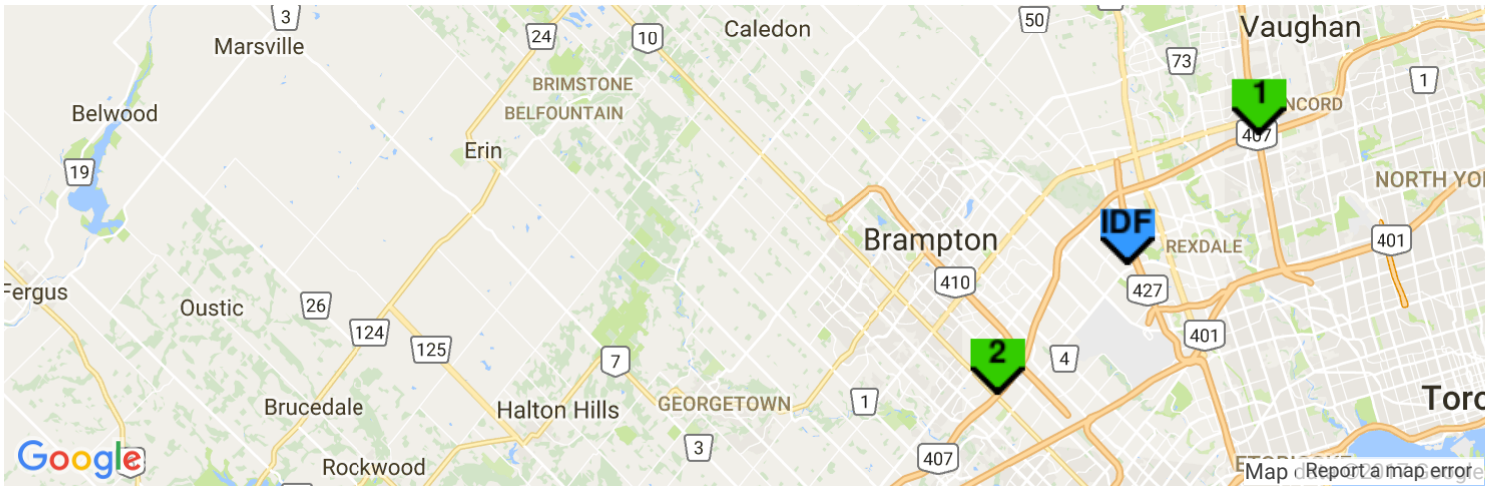
VO2 Model Output Files for Etobicoke,Mimico and Humber

Ontario IDF CURVE LOOKUP

Active coordinate

43° 43' 15" N, 79° 37' 44" W (43.720833,-79.629167)

Retrieved: Thu, 26 Oct 2017 18:21:47 GMT



Location summary

These are the locations in the selection.

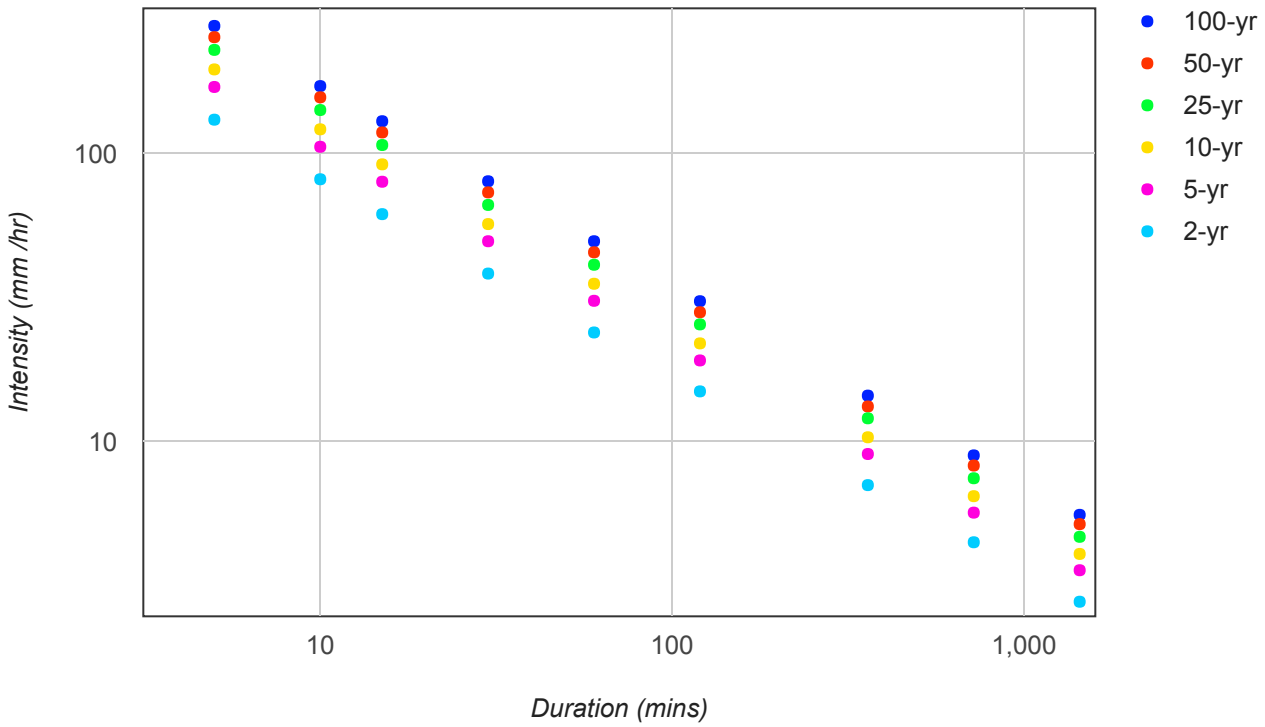
IDF Curve: 43° 43' 15" N, 79° 37' 44" W (43.720833,-79.629167)

Location	Coordinates
1	43.782869,-79.537251
2	43.653963,-79.71612

Results

An IDF curve was found.

Coordinate: 43.720833, -79.629167
IDF curve year: 2092



Coefficient summary

IDF Curve: 43° 43' 15" N, 79° 37' 44" W (43.720833,-79.629167)

Retrieved: Thu, 26 Oct 2017 18:21:47 GMT

Data year: 2010
IDF curve year: 2092

Statistics

Rainfall intensity (mm hr^{-1})

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	131.1	81.5	61.7	38.4	24.0	15.0	7.1	4.5	2.8
5-yr	170.2	105.6	79.9	49.7	30.9	19.2	9.1	5.7	3.6
10-yr	195.8	121.4	91.8	57.0	35.4	22.0	10.4	6.5	4.1
25-yr	228.8	141.6	107.1	66.4	41.2	25.6	12.1	7.5	4.7
50-yr	253.2	156.7	118.4	73.4	45.5	28.2	13.3	8.3	5.2
100-yr	277.0	171.4	129.5	80.2	49.7	30.8	14.5	9.0	5.6

Rainfall depth (mm)

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	10.9	13.6	15.4	19.2	24.0	30.0	42.6	54.0	67.2
5-yr	14.2	17.6	20.0	24.9	30.9	38.4	54.6	68.4	86.4
10-yr	16.3	20.2	22.9	28.5	35.4	44.0	62.4	78.0	98.4
25-yr	19.1	23.6	26.8	33.2	41.2	51.2	72.6	90.0	112.8
50-yr	21.1	26.1	29.6	36.7	45.5	56.4	79.8	99.6	124.8
100-yr	23.1	28.6	32.4	40.1	49.7	61.6	87.0	108.0	134.4

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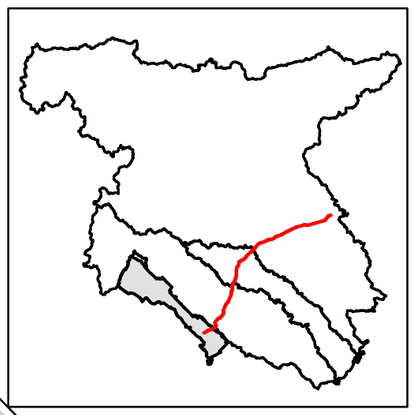
You agree to the Terms of Use of this site by reviewing, using, or interpreting these data.



LEGEND

- PROPOSED 407 TRANSITWAY
- WATERCOURSE
- PROJECT LIMITS
- FLETCHERS CREEK SUBWATERSHED WITHIN PROJECT LIMITS
- FLETCHERS CREEK WATERSHED

SOURCE: FLETCHERS CREEK RESTORATION STUDY CHARACTERIZATION REPORT, CREDIT VALLEY CONSERVATION, FEB 2012

100-1

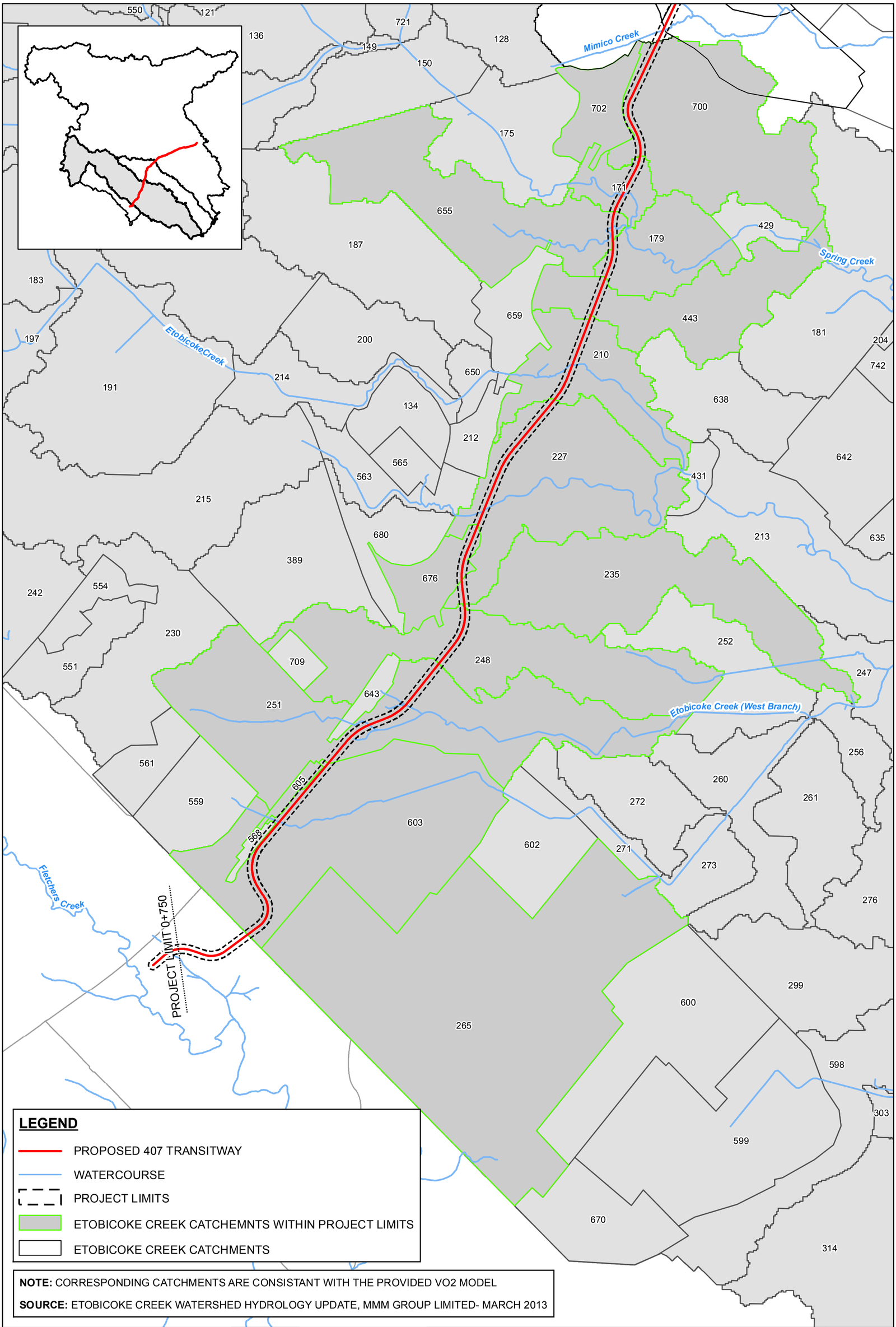
100-2

100-3

PROJECT LIMIT 0+750

Fletchers Creek

DATE	PROJECT NO.				
NOVEMBER 2017	602896		Ontario PARSONS	FLETCHERS CREEK WATERSHED (CVC) 407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	FIGURE NO. B.1
SCALE 0 100 200 m					



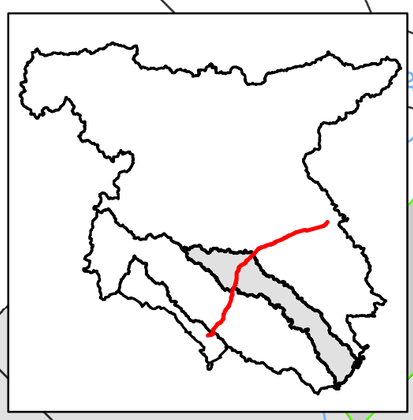
LEGEND

- PROPOSED 407 TRANSITWAY
- WATERCOURSE
- PROJECT LIMITS
- ETOBICOKE CREEK CATCHEMNTS WITHIN PROJECT LIMITS
- ETOBICOKE CREEK CATCHMENTS

NOTE: CORRESPONDING CATCHMENTS ARE CONSISTANT WITH THE PROVIDED VO2 MODEL

SOURCE: ETOBICOKE CREEK WATERSHED HYDROLOGY UPDATE, MMM GROUP LIMITED- MARCH 2013

DATE	PROJECT NO.			ETOBICOKE CREEK WATERSHED (TRCA)	FIGURE NO.
NOVEMBER 2017	602896		Ontario PARSONS	407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	B.2
SCALE 0 300 600 m					



NOTE: CORRESPONDING CATCHMENTS ARE CONSISTANT WITH THE PROVIDED VO2 MODEL

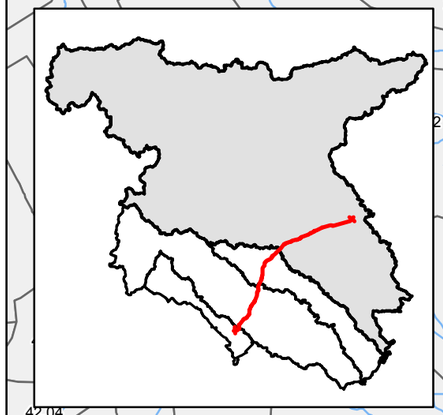
SOURCE: MIMICO CREEK WATERSHED HYDROLOGY UPDATE, MMM GROUP LIMITED- DECEMBER 2009

98
116
110
120
119
111
118
121
133
122
115
117
131
135
112
130
136
114
134
113
128
132
123
124
129
126
104
99
139
Mimico Creek
125
127
138
Etobicoke Creek

LEGEND

- PROPOSED 407 TRANSITWAY
- WATERCOURSE
- PROJECT LIMITS
- MIMICO CREEK CATCHEMNTS WITHIN PROJECT LIMITS
- MIMICO CREEK CATCHMENTS

DATE	PROJECT NO.			MIMICO CREEK WATERSHED (TRCA)	FIGURE NO.
NOVEMBER 2017	602896		Ontario		B.3
SCALE 0 300 600 m			PARSONS	407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	



West Humber River
East Humber River
Lower Humber River
Rainbow Creek
Albion Creek
Rowntree Creek
Mimico Creek
Black Creek
PROJECT LIMIT 24+100

LEGEND

- PROPOSED 407 TRANSITWAY
- WATERCOURSE
- PROJECT LIMITS
- HUMBER RIVER CATCHEMNTS WITHIN PROJECT LIMITS
- HUMBER RIVER CATCHMENTS

NOTE: CORRESPONDING CATCHMENTS ARE CONSISTANT WITH THE PROVIDED VO2 MODEL

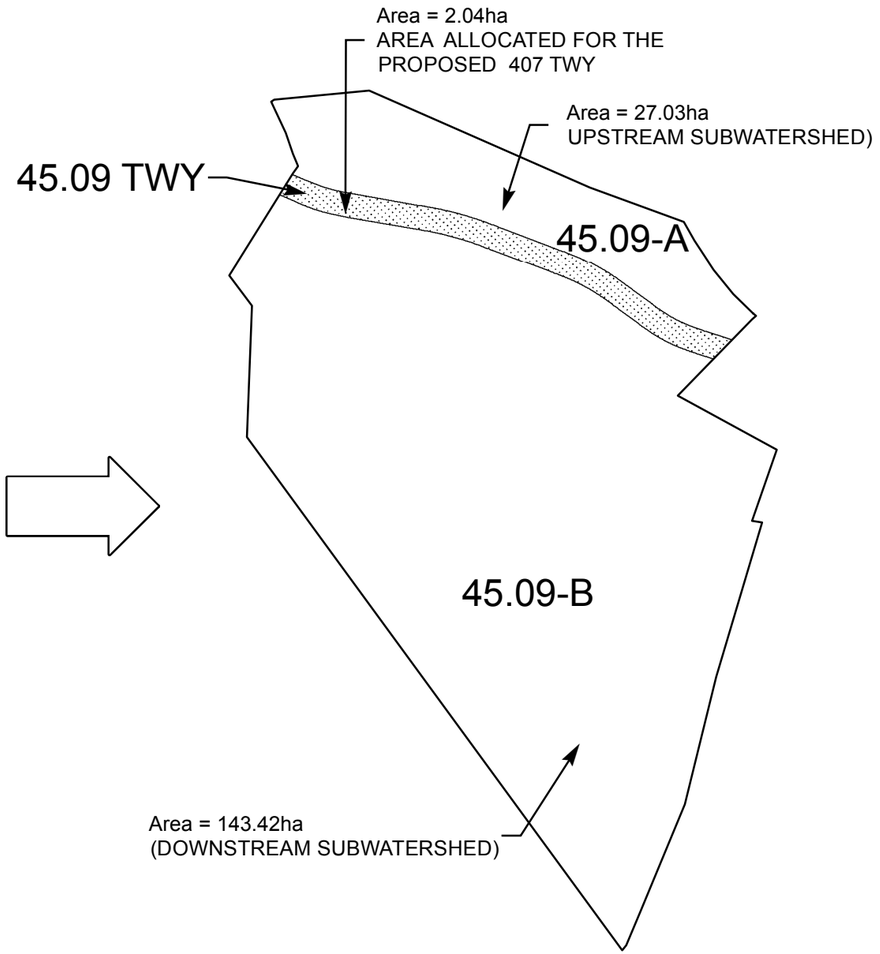
SOURCE: HUMBER RIVER HYDROLOGY UPDATE, TRCA - JUNE 2015

DATE NOVEMBER 2017	**PROJECT NO.** 602896	Ontario	PARSONS	**HUMBER RIVER WATERSHED (TRCA)**
SCALE 0 0.5 1 km			625 COCHRANE DRIVE, SUITE 500 MARKHAM ON L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400

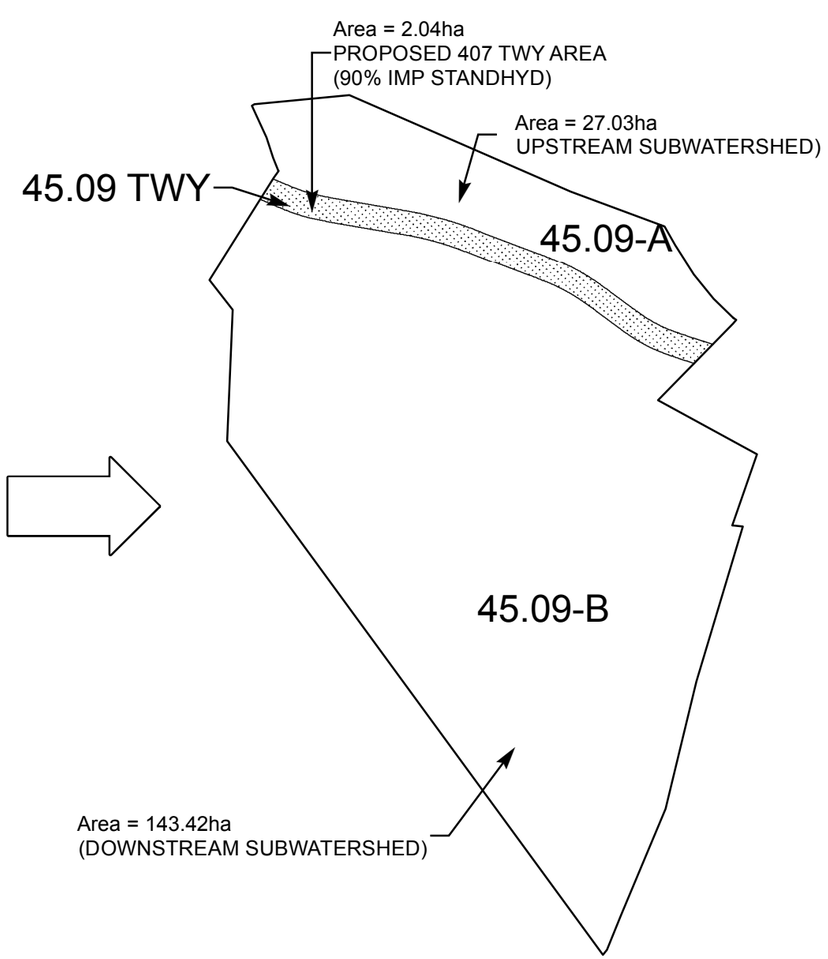
FIGURE NO. B.4

ORIGINAL TRCA MODEL
(EXISTING CONDITION)

PARSONS NEW EXISTING MODEL

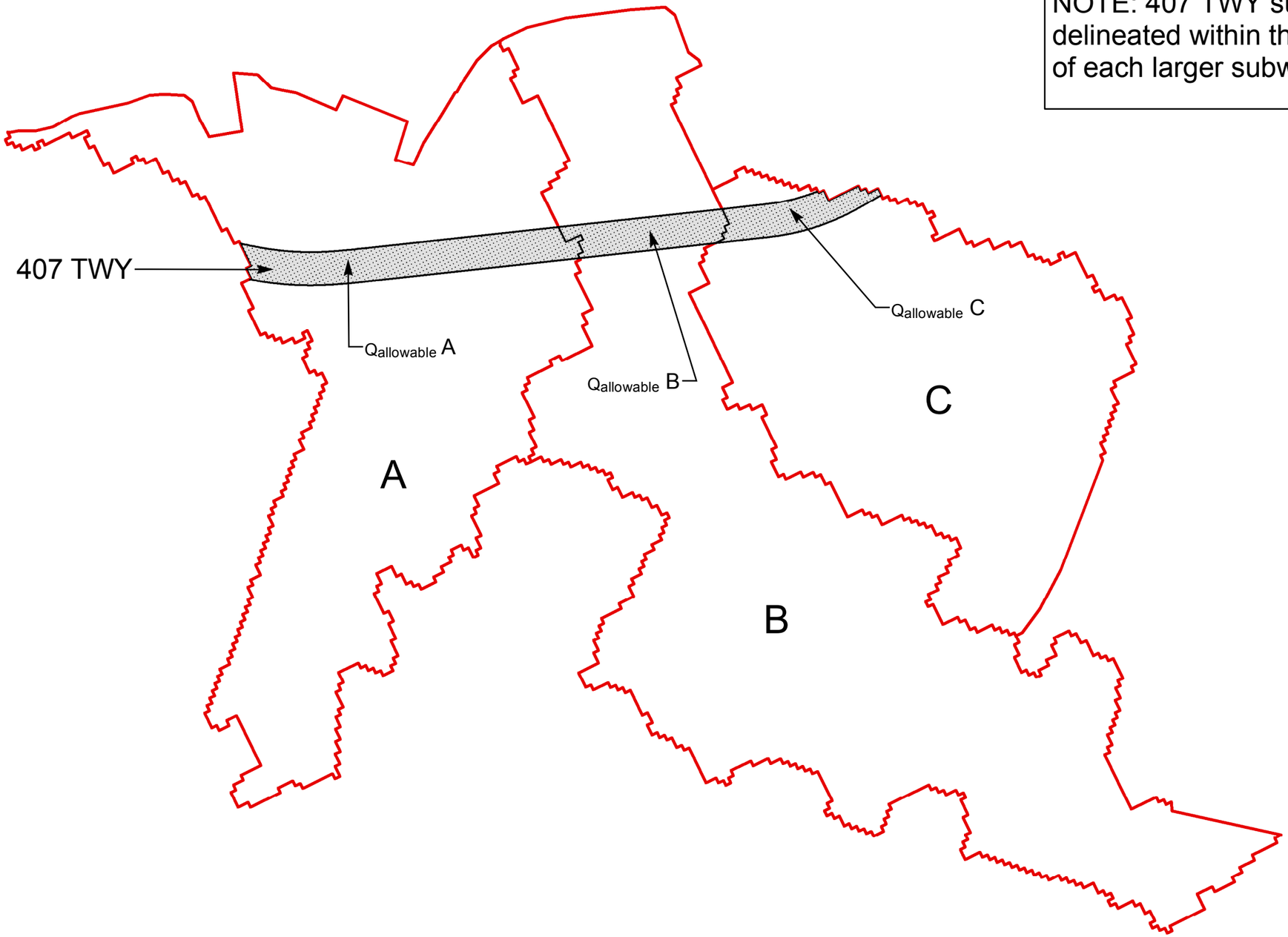


PARSONS PROPOSED MODEL



DATE NOVEMBER 2017	PROJECT NO. 602896	Ontario	PARSONS	625 COCHRANE DRIVE, SUITE 500 MARKHAM ON L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	**HYDROLOGIC MODELLING METHODOLOGY** 407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	FIGURE NO. **B.5**
SCALE N.T.S						

NOTE: 407 TWY sub-areas are delineated within the boundary of each larger subwatershed



DATE NOVEMBER 2017	PROJECT NO. 602896	Ontario	PARSONS	625 COCHRANE DRIVE, SUITE 500 MARKHAM ON L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	**SK-1: HYDROLOGIC MODELLING 407 TWY SUB-AREAS (EXISTING CONDITIONS)** 407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	FIGURE NO. **B.6**
SCALE N.T.S						

Table B.1: Modified TRCA VO2 Model - Catchment Parameters within the Study Limits

TRCA Data				PARSONS					
Watershed	Catchment ID	Type	Area (hectares)	TWY Areas		U/S Areas		D/S Areas	
				VO2 ID	Area (ha)	VO2 ID	AREA (ha)	VO2 ID	Area (ha)
Etobicoke	171	StandHyd	17.100	171-TWY	0.660	171-A	11.040	171-B	5.400
Etobicoke	179	StandHyd	40.250	179-TWY	1.010	179-A	1.250	179-B	37.990
Etobicoke	210	StandHyd	55.150	210-TWY	1.440	210-A	20.850	210-B	32.860
Etobicoke	227	StandHyd	108.604	227-TWY	4.304	227-A	12.480	227-B	91.820
Etobicoke	235	StandHyd	116.280	235-TWY	0.110	N/A	N/A	235-B	116.170
Etobicoke	248	StandHyd	111.600	248-TWY	1.160	248-A	40.110	248-B	70.330
Etobicoke	251	StandHyd	163.510	251-TWY	2.240	251-A	84.890	251-B	76.380
Etobicoke	443	StandHyd	70.610	443-TWY	0.930	443-A	11.270	443-B	58.410
Etobicoke	603	StandHyd	155.530	603-TWY	3.030	603-A	24.000	603-B	128.500
Etobicoke	605	StandHyd	3.770	N/A	N/A	605-A	3.770	N/A	N/A
Etobicoke	655	StandHyd	101.149	655-TWY	0.319	655-A	100.130	655-B	0.700
Etobicoke	676	StandHyd	22.010	676-TWY	1.600	676-A	19.810	676-B	0.600
Etobicoke	700	StandHyd	99.871	700-TWY	1.441	700-A	6.590	700-B	91.840
Etobicoke	702	StandHyd	24.122	N/A	N/A	702-A	24.122	N/A	N/A
Etobicoke	568	StandHyd	3.040	N/A	N/A	568-A	3.040	N/A	N/A
Mimico	98	StandHyd	33.428	98-TWY	0.468	98-A	20.980	98-B	11.980
Mimico	99	StandHyd	44.202	99-TWY	0.123	99-A	43.890	99-B	0.189
Mimico	104	StandHyd	20.155	104-TWY	0.740	104-A	0.500	104-B	19.415
Mimico	117	StandHyd	124.117	117-TWY	2.410	117-A	114.260	117-B	7.447
Mimico	120	StandHyd	266.840	120-TWY	4.130	120-A	240.540	120-B	22.170
Mimico	122	StandHyd	69.230	122-TWY	2.140	122-A	17.780	122-B	49.310
Mimico	123	StandHyd	174.134	123-TWY	4.394	123-A	22.220	123-B	147.520
Mimico	124	StandHyd	84.260	124-TWY	0.100	124-A	84.160	N/A	N/A
Mimico	125	StandHyd	57.972	125-TWY	0.550	125-A	1.020	125-B	57.422
Humber	26.01	NasHyd*	13.789	26.01-TWY	1.049	26.01-A	1.920	26.01-B	10.820
Humber	26.02	NasHyd*	65.480	26.02-TWY	0.560	26.02-A	62.720	26.02-B	2.200
Humber	26.09	NasHyd*	39.826	26.09-TWY	2.396	26.09-A	8.510	26.09-B	28.920
Humber	26.14	StandHyd	93.046	26.14-TWY	0.366	26.14-A	91.740	26.14-B	0.940
Humber	27.06	StandHyd	38.240	27.06-TWY	0.710	27.06-A	1.430	27.06-B	36.100
Humber	27.07	StandHyd	319.945	27.07-TWY	6.245	27.07-A	112.910	27.07-B	200.790
Humber	27.08	StandHyd	251.120	N/A	N/A	27.08-A	251.120	N/A	N/A
Humber	27.09	StandHyd	145.620	27.09-TWY	0.100	27.09-A	145.310	27.09-B	0.210
Humber	27.1	StandHyd	211.890	27.1-TWY	0.700	27.1-A	205.180	27.1-B	6.010
Humber	45.06	StandHyd	195.310	45.06-TWY	1.340	45.06-A	4.720	45.06-B	189.250
Humber	45.09	StandHyd	172.492	45.09-TWY	2.042	45.09-A	27.030	45.09-B	143.420
Humber	45.11	StandHyd	24.156	45.11-TWY	1.386	45.11-A	20.760	45.11-B	2.010
Humber	45.12	StandHyd	24.796	45.12-TWY	0.286	45.12-A	24.010	45.12-B	0.500

Notes:

* :TWY area for those catchement was changed from NasHyd to StandHyd in the proposed condition

Table B.2: Original VO2 Input Parameters - TRCA model - Etobicoke

Watershed	Catchment ID	Tributary Name	VO2 ID	Type	Area (hectares)	Loss type	CN	IA	% XIMP	% TIMP
Etobicoke	171	Spring Creek	171	StandHyd	17.080	SCS Curve	82	4	0.180	0.180
Etobicoke	179	Spring Creek	179	StandHyd	40.236	SCS Curve	83	4	0.300	0.300
Etobicoke	210	Etobicoke Creek	210	StandHyd	55.109	SCS Curve	83	4	0.210	0.210
Etobicoke	227	Etobicoke Creek	227	StandHyd	108.616	SCS Curve	84	4	0.320	0.320
Etobicoke	235	Etobicoke Creek(West Branch)	235	StandHyd	116.280	SCS Curve	93	4	0.740	0.740
Etobicoke	248	Etobicoke Creek(West Branch)	248	StandHyd	111.602	SCS Curve	86	4	0.360	0.360
Etobicoke	251	Etobicoke Creek(West Branch)	251	StandHyd	163.509	SCS Curve	83	4	0.240	0.240
Etobicoke	443	Spring Creek	443	StandHyd	70.613	SCS Curve	90	4	0.590	0.590
Etobicoke	568	Etobicoke Creek(West Branch)	568	StandHyd	3.049	SCS Curve	84	4	0.240	0.240
Etobicoke	603	Etobicoke Creek(West Branch)	603	StandHyd	155.545	SCS Curve	87	4	0.450	0.450
Etobicoke	605	Etobicoke Creek(West Branch)	605	StandHyd	3.781	SCS Curve	90	4	0.490	0.490
Etobicoke	655	Spring Creek	655	StandHyd	101.158	SCS Curve	89	4	0.610	0.610
Etobicoke	676	Etobicoke Creek	676	StandHyd	22.017	SCS Curve	87	4	0.310	0.310
Etobicoke	700	Spring Creek	700	StandHyd	109.844	SCS Curve	90	4	0.570	0.570
Etobicoke	702	Spring Creek	702	StandHyd	24.134	SCS Curve	88	4	0.450	0.450
Total Area	1,102.573									

Table B.3: Original VO2 Input Parameters - TRCA model - Mimico

Watershed	Catchment ID	Tributary Name	VO2 ID	Type	Area (hectares)	CN	IA	% XIMP	% TIMP
Mimico	104	Mimico Creek	104	StandHyd	62.360	82	6	0.450	0.450
Mimico	117	Mimico Creek	117	StandHyd	123.540	86	6	0.530	0.530
Mimico	120	Mimico Creek	120	StandHyd	269.840	86	6	0.300	0.300
Mimico	122	Mimico Creek	122	StandHyd	73.370	86	6	0.530	0.530
Mimico	123	Mimico Creek	123	StandHyd	101.430	86	6	0.230	0.230
Mimico	124	Mimico Creek	124	StandHyd	90.720	86	6	0.600	0.600
Mimico	125	Mimico Creek	125	StandHyd	61.750	86	6	0.380	0.380
Total Area	783.010								

*Catchment IDs 98 & 99 are not in the VO2 Original Model

Table B.4: Original VO2 Input Parameters - TRCA model - Humber

Watershed	Catchment ID	Tributary Name	VO2 ID	Type	Area (hectares)	CN	IA	% XIMP	% TIMP
Humber	26.01	Black Creek	7482	NasHyd	13.788	81.780	10		
Humber	27.06	Main Humber	439	StandHyd	38.203	83.520	5	0.415	0.415
Humber	26.09	Main Humber	7464	NasHyd	39.839	81.780	10		
Humber	27.08	Black Creek	441	StandHyd	251.123	84.390	5	0.650	0.650
Humber	27.07	Black Creek	440	StandHyd	319.942	75.690	5	0.429	0.430
Humber	27.09	Main Humber	442	StandHyd	145.615	79.170	5	0.221	0.221
Humber	26.02	Main Humber	7461	NasHyd	65.480	80.040	10		
Humber	26.14	Main Humber	7473	StandHyd	92.433	86.130	5	0.373	0.382
Humber	45.12	West Humber River	669	StandHyd	24.801	99.000	5	0.315	0.319
Humber	45.06	West Humber River	663	StandHyd	195.309	79.170	5	0.407	0.409
Humber	45.11	West Humber River	668	StandHyd	24.151	97.000	5	0.353	0.353
Humber	45.09	West Humber River	666	StandHyd	172.492	84.390	5	0.547	0.554
Humber	27.1	Black Creek	443	StandHyd	211.890	75.690	5	0.453	0.480
Total Area	786.554								

Table B.5: Etobicoke Watershed Quanitity Control Strategy - Unit Flow Rates

Basin #	Basin Name	Unit Flow Rates ($m^3/s/ha$)					
		2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
4	Etobicoke West Branch	0.03241	0.04412	0.05220	0.06250	0.07021	0.07799
5	Tributary 3	0.03883	0.05189	0.06077	0.07203	0.08039	0.08882
7	Spring Creek	0.03168	0.04318	0.05114	0.06135	0.06903	0.07679

Table B.6 Humber Watershed Quanitity Control Strategy - Unit Flow Rates

Return Period	Basin Sub-Basin 36	Basin Sub-Basin 46	Basin
2-yr	Q=9.506-0.719*ln(A)	Q=7.745-0.762*ln(A)	Quantity Flood Control Not Required
5-yr	Q=14.652-1.136*ln(A)	Q=11.468-1.123*ln(A)	
10-yr	Q=17.957-1.373*ln(A)	Q=13.877-1.342*ln(A)	
25-yr	Q=22.639-1.741*ln(A)	Q=17.381-1.690*ln(A)	
50-yr	Q=26.566-2.082*ln(A)	Q=20.164-1.973*ln(A)	
100-yr	Q=29.912-2.316*ln(A)	Q=22.973-2.256*ln(A)	

Note:
1. Q- Unit flow (L/s/ha - litres per second per hectare)
2. A- Area in hectares (ha)

Etobicoke Watershed

```
==============================================================================
=======================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                 Serial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                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\P006437C\AppData\Local\Temp\9f309ab1-fec3-4607-958c-354f894587d2\Scenario.
out
  Summary filename:
C:\Users\P006437C\AppData\Local\Temp\9f309ab1-fec3-4607-958c-354f894587d2\Scenario.
sum


DATE: 11/07/2017                          TIME: 09:40:37

USER:


COMMENTS: _____

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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


-------------------
|    READ STORM     |    Filename: C:\Users\P006437C\AppD
|                   |              ata\Local\Temp\
|                   |              9f309ab1-fec3-4607-958c-354f894587d2\eda5d653
| Ptotal= 42.00 mm  |    Comments: 2yr/12hr
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50    7.14 |  6.75    2.94 | 10.00    0.42
               0.50    0.42 |  3.75    7.14 |  7.00    2.94 | 10.25    0.42
               0.75    0.42 |  4.00    7.14 |  7.25    2.94 | 10.50    0.42
               1.00    0.42 |  4.25    7.14 |  7.50    1.68 | 10.75    0.42
               1.25    0.42 |  4.50   19.32 |  7.75    1.68 | 11.00    0.42
```



```
               1.50    0.42 |  4.75   19.32 |  8.00    1.68 | 11.25    0.42
               1.75    0.42 |  5.00   19.32 |  8.25    1.68 | 11.50    0.42
               2.00    0.42 |  5.25   19.32 |  8.50    0.84 | 11.75    0.42
               2.25    0.42 |  5.50    5.46 |  8.75    0.84 | 12.00    0.42
               2.50    2.52 |  5.75    5.46 |  9.00    0.84 | 12.25    0.42
               2.75    2.52 |  6.00    5.46 |  9.25    0.84 |
               3.00    2.52 |  6.25    5.46 |  9.50    0.42 |
               3.25    2.52 |  6.50    2.94 |  9.75    0.42 |

--------------------------------------------------------------------------------


-------------------
| CALIB             |
| NASHYD    (0176)  |   Area    (ha)= 121.04   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=   3.387

     PEAK FLOW       (cms)=   0.660 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   8.308
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0168)  |   Area    (ha)= 103.55   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   2.868

     PEAK FLOW       (cms)=   0.532 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   7.916
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.188

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0170)  |   Area    (ha)=  31.80   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.10

     Unit Hyd Qpeak  (cms)=   1.100

     PEAK FLOW       (cms)=   0.187 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   7.958
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.189

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2176) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0168):   103.55   0.532     6.75     7.92
      + ID2= 2 (0170):    31.80   0.187     6.50     7.96
        ================================================
        ID = 3 (2176):   135.35   0.714     6.75     7.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (1167) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0176):   121.04   0.660     6.75     8.31
      + ID2= 2 (2176):   135.35   0.714     6.75     7.93
        ================================================
        ID = 3 (1167):   256.39   1.374     6.75     8.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5167) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5167.0) ------>
             Distance      Elevation      Manning
                0.00         262.16        0.0930
               17.98         262.04        0.0930
               21.42         262.78        0.0930
               45.50         262.15        0.0930
               50.47         262.37        0.0930
               76.45         262.32        0.0930
               82.50         261.71        0.0930
               84.15         261.00    0.0930 /0.0410  Main Channel
               85.06         260.58        0.0410      Main Channel
               85.95         260.18        0.0410      Main Channel
               87.25         260.94    0.0410 /0.0930  Main Channel
               88.72         261.80        0.0930
              126.19         262.11        0.0930
              151.18         262.60        0.0930
              158.48         262.60        0.0930
              162.67         262.66        0.0930
              162.97         262.66        0.0930

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
       (m)       (m)    (cu.m.)       (cms)         (m/s)       (min)
      0.13    260.31    .213E+02        0.0          0.09       118.24
      0.25    260.43    .850E+02        0.0          0.15        74.49
      0.38    260.56    .191E+03        0.1          0.20        56.84
      0.51    260.69    .340E+03        0.1          0.24        46.86
      0.63    260.81    .530E+03        0.2          0.28        40.37
      0.76    260.94    .763E+03        0.4          0.31        35.75
      0.90    261.08    .107E+04        0.6          0.37        30.02
      1.04    261.22    .144E+04        0.9          0.42        26.45
      1.18    261.36    .185E+04        1.3          0.46        24.26
      1.33    261.51    .233E+04        1.7          0.49        22.76
      1.47    261.65    .285E+04        2.2          0.52        21.67
```



```
      1.61    261.79    .345E+04        2.7          0.53        21.01
      1.75    261.93    .488E+04        3.3          0.46        24.35
      1.89    262.07    .813E+04        4.3          0.35        31.78
      2.03    262.21    .143E+05        5.9          0.28        40.27
      2.18    262.36    .227E+05        8.3          0.25        45.66
      2.32    262.50    .347E+05       12.1          0.23        47.80
      2.46    262.64    .483E+05       16.8          0.23        47.89
      2.60    262.78    .635E+05       23.6          0.25        44.82

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1167)  256.39     1.37    6.75   8.11      1.22      0.47
     OUTFLOW: ID= 1 (5167)  256.39     1.30    7.25   8.10      1.20      0.46

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0167)  |   Area    (ha)=  45.12   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.10   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.588

     PEAK FLOW       (cms)=   0.388 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=   8.851
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.211

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2167) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0167):    45.12   0.388     5.75     8.85
      + ID2= 2 (5167):   256.39   1.304     7.25     8.10
        ================================================
        ID = 3 (2167):   301.51   1.531     7.00     8.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0147)  |   Area    (ha)=  71.89   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.30   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   1.996

     PEAK FLOW       (cms)=   0.382 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   8.132
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.194

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (1153) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0147):    71.89   0.382     6.75     8.13
      + ID2= 2 (2167):   301.51   1.531     7.00     8.22
        ================================================
        ID = 3 (1153):   373.40   1.912     6.75     8.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5153) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5153.0) ------>
             Distance      Elevation       Manning
                0.00         265.12        0.0930
               61.22         264.43        0.0930
               92.80         264.46        0.0930
              229.62         263.26        0.0930
              264.40         263.29        0.0930
              313.73         261.28        0.0930
              323.84         261.53        0.0930
              325.29         261.12    0.0930 /0.0410  Main Channel
              327.44         260.56       0.0410       Main Channel
              330.20         261.79    0.0410 /0.0930  Main Channel
              418.41         263.95        0.0930
              464.80         264.28        0.0930
              495.72         265.14        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.19   260.75    .661E+02        0.1         0.53      19.62
      0.37   260.93    .265E+03        0.4         0.84      12.36
      0.56   261.12    .595E+03        1.1         1.10       9.43
      0.81   261.37    .140E+04        3.0         1.33       7.83
      1.06   261.62    .434E+04        7.3         1.04       9.96
      1.31   261.87    .875E+04       15.4         1.10       9.47
      1.56   262.12    .154E+05       28.4         1.15       9.00
      1.81   262.37    .245E+05       47.4         1.21       8.62
      2.06   262.62    .362E+05       73.6         1.27       8.21
      2.31   262.87    .505E+05      108.0         1.33       7.79
      2.56   263.12    .673E+05      151.7         1.41       7.39
      2.81   263.37    .891E+05      180.7         1.27       8.22
      3.06   263.62    .120E+06      251.0         1.31       7.96
      3.31   263.87    .157E+06      341.6         1.36       7.64
      3.56   264.12    .200E+06      442.6         1.38       7.54
      3.81   264.37    .254E+06      578.1         1.42       7.31
      4.06   264.62    .317E+06      738.9         1.45       7.15
      4.31   264.87    .387E+06      966.8         1.56       6.67
      4.56   265.12    .462E+06     1227.8         1.66       6.27

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1153)  373.40     1.91    6.75   8.20      0.67      1.19
    OUTFLOW: ID= 1 (5153)  373.40     1.91    7.00   8.20      0.67      1.19
```



```
--------------------
| CALIB            |
| NASHYD    (0153) |   Area    (ha)=  34.14   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.72

     Unit Hyd Qpeak  (cms)=   1.809

     PEAK FLOW       (cms)=   0.248 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=   7.909
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.188

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (2153) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0153):    34.14   0.248     5.75     7.91
      + ID2= 2 (5153):   373.40   1.913     7.00     8.20
        ================================================
        ID = 3 (2153):   407.54   2.079     6.75     8.17

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| NASHYD    (0140) |   Area    (ha)= 157.95   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.60

     Unit Hyd Qpeak  (cms)=   3.782

     PEAK FLOW       (cms)=   0.780 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)=   8.264
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.197

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (1132) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0140):   157.95   0.780     7.25     8.26
      + ID2= 2 (2153):   407.54   2.079     6.75     8.17
        ================================================
        ID = 3 (1132):   565.49   2.855     7.00     8.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
```



```
--------------------
| ROUTE CHN (5132) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5132.0) ------>
             Distance      Elevation       Manning
                0.00         265.71        0.0930
              157.54         260.12    0.0930 /0.0410  Main Channel
              162.96         260.04       0.0410       Main Channel
              165.46         260.06    0.0410 /0.0930  Main Channel
              230.27         261.15        0.0930
              271.12         261.23        0.0930
              301.57         261.74        0.0930
              340.02         262.22        0.0930
              355.40         262.69        0.0930
              390.99         263.30        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.02   260.06    .461E+02        0.0         0.04     507.91
      0.19   260.23    .275E+04        0.4         0.17     118.51
      0.36   260.40    .859E+04        1.6         0.22      91.47
      0.53   260.57    .175E+05        3.7         0.25      79.15
      0.70   260.74    .294E+05        6.9         0.28      71.09
      0.87   260.91    .444E+05       11.4         0.31      65.09
      1.04   261.08    .624E+05       17.2         0.33      60.33
      1.21   261.25    .862E+05       22.8         0.32      63.13
      1.38   261.42    .118E+06       33.6         0.34      58.33
      1.55   261.59    .152E+06       46.8         0.37      54.18
      1.73   261.77    .190E+06       62.3         0.39      50.75
      1.90   261.94    .231E+06       79.9         0.41      48.16
      2.07   262.11    .276E+06      100.2         0.43      45.88
      2.24   262.28    .324E+06      124.0         0.46      43.60
      2.41   262.45    .375E+06      152.0         0.48      41.16
      2.58   262.62    .428E+06      182.8         0.51      39.06
      2.75   262.79    .484E+06      215.5         0.53      37.42
      2.92   262.96    .542E+06      250.3         0.55      36.09
      3.09   263.13    .603E+06      288.3         0.57      34.89

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1132)  565.49     2.86    7.00   8.20      0.47      0.24
    OUTFLOW: ID= 1 (5132)  565.49     2.24    8.25   8.19      0.42      0.23


--------------------
| CALIB            |
| NASHYD    (0132) |   Area    (ha)=  78.02   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.421

     PEAK FLOW       (cms)=   0.518 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=   7.999
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.190

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (2132) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0132):    78.02   0.518     6.00     8.00
      + ID2= 2 (5132):   565.49   2.243     8.25     8.19
        ================================================
        ID = 3 (2132):   643.51   2.496     8.00     8.17

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| NASHYD    (0108) |   Area    (ha)=  82.89   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.34

     Unit Hyd Qpeak  (cms)=   2.368

     PEAK FLOW       (cms)=   0.410 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=   7.531
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.179

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ROUTE CHN (5118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5118.0) ------>
             Distance      Elevation       Manning
                0.00         264.29        0.0930
               54.59         264.08        0.0930
              195.91         262.32        0.0930
              196.76         262.30        0.0930
              198.83         261.60    0.0930 /0.0410  Main Channel
              200.27         261.11       0.0410       Main Channel
              204.45         262.14    0.0410 /0.0930  Main Channel
              207.10         262.78        0.0930
              228.84         263.27        0.0930
              329.55         263.73        0.0930
              365.52         264.37        0.0930
              372.71         264.35        0.0930
              402.90         265.06        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.16   261.27    .156E+03        0.0         0.29      97.17
      0.33   261.44    .623E+03        0.2         0.45      61.21
      0.49   261.60    .140E+04        0.5         0.60      46.71
      0.66   261.77    .253E+04        1.1         0.75      37.05
      0.83   261.94    .399E+04        2.1         0.86      32.23
      0.99   262.10    .578E+04        3.3         0.96      29.09
      1.16   262.27    .790E+04        5.1         1.09      25.62
      1.33   262.44    .115E+05        7.3         1.07      26.06
      1.50   262.61    .189E+05       10.6         0.93      29.79
```

1.67	262.78	.304E+05	15.2	0.84	33.30
1.83	262.94	.467E+05	21.4	0.77	36.32
2.00	263.11	.689E+05	30.1	0.73	38.19
2.17	263.28	.970E+05	41.4	0.71	39.04
2.34	263.45	.136E+06	55.7	0.69	40.59
2.51	263.62	.188E+06	75.6	0.67	41.55
2.68	263.79	.255E+06	102.5	0.67	41.44
2.84	263.95	.329E+06	137.5	0.70	39.94
3.01	264.12	.411E+06	176.5	0.72	38.78
3.18	264.29	.505E+06	217.3	0.72	38.70

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0108)	82.89	0.41	6.75	7.53	0.45	0.55
OUTFLOW: ID= 1 (5118)	82.89	0.36	7.50	7.53	0.42	0.53

CALIB	
NASHYD (0118)	Area (ha)= 127.26 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.42

Unit Hyd Qpeak (cms)= 3.416

PEAK FLOW (cms)= 0.622 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 7.668
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.183

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2118)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0118):	127.26	0.622	7.00	7.67
+ ID2= 2 (5118):	82.89	0.362	7.50	7.53
ID = 3 (2118):	210.15	0.963	7.25	7.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1125)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2118):	210.15	0.963	7.25	7.61
+ ID2= 2 (2132):	643.51	2.496	8.00	8.17
ID = 3 (1125):	853.66	3.412	7.75	8.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5125)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5125.0) ------>

Distance	Elevation	Manning	
0.00	261.06	0.0930	
112.10	260.66	0.0930	
128.23	260.37	0.0930	
184.04	259.72	0.0930	
217.53	259.61	0.0930	
253.86	259.67	0.0930	
268.78	259.50	0.0930	
310.66	258.59	0.0930	
323.55	258.45	0.0930 /0.0410	Main Channel
324.18	258.37	0.0410	Main Channel
328.71	257.57	0.0410	Main Channel
330.84	258.63	0.0410 /0.0930	Main Channel
332.23	258.70	0.0930	
402.29	261.32	0.0930	
415.98	261.42	0.0930	
435.71	261.26	0.0930	
609.12	263.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	257.75	.817E+02	0.0	0.15	77.13
0.35	257.92	.327E+03	0.1	0.24	48.59
0.53	258.10	.735E+03	0.3	0.31	37.08
0.70	258.27	.131E+04	0.7	0.37	30.61
0.88	258.45	.205E+04	1.3	0.43	26.77
1.07	258.64	.402E+04	2.4	0.41	28.11
1.25	258.82	.772E+04	4.3	0.38	30.28
1.44	259.01	.131E+05	7.0	0.36	31.41
1.63	259.20	.203E+05	10.7	0.36	31.50
1.81	259.38	.292E+05	15.7	0.37	30.98
2.00	259.57	.399E+05	21.8	0.38	30.52
2.19	259.76	.579E+05	27.1	0.32	35.56
2.37	259.94	.822E+05	40.1	0.33	34.21
2.56	260.13	.109E+06	56.1	0.35	32.46
2.74	260.31	.139E+06	75.4	0.37	30.73
2.93	260.50	.171E+06	98.6	0.40	28.93
3.12	260.69	.205E+06	124.1	0.42	27.59
3.30	260.87	.245E+06	146.5	0.41	27.88
3.49	261.06	.292E+06	175.3	0.41	27.76

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1125)	853.66	3.41	7.75	8.03	1.17	0.39
OUTFLOW: ID= 1 (5125)	853.66	3.26	8.25	8.03	1.15	0.39

CALIB	
NASHYD (0125)	Area (ha)= 52.22 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 10.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.95

Unit Hyd Qpeak (cms)= 2.093

PEAK FLOW (cms)= 0.312 (i)

TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 7.572
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.180

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2125)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0125):	52.22	0.312	6.25	7.57
+ ID2= 2 (5125):	853.66	3.260	8.25	8.03
ID = 3 (2125):	905.88	3.419	8.25	8.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5107)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5107.0) ------>

Distance	Elevation	Manning	
0.00	259.47	0.0930	
7.84	259.44	0.0930	
11.25	259.57	0.0930	
21.80	259.34	0.0930	
32.98	259.22	0.0930	
41.05	258.44	0.0930	
73.72	258.37	0.0930	
80.66	257.81	0.0930	
83.82	256.91	0.0930 /0.0410	Main Channel
85.86	256.34	0.0410	Main Channel
86.32	256.46	0.0410	Main Channel
88.86	257.10	0.0410 /0.0930	Main Channel
114.39	257.69	0.0930	
138.64	257.87	0.0930	
178.64	259.30	0.0930	
197.11	259.23	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	256.48	.737E+02	0.0	0.20	79.74
0.29	256.62	.296E+03	0.1	0.32	50.29
0.43	256.77	.669E+03	0.3	0.43	38.35
0.57	256.91	.119E+04	0.6	0.52	31.64
0.75	257.09	.205E+04	1.3	0.64	25.38
0.92	257.26	.366E+04	2.5	0.68	24.06
1.10	257.44	.671E+04	4.3	0.63	25.84
1.28	257.62	.112E+05	6.9	0.60	27.04
1.46	257.80	.176E+05	10.1	0.56	29.00
1.63	257.97	.276E+05	15.3	0.54	30.14
1.81	258.15	.392E+05	22.5	0.56	29.03
1.99	258.33	.520E+05	31.4	0.59	27.60
2.17	258.51	.691E+05	41.5	0.59	27.75
2.34	258.68	.898E+05	55.9	0.61	26.80
2.52	258.86	.112E+06	72.8	0.64	25.56
2.70	259.04	.135E+06	92.4	0.67	24.32

2.88	259.22	.159E+06	114.5	0.70	23.15
3.05	259.39	.188E+06	130.8	0.68	23.93
3.23	259.57	.220E+06	159.7	0.71	23.02

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2125)	905.88	3.42	8.25	8.01	1.01	0.65
OUTFLOW: ID= 1 (5107)	905.88	3.34	8.75	8.01	1.00	0.66

CALIB	
NASHYD (0107)	Area (ha)= 121.76 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.34

Unit Hyd Qpeak (cms)= 3.460

PEAK FLOW (cms)= 0.593 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 7.390
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2107)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0107):	121.76	0.593	6.75	7.39
+ ID2= 2 (5107):	905.88	3.339	8.75	8.01
ID = 3 (2107):	1027.64	3.737	8.50	7.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0090)	Area (ha)= 67.74 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.85

Unit Hyd Qpeak (cms)= 3.040

PEAK FLOW (cms)= 0.481 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 8.394
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.200

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5089)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5089.0) ------>

Distance	Elevation	Manning	
0.00	283.61	0.0930	
12.80	283.54	0.0930	
26.10	283.37	0.0930	
32.61	283.02	0.0930	
52.71	281.44	0.0930	
67.48	281.01	0.0930	
83.85	280.06	0.0930	
102.23	279.31	0.0930	
113.08	279.11	0.0930	
117.61	279.05	0.0930 /0.0410	Main Channel
120.37	279.02	0.0410	Main Channel
123.67	277.63	0.0410	Main Channel
124.68	277.19	0.0410	Main Channel
129.65	278.99	0.0410 /0.0930	Main Channel
171.25	280.63	0.0930	
243.68	281.45	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	277.39	.318E+03	0.0	0.35	149.46
0.40	277.59	.127E+04	0.2	0.56	94.15
0.60	277.79	.286E+04	0.7	0.73	71.97
0.80	277.99	.510E+04	1.4	0.88	59.43
1.00	278.19	.798E+04	2.6	1.02	51.20
1.20	278.39	.115E+05	4.2	1.16	45.33
1.40	278.59	.157E+05	6.4	1.28	40.89
1.60	278.79	.205E+05	9.1	1.40	37.40
1.80	278.99	.260E+05	12.5	1.51	34.57
2.00	279.19	.368E+05	16.1	1.37	38.23
2.25	279.44	.637E+05	25.9	1.28	41.02
2.49	279.68	.101E+06	39.5	1.23	42.56
2.74	279.93	.147E+06	57.1	1.22	42.98
2.98	280.17	.203E+06	79.5	1.23	42.60
3.23	280.42	.267E+06	106.9	1.26	41.68
3.48	280.67	.340E+06	138.7	1.28	40.84
3.72	280.91	.428E+06	173.5	1.27	41.10
3.97	281.16	.537E+06	215.6	1.26	41.49
4.21	281.40	.668E+06	266.4	1.25	41.82

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0090)	67.74	0.48	6.00	8.39	0.52	0.64
OUTFLOW: ID= 1 (5089)	67.74	0.33	7.25	8.38	0.45	0.59

CALIB NASHYD (0089) ID= 1 DT=15.0 min	Area (ha)= 167.93	Curve Number (CN)= 67.0
	Ia (mm)= 8.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.40	

Unit Hyd Qpeak (cms)= 4.572

PEAK FLOW (cms)= 0.761 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 7.038
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.168

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2089) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0089):	167.93	0.761	6.75	7.04
+ ID2= 2 (5089):	67.74	0.326	7.25	8.38
ID = 3 (2089):	235.67	1.083	7.00	7.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5097) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5097.0) ------>

Distance	Elevation	Manning	
0.00	264.00	0.0930	
43.72	263.34	0.0930	
75.36	263.31	0.0930	
120.67	262.08	0.0930	
120.80	262.07	0.0930	
122.58	262.15	0.0930 /0.0410	Main Channel
122.81	262.14	0.0410	Main Channel
125.62	261.93	0.0410	Main Channel
127.06	261.90	0.0410	Main Channel
128.23	262.19	0.0410 /0.0930	Main Channel
129.33	262.51	0.0930	
202.64	264.26	0.0930	
234.87	264.54	0.0930	
274.19	264.72	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	261.98	.109E+03	0.0	0.27	51.95
0.17	262.07	.333E+03	0.2	0.41	33.66
0.25	262.15	.799E+03	0.4	0.44	31.23
0.37	262.27	.199E+04	1.3	0.53	25.99
0.48	262.38	.362E+04	2.6	0.60	23.06
0.60	262.50	.570E+04	4.5	0.66	21.17
0.71	262.61	.840E+04	6.9	0.69	20.19
0.83	262.73	.120E+05	10.2	0.71	19.65
0.94	262.84	.164E+05	14.3	0.72	19.19
1.06	262.96	.218E+05	19.4	0.74	18.70
1.17	263.07	.280E+05	25.6	0.76	18.19
1.29	263.19	.350E+05	33.1	0.79	17.66
1.41	263.31	.430E+05	41.8	0.81	17.14
1.52	263.42	.544E+05	47.8	0.73	18.94
1.64	263.54	.674E+05	61.5	0.76	18.26
1.75	263.65	.817E+05	77.4	0.79	17.59
1.87	263.77	.971E+05	95.5	0.82	16.95
1.98	263.88	.114E+06	116.0	0.85	16.35
2.10	264.00	.132E+06	139.0	0.88	15.78

	<---- hydrograph ----> AREA	QPEAK	TPEAK	R.V.	<-pipe / channel-> MAX DEPTH	MAX VEL

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2089)	235.67	1.08	7.00	7.42	0.34	0.51
OUTFLOW: ID= 1 (5097)	235.67	1.04	7.50	7.42	0.33	0.51

CALIB NASHYD (0097) ID= 1 DT=15.0 min	Area (ha)= 49.25	Curve Number (CN)= 77.0
	Ia (mm)= 9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.39	

Unit Hyd Qpeak (cms)= 1.350

PEAK FLOW (cms)= 0.311 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 9.695
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.231

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2097) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0097):	49.25	0.311	6.75	9.70
+ ID2= 2 (5097):	235.67	1.043	7.50	7.42
ID = 3 (2097):	284.92	1.343	7.25	7.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0104) ID= 1 DT=15.0 min	Area (ha)= 41.86	Curve Number (CN)= 71.0
	Ia (mm)= 10.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.07	

Unit Hyd Qpeak (cms)= 1.491

PEAK FLOW (cms)= 0.232 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 7.459
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.178

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1102) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0104):	41.86	0.232	6.50	7.46
+ ID2= 2 (2097):	284.92	1.343	7.25	7.82
ID = 3 (1102):	326.78	1.542	7.25	7.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5102) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5102.0) ------>

Distance	Elevation	Manning	
0.00	261.12	0.0930	
11.14	260.51	0.0930	
18.45	260.84	0.0930	
41.57	260.07	0.0930	
52.25	260.01	0.0930	
73.74	260.12	0.0930	
117.88	258.92	0.0930	
139.95	258.90	0.0930	
184.09	258.61	0.0930	
194.98	258.41	0.0930	
203.59	258.36	0.0930	
209.59	258.28	0.0930 /0.0410	Main Channel
214.07	258.22	0.0410	Main Channel
217.86	258.29	0.0410 /0.0930	Main Channel
325.90	260.68	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	258.28	.441E+02	0.0	0.10	31.73
0.19	258.41	.434E+03	0.4	0.19	16.32
0.31	258.53	.126E+04	1.5	0.23	13.61
0.44	258.66	.240E+04	3.3	0.26	12.17
0.57	258.79	.409E+04	5.9	0.28	11.51
0.69	258.91	.640E+04	9.5	0.28	11.24
0.82	259.04	.958E+04	15.5	0.31	10.33
0.94	259.16	.130E+05	23.3	0.34	9.32
1.07	259.29	.167E+05	32.7	0.37	8.52
1.20	259.42	.207E+05	43.8	0.40	7.87
1.32	259.54	.248E+05	56.4	0.43	7.34
1.45	259.67	.293E+05	70.7	0.46	6.91
1.58	259.80	.340E+05	86.6	0.48	6.54
1.70	259.92	.389E+05	104.3	0.51	6.22
1.83	260.05	.441E+05	119.1	0.51	6.18
1.95	260.17	.503E+05	136.4	0.52	6.14
2.08	260.30	.567E+05	161.7	0.54	5.85
2.21	260.43	.634E+05	189.1	0.57	5.59
2.33	260.55	.704E+05	217.9	0.59	5.38

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1102)	326.78	1.54	7.25	7.77	0.31	0.23
OUTFLOW: ID= 1 (5102)	326.78	1.52	7.50	7.77	0.31	0.23

CALIB NASHYD (0102) ID= 1 DT=15.0 min	Area (ha)= 2.11	Curve Number (CN)= 72.0
	Ia (mm)= 7.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.29	

Unit Hyd Qpeak (cms)= 0.279

```
PEAK FLOW      (cms)=   0.028 (i)
TIME TO PEAK   (hrs)=   5.250
RUNOFF VOLUME   (mm)=   8.534
TOTAL RAINFALL  (mm)=  42.000
RUNOFF COEFFICIENT  =   0.203

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2102)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0102):	2.11	0.028	5.25	8.53
	+ ID2= 2 (5102):	326.78	1.524	7.50	7.77
	ID = 3 (2102):	328.89	1.530	7.25	7.77

```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

CALIB / NASHYD (0085) / ID= 1 DT=15.0 min	Area (ha)= 100.60	Curve Number (CN)= 72.0
	Ia (mm)= 9.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.58	

```
Unit Hyd Qpeak  (cms)=   2.433

PEAK FLOW      (cms)=   0.486 (i)
TIME TO PEAK   (hrs)=   7.250
RUNOFF VOLUME   (mm)=   8.046
TOTAL RAINFALL  (mm)=  42.000
RUNOFF COEFFICIENT  =   0.192

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (1103)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0085):	100.60	0.486	7.25	8.05
	+ ID2= 2 (2102):	328.89	1.530	7.25	7.77
	ID = 3 (1103):	429.49	2.016	7.25	7.84

```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ROUTE CHN (5103)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5103.0) ------>

Distance	Elevation	Manning	
0.00	260.43	0.0930	
64.92	259.80	0.0930	
159.89	259.49	0.0930	
194.21	259.11	0.0930	

200.68	257.93	0.0930	
217.06	258.25	0.0930	
225.28	257.72	0.0930 /0.0410	Main Channel
227.17	257.59	0.0410	Main Channel
228.54	257.71	0.0410 /0.0930	Main Channel
244.04	258.74	0.0930	
267.54	258.84	0.0930	
274.63	259.13	0.0930	
295.89	259.48	0.0930	
310.06	259.61	0.0930	
344.18	260.28	0.0930	
358.34	260.35	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	257.71	.574E+02	0.1	0.27	18.86
0.26	257.85	.281E+03	0.4	0.46	11.20
0.40	257.99	.715E+03	1.2	0.50	10.30
0.54	258.13	.161E+04	2.5	0.48	10.65
0.68	258.27	.302E+04	4.8	0.49	10.40
0.81	258.40	.471E+04	8.5	0.56	9.23
0.95	258.54	.651E+04	13.2	0.62	8.23
1.09	258.68	.844E+04	18.9	0.69	7.46
1.23	258.82	.107E+05	24.0	0.69	7.43
1.37	258.96	.138E+05	32.7	0.73	7.05
1.51	259.10	.172E+05	43.2	0.77	6.61
1.65	259.24	.209E+05	50.6	0.74	6.90
1.79	259.38	.256E+05	61.0	0.73	6.99
1.93	259.52	.312E+05	72.8	0.72	7.14
2.07	259.66	.387E+05	85.1	0.68	7.58
2.20	259.79	.485E+05	106.4	0.67	7.59
2.34	259.93	.598E+05	138.3	0.71	7.20
2.48	260.07	.720E+05	175.6	0.75	6.83
2.62	260.21	.851E+05	218.1	0.79	6.50

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1103)	429.49	2.02	7.25	7.84	0.49	0.49
OUTFLOW: ID= 1 (5103)	429.49	2.00	7.50	7.84	0.48	0.49

CALIB / NASHYD (0103) / ID= 1 DT=15.0 min	Area (ha)= 13.80	Curve Number (CN)= 71.0
	Ia (mm)= 9.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.83	

```
Unit Hyd Qpeak  (cms)=   0.638

PEAK FLOW      (cms)=   0.089 (i)
TIME TO PEAK   (hrs)=   6.000
RUNOFF VOLUME   (mm)=   7.581
TOTAL RAINFALL  (mm)=  42.000
RUNOFF COEFFICIENT  =   0.180

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2103)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0103):	13.80	0.089	6.00	7.58
	+ ID2= 2 (5103):	429.49	2.002	7.50	7.84
	ID = 3 (2103):	443.29	2.057	7.50	7.83

```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ADD HYD (1105)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2103):	443.29	2.057	7.50	7.83
	+ ID2= 2 (2107):	1027.64	3.737	8.50	7.93
	ID = 3 (1105):	1470.93	5.646	8.00	7.90

```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ROUTE CHN (5105)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5105.0) ------>

Distance	Elevation	Manning	
0.00	259.38	0.0930	
16.48	258.87	0.0930	
29.77	258.00	0.0930	
35.97	256.26	0.0930	
47.95	256.26	0.0930	
63.19	256.50	0.0930	
68.45	254.59	0.0930 /0.0410	Main Channel
69.33	254.24	0.0410	Main Channel
70.76	254.71	0.0410 /0.0930	Main Channel
75.24	256.29	0.0930	
93.49	256.07	0.0930	
111.29	256.77	0.0930	
123.23	257.87	0.0930	
136.75	258.67	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	254.42	.100E+03	0.0	0.17	113.66
0.35	254.59	.401E+03	0.1	0.27	71.60
0.59	254.83	.115E+04	0.4	0.42	46.70
0.83	255.07	.227E+04	1.0	0.51	38.69
1.07	255.31	.378E+04	1.8	0.56	35.01
1.31	255.55	.566E+04	2.9	0.60	32.70
1.55	255.79	.792E+04	4.3	0.63	30.99
1.79	256.03	.106E+05	5.9	0.66	29.62
2.03	256.27	.163E+05	6.9	0.50	39.36
2.27	256.51	.329E+05	11.3	0.41	48.37
2.51	256.75	.535E+05	18.8	0.41	47.54
2.75	256.99	.757E+05	28.9	0.45	43.75
2.99	257.23	.989E+05	41.2	0.49	40.05
3.23	257.47	.123E+06	55.6	0.53	36.92
3.47	257.71	.148E+06	72.0	0.57	34.30

3.71	257.95	.174E+06	90.3	0.61	32.19
3.95	258.19	.202E+06	108.9	0.63	30.93
4.19	258.43	.232E+06	129.4	0.66	29.87
4.43	258.67	.264E+06	152.4	0.68	28.87

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1105)	1470.93	5.65	8.00	7.90	1.75	0.66
OUTFLOW: ID= 1 (5105)	1470.93	5.46	8.50	7.90	1.72	0.65

CALIB / NASHYD (0105) / ID= 1 DT=15.0 min	Area (ha)= 54.33	Curve Number (CN)= 72.0
	Ia (mm)= 10.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.72	

```
Unit Hyd Qpeak  (cms)=   2.866

PEAK FLOW      (cms)=   0.371 (i)
TIME TO PEAK   (hrs)=   5.750
RUNOFF VOLUME   (mm)=   7.567
TOTAL RAINFALL  (mm)=  42.000
RUNOFF COEFFICIENT  =   0.180

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2105)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0105):	54.33	0.371	5.75	7.57
	+ ID2= 2 (5105):	1470.93	5.456	8.50	7.90
	ID = 3 (2105):	1525.26	5.576	8.50	7.89

```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

CALIB / NASHYD (0072) / ID= 1 DT=15.0 min	Area (ha)= 66.00	Curve Number (CN)= 70.0
	Ia (mm)= 9.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.00	

```
Unit Hyd Qpeak  (cms)=   2.508

PEAK FLOW      (cms)=   0.376 (i)
TIME TO PEAK   (hrs)=   6.250
RUNOFF VOLUME   (mm)=   7.389
TOTAL RAINFALL  (mm)=  42.000
RUNOFF COEFFICIENT  =   0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

CALIB / NASHYD (0062)	Area (ha)= 194.37	Curve Number (CN)= 70.0

ID= 1 DT=15.0 min	Ia (mm)= 8.30 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 1.33

Unit Hyd Qpeak (cms)= 5.578

PEAK FLOW (cms)= 1.035 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 7.966
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.190

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1086)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0062):	194.37	1.035	6.75	7.97
+ ID2= 2 (0072):	66.00	0.376	6.25	7.39
ID = 3 (1086):	260.37	1.396	6.50	7.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5086)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5086.0) ------>

Distance	Elevation	Manning	
0.00	261.31	0.0930	
3.21	261.36	0.0930	
28.01	261.03	0.0930	
42.51	261.07	0.0930	
53.44	260.90	0.0930	
62.26	260.66	0.0930	
107.79	260.30	0.0930	
123.86	260.33	0.0930	
139.15	260.06	0.0930	
156.49	259.39	0.0930	
173.83	258.81	0.0930 /0.0410	Main Channel
179.12	258.67	0.0410	Main Channel
180.66	258.74	0.0410 /0.0930	Main Channel
197.95	259.63	0.0930	
205.72	259.81	0.0930	
209.98	259.78	0.0930	
318.53	261.21	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.07	258.74	.375E+03	0.0	0.20	216.58
0.21	258.88	.320E+04	0.5	0.43	98.91
0.35	259.02	.847E+04	1.8	0.55	77.87
0.48	259.15	.161E+05	3.9	0.62	69.08
0.62	259.29	.262E+05	6.9	0.67	63.50
0.76	259.43	.387E+05	10.9	0.72	59.26
0.90	259.57	.534E+05	16.0	0.77	55.68
1.04	259.71	.705E+05	22.0	0.80	53.32
1.17	259.84	.917E+05	28.6	0.80	53.38

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0070)	Area (ha)= 60.11 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.10 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.23

Unit Hyd Qpeak (cms)= 1.871

PEAK FLOW (cms)= 0.311 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 7.501
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.179

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1080)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0070):	60.11	0.311	6.75	7.50
+ ID2= 2 (0082):	127.96	0.612	7.25	8.00
ID = 3 (1080):	188.07	0.914	7.00	7.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5080)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5080.0) ------>

Distance	Elevation	Manning	
0.00	265.31	0.0930	
3.12	265.35	0.0930	
51.72	263.31	0.0930	
63.25	263.22	0.0930	
83.29	262.44	0.0930	
98.72	261.99	0.0930 /0.0410	Main Channel
107.79	261.84	0.0410	Main Channel
112.42	261.99	0.0410 /0.0930	Main Channel
182.31	264.06	0.0930	
207.12	264.23	0.0930	
208.20	264.24	0.0930	
230.04	264.24	0.0930	
257.09	264.08	0.0930	
287.23	264.25	0.0930	
339.24	265.08	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	261.99	.747E+03	0.3	0.32	38.02
0.33	262.17	.328E+04	2.6	0.58	20.78
0.50	262.34	.737E+04	7.0	0.70	17.43
0.68	262.52	.130E+05	13.8	0.77	15.68
0.86	262.70	.200E+05	23.1	0.84	14.43

1.31	259.98	.119E+06	37.8	0.81	52.42
1.45	260.12	.151E+06	48.6	0.82	51.84
1.59	260.26	.190E+06	61.3	0.83	51.51
1.72	260.39	.239E+06	73.2	0.78	54.43
1.86	260.53	.301E+06	93.0	0.79	53.89
2.00	260.67	.372E+06	117.3	0.81	52.88
2.14	260.81	.451E+06	148.5	0.84	50.63
2.28	260.95	.535E+06	183.6	0.88	48.60
2.41	261.08	.628E+06	216.3	0.88	48.38
2.55	261.22	.732E+06	261.9	0.92	46.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1086)	260.37	1.40	6.50	7.82	0.30	0.50
OUTFLOW: ID= 1 (5086)	260.37	1.05	7.75	7.82	0.26	0.47

CALIB	
NASHYD (0086)	Area (ha)= 85.32 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.35

Unit Hyd Qpeak (cms)= 2.416

PEAK FLOW (cms)= 0.439 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 7.829
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2086)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0086):	85.32	0.439	6.75	7.83
+ ID2= 2 (5086):	260.37	1.052	7.75	7.82
ID = 3 (2086):	345.69	1.443	7.50	7.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0082)	Area (ha)= 127.96 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.59

Unit Hyd Qpeak (cms)= 3.070

PEAK FLOW (cms)= 0.612 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 8.002
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.191

1.03	262.87	.283E+05	35.0	0.90	13.48
1.21	263.05	.380E+05	49.8	0.95	12.72
1.39	263.23	.491E+05	67.4	1.00	12.12
1.56	263.40	.624E+05	87.5	1.02	11.89
1.74	263.58	.773E+05	113.3	1.07	11.37
1.92	263.76	.935E+05	143.0	1.11	10.90
2.10	263.94	.111E+06	176.6	1.16	10.47
2.27	264.11	.130E+06	206.5	1.15	10.49
2.45	264.29	.158E+06	233.3	1.07	11.29
2.63	264.47	.193E+06	291.6	1.10	11.01
2.80	264.64	.229E+06	357.8	1.14	10.67
2.98	264.82	.268E+06	431.9	1.17	10.33
3.16	265.00	.308E+06	514.1	1.21	9.99
3.33	265.17	.350E+06	608.3	1.26	9.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1080)	188.07	0.91	7.00	7.84	0.19	0.36
OUTFLOW: ID= 1 (5080)	188.07	0.87	7.50	7.84	0.19	0.36

CALIB	
NASHYD (0080)	Area (ha)= 26.18 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 8.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.78

Unit Hyd Qpeak (cms)= 1.287

PEAK FLOW (cms)= 0.206 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 8.800
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.210

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2080)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0080):	26.18	0.206	5.75	8.80
+ ID2= 2 (5080):	188.07	0.866	7.50	7.84
ID = 3 (2080):	214.25	0.979	7.25	7.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1087)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2080):	214.25	0.979	7.25	7.96
+ ID2= 2 (2086):	345.69	1.443	7.50	7.82
ID = 3 (1087):	559.94	2.420	7.50	7.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5087)
IN= 2---> OUT= 1

Routing time step (min)= 15.00

<------ DATA FOR SECTION (5087.0) ------>

Distance	Elevation	Manning	
0.00	258.88	0.0930	
8.99	258.76	0.0930	
19.29	256.36	0.0930	
40.77	256.43	0.0930	
45.90	256.36	0.0930	
56.95	256.44	0.0930	
62.65	256.35	0.0930	
72.79	255.95	0.0930 /0.0410	Main Channel
73.78	255.91	0.0410	Main Channel
74.08	256.02	0.0410 /0.0930	Main Channel
84.33	259.59	0.0930	
121.64	260.15	0.0930	
126.24	260.09	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.04	255.95	.134E+02	0.0	0.13	77.23
0.26	256.17	.580E+03	0.3	0.33	30.32
0.48	256.39	.217E+04	1.1	0.31	32.40
0.70	256.61	.951E+04	6.0	0.38	26.63
0.92	256.83	.174E+05	15.0	0.53	19.29
1.15	257.06	.254E+05	27.3	0.65	15.51
1.37	257.28	.337E+05	42.6	0.77	13.18
1.59	257.50	.422E+05	60.7	0.88	11.60
1.81	257.72	.509E+05	81.4	0.97	10.43
2.03	257.94	.599E+05	104.6	1.06	9.54
2.25	258.16	.690E+05	130.3	1.15	8.82
2.47	258.38	.783E+05	158.5	1.23	8.24
2.69	258.60	.879E+05	189.0	1.31	7.75
2.91	258.82	.978E+05	213.5	1.33	7.63
3.13	259.04	.109E+06	244.8	1.37	7.41
3.36	259.27	.120E+06	286.5	1.45	6.98
3.58	259.49	.131E+06	330.9	1.54	6.61
3.80	259.71	.143E+06	372.2	1.59	6.40
4.02	259.93	.156E+06	418.6	1.63	6.22

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1087)	559.94	2.42	7.50	7.87	0.54	0.33
OUTFLOW: ID= 1 (5087)	559.94	2.32	8.00	7.87	0.54	0.33

CALIB	
NASHYD (0087)	Area (ha)= 11.14
ID= 1 DT=15.0 min	Ia (mm)= 10.00
	U.H. Tp(hrs)= 0.56

Curve Number (CN)= 69.0
# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 0.761

PEAK FLOW (cms)= 0.082 (i)

TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 6.990
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2087)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0087):	11.14	0.082	5.50	6.99
	+ ID2= 2 (5087):	559.94	2.321	8.00	7.87
	ID = 3 (2087):	571.08	2.345	8.00	7.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2087):	571.08	2.345	8.00	7.85
	+ ID2= 2 (2105):	1525.26	5.576	8.50	7.89
	ID = 3 (1084):	2096.34	7.880	8.25	7.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5084)
IN= 2---> OUT= 1

Routing time step (min)= 15.00

<------ DATA FOR SECTION (5084.0) ------>

Distance	Elevation	Manning	
0.00	259.35	0.0930	
3.22	259.33	0.0930	
19.62	255.67	0.0930	
53.75	255.23	0.0930	
140.86	255.25	0.0930	
146.73	253.99	0.0930 /0.0410	Main Channel
148.19	253.66	0.0410	Main Channel
148.47	253.71	0.0410	Main Channel
151.58	254.18	0.0410 /0.0930	Main Channel
159.61	255.34	0.0930	
161.63	255.50	0.0930	
175.11	259.05	0.0930	
185.75	258.95	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	253.83	.358E+02	0.0	0.30	13.95
0.33	253.99	.147E+03	0.3	0.48	8.74
0.62	254.28	.530E+03	1.6	0.78	5.37
0.91	254.57	.116E+04	4.5	0.96	4.33
1.21	254.87	.203E+04	8.7	1.07	3.90
1.50	255.16	.315E+04	14.5	1.15	3.63

1.79	255.45	.953E+04	25.6	0.67	6.20
2.08	255.74	.194E+05	52.8	0.68	6.14
2.37	256.03	.300E+05	93.7	0.78	5.33
2.66	256.32	.407E+05	145.5	0.89	4.67
2.96	256.62	.516E+05	207.0	1.00	4.16
3.25	256.91	.627E+05	277.8	1.11	3.76
3.54	257.20	.740E+05	357.4	1.21	3.45
3.83	257.49	.854E+05	445.5	1.31	3.19
4.12	257.78	.970E+05	541.8	1.40	2.98
4.41	258.07	.109E+06	646.1	1.49	2.81
4.71	258.37	.121E+06	758.3	1.57	2.65
5.00	258.66	.133E+06	878.1	1.65	2.52
5.29	258.95	.145E+06	1005.6	1.73	2.41

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1084)	2096.34	7.88	8.25	7.88	1.15	1.05
OUTFLOW: ID= 1 (5084)	2096.34	7.87	8.25	7.88	1.15	1.05

CALIB	
NASHYD (0084)	Area (ha)= 19.87
ID= 1 DT=15.0 min	Ia (mm)= 8.40
	U.H. Tp(hrs)= 0.53

Curve Number (CN)= 73.0
# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 1.435

PEAK FLOW (cms)= 0.197 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 8.824
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.210

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2084)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0084):	19.87	0.197	5.50	8.82
	+ ID2= 2 (5084):	2096.34	7.871	8.25	7.88
	ID = 3 (2084):	2116.21	7.918	8.25	7.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0083)	Area (ha)= 50.78
ID= 1 DT=15.0 min	Ia (mm)= 9.90
	U.H. Tp(hrs)= 1.05

Curve Number (CN)= 69.0
# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 1.852

PEAK FLOW (cms)= 0.269 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 7.046

TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.168

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1076)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0083):	50.78	0.269	6.50	7.05
	+ ID2= 2 (2084):	2116.21	7.918	8.25	7.89
	ID = 3 (1076):	2166.99	8.070	8.25	7.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5076)
IN= 2---> OUT= 1

Routing time step (min)= 15.00

<------ DATA FOR SECTION (5076.0) ------>

Distance	Elevation	Manning	
0.00	260.17	0.0930	
14.24	259.77	0.0930	
43.01	255.21	0.0930	
58.26	254.66	0.0930 /0.0410	Main Channel
63.42	253.10	0.0410	Main Channel
66.04	253.09	0.0410	Main Channel
70.21	254.56	0.0410 /0.0930	Main Channel
123.72	254.97	0.0930	
148.22	259.84	0.0930	
150.20	260.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	253.38	.521E+03	0.3	0.33	26.27
0.59	253.68	.132E+04	1.2	0.48	17.88
0.88	253.97	.240E+04	2.8	0.60	14.31
1.18	254.27	.374E+04	5.1	0.70	12.19
1.47	254.56	.536E+04	8.3	0.80	10.75
1.86	254.95	.134E+05	16.5	0.63	13.59
2.25	255.34	.293E+05	33.0	0.58	14.78
2.64	255.73	.464E+05	57.0	0.63	13.58
3.03	256.12	.644E+05	87.3	0.70	12.31
3.42	256.51	.833E+05	123.5	0.76	11.24
3.81	256.90	.103E+06	165.6	0.83	10.38
4.19	257.28	.124E+06	213.3	0.89	9.67
4.58	257.67	.145E+06	266.7	0.94	9.08
4.97	258.06	.168E+06	325.6	1.00	8.59
5.36	258.45	.191E+06	390.2	1.05	8.16
5.75	258.84	.215E+06	460.3	1.10	7.79
6.14	259.23	.240E+06	536.1	1.15	7.47
6.53	259.62	.266E+06	617.6	1.19	7.19
6.92	260.01	.294E+06	691.2	1.21	7.08

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1076)	2166.99	8.07	8.25	7.87	1.45	0.79

OUTFLOW: ID= 1 (5076) 2166.99 8.04 8.50 7.87 1.44 0.79

CALIB					
NASHYD (0076)	Area (ha)=	22.96	Curve Number (CN)=	69.0	
ID= 1 DT=15.0 min	Ia (mm)=	10.60	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.44			

Unit Hyd Qpeak (cms)= 2.011

PEAK FLOW (cms)= 0.182 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 6.732
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.160

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2076)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0076):	22.96	0.182	5.50	6.73
+ ID2= 2 (5076):	2166.99	8.042	8.50	7.87
ID = 3 (2076):	2189.95	8.077	8.50	7.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0071)	Area (ha)=	79.26	Curve Number (CN)=	72.0	
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.35			

Unit Hyd Qpeak (cms)= 2.247

PEAK FLOW (cms)= 0.419 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 8.002
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.191

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1063)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0071):	79.26	0.419	6.75	8.00
+ ID2= 2 (2076):	2189.95	8.077	8.50	7.86
ID = 3 (1063):	2269.21	8.364	8.25	7.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RUNOFF COEFFICIENT = 0.213

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2063)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0063):	109.84	0.853	6.00	8.95
+ ID2= 2 (5063):	2269.21	7.406	9.75	7.86
ID = 3 (2063):	2379.05	7.558	9.50	7.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0035)	Area (ha)=	49.86	Curve Number (CN)=	72.0	
ID= 1 DT=15.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.90			

Unit Hyd Qpeak (cms)= 2.121

PEAK FLOW (cms)= 0.318 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 7.827
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0018)	Area (ha)=	165.67	Curve Number (CN)=	70.0	
ID= 1 DT=15.0 min	Ia (mm)=	8.30	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.18			

Unit Hyd Qpeak (cms)= 5.349

PEAK FLOW (cms)= 0.945 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 7.965
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.190

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1055)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0018):	165.67	0.945	6.50	7.97
+ ID2= 2 (0035):	49.86	0.318	6.25	7.83
ID = 3 (1055):	215.53	1.251	6.50	7.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5063)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5063.0) ------>

Distance	Elevation	Manning	
0.00	260.53	0.0930	
7.93	260.16	0.0930	
25.92	255.95	0.0930	
48.02	251.95	0.0930	
74.10	251.57	0.0930 /0.0410	Main Channel
75.60	250.50	0.0410	Main Channel
79.20	250.50	0.0410	Main Channel
81.24	251.63	0.0410 /0.0930	Main Channel
112.21	252.04	0.0930	
134.13	254.75	0.0930	
150.69	255.82	0.0930	
162.81	257.37	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	250.86	.284E+04	0.6	0.38	84.04
0.71	251.21	.647E+04	1.9	0.56	57.07
1.07	251.57	.109E+05	3.9	0.69	45.95
1.43	251.93	.310E+05	8.2	0.50	63.18
1.80	252.30	.758E+05	18.0	0.45	70.25
2.16	252.66	.125E+06	32.8	0.50	63.38
2.52	253.02	.177E+06	52.0	0.56	56.78
2.88	253.38	.233E+06	75.3	0.62	51.53
3.24	253.74	.292E+06	102.7	0.67	47.38
3.61	254.11	.355E+06	134.2	0.72	44.04
3.97	254.47	.421E+06	169.8	0.77	41.30
4.33	254.83	.490E+06	208.9	0.81	39.11
4.69	255.19	.565E+06	250.5	0.85	37.56
5.06	255.56	.644E+06	296.8	0.88	36.16
5.42	255.92	.729E+06	349.0	0.92	34.80
5.78	256.28	.817E+06	409.2	0.96	33.29
6.14	256.64	.909E+06	474.1	1.00	31.94
6.51	257.01	.100E+07	543.9	1.04	30.74
6.87	257.37	.110E+07	618.4	1.07	29.67

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1063)	2269.21	8.36	8.25	7.86	1.44	0.50
OUTFLOW: ID= 1 (5063)	2269.21	7.41	9.75	7.86	1.36	0.53

CALIB					
NASHYD (0063)	Area (ha)=	109.84	Curve Number (CN)=	74.0	
ID= 1 DT=15.0 min	Ia (mm)=	8.90	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.82			

Unit Hyd Qpeak (cms)= 5.123

PEAK FLOW (cms)= 0.853 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 8.950
TOTAL RAINFALL (mm)= 42.000

ROUTE CHN (5055)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5055.0) ------>

Distance	Elevation	Manning	
0.00	280.19	0.0930	
87.50	278.82	0.0930	
98.89	278.56	0.0930	
123.84	277.27	0.0930	
130.09	276.61	0.0930 /0.0410	Main Channel
131.71	276.44	0.0410	Main Channel
141.16	276.65	0.0410 /0.0930	Main Channel
152.62	277.02	0.0930	
168.18	278.51	0.0930	
229.80	279.24	0.0930	
279.45	279.08	0.0930	
352.04	279.93	0.0930	
414.67	279.67	0.0930	
506.68	280.29	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	276.61	.333E+04	0.3	0.36	194.87
0.36	276.80	.142E+05	2.2	0.66	106.21
0.55	276.99	.311E+05	6.0	0.82	86.49
0.74	277.18	.531E+05	11.7	0.93	75.45
0.92	277.36	.783E+05	19.2	1.04	67.84
1.11	277.55	.108E+06	28.6	1.12	62.81
1.30	277.74	.142E+06	40.0	1.19	59.08
1.49	277.93	.180E+06	53.5	1.26	56.15
1.68	278.12	.223E+06	69.2	1.31	53.73
1.87	278.31	.270E+06	87.2	1.36	51.68
2.05	278.49	.322E+06	107.7	1.41	49.89
2.24	278.68	.384E+06	123.7	1.36	51.76
2.43	278.87	.465E+06	145.3	1.32	53.33
2.62	279.06	.567E+06	172.7	1.29	54.76
2.81	279.25	.716E+06	195.8	1.16	60.92
3.00	279.44	.913E+06	246.9	1.14	61.62
3.18	279.62	.113E+07	307.9	1.15	61.33
3.37	279.81	.139E+07	362.7	1.10	63.96
3.56	280.00	.173E+07	441.2	1.08	65.24

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1055)	215.53	1.25	6.50	7.93	0.26	0.47
OUTFLOW: ID= 1 (5055)	215.53	0.67	8.25	7.93	0.21	0.40

CALIB					
NASHYD (0055)	Area (ha)=	149.76	Curve Number (CN)=	71.0	
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.53			

Unit Hyd Qpeak (cms)= 3.748

PEAK FLOW (cms)= 0.682 (i)

```
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   7.460
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.178

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2055) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0055):   149.76   0.682     7.00     7.46
       + ID2= 2 (5055):   215.53   0.671     8.25     7.93
         ================================================
         ID = 3 (2055):   365.29   1.301     7.50     7.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| NASHYD    (0054) |   Area    (ha)=  59.63   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.14

     Unit Hyd Qpeak  (cms)=   1.994

     PEAK FLOW       (cms)=   0.364 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   8.397
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.200

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1053) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0054):    59.63   0.364     6.50     8.40
       + ID2= 2 (2055):   365.29   1.301     7.50     7.74
         ================================================
         ID = 3 (1053):   424.92   1.603     7.25     7.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5053) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5053.0) ------>
              Distance      Elevation       Manning
                 0.00         259.86        0.0930
                30.23         255.77    0.0930 /0.0410  Main Channel
                32.12         255.61        0.0410      Main Channel
                33.86         255.81    0.0410 /0.0930  Main Channel
                75.21         261.86        0.0930
```



```
              <-------------------- TRAVEL TIME TABLE ---------------------->
               DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
                (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
               0.16    255.77    .644E+02        0.1         0.19      21.35
               0.38    255.99    .322E+03        0.5         0.37      10.94
               0.59    256.20    .742E+03        1.4         0.45       9.00
               0.81    256.42    .132E+04        2.7         0.51       8.07
               1.02    256.63    .207E+04        4.6         0.55       7.47
               1.24    256.85    .297E+04        7.1         0.58       7.01
               1.45    257.06    .404E+04       10.1         0.62       6.64
               1.67    257.28    .527E+04       13.9         0.65       6.33
               1.88    257.49    .666E+04       18.3         0.67       6.06
               2.10    257.71    .821E+04       23.5         0.70       5.82
               2.31    257.92    .992E+04       29.5         0.73       5.61
               2.53    258.14    .118E+05       36.3         0.76       5.41
               2.74    258.35    .138E+05       44.1         0.78       5.23
               2.96    258.57    .160E+05       52.7         0.81       5.07
               3.17    258.78    .184E+05       62.3         0.83       4.92
               3.39    259.00    .209E+05       72.9         0.86       4.78
               3.60    259.21    .236E+05       84.6         0.88       4.65
               3.82    259.43    .264E+05       97.3         0.90       4.53
               4.03    259.64    .295E+05      111.1         0.93       4.42

                                        <---- hydrograph ---->   <-pipe / channel->
                                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                          (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (1053)  424.92     1.60    7.25   7.83      0.63      0.46
     OUTFLOW: ID= 1 (5053)  424.92     1.60    7.50   7.83      0.62      0.46

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| NASHYD    (0053) |   Area    (ha)=   5.96   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.35

     Unit Hyd Qpeak  (cms)=   0.652

     PEAK FLOW       (cms)=   0.064 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=   7.755
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2053) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0053):     5.96   0.064     5.25     7.76
       + ID2= 2 (5053):   424.92   1.599     7.50     7.83
         ================================================
         ID = 3 (2053):   430.88   1.615     7.50     7.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
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```
| NASHYD    (0020) |   Area    (ha)=  80.57   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.12

     Unit Hyd Qpeak  (cms)=   2.738

     PEAK FLOW       (cms)=   0.437 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   7.459
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.178

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0011) |   Area    (ha)=  91.04   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.42

     Unit Hyd Qpeak  (cms)=   2.445

     PEAK FLOW       (cms)=   0.483 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=   8.308
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1021) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0011):    91.04   0.483     7.00     8.31
       + ID2= 2 (0020):    80.57   0.437     6.50     7.46
         ================================================
         ID = 3 (1021):   171.61   0.912     6.75     7.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5021) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5021.0) ------>
              Distance      Elevation       Manning
                 0.00         276.23        0.0930
                23.73         276.03        0.0930
                36.85         275.23        0.0930
                61.59         270.42        0.0930
                76.89         269.69        0.0930
                79.38         269.35    0.0930 /0.0410  Main Channel
                82.08         268.91        0.0410      Main Channel
                83.34         269.30    0.0410 /0.0930  Main Channel
                84.93         269.79        0.0930
                98.02         269.97        0.0930
               107.38         271.99        0.0930
               117.80         275.64        0.0930
```



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               136.41         276.14        0.0930
               138.19         276.38        0.0930

              <-------------------- TRAVEL TIME TABLE ---------------------->
               DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
                (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
               0.19    269.11    .350E+03        0.1         0.48      67.98
               0.39    269.30    .140E+04        0.5         0.77      42.82
               0.80    269.71    .602E+04        3.9         1.29      25.50
               1.21    270.12    .223E+05       12.1         1.07      30.66
               1.61    270.52    .510E+05       30.1         1.16      28.18
               2.02    270.93    .842E+05       58.1         1.36      24.18
               2.43    271.34    .121E+06       94.6         1.54      21.28
               2.84    271.75    .160E+06      139.5         1.71      19.16
               3.24    272.15    .203E+06      193.4         1.87      17.51
               3.65    272.56    .249E+06      256.5         2.03      16.17
               4.06    272.97    .297E+06      328.1         2.17      15.08
               4.47    273.38    .348E+06      408.4         2.31      14.19
               4.87    273.78    .401E+06      497.5         2.44      13.44
               5.28    274.19    .457E+06      595.6         2.56      12.79
               5.69    274.60    .516E+06      702.7         2.68      12.23
               6.10    275.01    .577E+06      819.1         2.79      11.74
               6.50    275.41    .641E+06      934.0         2.87      11.44
               6.91    275.82    .712E+06     1009.8         2.79      11.76
               7.32    276.23    .803E+06     1016.7         2.49      13.16

                                        <---- hydrograph ---->   <-pipe / channel->
                                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                          (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (1021)  171.61     0.91    6.75   7.91      0.43      0.80
     OUTFLOW: ID= 1 (5021)  171.61     0.83    7.50   7.91      0.42      0.79

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-------------------
| CALIB             |
| NASHYD    (0021) |   Area    (ha)=  68.90   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   3.490

     PEAK FLOW       (cms)=   0.736 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  11.369
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2021) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0021):    68.90   0.736     5.75    11.37
       + ID2= 2 (5021):   171.61   0.831     7.50     7.91
         ================================================
         ID = 3 (2021):   240.51   1.297     6.50     8.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

CALIB					
NASHYD (0042)	Area (ha)= 109.13	Curve Number (CN)= 73.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.40	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 1.32				

Unit Hyd Qpeak (cms)= 3.160

PEAK FLOW (cms)= 0.614 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 8.398
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.200

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1052)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0042):	109.13	0.614	6.75	8.40
+ ID2= 2 (2021):	240.51	1.297	6.50	8.90
ID = 3 (1052):	349.64	1.909	6.75	8.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5052)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5052.0) ------>

Distance	Elevation	Manning	
0.00	266.73	0.0930	
17.65	266.70	0.0930	
30.84	260.87	0.0930 /0.0410	Main Channel
33.16	260.30	0.0410	Main Channel
33.54	260.21	0.0410	Main Channel
34.62	260.23	0.0410	Main Channel
40.02	260.43	0.0410 /0.0930	Main Channel
79.73	260.97	0.0930	
92.56	266.14	0.0930	
101.74	266.11	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	260.43	.103E+04	0.4	0.49	40.73
0.52	260.73	.781E+04	4.3	0.66	30.29
0.82	261.03	.227E+05	14.6	0.77	25.83
1.12	261.33	.405E+05	33.4	0.98	20.21
1.42	261.63	.589E+05	58.5	1.18	16.79
1.71	261.92	.778E+05	89.1	1.37	14.55
2.01	262.22	.972E+05	125.0	1.53	12.95
2.31	262.52	.117E+06	166.0	1.69	11.76
2.61	262.82	.137E+06	211.7	1.84	10.82
2.91	263.12	.158E+06	262.2	1.97	10.07
3.21	263.42	.180E+06	317.2	2.11	9.44
3.51	263.72	.202E+06	376.8	2.23	8.92

3.81	264.02	.224E+06	440.8	2.35	8.47
4.11	264.32	.247E+06	509.2	2.46	8.08
4.41	264.62	.270E+06	582.0	2.57	7.74
4.70	264.91	.294E+06	659.2	2.67	7.44
5.00	265.21	.319E+06	740.6	2.77	7.17
5.30	265.51	.344E+06	826.4	2.87	6.93
5.60	265.81	.369E+06	916.5	2.96	6.71

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1052)	349.64	1.91	6.75	8.74	0.33	0.54
OUTFLOW: ID= 1 (5052)	349.64	1.77	7.50	8.74	0.32	0.54

CALIB					
NASHYD (0052)	Area (ha)= 37.91	Curve Number (CN)= 73.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.20	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.84				

Unit Hyd Qpeak (cms)= 1.718

PEAK FLOW (cms)= 0.274 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 8.484
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.202

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2052)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0052):	37.91	0.274	6.00	8.48
+ ID2= 2 (5052):	349.64	1.773	7.50	8.74
ID = 3 (2052):	387.55	1.959	7.25	8.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1050)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2052):	387.55	1.959	7.25	8.72
+ ID2= 2 (2053):	430.88	1.615	7.50	7.83
ID = 3 (1050):	818.43	3.566	7.25	8.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5050)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5050.0) ------>

Distance	Elevation	Manning	
0.00	259.67	0.0930	
13.92	256.13	0.0930	
17.59	256.29	0.0930	
21.12	255.95	0.0930	
30.78	255.82	0.0930	
33.55	255.60	0.0930	
35.41	255.31	0.0930	
42.56	254.71	0.0930 /0.0410	Main Channel
44.43	254.55	0.0410	Main Channel
44.75	254.59	0.0410	Main Channel
49.70	255.17	0.0410 /0.0930	Main Channel
61.41	256.32	0.0930	
62.19	256.25	0.0930	
64.00	256.45	0.0930	
73.57	258.88	0.0930	
75.52	259.01	0.0930	
83.84	260.70	0.0930	
88.87	260.76	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	254.71	.591E+02	0.1	0.31	12.48
0.42	254.97	.414E+03	1.0	0.56	6.87
0.68	255.23	.109E+04	3.4	0.72	5.32
0.94	255.49	.209E+04	8.0	0.89	4.32
1.20	255.75	.336E+04	14.5	1.00	3.86
1.47	256.02	.523E+04	22.5	0.99	3.87
1.73	256.28	.775E+04	34.4	1.02	3.76
1.99	256.54	.108E+05	51.1	1.09	3.52
2.25	256.80	.140E+05	71.5	1.18	3.26
2.51	257.06	.173E+05	95.2	1.27	3.03
2.77	257.32	.208E+05	122.0	1.36	2.84
3.03	257.58	.243E+05	151.8	1.44	2.67
3.29	257.84	.280E+05	184.5	1.52	2.53
3.55	258.10	.318E+05	220.3	1.60	2.41
3.81	258.36	.358E+05	259.0	1.67	2.30
4.08	258.63	.398E+05	300.7	1.74	2.21
4.34	258.89	.440E+05	345.1	1.81	2.13
4.60	259.15	.484E+05	390.3	1.86	2.07
4.86	259.41	.530E+05	441.0	1.92	2.00

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1050)	818.43	3.57	7.25	8.25	0.69	0.73
OUTFLOW: ID= 1 (5050)	818.43	3.56	7.50	8.25	0.69	0.73

CALIB					
NASHYD (0050)	Area (ha)= 7.41	Curve Number (CN)= 72.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.80	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.46				

Unit Hyd Qpeak (cms)= 0.615

PEAK FLOW (cms)= 0.068 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 7.874

TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.187

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2050)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0050):	7.41	0.068	5.50	7.87
+ ID2= 2 (5050):	818.43	3.563	7.50	8.25
ID = 3 (2050):	825.84	3.585	7.50	8.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0007)	Area (ha)= 178.66	Curve Number (CN)= 71.0			
ID= 1 DT=15.0 min	Ia (mm)= 10.20	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 1.46				

Unit Hyd Qpeak (cms)= 4.684

PEAK FLOW (cms)= 0.836 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 7.460
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.178

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5009)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5009.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
17.97	284.61	0.0930	
25.53	284.49	0.0930	
30.68	284.43	0.0930	
35.54	284.45	0.0930	
41.74	284.38	0.0930 /0.0410	Main Channel
43.34	284.37	0.0410	Main Channel
43.57	284.36	0.0410	Main Channel
43.90	284.36	0.0410	Main Channel
45.20	284.36	0.0410	Main Channel
47.00	284.36	0.0410 /0.0930	Main Channel
57.95	284.80	0.0930	
74.16	285.17	0.0930	
94.21	285.41	0.0930	
108.93	285.51	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	284.41	.601E+02	0.0	0.14	25.46
0.09	284.45	.195E+03	0.2	0.17	21.00

0.14	284.50	.428E+03	0.4	0.19	18.59
0.19	284.55	.706E+03	0.7	0.22	16.30
0.23	284.59	.103E+04	1.2	0.24	14.64
0.28	284.64	.138E+04	1.7	0.27	13.25
0.33	284.69	.177E+04	2.4	0.30	12.12
0.37	284.73	.217E+04	3.2	0.32	11.22
0.42	284.78	.261E+04	4.1	0.34	10.50
0.47	284.83	.307E+04	5.1	0.36	9.94
0.52	284.88	.356E+04	6.3	0.38	9.48
0.56	284.92	.409E+04	7.5	0.39	9.08
0.61	284.97	.465E+04	8.9	0.41	8.73
0.66	285.02	.524E+04	10.4	0.42	8.43
0.70	285.06	.587E+04	12.0	0.44	8.15
0.75	285.11	.653E+04	13.8	0.45	7.90
0.80	285.16	.723E+04	15.7	0.47	7.68
0.84	285.20	.796E+04	17.7	0.48	7.51
0.89	285.25	.875E+04	19.8	0.49	7.37

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0007)	178.66	0.84	7.00	7.46	0.20	0.23
OUTFLOW: ID= 1 (5009)	178.66	0.83	7.25	7.46	0.20	0.22

CALIB			
NASHYD (0009)	Area (ha)=	57.35	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	8.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.98	

Unit Hyd Qpeak (cms)= 2.228

PEAK FLOW	(cms)=	0.407 (i)
TIME TO PEAK	(hrs)=	6.250
RUNOFF VOLUME	(mm)=	8.953
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.213

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2009) = 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0009):	57.35	0.407	6.25	8.95
+ ID2= 2 (5009):	178.66	0.828	7.25	7.46
ID = 3 (2009):	236.01	1.166	7.00	7.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5012) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5012.0) ------>

Distance	Elevation	Manning	
0.00	286.59	0.0930	
7.35	286.54	0.0930	
182.68	282.59	0.0930 /0.0410	Main Channel
188.50	282.42	0.0410	Main Channel
196.35	282.37	0.0410	Main Channel
198.54	282.38	0.0410	Main Channel
198.86	282.39	0.0410	Main Channel
204.09	282.60	0.0410 /0.0930	Main Channel
220.42	283.20	0.0930	
227.76	283.19	0.0930	
249.45	283.60	0.0930	
276.70	284.52	0.0930	
280.20	284.62	0.0930	
338.90	285.99	0.0930	
430.49	286.70	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	282.59	.133E+05	1.7	0.54	133.55
0.43	282.80	.395E+05	7.7	0.85	85.15
0.64	283.01	.795E+05	18.1	0.99	73.15
0.85	283.22	.134E+06	32.8	1.06	68.25
1.06	283.43	.212E+06	53.6	1.10	65.80
1.27	283.64	.308E+06	81.1	1.14	63.31
1.48	283.85	.420E+06	116.0	1.20	60.37
1.69	284.06	.546E+06	158.0	1.26	57.61
1.90	284.27	.687E+06	207.6	1.31	55.13
2.11	284.48	.841E+06	265.1	1.37	52.91
2.33	284.70	.101E+07	329.9	1.42	51.07
2.54	284.91	.120E+07	402.8	1.46	49.51
2.75	285.12	.140E+07	485.2	1.51	48.06
2.96	285.33	.162E+07	577.5	1.55	46.71
3.17	285.54	.185E+07	680.1	1.59	45.45
3.38	285.75	.211E+07	793.5	1.63	44.27
3.59	285.96	.238E+07	918.1	1.68	43.16
3.80	286.17	.267E+07	1036.2	1.68	42.94
4.01	286.38	.300E+07	1169.3	1.69	42.70

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2009)	236.01	1.17	7.00	7.82	0.15	0.54
OUTFLOW: ID= 1 (5012)	236.01	0.78	8.75	7.82	0.10	0.54

CALIB			
NASHYD (0012)	Area (ha)=	183.34	Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)=	8.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.22	

Unit Hyd Qpeak (cms)= 5.735

PEAK FLOW	(cms)=	1.225 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	9.447
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.225

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2012) = 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0012):	183.34	1.225	6.50	9.45
+ ID2= 2 (5012):	236.01	0.775	8.75	7.82
ID = 3 (2012):	419.35	1.711	7.25	8.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0032)	Area (ha)=	49.09	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.97	

Unit Hyd Qpeak (cms)= 1.937

PEAK FLOW	(cms)=	0.327 (i)
TIME TO PEAK	(hrs)=	6.250
RUNOFF VOLUME	(mm)=	8.396
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.200

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1040) = 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0032):	49.09	0.327	6.25	8.40
+ ID2= 2 (2012):	419.35	1.711	7.25	8.53
ID = 3 (1040):	468.44	1.984	7.00	8.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5040) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5040.0) ------>

Distance	Elevation	Manning	
0.00	263.73	0.0930	
3.80	263.50	0.0930	
15.09	260.45	0.0930	
19.73	260.13	0.0930	
24.77	259.11	0.0930	
29.24	257.72	0.0930	
39.41	256.76	0.0930	
45.12	255.96	0.0930 /0.0410	Main Channel
45.71	255.95	0.0410	Main Channel
46.66	255.94	0.0410	Main Channel
47.79	255.93	0.0410	Main Channel
48.07	255.95	0.0410	Main Channel
49.01	256.02	0.0410	Main Channel
49.66	256.06	0.0410 /0.0930	Main Channel

50.09	256.08	0.0930	
66.82	257.59	0.0930	
68.76	257.78	0.0930	
85.17	263.07	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.03	255.96	.201E+02	0.0	0.13	49.56
0.40	256.33	.103E+04	2.0	0.75	8.68
0.78	256.71	.305E+04	7.5	0.95	6.80
1.15	257.08	.613E+04	16.9	1.07	6.03
1.53	257.46	.104E+05	31.3	1.17	5.53
1.90	257.83	.158E+05	52.0	1.28	5.06
2.28	258.21	.218E+05	80.4	1.43	4.52
2.65	258.58	.281E+05	114.3	1.58	4.10
3.02	258.95	.348E+05	153.7	1.72	3.78
3.40	259.33	.419E+05	197.9	1.84	3.53
3.77	259.70	.493E+05	247.2	1.95	3.33
4.15	260.08	.573E+05	302.2	2.05	3.16
4.52	260.45	.658E+05	356.5	2.11	3.08
4.89	260.82	.750E+05	426.3	2.21	2.93
5.27	261.20	.846E+05	502.3	2.31	2.81
5.64	261.57	.945E+05	584.5	2.41	2.69
6.02	261.95	.105E+06	673.1	2.50	2.60
6.39	262.32	.116E+06	768.0	2.59	2.51
6.77	262.70	.127E+06	869.4	2.67	2.43

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1040)	468.44	1.98	7.00	8.52	0.40	0.75
OUTFLOW: ID= 1 (5040)	468.44	2.42	6.50	8.52	0.43	0.76

CALIB			
NASHYD (0040)	Area (ha)=	5.95	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	8.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.28	

Unit Hyd Qpeak (cms)= 0.797

PEAK FLOW	(cms)=	0.081 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	8.721
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.208

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2040) = 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0040):	5.95	0.081	5.25	8.72
+ ID2= 2 (5040):	468.44	2.422	6.50	8.52
ID = 3 (2040):	474.39	2.449	6.50	8.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1043)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2040):		474.39	2.449	6.50	8.52
+ ID2= 2 (2050):		825.84	3.585	7.50	8.25
ID = 3 (1043):		1300.23	5.570	7.25	8.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5043)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5043.0) ------>

Distance	Elevation	Manning	
0.00	258.27	0.0930	
9.62	255.23	0.0930	
22.15	254.22	0.0930	
41.61	253.70	0.0930 /0.0410	Main Channel
42.11	253.67	0.0410	Main Channel
44.98	252.56	0.0410	Main Channel
45.13	252.60	0.0410	Main Channel
47.49	253.41	0.0410 /0.0930	Main Channel
50.17	253.96	0.0930	
52.43	253.89	0.0930	
55.10	253.86	0.0930	
58.88	253.98	0.0930	
61.24	253.95	0.0930	
105.33	254.48	0.0930	
118.27	258.71	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	252.84	.132E+03	0.1	0.25	38.42
0.57	253.13	.519E+03	0.4	0.39	24.35
0.85	253.41	.116E+04	1.0	0.51	18.63
1.15	253.71	.219E+04	2.4	0.62	15.46
1.46	254.02	.541E+04	5.0	0.53	17.97
1.76	254.32	.150E+05	10.9	0.42	23.00
2.06	254.62	.295E+05	22.1	0.43	22.31
2.37	254.93	.454E+05	38.6	0.49	19.62
2.67	255.23	.622E+05	59.5	0.55	17.40
2.98	255.54	.795E+05	85.3	0.62	15.52
3.28	255.84	.971E+05	115.1	0.68	14.06
3.58	256.14	.115E+06	148.5	0.74	12.91
3.89	256.45	.133E+06	185.5	0.80	11.98
4.19	256.75	.152E+06	226.0	0.86	11.20
4.49	257.05	.171E+06	269.9	0.91	10.55
4.80	257.36	.190E+06	317.2	0.96	9.99
5.10	257.66	.210E+06	367.7	1.01	9.51
5.41	257.97	.230E+06	421.4	1.06	9.09
5.71	258.27	.250E+06	478.3	1.10	8.71

	<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1043)		1300.23	5.57	7.25	8.35	1.49	0.52
OUTFLOW: ID= 1 (5043)		1300.23	5.44	7.50	8.35	1.48	0.52

CALIB					
NASHYD (0043)	Area	(ha)= 12.70	Curve Number	(CN)= 73.0	
ID= 1 DT=15.0 min	Ia	(mm)= 9.20	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.41				

Unit Hyd Qpeak (cms)= 1.195

PEAK FLOW (cms)= 0.134 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 8.416
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.200

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2043)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0043):		12.70	0.134	5.25	8.42
+ ID2= 2 (5043):		1300.23	5.438	7.50	8.35
ID = 3 (2043):		1312.93	5.477	7.50	8.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0014)	Area	(ha)= 82.92	Curve Number	(CN)= 75.0	
ID= 1 DT=15.0 min	Ia	(mm)= 8.60	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 1.27				

Unit Hyd Qpeak (cms)= 2.502

PEAK FLOW (cms)= 0.541 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 9.448
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.225

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5013)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5013.0) ------>

Distance	Elevation	Manning
0.00	275.77	0.0930
14.35	275.60	0.0930
43.06	272.29	0.0930
99.28	270.53	0.0930

<------ DATA FOR SECTION (5013.0) ------> (continued)

Distance	Elevation	Manning	
104.12	270.24	0.0930	
107.91	270.08	0.0930	
113.53	269.94	0.0930 /0.0410	Main Channel
117.24	269.85	0.0410	Main Channel
117.42	269.85	0.0410	Main Channel
122.48	269.97	0.0410 /0.0930	Main Channel
149.76	270.95	0.0930	
171.23	275.18	0.0930	
223.54	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	269.94	.752E+03	0.1	0.29	124.05
0.40	270.25	.123E+05	4.2	0.71	49.57
0.70	270.55	.339E+05	14.4	0.90	39.14
1.01	270.86	.661E+05	31.5	1.01	34.91
1.32	271.17	.109E+06	58.4	1.14	31.11
1.62	271.47	.160E+06	95.2	1.27	27.97
1.93	271.78	.218E+06	141.7	1.38	25.60
2.24	272.09	.283E+06	198.6	1.49	23.75
2.54	272.39	.356E+06	268.4	1.60	22.08
2.85	272.70	.432E+06	352.8	1.74	20.41
3.16	273.01	.511E+06	447.7	1.86	19.02
3.47	273.32	.593E+06	553.0	1.98	17.87
3.77	273.62	.677E+06	668.6	2.10	16.89
4.08	273.93	.765E+06	794.4	2.21	16.05
4.39	274.24	.855E+06	930.4	2.31	15.31
4.69	274.54	.948E+06	1076.7	2.41	14.67
5.00	274.85	.104E+07	1233.2	2.51	14.10
5.31	275.16	.114E+07	1400.1	2.61	13.59
5.61	275.46	.125E+07	1528.9	2.61	13.58

	<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0014)	82.92	0.54	6.50	9.45	0.12	0.31
OUTFLOW: ID= 1 (5013)	82.92	0.36	8.25	9.44	0.11	0.30

CALIB					
NASHYD (0013)	Area	(ha)= 118.75	Curve Number	(CN)= 72.0	
ID= 1 DT=15.0 min	Ia	(mm)= 9.70	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 1.20				

Unit Hyd Qpeak (cms)= 3.792

PEAK FLOW (cms)= 0.667 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 7.958
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.189

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2013)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

ID1= 1 (0013):	118.75	0.667	6.50	7.96
+ ID2= 2 (5013):	82.92	0.362	8.25	9.44
ID = 3 (2013):	201.67	0.933	7.00	8.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0002)	Area	(ha)= 141.56	Curve Number	(CN)= 72.0	
ID= 1 DT=15.0 min	Ia	(mm)= 9.90	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 1.27				

Unit Hyd Qpeak (cms)= 4.261

PEAK FLOW (cms)= 0.759 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 7.872
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.187

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0003)	Area	(ha)= 57.29	Curve Number	(CN)= 72.0	
ID= 1 DT=15.0 min	Ia	(mm)= 9.90	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.86				

Unit Hyd Qpeak (cms)= 2.533

PEAK FLOW (cms)= 0.375 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 7.869
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.187

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1006)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0002):		141.56	0.759	6.75	7.87
+ ID2= 2 (0003):		57.29	0.375	6.00	7.87
ID = 3 (1006):		198.85	1.109	6.50	7.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5006)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5006.0) ------>

Distance	Elevation	Manning
0.00	287.32	0.0930
23.48	286.69	0.0930

44.41	286.64	0.0930	
58.95	286.40	0.0930	
73.88	284.37	0.0930 /0.0410	Main Channel
84.88	284.02	0.0410	Main Channel
87.92	283.91	0.0410	Main Channel
95.02	284.40	0.0410 /0.0930	Main Channel
111.06	285.99	0.0930	
138.74	286.46	0.0930	
172.31	287.17	0.0930	
211.16	287.27	0.0930	
236.90	287.59	0.0930	
267.08	287.45	0.0930	
312.04	288.42	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	284.06	.461E+03	0.1	0.24	63.72
0.31	284.22	.190E+04	0.8	0.38	40.19
0.46	284.37	.434E+04	2.4	0.50	30.58
0.64	284.55	.816E+04	6.4	0.73	21.22
0.83	284.74	.125E+05	12.1	0.89	17.25
1.01	284.92	.175E+05	19.4	1.03	15.03
1.20	285.11	.229E+05	28.1	1.13	13.60
1.38	285.29	.290E+05	38.4	1.23	12.58
1.57	285.48	.355E+05	50.1	1.30	11.82
1.75	285.66	.427E+05	63.4	1.37	11.21
1.94	285.85	.503E+05	78.2	1.44	10.73
2.12	286.03	.586E+05	94.1	1.49	10.38
2.30	286.21	.684E+05	110.8	1.50	10.30
2.49	286.40	.804E+05	130.2	1.50	10.29
2.67	286.58	.952E+05	150.2	1.46	10.56
2.86	286.77	.115E+06	173.2	1.39	11.06
3.04	286.95	.139E+06	203.8	1.36	11.36
3.23	287.14	.166E+06	238.3	1.33	11.58
3.41	287.32	.198E+06	269.7	1.26	12.23

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1006)	198.85	1.11	6.50	7.87	0.34	0.40
OUTFLOW: ID= 1 (5006)	198.85	1.01	7.00	7.87	0.33	0.40

CALIB			
NASHYD (0006)	Area (ha)= 26.09	Curve Number (CN)= 70.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.30	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.65		

Unit Hyd Qpeak (cms)= 1.533

PEAK FLOW (cms)= 0.203 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 7.955
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.189

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2006)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0006):	26.09	0.203	5.75	7.96
	+ ID2= 2 (5006):	198.85	1.011	7.00	7.87
	ID = 3 (2006):	224.94	1.127	7.00	7.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0001)	Area (ha)= 255.18	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.71		

Unit Hyd Qpeak (cms)= 5.686

PEAK FLOW (cms)= 1.216 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 8.308
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.198

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1008)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0001):	255.18	1.216	7.25	8.31
	+ ID2= 2 (2006):	224.94	1.127	7.00	7.88
	ID = 3 (1008):	480.12	2.326	7.25	8.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5008)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5008.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
5.09	285.37	0.0930	
133.83	283.19	0.0930	
146.67	282.58	0.0930	
159.56	277.24	0.0930	
181.65	275.77	0.0930 /0.0410	Main Channel
184.90	275.43	0.0410	Main Channel
185.21	275.45	0.0410	Main Channel
187.80	275.63	0.0410	Main Channel
191.31	275.97	0.0410 /0.0930	Main Channel
209.70	278.15	0.0930	
221.15	281.88	0.0930	
261.53	283.57	0.0930	
304.31	284.15	0.0930	
337.36	284.93	0.0930	

377.51	285.01	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	275.77	.187E+04	0.8	0.58	40.13
0.85	276.28	.116E+05	8.7	1.05	22.11
1.35	276.78	.296E+05	26.7	1.25	18.51
1.86	277.29	.559E+05	56.0	1.39	16.65
2.36	277.79	.880E+05	99.4	1.57	14.74
2.87	278.30	.124E+06	155.5	1.74	13.27
3.37	278.80	.162E+06	224.4	1.92	12.03
3.88	279.31	.202E+06	304.6	2.09	11.06
4.38	279.81	.244E+06	395.9	2.25	10.28
4.89	280.32	.288E+06	498.0	2.40	9.64
5.39	280.82	.334E+06	611.1	2.54	9.11
5.90	281.33	.382E+06	735.0	2.67	8.66
6.40	281.83	.432E+06	869.8	2.79	8.28
6.91	282.34	.487E+06	982.8	2.80	8.25
7.41	282.84	.552E+06	1089.7	2.74	8.44
7.92	283.35	.633E+06	1183.0	2.59	8.91
8.42	283.85	.742E+06	1270.3	2.37	9.74
8.93	284.36	.897E+06	1446.3	2.24	10.33
9.43	284.86	.109E+07	1711.6	2.18	10.60

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1008)	480.12	2.33	7.25	8.11	0.44	0.63
OUTFLOW: ID= 1 (5008)	480.12	2.19	7.75	8.11	0.43	0.63

CALIB			
NASHYD (0008)	Area (ha)= 39.23	Curve Number (CN)= 70.0	
ID= 1 DT=15.0 min	Ia (mm)= 10.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

Unit Hyd Qpeak (cms)= 2.153

PEAK FLOW (cms)= 0.252 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 6.982
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2008)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0008):	39.23	0.252	5.75	6.98
	+ ID2= 2 (5008):	480.12	2.189	7.75	8.11
	ID = 3 (2008):	519.35	2.305	7.75	8.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0010)	Area (ha)= 32.74	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.20	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.85		

Unit Hyd Qpeak (cms)= 1.473

PEAK FLOW (cms)= 0.236 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 8.484
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.202

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1017)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0010):	32.74	0.236	6.00	8.48
	+ ID2= 2 (2008):	519.35	2.305	7.75	8.02
	ID = 3 (1017):	552.09	2.438	7.50	8.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5017)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5017.0) ------>

Distance	Elevation	Manning	
0.00	284.04	0.0930	
46.21	283.58	0.0930	
60.07	282.83	0.0930	
78.57	282.39	0.0930	
85.85	282.05	0.0930	
121.94	278.24	0.0930	
123.09	278.18	0.0930	
129.01	277.91	0.0930	
139.25	277.70	0.0930	
148.64	277.62	0.0930	
150.40	277.60	0.0930 /0.0410	Main Channel
153.11	277.50	0.0410	Main Channel
156.99	277.64	0.0410 /0.0930	Main Channel
169.99	278.18	0.0930	
199.99	281.62	0.0930	
209.74	282.18	0.0930	
218.36	282.39	0.0930	
234.68	282.62	0.0930	
330.59	282.90	0.0930	
341.39	283.03	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	277.60	.885E+03	0.1	0.24	223.44
0.39	277.89	.204E+05	2.8	0.44	123.11
0.67	278.17	.572E+05	10.5	0.59	91.21

0.96	278.46	.103E+06	23.8	0.74	72.31
1.24	278.74	.154E+06	42.1	0.88	61.07
1.53	279.03	.210E+06	65.0	1.00	53.76
1.81	279.31	.270E+06	92.7	1.11	48.56
2.10	279.60	.336E+06	125.3	1.21	44.64
2.39	279.89	.406E+06	162.7	1.30	41.55
2.67	280.17	.480E+06	205.2	1.38	39.03
2.96	280.46	.560E+06	252.8	1.46	36.93
3.24	280.74	.645E+06	305.8	1.53	35.14
3.53	281.03	.734E+06	364.2	1.60	33.59
3.82	281.32	.828E+06	428.2	1.67	32.23
4.10	281.60	.927E+06	497.9	1.73	31.02
4.39	281.89	.103E+07	569.1	1.78	30.21
4.67	282.17	.114E+07	642.6	1.81	29.66
4.96	282.46	.127E+07	698.4	1.78	30.27
5.24	282.74	.143E+07	715.3	1.62	33.24

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1017)	552.09	2.44	7.50	8.05	0.35	0.40
OUTFLOW: ID= 1 (5017)	552.09	1.59	9.25	8.05	0.26	0.32

CALIB	
NASHYD (0017)	Area (ha)= 148.68 Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)= 8.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.11

Unit Hyd Qpeak (cms)= 5.125

PEAK FLOW (cms)= 0.834 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 7.601
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.181

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2017)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0017):	148.68	0.834	6.50	7.60	
+ ID2= 2 (5017):	552.09	1.586	9.25	8.05	
ID = 3 (2017):	700.77	1.950	8.50	7.95	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1033)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2013):	201.67	0.933	7.00	8.57	
+ ID2= 2 (2017):	700.77	1.950	8.50	7.95	

ID = 3 (1033): 902.44 2.726 8.25 8.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5033)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5033.0) ------>

Distance	Elevation	Manning	
0.00	262.20	0.0930	
7.96	260.93	0.0930	
28.15	259.22	0.0930	
39.76	257.39	0.0930	
55.06	257.09	0.0930	
63.73	256.73	0.0930	
75.56	256.77	0.0930	
86.35	257.05	0.0930 /0.0410	Main Channel
88.50	256.67	0.0410	Main Channel
89.43	256.54	0.0410	Main Channel
90.89	256.33	0.0410	Main Channel
92.64	256.68	0.0410	Main Channel
94.27	257.00	0.0410 /0.0930	Main Channel
113.17	257.17	0.0930	
126.05	259.64	0.0930	
159.89	261.07	0.0930	
170.84	262.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	256.55	.142E+03	0.1	0.35	22.74
0.45	256.78	.731E+03	0.7	0.45	17.70
0.67	257.00	.357E+04	3.0	0.40	19.98
0.98	257.31	.121E+05	12.3	0.49	16.35
1.30	257.63	.234E+05	30.9	0.63	12.60
1.61	257.94	.352E+05	57.0	0.77	10.29
1.93	258.26	.476E+05	89.8	0.90	8.85
2.24	258.57	.606E+05	128.7	1.01	7.85
2.56	258.89	.741E+05	173.7	1.12	7.11
2.87	259.20	.882E+05	224.6	1.22	6.54
3.18	259.51	.103E+06	279.2	1.30	6.14
3.50	259.83	.119E+06	335.2	1.35	5.89
3.81	260.14	.136E+06	396.3	1.39	5.71
4.13	260.46	.155E+06	466.0	1.44	5.54
4.44	260.77	.175E+06	544.3	1.48	5.37
4.76	261.09	.198E+06	634.2	1.53	5.19
5.07	261.40	.221E+06	740.3	1.60	4.98
5.39	261.72	.245E+06	854.6	1.66	4.78
5.70	262.03	.270E+06	977.2	1.73	4.61

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1033)	902.44	2.73	8.25	8.09	0.65	0.40
OUTFLOW: ID= 1 (5033)	902.44	2.70	8.50	8.09	0.64	0.40

CALIB	
NASHYD (0033)	Area (ha)= 14.99 Curve Number (CN)= 72.0

ID= 1 DT=15.0 min	Ia (mm)= 9.80 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.51

Unit Hyd Qpeak (cms)= 1.118

PEAK FLOW (cms)= 0.132 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 7.888
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.188

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2033)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0033):	14.99	0.132	5.50	7.89	
+ ID2= 2 (5033):	902.44	2.699	8.50	8.09	
ID = 3 (2033):	917.43	2.727	8.50	8.09	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0034)	Area (ha)= 66.29 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 8.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.32

Unit Hyd Qpeak (cms)= 1.917

PEAK FLOW (cms)= 0.399 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 8.954
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.213

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1037)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0034):	66.29	0.399	6.75	8.95	
+ ID2= 2 (2033):	917.43	2.727	8.50	8.09	
ID = 3 (1037):	983.72	3.001	8.25	8.15	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5037)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5037.0) ------>

Distance	Elevation	Manning

0.00	260.96	0.0930
3.52	260.75	0.0930
32.87	255.52	0.0930
40.76	254.86	0.0930 /0.0410 Main Channel
42.91	253.65	0.0410 Main Channel
48.59	254.84	0.0410 /0.0930 Main Channel
80.76	254.83	0.0930
96.56	255.53	0.0930
112.29	261.81	0.0930
119.25	261.97	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.95	.102E+03	0.1	0.40	14.86
0.60	254.25	.410E+03	0.7	0.63	9.36
0.89	254.54	.922E+03	2.2	0.82	7.14
1.19	254.84	.170E+04	4.6	0.97	6.10
1.60	255.25	.848E+04	16.3	0.68	8.67
2.01	255.66	.172E+05	38.2	0.78	7.50
2.41	256.06	.268E+05	70.6	0.93	6.32
2.82	256.47	.368E+05	111.6	1.07	5.50
3.23	256.88	.474E+05	160.7	1.20	4.91
3.64	257.29	.584E+05	217.8	1.32	4.47
4.05	257.70	.699E+05	282.6	1.43	4.12
4.45	258.10	.818E+05	355.1	1.53	3.84
4.86	258.51	.943E+05	435.2	1.63	3.61
5.27	258.92	.107E+06	522.9	1.72	3.42
5.68	259.33	.121E+06	618.3	1.81	3.25
6.09	259.74	.134E+06	721.4	1.90	3.11
6.49	260.14	.149E+06	832.2	1.98	2.98
6.90	260.55	.164E+06	950.8	2.05	2.87
7.31	260.96	.179E+06	1070.9	2.11	2.79

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1037)	983.72	3.00	8.25	8.15	0.99	0.87
OUTFLOW: ID= 1 (5037)	983.72	3.00	8.25	8.15	0.99	0.87

CALIB	
NASHYD (0037)	Area (ha)= 10.16 Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)= 8.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.36

Unit Hyd Qpeak (cms)= 1.090

PEAK FLOW (cms)= 0.133 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 9.365
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.223

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2037)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0037):	10.16	0.133	5.25	9.36
+ ID2= 2 (5037):	983.72	2.999	8.25	8.15
ID = 3 (2037):	993.88	3.022	8.25	8.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1049)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2037):	993.88	3.022	8.25	8.16
+ ID2= 2 (2043):	1312.93	5.477	7.50	8.35
ID = 3 (1049):	2306.81	8.384	7.75	8.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5049)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5049.0) ------>

Distance	Elevation	Manning	
0.00	263.74	0.0930	
50.53	263.28	0.0930	
63.93	262.47	0.0930	
87.97	255.04	0.0930	
98.77	253.73	0.0930 /0.0410	Main Channel
108.22	253.09	0.0410	Main Channel
111.56	253.07	0.0410	Main Channel
112.80	253.14	0.0410	Main Channel
114.25	253.67	0.0410 /0.0930	Main Channel
116.67	254.81	0.0930	
143.69	255.06	0.0930	
162.94	255.55	0.0930	
197.87	263.69	0.0930	
207.51	264.45	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.37	.221E+04	0.5	0.27	69.99
0.60	253.67	.629E+04	2.2	0.40	47.02
1.19	254.26	.184E+05	11.1	0.68	27.66
1.78	254.85	.348E+05	25.8	0.84	22.46
2.38	255.45	.732E+05	49.7	0.77	24.52
2.97	256.04	.125E+06	87.5	0.79	23.92
3.56	256.63	.181E+06	136.9	0.86	22.04
4.15	257.22	.240E+06	197.0	0.93	20.28
4.75	257.82	.301E+06	267.3	1.01	18.79
5.34	258.41	.366E+06	347.6	1.08	17.55
5.93	259.00	.434E+06	437.8	1.15	16.52
6.52	259.59	.505E+06	537.8	1.21	15.64
7.12	260.19	.579E+06	647.6	1.27	14.89
7.71	260.78	.655E+06	767.3	1.33	14.24
8.30	261.37	.735E+06	896.9	1.38	13.66
8.89	261.96	.818E+06	1036.6	1.44	13.16
9.49	262.56	.904E+06	1183.2	1.48	12.74

10.08	263.15	.997E+06	1325.9	1.51	12.53
10.67	263.74	.111E+07	1426.8	1.46	12.94

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1049)	2306.81	8.38	7.75	8.26	1.01	0.56
OUTFLOW: ID= 1 (5049)	2306.81	8.11	8.25	8.26	0.99	0.55

CALIB
NASHYD (0049) | ID= 1 DT=15.0 min

Area (ha)= 30.46 Curve Number (CN)= 74.0
Ia (mm)= 9.10 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.60

Unit Hyd Qpeak (cms)= 1.949

PEAK FLOW (cms)= 0.279 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 8.845
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.211

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2049)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0049):	30.46	0.279	5.50	8.84
+ ID2= 2 (5049):	2306.81	8.106	8.25	8.26
ID = 3 (2049):	2337.27	8.183	8.00	8.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1039)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2049):	2337.27	8.183	8.00	8.27
+ ID2= 2 (2063):	2379.05	7.558	9.50	7.91
ID = 3 (1039):	4716.32	15.181	8.75	8.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5039)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5039.0) ------>

Distance	Elevation	Manning
0.00	260.00	0.0930
105.82	257.72	0.0930
137.40	257.00	0.0930

163.69	256.37	0.0930			
237.19	256.95	0.0930			
283.24	256.00	0.0930			
335.42	256.00	0.0930			
341.91	256.25	0.0930			
370.46	254.68	0.0930			
405.46	252.00	0.0930			
421.66	251.26	0.0930 /0.0410	Main Channel		
425.14	251.00	0.0410	Main Channel		
430.43	250.00	0.0410	Main Channel		
434.15	250.00	0.0410	Main Channel		
436.43	250.89	0.0410 /0.0930	Main Channel		
443.70	251.29	0.0930			
472.16	252.35	0.0930			
485.36	252.50	0.0930			
501.02	253.82	0.0930			
541.72	263.04	0.0930			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	250.44	.417E+04	0.9	0.39	73.75
0.89	250.89	.110E+05	3.6	0.57	50.45
1.43	251.43	.282E+05	10.5	0.64	44.71
1.96	251.96	.672E+05	25.6	0.65	43.77
2.50	252.50	.129E+06	49.3	0.65	43.75
3.03	253.03	.215E+06	87.2	0.70	41.04
3.57	253.57	.313E+06	137.1	0.75	38.00
4.11	254.11	.422E+06	200.2	0.81	35.13
4.64	254.64	.541E+06	276.8	0.88	32.56
5.18	255.18	.669E+06	364.3	0.93	30.60
5.71	255.71	.808E+06	465.2	0.99	28.96
6.25	256.25	.985E+06	546.0	0.95	30.06
6.78	256.78	.124E+07	671.8	0.93	30.86
7.32	257.32	.159E+07	859.8	0.93	30.80
7.86	257.86	.196E+07	1093.1	0.96	29.92
8.39	258.39	.236E+07	1360.3	0.99	28.92
8.93	258.93	.278E+07	1662.5	1.02	27.90
9.46	259.46	.323E+07	2000.4	1.06	26.92
10.00	260.00	.370E+07	2374.8	1.10	25.99

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1039)	4716.32	15.18	8.75	8.09	1.59	0.64
OUTFLOW: ID= 1 (5039)	4716.32	14.47	9.50	8.09	1.56	0.64

CALIB
NASHYD (0039) | ID= 1 DT=15.0 min

Area (ha)= 81.93 Curve Number (CN)= 71.0
Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.75

Unit Hyd Qpeak (cms)= 4.145

PEAK FLOW (cms)= 0.538 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 7.455
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.177

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2039)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0039):	81.93	0.538	5.75	7.45
+ ID2= 2 (5039):	4716.32	14.471	9.50	8.09
ID = 3 (2039):	4798.25	14.572	9.50	8.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0454) | ID= 1 DT=15.0 min

Area (ha)= 15.15
Total Imp(%)= 55.00 Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.33	6.82
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	317.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=	over (min)	19.32 15.00	18.85 15.00
Storage Coeff.	(min)=	1.80 (ii)	9.00 (ii)
Unit Hyd. Tpeak	(min)=	15.00	15.00
Unit Hyd. peak	(cms)=	0.11	0.09
			TOTALS
PEAK FLOW	(cms)=	0.35	0.35 0.700 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25 5.25
RUNOFF VOLUME	(mm)=	41.00	24.68 31.70
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.98	0.59 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9119)
Inlet Cap.=2.458
#of Inlets= 1
Total(cms)= 2.5 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	15.15	0.70	5.25	31.70
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	15.15	0.70	5.25	31.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| RESERVOIR (6119) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.7140     0.1930
                         0.0220     0.0770   |   1.0810     0.2120
                         0.0300     0.1400   |   1.4980     0.2320
                         0.1630     0.1580   |   2.4580     0.2560
                         0.4020     0.1760   |   0.0000     0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9119)     15.150      0.700      5.25      31.70
     OUTFLOW: ID= 1 (6119)     15.150      0.663      5.25      31.64

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.83
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1919

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-------------------
| ADD HYD   (4119) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9119 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6119):    15.15   0.663     5.25    31.64
      + ID2= 2 (9119):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4119):    15.15   0.663     5.25    31.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (3039) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2039):  4798.25  14.572     9.50     8.08
      + ID2= 2 (4119):    15.15   0.663     5.25    31.64
        ================================================
        ID = 3 (3039):  4813.40  14.603     9.50     8.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0029)  |   Area    (ha)=  90.39   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   8.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.955

     PEAK FLOW       (cms)=   0.562 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=   7.479
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.178
```


(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0029):    90.39   0.562     6.00     7.48
      + ID2= 2 (3039):  4813.40  14.603     9.50     8.15
        ================================================
        ID = 3 (1038):  4903.79  14.726     9.50     8.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5038) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (5038.0) ------>
             Distance      Elevation       Manning
                 0.00         264.96        0.0930
                17.37         263.50        0.0930
                57.10         253.15        0.0930
                82.21         251.50        0.0930
               173.97         249.50        0.0930
               230.01         246.00        0.0930
               254.43         246.00        0.0930
               281.97         245.79        0.0930
               286.56         245.45        0.0930
               287.80         245.00    0.0930 /0.0410  Main Channel
               288.00         244.50        0.0410      Main Channel
               292.35         244.50        0.0410      Main Channel
               292.94         245.00    0.0410 /0.0930  Main Channel
               315.83         257.40        0.0930
               330.45         261.99        0.0930

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.50   245.00    .228E+04         1.3          0.53      30.29
        1.39   245.89    .101E+05         8.0          0.77      20.93
        2.29   246.79    .679E+05        38.7          0.55      29.25
        3.18   247.68    .143E+06       101.6          0.69      23.38
        4.08   248.58    .231E+06       194.8          0.81      19.76
        4.97   249.47    .333E+06       319.4          0.92      17.38
        5.87   250.37    .460E+06       449.5          0.94      17.04
        6.76   251.26    .623E+06       634.5          0.98      16.36
        7.65   252.15    .817E+06       913.9          1.08      14.89
        8.55   253.05    .102E+07      1260.8          1.18      13.54
        9.44   253.94    .124E+07      1690.1          1.31      12.24
       10.34   254.84    .146E+07      2176.8          1.43      11.20
       11.23   255.73    .169E+07      2715.7          1.55      10.37
       12.12   256.62    .192E+07      3305.4          1.66       9.68
       13.02   257.52    .215E+07      3944.1          1.76       9.11
       13.91   258.41    .239E+07      4628.0          1.86       8.62
       14.81   259.31    .264E+07      5361.6          1.95       8.21
       15.70   260.20    .289E+07      6144.6          2.04       7.84
       16.60   261.10    .315E+07      6976.6          2.13       7.52

                                     <---- hydrograph ---->   <-pipe / channel->
```



```
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1038) 4903.79   14.73    9.50   8.14      1.59      0.70
     OUTFLOW: ID= 1 (5038) 4903.79   14.53   10.00   8.14      1.58      0.71

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| NASHYD    (0038)  |   Area    (ha)=  18.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.42

     Unit Hyd Qpeak  (cms)=   1.701

     PEAK FLOW       (cms)=   0.193 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=   8.427
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.201

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0038):    18.88   0.193     5.25     8.43
      + ID2= 2 (5038):  4903.79  14.528    10.00     8.14
        ================================================
        ID = 3 (2038):  4922.67  14.539    10.00     8.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| NASHYD    (0023)  |   Area    (ha)= 185.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   8.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.25

     Unit Hyd Qpeak  (cms)=   5.685

     PEAK FLOW       (cms)=   1.224 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=   9.448
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.225

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1051) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0023):   185.77   1.224     6.50     9.45
      + ID2= 2 (2038):  4922.67  14.539    10.00     8.14
        ================================================
        ID = 3 (1051):  5108.44  14.915     9.75     8.19
```


NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0449)  |   Area    (ha)=  59.38
|ID= 1 DT=15.0 min  |   Total Imp(%)=  46.00   Dir. Conn.(%)=  36.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       27.31         32.07
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.90
     Length            (m)=      629.18         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       19.32         15.41
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        2.40 (ii)    15.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.11          0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.15          1.28          2.424 (iii)
     TIME TO PEAK    (hrs)=        5.00          5.25          5.25
     RUNOFF VOLUME    (mm)=       41.00         21.12         28.27
     TOTAL RAINFALL   (mm)=       42.00         42.00         42.00
     RUNOFF COEFFICIENT   =        0.98          0.50          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| DUHYD     (9118) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  59.38      2.42      5.25   28.27
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  59.38      2.42      5.25   28.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| RESERVOIR (6118) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  17.0000     0.4500
                         1.1800     0.3000   |   0.0000     0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9118)     59.380      2.424      5.25      28.27
     OUTFLOW: ID= 1 (6118)     59.380      2.461      5.25      28.27
```

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)=101.52
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3138

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------

-------------------
| ADD HYD   (4118) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9118 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6118):    59.38   2.461     5.25    28.27
      + ID2= 2 (9118):     0.00   0.000     0.00     0.00
        ==========================================
        ID = 3 (4118):    59.38   2.461     5.25    28.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (3051) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1051):  5108.44  14.915     9.75     8.19
      + ID2= 2 (4118):    59.38   2.461     5.25    28.27
        ==========================================
        ID = 3 (3051):  5167.82  15.046     9.75     8.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

-------------------
| ROUTE CHN (5051) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (5051.0) ------>
                Distance      Elevation      Manning
                   0.00         254.99        0.0930
                  45.56         252.50        0.0930
                  55.02         252.50        0.0930
                  73.97         254.29        0.0930
                 227.89         251.34        0.0930
                 260.10         248.27        0.0930
                 305.08         247.61        0.0930
                 342.61         243.00        0.0930
                 370.31         242.00        0.0930
                 383.77         242.50        0.0930
                 407.52         242.50        0.0930
                 427.35         242.00        0.0930
                 428.40         241.76    0.0930 /0.0410  Main Channel
                 429.92         241.00        0.0410      Main Channel
                 437.00         241.00        0.0410      Main Channel
                 437.12         241.50    0.0410 /0.0930  Main Channel
                 439.50         242.50        0.0930
                 471.55         242.50        0.0930
                 491.51         244.88        0.0930
                 515.66         256.99        0.0930
```



```
      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.50    241.50    .856E+04        2.7         0.70      53.03
        1.21    242.21    .290E+05       13.1         1.01      36.81
        1.92    242.92    .174E+06       49.5         0.64      58.53
        2.63    243.63    .393E+06      138.4         0.79      47.30
        3.34    244.34    .630E+06      269.1         0.96      39.04
        4.05    245.05    .886E+06      439.5         1.11      33.60
        4.76    245.76    .116E+07      651.0         1.26      29.59
        5.47    246.47    .144E+07      898.5         1.40      26.65
        6.18    247.18    .173E+07     1181.0         1.53      24.40
        6.89    247.89    .204E+07     1436.7         1.58      23.65
        7.60    248.60    .241E+07     1738.7         1.62      23.08
        8.31    249.31    .280E+07     2162.7         1.73      21.58
        9.02    250.02    .321E+07     2629.6         1.84      20.32
        9.73    250.73    .363E+07     3139.3         1.94      19.25
       10.44    251.44    .406E+07     3663.4         2.02      18.48
       11.15    252.15    .454E+07     4085.1         2.01      18.52
       11.86    252.86    .509E+07     4492.2         1.98      18.89
       12.57    253.57    .574E+07     5031.6         1.96      19.02
       13.28    254.28    .648E+07     5692.0         1.97      18.99

                                     <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (3051) 5167.82    15.05    9.75   8.42      1.25      0.98
     OUTFLOW: ID= 1 (5051) 5167.82    14.71   10.50   8.42      1.24      0.99


-------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD    (0051) |   Area    (ha)=  73.29   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.70

     Unit Hyd Qpeak  (cms)=   3.971

     PEAK FLOW       (cms)=   0.721 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  10.213
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.243

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2051) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0051):    73.29   0.721     5.75    10.21
      + ID2= 2 (5051):  5167.82  14.712    10.50     8.42
        ==========================================
        ID = 3 (2051):  5241.11  14.769    10.50     8.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0067) |   Area    (ha)=  23.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  21.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      5.46         18.29
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          2.10
     Length            (m)=    397.91         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     19.32          8.76
               over (min)      15.00         30.00
     Storage Coeff.  (min)=      2.40 (ii)    12.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.11          0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.27          0.45          0.714 (iii)
     TIME TO PEAK    (hrs)=      5.00          5.25           5.25
     RUNOFF VOLUME    (mm)=     41.00         14.52          20.08
     TOTAL RAINFALL   (mm)=     42.00         42.00          42.00
     RUNOFF COEFFICIENT   =      0.98          0.35           0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2467) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0067):    23.75   0.714     5.25    20.08
      + ID2= 2 (2051):  5241.11  14.769    10.50     8.45
        ==========================================
        ID = 3 (2467):  5264.86  14.788    10.50     8.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0467) |   Area    (ha)=  22.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  39.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     10.49         11.83
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          2.70
     Length            (m)=    385.75         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     19.32         14.76
               over (min)      15.00         30.00
     Storage Coeff.  (min)=      1.80 (ii)    11.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.11          0.08
                                                        *TOTALS*
```



```
     PEAK FLOW       (cms)=      0.47          0.46          0.932 (iii)
     TIME TO PEAK    (hrs)=      5.00          5.25           5.25
     RUNOFF VOLUME    (mm)=     41.00         20.76          28.65
     TOTAL RAINFALL   (mm)=     42.00         42.00          42.00
     RUNOFF COEFFICIENT   =      0.98          0.49           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9268) |
| Inlet Cap.=0.026 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  22.32      0.93      5.25   28.65
     ==========================================================
     MAJOR SYS.(ID= 2):  19.15      0.91      5.25   28.65
     MINOR SYS.(ID= 3):   3.17      0.03      2.50   28.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6268) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0260     0.3400

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9268)      3.167     0.026     2.50      28.65
     OUTFLOW: ID= 1 (6268)      3.167     0.006    12.50      27.61

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.11
                TIME SHIFT OF PEAK FLOW          (min)=600.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0787

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-------------------
| ADD HYD   (4268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6268):     3.17   0.006    12.50    27.61
      + ID2= 2 (9268):    19.15   0.906     5.25    28.65
        ==========================================
        ID = 3 (4268):    22.32   0.908     5.25    28.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```

```
                        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2467):  5264.86  14.788    10.50     8.50
       + ID2= 2 (4268):    22.32   0.908     5.25    28.50
         ================================================
         ID = 3 (1069):  5287.18  14.793    10.50     8.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5069) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5069.0) ------>

Distance	Elevation	Manning	
0.00	249.35	0.0930	
17.46	245.50	0.0930	
49.96	240.00	0.0930	
64.40	240.00	0.0930	
85.68	240.46	0.0930	
104.52	238.50	0.0930	
119.89	237.61	0.0930	
150.03	237.50	0.0930	
170.81	238.00	0.0930	
198.79	238.00	0.0930	
200.49	236.53	0.0930 /0.0410	Main Channel
201.16	235.70	0.0410	Main Channel
211.80	235.70	0.0410	Main Channel
212.04	236.00	0.0410 /0.0930	Main Channel
216.53	237.00	0.0930	
222.34	237.50	0.0930	
257.68	237.50	0.0930	
279.63	243.00	0.0930	
328.63	245.49	0.0930	
342.46	247.54	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	236.00	.100E+05	1.7	0.51	100.52
0.91	236.61	.337E+05	10.8	0.98	52.06
1.51	237.21	.641E+05	26.6	1.27	40.21
2.12	237.82	.173E+06	53.5	0.94	54.05
2.73	238.43	.434E+06	117.6	0.83	61.46
3.34	239.04	.732E+06	221.2	0.93	55.16
3.94	239.64	.105E+07	356.8	1.05	48.84
4.55	240.25	.139E+07	499.3	1.10	46.42
5.16	240.86	.180E+07	702.2	1.19	42.78
5.77	241.47	.223E+07	951.9	1.31	39.02
6.37	242.07	.267E+07	1235.3	1.42	35.97
6.98	242.68	.312E+07	1551.4	1.53	33.47
7.59	243.29	.358E+07	1880.6	1.61	31.70
8.20	243.90	.407E+07	2227.4	1.68	30.42
8.80	244.50	.458E+07	2614.2	1.75	29.22
9.41	245.11	.513E+07	3040.8	1.82	28.11
10.02	245.72	.570E+07	3522.2	1.89	26.99
10.63	246.33	.629E+07	4065.9	1.98	25.80
11.23	246.93	.690E+07	4645.2	2.06	24.74

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1069)	5287.18	14.79	10.50	8.58	1.06	1.04

OUTFLOW: ID= 1 (5069)	5287.18	14.49	11.00	8.58	1.05	1.04

```
| CALIB |
| STANDHYD  (0069) |   Area    (ha)= 155.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  25.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	46.63	108.79
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	1017.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.33
over (min)		15.00	30.00
Storage Coeff. (min)=		3.00 (ii)	16.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.09	3.08	5.165 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	16.87	22.90
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (2069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0069):   155.42   5.165     5.25    22.90
       + ID2= 2 (5069):  5287.18  14.485    11.00     8.58
         ================================================
         ID = 3 (2069):  5442.60  14.624    11.00     8.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB |
| STANDHYD  (0471) |   Area    (ha)=   3.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  30.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.27	2.08
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.40
Length	(m)=	149.44	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.90

over (min)		15.00	15.00
Storage Coeff. (min)=		0.60 (ii)	4.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.11

		TOTALS
PEAK FLOW	(cms)=	0.05	0.09	0.140 (iii)
TIME TO PEAK	(hrs)=	4.50	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	21.39	27.27
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.51	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| DUHYD     (9158) |
| Inlet Cap.=1.825 |
| #of Inlets=    1 |
| Total(cms)=  1.8 |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.35	0.14	5.25	27.27
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.35	0.14	5.25	27.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| RESERVOIR (6158) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |
```

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0950	0.1100
	0.0750	0.0340	1.8250	0.1650

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9158)	3.350	0.140	5.25	27.27
OUTFLOW: ID= 1 (6158)	3.350	0.074	5.50	27.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 53.32
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0351

```
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9158 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6158):     3.35   0.074     5.50    27.24
       + ID2= 2 (9158):     0.00   0.000     0.00     0.00
         ================================================
```



```
         ID = 3 (****):     3.35   0.074     5.50    27.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (3069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2069):  5442.60  14.624    11.00     8.99
       + ID2= 2 (****):     3.35   0.074     5.50    27.24
         ================================================
         ID = 3 (3069):  5445.95  14.630    11.00     9.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB |
| STANDHYD  (0078) |   Area    (ha)= 127.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  17.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.78	100.76
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	922.10	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.78
over (min)		15.00	30.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	1.16	2.23	3.398 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	14.24	18.79
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.34	0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB |
| STANDHYD  (0475) |   Area    (ha)=  62.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  44.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.83	28.81
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	646.22	40.00

```
Mannings n          =      0.013        0.250

Max.Eff.Inten.(mm/hr)=     19.32        17.86
          over (min)       15.00        30.00
Storage Coeff.  (min)=      3.00 (ii)   16.20 (ii)
Unit Hyd. Tpeak (min)=     15.00        15.00
Unit Hyd. peak  (cms)=      0.11         0.07
                                              *TOTALS*
PEAK FLOW       (cms)=      1.48         1.33          2.809 (iii)
TIME TO PEAK    (hrs)=      5.25         5.25          5.25
RUNOFF VOLUME    (mm)=     41.00        24.21         31.60
TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
RUNOFF COEFFICIENT   =      0.98         0.58          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2475)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0078):	127.54	3.398	5.25	18.79
+ ID2= 2 (0475):	62.64	2.809	5.25	31.60
ID = 3 (2475):	190.18	6.207	5.25	23.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9078)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)= 14.6				
TOTAL HYD.(ID= 1):	190.18	6.21	5.25	23.01
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	190.18	6.21	5.25	23.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0015)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3069):	5445.95	14.630	11.00	9.00
+ ID2= 2 (9078):	190.18	6.207	5.25	23.01
ID = 3 (0015):	5636.13	14.797	11.00	9.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0066) / ID= 1 DT=15.0 min	Area (ha)= 130.40 / Total Imp(%)= 48.00	Dir. Conn.(%)= 39.00

```
                         IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       62.59         67.81
Dep. Storage     (mm)=        1.00          4.00
Average Slope     (%)=        1.00          4.60
Length            (m)=      932.38         40.00
Mannings n          =        0.013         0.250

Max.Eff.Inten.(mm/hr)=       19.32         15.18
          over (min)         15.00         15.00
Storage Coeff.  (min)=        3.00 (ii)    16.20 (ii)
Unit Hyd. Tpeak (min)=       15.00         15.00
Unit Hyd. peak  (cms)=        0.11          0.07
                                              *TOTALS*
PEAK FLOW       (cms)=        2.73          2.63          5.357 (iii)
TIME TO PEAK    (hrs)=        5.25          5.25          5.25
RUNOFF VOLUME    (mm)=       41.00         20.99         28.79
TOTAL RAINFALL   (mm)=       42.00         42.00         42.00
RUNOFF COEFFICIENT   =        0.98          0.50          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (1101)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	5636.13	14.797	11.00	9.48
+ ID2= 2 (0066):	130.40	5.357	5.25	28.79
ID = 3 (1101):	5766.53	17.960	5.25	9.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5101) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5101.0) ------>			
Distance	Elevation	Manning	
0.00	241.94	0.0930	
8.16	239.50	0.0930	
22.34	239.00	0.0930	
28.16	235.50	0.0930	
31.19	235.00	0.0930	
45.37	235.00	0.0930	
66.87	235.30	0.0930	
92.82	235.00	0.0930	
128.48	235.00	0.0930	
131.88	234.50	0.0930	
133.09	234.00	0.0930 /0.0410	Main Channel

133.35	233.80	0.0410	Main Channel
143.76	233.80	0.0410	Main Channel
143.82	234.00	0.0410 /0.0930	Main Channel
146.15	235.00	0.0930	
163.07	235.45	0.0930	
172.90	235.85	0.0930	
179.77	238.00	0.0930	
182.39	238.10	0.0930	
202.70	242.63	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	234.00	.288E+04	0.8	0.38	59.38
0.62	234.42	.955E+04	5.5	0.78	29.17
1.04	234.84	.177E+05	13.2	1.02	22.25
1.45	235.25	.536E+05	26.9	0.68	33.23
1.87	235.67	.130E+06	60.9	0.64	35.54
2.29	236.09	.212E+06	113.1	0.73	31.26
2.71	236.51	.296E+06	180.8	0.83	27.30
3.13	236.93	.381E+06	262.0	0.94	24.24
3.54	237.34	.467E+06	355.8	1.04	21.89
3.96	237.76	.555E+06	461.5	1.13	20.04
4.38	238.18	.644E+06	575.5	1.22	18.64
4.80	238.60	.735E+06	703.6	1.30	17.41
5.21	239.01	.828E+06	841.5	1.38	16.39
5.63	239.43	.925E+06	958.9	1.41	16.08
6.05	239.85	.103E+07	1117.1	1.48	15.34
6.47	240.27	.113E+07	1291.9	1.55	14.63
6.89	240.69	.124E+07	1477.9	1.62	13.99
7.30	241.10	.135E+07	1675.0	1.69	13.43
7.72	241.52	.146E+07	1883.1	1.76	12.93

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1101)	5766.53	17.96	5.25	9.91	1.18	0.87
OUTFLOW: ID= 1 (5101)	5766.53	14.79	11.50	9.91	1.08	0.97

CALIB / STANDHYD (0101) / ID= 1 DT=15.0 min	Area (ha)= 133.45 / Total Imp(%)= 47.00	Dir. Conn.(%)= 39.00

```
                         IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       62.72         70.73
Dep. Storage     (mm)=        1.00          4.00
Average Slope     (%)=        1.00          3.30
Length            (m)=      943.22         40.00
Mannings n          =        0.013         0.250

Max.Eff.Inten.(mm/hr)=       19.32         14.76
          over (min)         15.00         30.00
Storage Coeff.  (min)=        3.00 (ii)    18.00 (ii)
Unit Hyd. Tpeak (min)=       15.00         15.00
Unit Hyd. peak  (cms)=        0.11          0.06
                                              *TOTALS*
PEAK FLOW       (cms)=        2.79          2.61          5.406 (iii)
TIME TO PEAK    (hrs)=        5.25          5.25          5.25
RUNOFF VOLUME    (mm)=       41.00         20.76         28.65
TOTAL RAINFALL   (mm)=       42.00         42.00         42.00
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RUNOFF COEFFICIENT   =       0.98         0.49          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2101)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0101):	133.45	5.406	5.25	28.65
+ ID2= 2 (5101):	5766.53	14.790	11.50	9.91
ID = 3 (2101):	5899.98	20.151	5.25	10.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5095) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5095.0) ------>			
Distance	Elevation	Manning	
0.00	236.91	0.0930	
17.88	233.09	0.0930	
29.64	231.89	0.0930	
36.51	231.50	0.0930	
36.72	231.50	0.0930	
39.68	230.95	0.0930	
42.58	230.50	0.0930 /0.0410	Main Channel
42.67	229.70	0.0410	Main Channel
42.81	229.70	0.0410	Main Channel
49.66	229.70	0.0410	Main Channel
49.91	230.50	0.0410 /0.0930	Main Channel
53.95	231.00	0.0930	
111.16	232.00	0.0930	
167.36	232.00	0.0930	
183.43	233.00	0.0930	
203.76	237.50	0.0930	
211.96	238.12	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	229.97	.137E+04	1.1	0.56	21.49
0.53	230.23	.275E+04	3.3	0.86	14.11
0.80	230.50	.416E+04	6.2	1.08	11.19
1.20	230.90	.714E+04	12.6	1.28	9.45
1.60	231.30	.134E+05	21.9	1.19	10.18
2.00	231.70	.270E+05	37.2	1.00	12.08
2.40	232.10	.530E+05	59.5	0.82	14.86
2.80	232.50	.957E+05	110.2	0.84	14.47
3.20	232.90	.141E+06	179.2	0.92	13.15
3.60	233.30	.190E+06	268.0	1.03	11.79
4.01	233.71	.239E+06	374.4	1.14	10.64
4.41	234.11	.290E+06	496.3	1.25	9.72

4.81	234.51	.341E+06	633.1	1.35	8.98
5.21	234.91	.394E+06	784.4	1.45	8.37
5.61	235.31	.447E+06	949.8	1.54	7.85
6.01	235.71	.502E+06	1129.0	1.63	7.41
6.41	236.11	.558E+06	1322.0	1.72	7.04
6.81	236.51	.615E+06	1528.3	1.81	6.71
7.21	236.91	.673E+06	1748.1	1.89	6.42

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2101)	5899.98	20.15	5.25	10.34	1.53	1.21
OUTFLOW: ID= 1 (5095)	5899.98	18.53	5.25	10.34	1.46	1.22

CALIB	
STANDHYD (0095)	Area (ha)= 84.82
ID= 1 DT=15.0 min	Total Imp(%)= 46.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	39.02	45.80
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.40
Length (m)=	751.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	15.27
over (min)	15.00	30.00
Storage Coeff. (min)=	3.00 (ii)	15.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	1.73	1.80	3.529 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	21.60	28.97
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.51	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2095)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0095):	84.82	3.529	5.25	28.97
+ ID2= 2 (5095):	5899.98	18.528	5.25	10.34
ID = 3 (2095):	5984.80	22.057	5.25	10.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0688)	Area (ha)= 43.70
ID= 1 DT=15.0 min	Total Imp(%)= 44.00 Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	19.23	24.47
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	539.75	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	12.36
over (min)	15.00	30.00
Storage Coeff. (min)=	2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	0.91	0.82	1.735 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	19.26	27.74
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.46	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2688)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9078 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (0688):	43.70	1.735	5.25	27.74
+ ID2= 2 (9078):	0.00	0.000	0.00	0.00
ID = 3 (2688):	43.70	1.735	5.25	27.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0476)	Area (ha)= 22.70
ID= 1 DT=15.0 min	Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.25	5.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	389.02	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.52
over (min)	15.00	30.00
Storage Coeff. (min)=	1.80 (ii)	12.00 (ii)

Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08
		TOTALS
PEAK FLOW (cms)=	0.93	0.20	1.131 (iii)
TIME TO PEAK (hrs)=	4.75	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	22.88	36.65
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.54	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9331)				
Inlet Cap.=5.900				
#of Inlets= 1				
Total(cms)= 5.9	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	22.70	1.13	5.25	36.65
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	22.70	1.13	5.25	36.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6331)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.2500	0.7550
	0.0400	0.4210	1.6700	0.8120
	0.0800	0.4760	2.3800	0.8680
	0.1700	0.5310	3.3600	0.9250
	0.4100	0.5870	4.5400	0.9820
	0.6500	0.6430	5.9000	1.0400
	0.9500	0.6990	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9331)	22.700	1.131	5.25	36.65
OUTFLOW: ID= 1 (6331)	22.700	0.303	6.25	36.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.80
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.5632

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9331 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			

ID1= 1 (6331):	22.70	0.303	6.25	36.53
+ ID2= 2 (9331):	0.00	0.000	0.00	0.00
ID = 3 (****):	22.70	0.303	6.25	36.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0689)	Area (ha)= 4.42
ID= 1 DT=15.0 min	Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.02	3.40
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	171.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	7.73
over (min)	15.00	30.00
Storage Coeff. (min)=	1.20 (ii)	7.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.10
		TOTALS
PEAK FLOW (cms)=	0.05	0.08	0.132 (iii)
TIME TO PEAK (hrs)=	4.75	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	13.17	19.57
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.31	0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2689)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0689):	4.42	0.132	5.25	19.57
+ ID2= 2 (****):	22.70	0.303	6.25	36.53
ID = 3 (2689):	27.12	0.345	6.25	33.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1113)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2688):	43.70	1.735	5.25	27.74
+ ID2= 2 (2689):	27.12	0.345	6.25	33.77
ID = 3 (1113):	70.82	1.975	5.25	30.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5113)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5113.0) ------>

Distance	Elevation	Manning	
0.00	244.57	0.0930	
317.65	242.05	0.0930	
348.79	241.03	0.0930	
378.18	238.00	0.0930	
381.25	236.49	0.0930 /0.0410	Main Channel
381.97	235.89	0.0410	Main Channel
384.32	236.39	0.0410 /0.0930	Main Channel
413.50	241.05	0.0930	
457.83	240.38	0.0930	
497.88	241.26	0.0930	
759.99	241.26	0.0930	
924.92	242.38	0.0930	
990.74	242.50	0.0930	
1030.87	242.13	0.0930	
1081.60	243.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	236.14	.126E+03	0.1	0.48	23.67
0.50	236.39	.504E+03	0.6	0.76	14.91
0.89	236.78	.171E+04	2.9	1.15	9.87
1.28	237.17	.379E+04	7.2	1.30	8.76
1.68	237.57	.674E+04	13.8	1.40	8.12
2.07	237.96	.106E+05	23.1	1.49	7.64
2.46	238.35	.156E+05	34.9	1.53	7.44
2.85	238.74	.223E+05	50.9	1.56	7.29
3.25	239.14	.307E+05	71.8	1.60	7.12
3.64	239.53	.407E+05	98.0	1.65	6.93
4.03	239.92	.525E+05	130.2	1.70	6.71
4.42	240.31	.659E+05	169.0	1.75	6.50
4.82	240.71	.850E+05	186.4	1.50	7.60
5.21	241.10	.117E+06	240.8	1.40	8.13
5.60	241.49	.203E+06	302.7	1.02	11.19
5.99	241.88	.336E+06	517.9	1.05	10.81
6.39	242.28	.490E+06	782.2	1.09	10.44
6.78	242.67	.691E+06	1137.8	1.13	10.12
7.17	243.06	.920E+06	1698.5	1.26	9.03

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1113)	70.82	1.98	5.25	30.05	0.74	0.96
OUTFLOW: ID= 1 (5113)	70.82	1.86	5.25	30.05	0.72	0.94

CALIB
STANDHYD (0113)
ID= 1 DT=15.0 min

Area (ha)= 12.71
Total Imp(%)= 52.00 Dir. Conn.(%)= 52.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.61	6.10
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	291.09	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.97
over (min)	15.00	30.00
Storage Coeff. (min)=	1.80 (ii)	9.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.09
		TOTALS
PEAK FLOW (cms)=	0.35	0.18 0.535 (iii)
TIME TO PEAK (hrs)=	4.75	5.25 5.25
RUNOFF VOLUME (mm)=	41.00	17.43 29.69
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.42 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1119)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0120):	46.27	2.140	5.25	33.53
+ ID2= 2 (2113):	83.53	2.395	5.25	29.99
ID = 3 (1119):	129.80	4.535	5.25	31.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5119)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5119.0) ------>

Distance	Elevation	Manning	
0.00	240.51	0.0930	
29.89	240.57	0.0930	
116.44	238.41	0.0930	
139.64	232.93	0.0930 /0.0410	Main Channel
141.61	232.28	0.0410	Main Channel
145.25	233.93	0.0410 /0.0930	Main Channel
173.42	238.12	0.0930	
173.87	238.19	0.0930	
270.90	240.57	0.0930	
279.44	240.59	0.0930	
297.64	240.11	0.0930	
300.84	240.11	0.0930	
309.34	240.24	0.0930	
309.90	240.23	0.0930	
315.37	240.29	0.0930	
322.46	240.34	0.0930	
324.59	240.37	0.0930	
337.93	240.53	0.0930	
338.14	240.54	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	232.60	.159E+03	0.1	0.35	27.10
0.65	232.93	.636E+03	0.6	0.56	17.07
1.10	233.38	.189E+04	2.6	0.80	12.00
1.55	233.83	.390E+04	6.3	0.93	10.35
2.00	234.28	.683E+04	12.6	1.06	9.01
2.45	234.73	.110E+05	21.8	1.14	8.43
2.90	235.18	.165E+05	34.0	1.19	8.08
3.35	235.63	.232E+05	49.7	1.23	7.79
3.80	236.08	.313E+05	69.2	1.27	7.53
4.25	236.53	.406E+05	92.9	1.32	7.28
4.71	236.99	.511E+05	121.0	1.36	7.05
5.16	237.44	.630E+05	153.9	1.40	6.83
5.61	237.89	.761E+05	191.8	1.45	6.62
6.06	238.34	.908E+05	229.8	1.46	6.58
6.51	238.79	.111E+06	254.0	1.31	7.30
6.96	239.24	.141E+06	302.2	1.23	7.78
7.41	239.69	.180E+06	372.7	1.19	8.06
7.86	240.14	.229E+06	460.2	1.16	8.30
8.31	240.59	.297E+06	525.8	1.02	9.42

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1119)	129.80	4.54	5.25	31.25	1.34	0.86
OUTFLOW: ID= 1 (5119)	129.80	4.32	5.25	31.25	1.31	0.85

DUHYD (9033)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)= 26.9

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	129.80	4.32	5.25	31.25
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	129.80	4.32	5.25	31.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6033)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	9.6100	1.9350
0.1300	1.4400	12.0700	2.0240
0.7800	1.5180	14.7200	2.1150
1.9600	1.5970	17.5300	2.2070
3.4900	1.6790	20.5100	2.3010
5.2900	1.7620	23.6400	2.3970
7.3400	1.8480	26.9100	2.4940

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9033)	129.800	4.324	5.25	31.25
OUTFLOW: ID= 1 (6033)	129.800	2.900	5.75	31.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 67.06
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 1.6730

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9033 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6033):	129.80	2.900	5.75	31.23

```
       + ID2= 2 (9033):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (****):   129.80   2.900     5.75    31.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0119)  |   Area    (ha)=   7.24
|ID= 1 DT=15.0 min  |   Total Imp(%)=  21.00   Dir. Conn.(%)=  19.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.52         5.72
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.50
     Length            (m)=     219.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.04
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       1.20 (ii)    6.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.10
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.14          0.216 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25          5.25
     RUNOFF VOLUME    (mm)=      41.00        13.96         19.10
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.33          0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| ADD HYD   (2119) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0119):     7.24   0.216     5.25    19.10
       + ID2= 2 (****):   129.80   2.900     5.75    31.23
         ================================================
         ID = 3 (2119):   137.04   2.967     5.75    30.59

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| DUHYD     (9529) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 137.04      2.97      5.75   30.59
     ================================================
```



```
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 137.04      2.97      5.75   30.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| RESERVOIR (6529) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.0000     0.2720
                          2.0000     0.0946   |   8.0000     0.3631
                          4.0000     0.1999   |  10.0000     0.4677

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9529)    137.040     2.967      5.75      30.59
     OUTFLOW: ID= 1 (6529)    137.040     2.720      5.75      30.59

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 91.68
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1436

------------------------------------------------------------------------------
-------------------
| ADD HYD   (4529) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9529 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6529):   137.04   2.720     5.75    30.59
       + ID2= 2 (9529):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4529):   137.04   2.720     5.75    30.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0484)  |   Area    (ha)=  10.31
|ID= 1 DT=15.0 min  |   Total Imp(%)=  53.00   Dir. Conn.(%)=  42.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.46         4.85
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.10
     Length            (m)=     262.17        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        17.56
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       1.80 (ii)    8.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.23         0.23          0.464 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25          5.25
     RUNOFF VOLUME    (mm)=      41.00        23.40         30.79
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
```



```
     RUNOFF COEFFICIENT   =       0.98         0.56          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| DUHYD     (9129) |
| Inlet Cap.=0.021 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  10.31      0.46      5.25   30.79
     ================================================
     MAJOR SYS.(ID= 2):   8.20      0.44      5.25   30.79
     MINOR SYS.(ID= 3):   2.11      0.02      2.50   30.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| RESERVOIR (6129) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0160     0.0567
                          0.0090     0.0175   |   0.0190     0.0784
                          0.0130     0.0364   |   0.0210     0.1015

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9129)      2.108     0.021      2.50      30.79
     OUTFLOW: ID= 1 (6129)      2.108     0.012      9.50      30.57

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.79
                TIME SHIFT OF PEAK FLOW         (min)=420.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0323

------------------------------------------------------------------------------
-------------------
| ADD HYD   (4129) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6129):     2.11   0.012     9.50    30.57
       + ID2= 2 (9129):     8.20   0.443     5.25    30.79
         ================================================
         ID = 3 (4129):    10.31   0.452     5.25    30.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| ADD HYD   (2484) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4129):    10.31   0.452     5.25    30.75
```



```
       + ID2= 2 (4529):   137.04   2.720     5.75    30.59
         ================================================
         ID = 3 (2484):   147.35   2.849     5.75    30.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0485)  |   Area    (ha)=  44.69
|ID= 1 DT=15.0 min  |   Total Imp(%)=  50.00   Dir. Conn.(%)=  49.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.34        22.34
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.70
     Length            (m)=     545.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.65
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.18         0.64          1.813 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      41.00        17.68         29.11
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.42          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
-------------------
| ADD HYD   (2485) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0485):    44.69   1.813     5.25    29.11
       + ID2= 2 (2484):   147.35   2.849     5.75    30.25
         ================================================
         ID = 3 (2485):   192.04   3.462     5.75    30.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
-------------------
| ADD HYD   (1122) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2095):  5984.80  22.057     5.25    10.60
       + ID2= 2 (2485):   192.04   3.462     5.75    30.25
         ================================================
         ID = 3 (1122):  6176.84  24.636     5.25    11.21
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5122)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5122.0) ------>

Distance	Elevation	Manning	
0.00	235.73	0.0930	
17.92	231.50	0.0930	
24.58	231.00	0.0930	
44.00	230.55	0.0930	
142.67	231.50	0.0930	
150.22	231.50	0.0930	
174.16	231.28	0.0930	
192.63	231.06	0.0930	
194.24	231.00	0.0930	
196.93	230.16	0.0930	
197.38	230.00	0.0930 /0.0410	Main Channel
197.43	229.98	0.0410	Main Channel
197.57	229.00	0.0410	Main Channel
205.27	229.00	0.0410	Main Channel
205.34	229.94	0.0410	Main Channel
205.54	230.00	0.0410 /0.0930	Main Channel
229.92	238.50	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	229.33	.126E+04	1.5	0.58	14.12
0.67	229.67	.254E+04	4.5	0.87	9.33
1.00	230.00	.383E+04	8.5	1.08	7.54
1.36	230.36	.544E+04	14.4	1.30	6.28
1.72	230.72	.843E+04	22.0	1.28	6.38
2.07	231.07	.197E+05	35.4	0.88	9.28
2.43	231.43	.424E+05	59.9	0.69	11.80
2.79	231.79	.757E+05	107.8	0.70	11.70
3.15	232.15	.110E+06	175.4	0.78	10.45
3.51	232.51	.145E+06	258.4	0.88	9.33
3.87	232.87	.180E+06	355.7	0.97	8.42
4.22	233.22	.215E+06	466.3	1.06	7.70
4.58	233.58	.251E+06	589.7	1.15	7.10
4.94	233.94	.288E+06	725.4	1.23	6.61
5.30	234.30	.325E+06	873.0	1.32	6.20
5.66	234.66	.362E+06	1032.1	1.40	5.85
6.01	235.01	.400E+06	1202.5	1.47	5.54
6.37	235.37	.438E+06	1384.0	1.55	5.28
6.73	235.73	.477E+06	1576.4	1.62	5.04

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1122)	6176.84	24.64	5.25	11.21	1.79	1.17
OUTFLOW: ID= 1 (5122)	6176.84	23.13	5.25	11.21	1.74	1.23

CALIB	
STANDHYD (0122)	Area (ha)= 30.63
ID= 1 DT=15.0 min	Total Imp(%)= 32.00 Dir. Conn.(%)= 26.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.80	20.83
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	451.88	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.62
over (min)	15.00	30.00
Storage Coeff. (min)=	1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	1.063 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	23.28
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2122)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0122):	30.63	1.063	5.25	23.28
	+ ID2= 2 (5122):	6176.84	23.130	5.25	11.21
	ID = 3 (2122):	6207.47	24.193	5.25	11.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5112)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5112.0) ------>

Distance	Elevation	Manning	
0.00	235.91	0.0930	
5.76	235.56	0.0930	
118.08	233.00	0.0930	
121.46	233.00	0.0930	
158.56	231.55	0.0930	
190.22	229.04	0.0930	
190.34	229.04	0.0930	
212.62	228.00	0.0930	
225.02	227.50	0.0930	
226.84	227.00	0.0930 /0.0410	Main Channel
227.92	226.50	0.0410	Main Channel
232.46	226.50	0.0410	Main Channel
232.95	226.98	0.0410 /0.0930	Main Channel
237.55	228.00	0.0930	
247.07	228.50	0.0930	
255.73	228.80	0.0930	

268.28	229.64	0.0930	
274.49	231.50	0.0930	
283.66	232.45	0.0930	
298.53	235.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	226.74	.770E+03	0.5	0.47	23.34
0.48	226.98	.166E+04	1.8	0.70	15.51
0.95	227.45	.411E+04	6.4	1.02	10.61
1.42	227.92	.897E+04	14.3	1.04	10.49
1.90	228.40	.186E+05	27.2	0.95	11.44
2.37	228.87	.346E+05	48.1	0.91	11.99
2.84	229.34	.563E+05	80.7	0.93	11.62
3.31	229.81	.819E+05	125.6	1.00	10.87
3.78	230.28	.110E+06	183.3	1.08	10.03
4.25	230.75	.141E+06	252.3	1.17	9.31
4.73	231.23	.174E+06	333.0	1.25	8.70
5.20	231.70	.209E+06	420.3	1.31	8.30
5.67	232.17	.249E+06	512.6	1.34	8.10
6.14	232.64	.294E+06	623.0	1.38	7.87
6.61	233.11	.344E+06	742.9	1.41	7.72
7.08	233.58	.401E+06	880.3	1.43	7.60
7.56	234.06	.466E+06	1041.7	1.46	7.45
8.03	234.53	.538E+06	1228.2	1.49	7.30
8.50	235.00	.616E+06	1440.8	1.52	7.13

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2122)	6207.47	24.19	5.25	11.27	1.79	0.97
OUTFLOW: ID= 1 (5112)	6207.47	23.03	5.50	11.27	1.75	0.97

CALIB	
STANDHYD (0112)	Area (ha)= 91.24
ID= 1 DT=15.0 min	Total Imp(%)= 48.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.80	47.44
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.10
Length (m)=	779.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.13
over (min)	15.00	30.00
Storage Coeff. (min)=	3.00 (ii)	16.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	3.811 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	29.26
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2112)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0112):	91.24	3.811	5.25	29.26
	+ ID2= 2 (5112):	6207.47	23.028	5.50	11.27
	ID = 3 (2112):	6298.71	25.379	5.25	11.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5091)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5091.0) ------>

Distance	Elevation	Manning	
0.00	233.68	0.0930	
57.19	231.45	0.0930	
70.84	229.38	0.0930	
75.11	228.00	0.0930	
76.32	227.82	0.0930	
78.35	227.50	0.0930 /0.0410	Main Channel
79.48	227.23	0.0410	Main Channel
80.40	227.00	0.0410	Main Channel
81.40	226.00	0.0410	Main Channel
87.08	226.00	0.0410	Main Channel
87.20	226.00	0.0410	Main Channel
87.27	226.50	0.0410	Main Channel
88.50	227.47	0.0410	Main Channel
88.62	227.50	0.0410	Main Channel
92.08	227.50	0.0410	Main Channel
93.44	227.80	0.0410	Main Channel
94.43	228.72	0.0410 /0.0930	Main Channel
111.61	232.98	0.0930	
115.31	233.50	0.0930	
134.67	234.81	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	226.38	.167E+04	1.4	0.61	20.11
0.75	226.75	.348E+04	4.3	0.91	13.58
1.12	227.12	.554E+04	8.3	1.10	11.19
1.50	227.50	.808E+04	13.4	1.22	10.07
1.91	227.91	.129E+05	21.9	1.25	9.82
2.32	228.32	.187E+05	36.9	1.46	8.45
2.74	228.74	.250E+05	55.3	1.63	7.54
3.15	229.15	.321E+05	78.4	1.81	6.83
3.56	229.56	.401E+05	104.9	1.94	6.37
3.97	229.97	.493E+05	135.2	2.03	6.08
4.38	230.38	.599E+05	169.9	2.10	5.88
4.80	230.80	.718E+05	209.2	2.15	5.72
5.21	231.21	.851E+05	253.2	2.20	5.60
5.62	231.62	.999E+05	299.6	2.22	5.56

6.03	232.03	.118E+06	350.3	2.20	5.61
6.44	232.44	.140E+06	409.8	2.17	5.69
6.86	232.86	.165E+06	478.0	2.14	5.76
7.27	233.27	.195E+06	554.6	2.11	5.85
7.68	233.68	.228E+06	639.5	2.07	5.95

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2112)	6298.71	25.38	5.25	11.53	2.01	1.30
OUTFLOW: ID= 1 (5091)	6298.71	24.77	5.50	11.53	1.99	1.29

CALIB
STANDHYD (0091) | Area (ha)= 180.35
ID= 1 DT=15.0 min | Total Imp(%)= 47.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	84.76	95.59
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	1096.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	15.69
over (min)	15.00	30.00
Storage Coeff. (min)=	3.60 (ii)	19.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06

		TOTALS
PEAK FLOW (cms)=	3.68	3.70	7.380 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	21.83	29.11
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.52	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2091)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0091):	180.35	7.380	5.25	29.11
+ ID2= 2 (5091):	6298.71	24.774	5.50	11.53
ID = 3 (2091):	6479.06	30.276	5.25	12.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9023)
Inlet Cap.=***** |

#of Inlets= 1
Total(cms)= 17.8

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	6479.06	30.28	5.25	12.02
MAJOR SYS.(ID= 2):	411.73	12.44	5.25	12.02
MINOR SYS.(ID= 3):	6067.32	17.84	4.75	12.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6023)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	6.0830	0.7376
0.5140	0.0185	8.6630	1.7454
1.9040	0.1110	17.8370	3.6437
3.8440	0.3047	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9023)	6067.324	17.837	4.75	12.02
OUTFLOW: ID= 1 (6023)	6067.324	17.420	6.75	12.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 97.66
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 3.5682

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6023):	6067.32	17.420	6.75	12.02
+ ID2= 2 (9023):	411.73	12.439	5.25	12.02
ID = 3 (****):	6479.06	26.024	5.25	12.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5530)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5530.0) ------>

Distance	Elevation	Manning	
0.00	232.00	0.0930	
4.96	232.00	0.0930	
7.83	231.50	0.0930	
17.85	231.00	0.0930	
42.32	226.50	0.0930	
90.46	226.50	0.0930	
96.74	225.00	0.0930 /0.0410	Main Channel
98.31	224.50	0.0410	Main Channel
108.69	224.50	0.0410	Main Channel
109.36	225.00	0.0410 /0.0930	Main Channel
114.19	225.50	0.0930	
117.90	227.00	0.0930	
121.45	227.50	0.0930	

134.20	227.50	0.0930	
149.51	228.94	0.0930	
154.36	229.23	0.0930	
155.62	229.30	0.0930	
155.63	232.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	224.75	.192E+04	2.5	0.92	12.70
0.50	225.00	.403E+04	8.1	1.41	8.28
0.91	225.41	.850E+04	24.2	1.99	5.86
1.32	225.82	.144E+05	48.1	2.35	4.97
1.74	226.24	.210E+05	79.6	2.66	4.40
2.15	226.65	.335E+05	118.2	2.48	4.72
2.56	227.06	.557E+05	182.5	2.30	5.09
2.97	227.47	.793E+05	264.6	2.34	5.00
3.38	227.88	.108E+06	362.6	2.36	4.96
3.79	228.29	.139E+06	488.9	2.47	4.73
4.21	228.71	.172E+06	634.9	2.60	4.50
4.62	229.12	.206E+06	799.2	2.72	4.30
5.03	229.53	.243E+06	987.9	2.85	4.10
5.44	229.94	.281E+06	1201.3	3.00	3.90
5.85	230.35	.320E+06	1433.6	3.15	3.72
6.26	230.76	.359E+06	1684.2	3.29	3.55
6.68	231.18	.399E+06	1936.0	3.41	3.43
7.09	231.59	.441E+06	2195.5	3.50	3.34
7.50	232.00	.484E+06	2505.8	3.63	3.22

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (****)	6479.06	26.02	5.25	12.02	0.94	2.02
OUTFLOW: ID= 1 (5530)	6479.06	27.04	5.50	12.02	0.96	2.03

CALIB
STANDHYD (0530) | Area (ha)= 12.46
ID= 1 DT=15.0 min | Total Imp(%)= 33.00 Dir. Conn.(%)= 28.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.11	8.35
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.00
Length (m)=	288.21	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.17
over (min)	15.00	15.00
Storage Coeff. (min)=	1.20 (ii)	7.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.10

		TOTALS
PEAK FLOW (cms)=	0.19	0.23	0.418 (iii)
TIME TO PEAK (hrs)=	4.75	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	15.05	22.31
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.36	0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2530)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0530):	12.46	0.418	5.25	22.31
+ ID2= 2 (5530):	6479.06	27.043	5.50	12.02
ID = 3 (2530):	6491.52	27.191	5.50	12.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0114) | Area (ha)= 71.32
ID= 1 DT=15.0 min | Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	37.09	34.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	689.54	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.63
over (min)	15.00	30.00
Storage Coeff. (min)=	3.00 (ii)	15.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW (cms)=	1.65	1.47	3.118 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	22.94	30.70
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.55	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1529)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0114):	71.32	3.118	5.25	30.70
+ ID2= 2 (2530):	6491.52	27.191	5.50	12.04
ID = 3 (1529):	6562.84	28.515	5.50	12.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5529)
IN= 2---> OUT= 1

Routing time step (min)= 15.00

<------ DATA FOR SECTION (5529.0) ------>

Distance	Elevation	Manning	
0.00	229.04	0.0930	
7.45	221.83	0.0930 /0.0410	Main Channel
7.73	221.00	0.0410	Main Channel
11.19	221.00	0.0410	Main Channel
14.51	222.00	0.0410 /0.0930	Main Channel
15.34	222.00	0.0930	
16.50	222.50	0.0930	
29.47	222.35	0.0930	
55.40	222.50	0.0930	
76.32	222.50	0.0930	
144.32	223.00	0.0930	
157.97	223.80	0.0930	
163.43	224.00	0.0930	
184.95	224.50	0.0930	
193.87	225.00	0.0930	
197.46	225.00	0.0930	
203.83	225.27	0.0930	
208.01	225.56	0.0930	
214.39	225.78	0.0930	
214.40	229.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	221.41	.154E+04	0.8	0.48	30.55
0.83	221.83	.362E+04	2.9	0.69	21.07
1.25	222.25	.652E+04	6.7	0.90	16.23
1.67	222.67	.235E+05	14.4	0.54	27.14
2.10	223.10	.682E+05	36.2	0.46	31.45
2.52	223.52	.121E+06	75.3	0.54	26.85
2.94	223.94	.177E+06	127.4	0.63	23.21
3.36	224.36	.238E+06	188.5	0.69	21.08
3.78	224.78	.305E+06	266.7	0.77	19.08
4.20	225.20	.376E+06	356.2	0.83	17.60
4.63	225.63	.451E+06	463.5	0.90	16.22
5.05	226.05	.529E+06	588.5	0.98	14.97
5.47	226.47	.607E+06	732.6	1.06	13.81
5.89	226.89	.685E+06	889.1	1.14	12.85
6.31	227.31	.764E+06	1057.6	1.21	12.04
6.73	227.73	.843E+06	1237.6	1.29	11.35
7.16	228.16	.922E+06	1428.6	1.36	10.75
7.58	228.58	.100E+07	1630.4	1.43	10.23
8.00	229.00	.108E+07	1842.6	1.50	9.77

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1529)	6562.84	28.52	5.50	12.24	1.95	0.49
OUTFLOW: ID= 1 (5529)	6562.84	23.87	6.25	12.24	1.86	0.50

CALIB

STANDHYD (0529)	Area (ha)= 41.93
ID= 1 DT=15.0 min	Total Imp(%)= 33.00 Dir. Conn.(%)= 26.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	13.84	28.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.80
Length	(m)=	528.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.91
over (min)		15.00	30.00
Storage Coeff. (min)=		2.40 (ii)	12.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

				TOTALS
PEAK FLOW	(cms)=	0.59	0.87	1.459 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	17.23	23.41
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.41	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2529)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0529):	41.93	1.459	5.25	23.41
+ ID2= 2 (5529):	6562.84	23.865	6.25	12.24
ID = 3 (2529):	6604.77	24.332	6.25	12.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0488)	Area (ha)= 47.77
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.23	20.54
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	564.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	15.69
over (min)		15.00	30.00
Storage Coeff. (min)=		2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

			TOTALS
PEAK FLOW	(cms)=	1.31	0.84	2.148 (iii)

TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	22.43	31.90
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.53	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9164)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	47.77	2.15	5.25	31.90
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	47.77	2.15	5.25	31.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6164)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1280	0.6485
0.0360	0.0650	0.2220	0.6870
0.0470	0.1250	0.6040	0.7600
0.0620	0.1800	1.1450	0.8300
0.0750	0.2500	1.8080	0.9100
0.0850	0.3100	2.5730	0.9800
0.0950	0.3750	3.4270	1.0500
0.1030	0.4330	4.3630	1.1200
0.1110	0.4930	5.3730	1.1950
0.1180	0.5630	0.0000	0.0000
0.1250	0.6120	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9164)	47.770	2.148	5.25	31.90
OUTFLOW: ID= 1 (6164)	47.770	1.133	5.50	31.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 52.76
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.8417

ADD HYD (4164)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9164 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			

ID1= 1 (6164):	47.77	1.133	5.50	31.89
+ ID2= 2 (9164):	0.00	0.000	0.00	0.00
ID = 3 (4164):	47.77	1.133	5.50	31.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1486)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2529):	6604.77	24.332	6.25	12.31
+ ID2= 2 (4164):	47.77	1.133	5.50	31.89
ID = 3 (1486):	6652.54	25.066	6.25	12.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5486)
IN= 2---> OUT= 1

Routing time step (min)= 15.00

<------ DATA FOR SECTION (5486.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0930	
11.94	222.00	0.0930	
16.06	221.50	0.0930	
41.45	220.50	0.0930	
88.07	220.00	0.0930	
99.13	219.50	0.0930	
102.39	219.00	0.0930 /0.0410	Main Channel
102.82	218.50	0.0410	Main Channel
108.08	218.50	0.0410	Main Channel
108.18	219.00	0.0410 /0.0930	Main Channel
109.15	219.20	0.0930	
110.60	219.50	0.0930	
116.50	221.36	0.0930	
127.30	226.50	0.0930	
144.83	227.58	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	218.75	.815E+03	0.8	0.62	16.38
0.50	219.00	.167E+04	2.6	0.93	10.82
0.85	219.35	.333E+04	6.6	1.20	8.38
1.21	219.71	.603E+04	12.7	1.27	7.93
1.56	220.06	.106E+05	21.3	1.22	8.29
1.91	220.41	.206E+05	34.9	1.02	9.84
2.26	220.76	.364E+05	59.4	0.99	10.22
2.62	221.12	.546E+05	93.6	1.04	9.71
2.97	221.47	.748E+05	137.0	1.11	9.10
3.32	221.82	.967E+05	193.1	1.21	8.34
3.68	222.18	.119E+06	259.4	1.32	7.66
4.03	222.53	.142E+06	335.2	1.42	7.08
4.38	222.88	.166E+06	419.5	1.53	6.59
4.74	223.24	.190E+06	512.1	1.63	6.18
5.09	223.59	.214E+06	612.7	1.73	5.83
5.44	223.94	.239E+06	721.2	1.82	5.53
5.79	224.29	.264E+06	837.5	1.92	5.26

6.15	224.65	.290E+06	961.5	2.00	5.03
6.50	225.00	.317E+06	1093.1	2.09	4.83

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1486)	6652.54	25.07	6.25	12.45	1.66	1.16
OUTFLOW: ID= 1 (5486)	6652.54	24.67	6.25	12.45	1.65	1.16

CALIB
STANDHYD (0486) | Area (ha)= 35.14
ID= 1 DT=15.0 min | Total Imp(%)= 47.00 Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.52	18.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	484.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	13.51
over (min)		15.00	30.00
Storage Coeff. (min)=		1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	0.77	0.66	1.438 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	19.52	28.33
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.46	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2486)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0486):		35.14	1.438	5.25	28.33
+ ID2= 2 (5486):		6652.54	24.668	6.25	12.45
ID = 3 (2486):		6687.68	25.109	6.25	12.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0533) | Area (ha)= 61.35
ID= 1 DT=15.0 min | Total Imp(%)= 49.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.06	31.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	639.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	16.20
over (min)		15.00	30.00
Storage Coeff. (min)=		2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	1.28	1.31	2.598 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	22.10	29.47
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.53	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1165)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0533):		61.35	2.598	5.25	29.47
+ ID2= 2 (2486):		6687.68	25.109	6.25	12.54
ID = 3 (1165):		6749.03	25.921	6.25	12.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5165)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5165.0) ------>

Distance	Elevation	Manning	
0.00	217.93	0.0930	
93.89	215.00	0.0930	
100.20	213.00	0.0930	
110.33	212.37	0.0930	
119.07	212.00	0.0930	
119.29	212.00	0.0930	
131.29	211.51	0.0930	
131.54	211.50	0.0930 /0.0410	Main Channel
133.06	211.27	0.0410	Main Channel
133.84	211.00	0.0410	Main Channel
145.04	211.00	0.0410	Main Channel
145.53	211.37	0.0410 /0.0930	Main Channel
148.07	212.50	0.0930	
159.61	213.50	0.0930	
179.18	214.00	0.0930	
235.23	213.00	0.0930	
247.26	213.00	0.0930	

261.80	214.00	0.0930
277.22	218.03	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	211.18	.179E+04	0.9	0.44	31.48
0.37	211.37	.372E+04	3.0	0.68	20.65
0.76	211.76	.900E+04	10.9	1.01	13.79
1.14	212.14	.175E+05	24.0	1.14	12.17
1.53	212.53	.292E+05	42.8	1.23	11.37
1.91	212.91	.440E+05	67.9	1.29	10.81
2.30	213.30	.675E+05	101.8	1.26	11.05
2.69	213.69	.103E+06	148.9	1.21	11.48
3.07	214.07	.151E+06	213.5	1.18	11.80
3.46	214.46	.205E+06	302.0	1.23	11.31
3.84	214.84	.260E+06	407.0	1.31	10.63
4.23	215.23	.316E+06	516.4	1.37	10.19
4.61	215.61	.376E+06	638.6	1.42	9.81
5.00	216.00	.441E+06	780.7	1.48	9.41
5.39	216.39	.510E+06	941.7	1.54	9.03
5.77	216.77	.584E+06	1121.6	1.61	8.67
6.16	217.16	.662E+06	1320.5	1.67	8.35
6.54	217.54	.744E+06	1538.7	1.73	8.06
6.93	217.93	.832E+06	1776.7	1.79	7.80

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1165)	6749.03	25.92	6.25	12.69	1.18	1.15
OUTFLOW: ID= 1 (5165)	6749.03	25.52	6.50	12.69	1.17	1.15

CALIB
STANDHYD (0165) | Area (ha)= 101.91
ID= 1 DT=15.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.96	50.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	824.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.93
over (min)		15.00	30.00
Storage Coeff. (min)=		3.00 (ii)	17.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.30	1.92	4.215 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	20.85	29.31
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.50	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2165)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0165):		101.91	4.215	5.25	29.31
+ ID2= 2 (5165):		6749.03	25.519	6.50	12.69
ID = 3 (2165):		6850.94	26.586	6.25	12.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5383)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5383.0) ------>

Distance	Elevation	Manning	
0.00	217.40	0.0930	
9.80	217.00	0.0930	
16.80	215.50	0.0930	
48.20	214.50	0.0930	
66.70	214.50	0.0930	
92.00	211.00	0.0930	
96.20	210.50	0.0930 /0.0410	Main Channel
97.00	210.10	0.0410	Main Channel
107.00	210.10	0.0410	Main Channel
107.50	210.50	0.0410 /0.0930	Main Channel
112.00	211.00	0.0930	
120.50	212.50	0.0930	
131.90	213.00	0.0930	
199.00	213.00	0.0930	
201.70	212.50	0.0930	
214.00	212.00	0.0930	
229.70	212.00	0.0930	
243.80	215.00	0.0930	
270.00	215.00	0.0930	
310.90	216.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	210.30	.188E+04	1.1	0.53	28.54
0.40	210.50	.388E+04	3.5	0.82	18.44
0.72	210.82	.804E+04	10.0	1.14	13.34
1.05	211.15	.138E+05	19.8	1.30	11.64
1.37	211.47	.209E+05	32.8	1.43	10.61
1.69	211.79	.292E+05	49.2	1.54	9.89
2.02	212.12	.406E+05	67.1	1.51	10.07
2.34	212.44	.584E+05	93.8	1.46	10.37
2.66	212.76	.801E+05	127.3	1.45	10.49
2.99	213.09	.111E+06	158.3	1.30	11.68
3.31	213.41	.158E+06	222.8	1.28	11.83
3.64	213.74	.206E+06	301.4	1.33	11.41
3.96	214.06	.256E+06	393.0	1.40	10.84
4.28	214.38	.306E+06	497.1	1.48	10.26
4.61	214.71	.362E+06	595.1	1.50	10.13
4.93	215.03	.423E+06	682.5	1.47	10.34

5.25	215.35	.497E+06	819.4	1.50	10.12
5.58	215.68	.578E+06	979.1	1.54	9.84
5.90	216.00	.663E+06	1160.9	1.59	9.52

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2165)	6850.94	26.59	6.25	12.94	1.22	1.37
OUTFLOW: ID= 1 (5383)	6850.94	26.40	6.50	12.94	1.21	1.37

CALIB	
STANDHYD (0383)	Area (ha)= 61.08
ID= 1 DT=15.0 min	Total Imp(%)= 40.00 Dir. Conn.(%)= 31.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.43	36.65
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.60
Length (m)=	638.12	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.68
over (min)	15.00	30.00
Storage Coeff. (min)=	2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW (cms)=	1.02	1.29	2.310 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	19.15	25.92
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.46	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2383)	
1 + 2 = 3	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0383):	61.08	2.310	5.25	25.92
+ ID2= 2 (5383):	6850.94	26.397	6.50	12.94
ID = 3 (2383):	6912.02	26.867	6.50	13.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0177)	Area (ha)= 144.80
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.30	69.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	982.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.63
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	3.31	1.40	4.093 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	22.94	30.70
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.55	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1720)	
1 + 2 = 3	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0177):	144.80	4.093	5.25	30.70
+ ID2= 2 (2383):	6912.02	26.867	6.50	13.05
ID = 3 (1720):	7056.82	28.854	6.25	13.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DIVERT HYD (1800)	
IN= 1	# OUT= 5

Outflow / Inflow Relationships

Flow 1 (cms)	+ Flow 2 (cms)	+ Flow 3 (cms)	+ Flow 4 (cms)	+ Flow 5 (cms)	= Total (cms)
0.00	0.00	0.00	0.00	0.00	0.00
0.00	******	0.00	0.00	0.00	******

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	7056.82	28.85	6.25	13.42
ID= 2 (2) :	0.01	0.00	6.25	13.42
ID= 3 (2) :	7056.81	28.85	6.25	13.42
ID= 4 (2) :	0.00	0.00	0.00	0.00
ID= 5 (2) :	0.00	0.00	0.00	0.00
ID= 6 (2) :	0.00	0.00	0.00	0.00

ROUTE CHN (5800)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5800.0) ------>

Distance	Elevation	Manning	
0.00	214.42	0.0700	
79.28	213.89	0.0700	
120.12	213.16	0.0700	
155.24	211.47	0.0700 /0.0700	Main Channel
158.88	211.30	0.0700	Main Channel
162.95	211.27	0.0700	Main Channel
173.48	211.26	0.0700	Main Channel
221.99	210.58	0.0700	Main Channel
245.42	210.53	0.0700	Main Channel
264.64	210.60	0.0700	Main Channel
283.77	210.98	0.0700	Main Channel
294.38	211.50	0.0700 /0.0700	Main Channel
314.27	212.46	0.0700	
375.00	214.31	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	210.72	.117E+05	1.6	0.20	122.43
0.38	210.91	.314E+05	6.6	0.32	78.97
0.56	211.09	.573E+05	15.6	0.41	61.03
0.75	211.28	.884E+05	27.4	0.46	53.77
0.94	211.47	.126E+06	47.3	0.56	44.53
1.14	211.67	.170E+06	76.4	0.68	37.02
1.35	211.88	.216E+06	111.7	0.78	32.20
1.55	212.08	.264E+06	152.9	0.87	28.81
1.75	212.28	.315E+06	200.1	0.95	26.27
1.95	212.48	.369E+06	253.3	1.03	24.29
2.16	212.69	.426E+06	312.4	1.10	22.72
2.36	212.89	.486E+06	377.9	1.17	21.42
2.56	213.09	.549E+06	450.2	1.23	20.33
2.77	213.30	.616E+06	527.6	1.28	19.47
2.97	213.50	.689E+06	612.3	1.33	18.75
3.17	213.70	.767E+06	705.3	1.38	18.12
3.37	213.90	.850E+06	806.4	1.42	17.57
3.58	214.11	.942E+06	911.2	1.45	17.23
3.78	214.31	.105E+07	1029.3	1.48	16.93

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	0.01	0.00	6.25	13.42	0.00	0.20
OUTFLOW: ID= 1 (5800)	0.01	0.00	8.00	13.42	0.00	0.20

ROUTE CHN (5720)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5720.0) ------>

Distance	Elevation	Manning
0.00	217.21	0.1110
21.44	216.00	0.1110
44.42	215.50	0.1110
50.34	215.00	0.1110
62.51	209.50	0.1110
65.10	209.15	0.1110

66.24	209.00	0.1110 /0.0490	Main Channel
66.50	208.60	0.0490	Main Channel
68.40	208.60	0.0490	Main Channel
68.93	209.00	0.0490 /0.1110	Main Channel
69.89	209.12	0.1110	
72.86	209.50	0.1110	
80.96	213.52	0.1110	
83.23	214.31	0.1110	
86.07	215.00	0.1110	
87.25	215.10	0.1110	
97.04	215.50	0.1110	
101.19	215.50	0.1110	
112.34	215.74	0.1110	
112.52	215.74	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	208.80	.325E+03	0.2	0.46	28.04
0.40	209.00	.710E+03	0.6	0.67	19.10
0.80	209.40	.247E+04	2.5	0.79	16.41
1.19	209.79	.573E+04	6.3	0.86	15.03
1.59	210.19	.954E+04	12.0	0.98	13.20
1.99	210.59	.139E+05	19.5	1.09	11.85
2.38	210.98	.187E+05	28.7	1.19	10.85
2.78	211.38	.241E+05	39.8	1.28	10.08
3.18	211.78	.299E+05	52.7	1.36	9.46
3.57	212.17	.363E+05	67.6	1.44	8.95
3.97	212.57	.432E+05	84.5	1.51	8.52
4.36	212.96	.506E+05	103.6	1.58	8.14
4.76	213.36	.585E+05	124.8	1.65	7.82
5.16	213.76	.670E+05	147.8	1.71	7.55
5.55	214.15	.761E+05	173.1	1.76	7.32
5.95	214.55	.858E+05	200.2	1.81	7.14
6.35	214.95	.962E+05	229.9	1.85	6.98
6.74	215.34	.109E+06	242.9	1.73	7.45
7.14	215.74	.127E+06	242.9	1.48	8.73

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	7056.81	28.85	6.25	13.42	2.39	1.19
OUTFLOW: ID= 1 (5720)	7056.81	28.82	6.50	13.42	2.39	1.19

ADD HYD (2800)	
1 + 2 = 3	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (5720):	7056.81	28.815	6.50	13.42
+ ID2= 2 (5800):	0.01	0.000	8.00	13.42
ID = 3 (2800):	7056.82	28.815	6.50	13.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0720)	Area (ha)= 50.88
ID= 1 DT=15.0 min	Total Imp(%)= 36.00 Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	18.32	32.56	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	4.70	
Length	(m)=	582.41	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	11.62	
over (min)		15.00	30.00	
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.87	0.58	1.358 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	41.00	17.45	24.99
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.42	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2720)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0720):	50.88	1.358	5.25	24.99
+ ID2= 2 (2800):	7056.82	28.815	6.50	13.42
ID = 3 (2720):	7107.70	29.386	6.50	13.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0393) | Area (ha)= 98.98
ID= 1 DT=15.0 min | Total Imp(%)= 57.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	56.42	42.56	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.90	
Length	(m)=	812.32	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	15.69	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.40 (ii)	67.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.02	
				TOTALS
PEAK FLOW	(cms)=	2.70	0.87	3.195 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	22.43	31.90

TOTAL RAINFALL	(mm)=	42.00	42.00		42.00	
RUNOFF COEFFICIENT	=	0.98	0.53		0.76	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1394)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0393):	98.98	3.195	5.25	31.90
+ ID2= 2 (2720):	7107.70	29.386	6.50	13.50
ID = 3 (1394):	7206.68	30.697	6.50	13.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5394)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5394.0) ------>

Distance	Elevation	Manning	
0.00	213.16	0.1110	
20.83	211.00	0.1110	
60.38	209.34	0.1110	
86.89	209.00	0.1110	
94.15	208.62	0.1110	
151.69	206.40	0.1110	
157.26	206.00	0.1110	
161.49	205.39	0.1110	
163.96	204.98	0.1110 /0.0490	Main Channel
166.91	204.50	0.0490	Main Channel
174.77	204.50	0.0490	Main Channel
177.78	204.96	0.0490	Main Channel
178.68	205.00	0.0490	Main Channel
178.78	204.99	0.0490 /0.1110	Main Channel
180.81	206.00	0.1110	
203.93	206.50	0.1110	
209.84	206.50	0.1110	
222.90	207.00	0.1110	
250.93	210.92	0.1110	
250.94	213.16	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	204.74	.209E+04	0.7	0.33	47.42
0.48	204.98	.486E+04	2.5	0.48	32.36
0.96	205.46	.123E+05	10.4	0.78	19.84
1.44	205.94	.216E+05	22.7	0.97	15.86
1.92	206.42	.372E+05	39.8	0.99	15.55
2.40	206.90	.676E+05	65.8	0.90	17.13
2.89	207.39	.108E+06	104.1	0.89	17.35
3.37	207.87	.156E+06	154.4	0.92	16.88

3.85	208.35	.211E+06	217.1	0.95	16.23
4.33	208.83	.273E+06	293.4	0.99	15.54
4.81	209.31	.344E+06	374.8	1.01	15.30
5.29	209.79	.427E+06	483.1	1.05	14.73
5.77	210.27	.517E+06	608.5	1.09	14.15
6.25	210.75	.613E+06	750.5	1.14	13.61
6.74	211.24	.715E+06	918.2	1.19	12.98
7.22	211.72	.820E+06	1109.3	1.26	12.32
7.70	212.20	.927E+06	1316.7	1.32	11.73
8.18	212.68	.104E+07	1539.9	1.38	11.21
8.66	213.16	.115E+07	1778.7	1.44	10.74

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (1394)		7206.68	30.70	6.50	13.75	1.67	0.98
OUTFLOW: ID= 1 (5394)		7206.68	30.17	6.75	13.75	1.64	0.98

CALIB
STANDHYD (0394) | Area (ha)= 38.01
ID= 1 DT=15.0 min | Total Imp(%)= 31.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	11.78	26.23	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	4.70	
Length	(m)=	503.39	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	11.17	
over (min)		15.00	30.00	
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.10	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.51	0.46	0.897 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	41.00	16.39	22.54
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.39	0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2394)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0394):	38.01	0.897	5.25	22.54
+ ID2= 2 (5394):	7206.68	30.170	6.75	13.75
ID = 3 (2394):	7244.69	30.535	6.75	13.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5221)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5221.0) ------>

Distance	Elevation	Manning	
0.00	209.40	0.1110	
6.90	205.50	0.1110	
12.79	205.00	0.1110	
50.72	205.00	0.1110	
54.17	204.40	0.1110	
58.47	204.00	0.1110	
68.03	203.71	0.1110	
77.31	203.69	0.1110	
81.46	203.50	0.1110	
86.45	203.56	0.1110	
89.27	202.50	0.1110	
89.61	202.33	0.1110 /0.0490	Main Channel
90.01	201.80	0.0490	Main Channel
100.15	201.80	0.0490	Main Channel
100.63	202.43	0.0490 /0.1110	Main Channel
104.18	204.27	0.1110	
115.16	204.94	0.1110	
119.53	204.93	0.1110	
121.87	205.00	0.1110	
148.39	209.73	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	202.07	.229E+04	1.1	0.40	34.80
0.53	202.33	.467E+04	3.5	0.62	22.52
0.95	202.75	.875E+04	9.3	0.89	15.59
1.36	203.16	.135E+05	17.6	1.09	12.75
1.78	203.58	.191E+05	27.9	1.22	11.42
2.19	203.99	.314E+05	42.1	1.12	12.44
2.61	204.41	.481E+05	61.9	1.08	12.96
3.03	204.83	.679E+05	87.5	1.08	12.95
3.44	205.24	.999E+05	113.6	0.95	14.66
3.86	205.66	.140E+06	161.3	0.96	14.52
4.27	206.07	.182E+06	219.4	1.01	13.86
4.69	206.49	.225E+06	286.6	1.06	13.11
5.10	206.90	.269E+06	362.5	1.13	12.39
5.52	207.32	.315E+06	446.9	1.19	11.73
5.94	207.74	.361E+06	539.4	1.25	11.15
6.35	208.15	.408E+06	640.0	1.31	10.62
6.77	208.57	.456E+06	748.5	1.37	10.16
7.18	208.98	.506E+06	864.8	1.43	9.74
7.60	209.40	.556E+06	988.9	1.49	9.37

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (2394)		7244.69	30.53	6.75	13.80	1.85	1.20
OUTFLOW: ID= 1 (5221)		7244.69	30.21	7.00	13.80	1.84	1.20

CALIB

| STANDHYD (0221) | Area (ha)= 129.39
|ID= 1 DT=15.0 min | Total Imp(%)= 48.00 Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	62.11	67.28
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	928.76	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.35
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	75.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	2.69	1.38	3.468 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	22.79	29.89
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.54	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (2221) |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0221):	129.39	3.468	5.25	29.89
+ ID2= 2 (5221):	7244.69	30.209	7.00	13.80
ID = 3 (2221):	7374.08	31.740	7.00	14.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5233) |
| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5233.0) ------>

Distance	Elevation	Manning	
0.00	211.05	0.1110	
13.16	206.00	0.1110	
38.98	205.50	0.1110	
46.73	205.50	0.1110	
58.41	203.00	0.1110	
69.39	202.53	0.1110	
79.51	202.50	0.1110	
95.91	202.01	0.1110 /0.0490	Main Channel
96.32	201.98	0.0490	Main Channel
100.74	201.58	0.0490	Main Channel
109.40	201.58	0.0490	Main Channel
111.17	202.00	0.0490 /0.1110	Main Channel
111.89	202.15	0.1110	

117.63	203.50	0.1110
119.63	204.24	0.1110
122.33	205.00	0.1110
127.31	205.55	0.1110
140.44	206.50	0.1110
170.27	211.50	0.1110
180.32	212.00	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	202.00	.395E+04	2.6	0.51	25.73
0.90	202.48	.130E+05	12.1	0.74	17.85
1.37	202.95	.313E+05	30.7	0.78	17.01
1.85	203.43	.535E+05	59.9	0.89	14.88
2.33	203.91	.772E+05	98.3	1.01	13.09
2.80	204.38	.102E+06	145.0	1.12	11.76
3.28	204.86	.129E+06	199.5	1.23	10.76
3.75	205.33	.157E+06	261.1	1.32	10.02
4.23	205.81	.191E+06	306.9	1.27	10.40
4.71	206.29	.237E+06	388.0	1.30	10.16
5.18	206.76	.285E+06	493.3	1.37	9.63
5.66	207.24	.335E+06	612.1	1.45	9.13
6.14	207.72	.387E+06	742.9	1.52	8.68
6.61	208.19	.440E+06	885.6	1.60	8.29
7.09	208.67	.495E+06	1040.0	1.67	7.94
7.56	209.14	.552E+06	1206.2	1.73	7.62
8.04	209.62	.609E+06	1384.0	1.80	7.34
8.52	210.10	.669E+06	1573.4	1.87	7.09
8.99	210.57	.730E+06	1774.6	1.93	6.86

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2221)	7374.08	31.74	7.00	14.08	1.39	0.78
OUTFLOW: ID= 1 (5233)	7374.08	31.42	7.25	14.08	1.38	0.78

| CALIB |
| STANDHYD (0233) | Area (ha)= 60.17
|ID= 1 DT=15.0 min | Total Imp(%)= 44.00 Dir. Conn.(%)= 35.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	26.47	33.70
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	633.35	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.11
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	1.13	0.81	1.722 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	41.00	22.66	29.08
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.54	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (2233) |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0233):	60.17	1.722	5.25	29.08
+ ID2= 2 (5233):	7374.08	31.419	7.25	14.08
ID = 3 (2233):	7434.25	32.090	7.00	14.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5242) |
| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5242.0) ------>

Distance	Elevation	Manning	
0.00	206.25	0.1110	
7.53	204.51	0.1110	
40.12	201.31	0.1110	
59.19	200.00	0.1110	
69.28	199.50	0.1110	
73.36	199.03	0.1110 /0.0490	Main Channel
74.00	198.50	0.0490	Main Channel
83.49	198.50	0.0490	Main Channel
84.08	199.00	0.0490 /0.1110	Main Channel
84.49	199.26	0.1110	
86.60	200.30	0.1110	
87.15	200.50	0.1110	
94.96	201.00	0.1110	
98.93	201.50	0.1110	
111.89	204.46	0.1110	
115.16	205.00	0.1110	
122.69	207.55	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	198.75	.233E+04	1.0	0.40	39.67
0.50	199.00	.480E+04	3.1	0.62	25.72
0.93	199.43	.995E+04	9.2	0.88	17.97
1.35	199.85	.176E+05	18.3	0.99	16.00
1.78	200.28	.289E+05	31.3	1.03	15.39
2.21	200.71	.434E+05	48.2	1.06	15.01
2.63	201.13	.628E+05	70.2	1.07	14.90
3.06	201.56	.862E+05	98.6	1.09	14.58
3.49	201.99	.113E+06	133.3	1.13	14.06
3.91	202.41	.141E+06	174.0	1.17	13.53
4.34	202.84	.173E+06	220.8	1.22	13.03
4.76	203.26	.206E+06	273.9	1.26	12.57
5.19	203.69	.243E+06	333.4	1.31	12.14
5.62	204.12	.282E+06	399.8	1.35	11.74

6.04	204.54	.323E+06	473.2	1.39	11.38
6.47	204.97	.367E+06	557.1	1.45	10.97
6.90	205.40	.412E+06	650.2	1.50	10.56
7.32	205.82	.458E+06	750.3	1.56	10.18
7.75	206.25	.506E+06	857.3	1.61	9.83

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2233)	7434.25	32.09	7.00	14.20	1.80	1.03
OUTFLOW: ID= 1 (5242)	7434.25	31.83	7.25	14.20	1.79	1.03

| CALIB |
| STANDHYD (0242) | Area (ha)= 144.68
|ID= 1 DT=15.0 min | Total Imp(%)= 52.00 Dir. Conn.(%)= 44.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.23	69.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	982.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.84
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	3.40	1.49	4.250 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	23.70	31.31
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.56	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (2242) |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0242):	144.68	4.250	5.25	31.31
+ ID2= 2 (5242):	7434.25	31.832	7.25	14.20
ID = 3 (2242):	7578.93	33.444	7.25	14.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5551) |
| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (5551.0) ------>

Distance	Elevation	Manning	
0.00	206.24	0.1110	
25.71	201.81	0.1110	
46.60	199.50	0.1110	
67.80	199.50	0.1110	
74.10	198.50	0.1110	
97.90	197.50	0.1110	
132.90	197.50	0.1110	
138.60	197.00	0.1110	
146.80	196.50	0.1110 /0.0490	Main Channel
150.90	196.00	0.0490	Main Channel
160.46	196.00	0.0490	Main Channel
161.39	196.31	0.0490	Main Channel
161.98	196.50	0.0490 /0.1110	Main Channel
163.24	196.92	0.1110	
163.50	197.00	0.1110	
165.25	197.50	0.1110	
193.50	204.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	196.25	.400E+04	1.8	0.65	37.22
0.50	196.50	.903E+04	6.1	0.98	24.86
0.94	196.94	.216E+05	21.1	1.43	17.03
1.38	197.38	.392E+05	44.8	1.67	14.58
1.82	197.82	.785E+05	80.3	1.49	16.31
2.26	198.26	.132E+06	136.7	1.52	16.07
2.71	198.71	.193E+06	212.4	1.61	15.11
3.15	199.15	.257E+06	307.3	1.75	13.94
3.59	199.59	.327E+06	395.1	1.76	13.80
4.03	200.03	.412E+06	531.2	1.88	12.93
4.47	200.47	.500E+06	686.6	2.00	12.15
4.91	200.91	.593E+06	861.3	2.12	11.47
5.35	201.35	.689E+06	1054.9	2.24	10.88
5.79	201.79	.789E+06	1267.4	2.35	10.37
6.24	202.24	.892E+06	1504.2	2.46	9.88
6.68	202.68	.998E+06	1760.2	2.57	9.45
7.12	203.12	.111E+07	2034.9	2.68	9.07
7.56	203.56	.122E+07	2328.5	2.79	8.73
8.00	204.00	.133E+07	2640.8	2.89	8.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2242)	7578.93	33.44	7.25	14.53	1.17	1.55
OUTFLOW: ID= 1 (5551)	7578.93	33.21	7.50	14.53	1.17	1.54

CALIB					
NASHYD (0551)	Area	(ha)=	27.37	Curve Number	(CN)= 79.1
ID= 1 DT=15.0 min	Ia	(mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.31		

Unit Hyd Qpeak (cms)= 3.405

PEAK FLOW (cms)= 0.497 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 11.876

TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.283

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2551)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0551):	27.37	0.497	5.25	11.88
	+ ID2= 2 (5551):	7578.93	33.212	7.50	14.53
	ID = 3 (2551):	7606.30	33.307	7.50	14.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0554)	Area	(ha)=	16.13	
ID= 1 DT=15.0 min	Total Imp(%)=	50.00	Dir. Conn.(%)=	39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.06	8.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	327.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	17.91
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW (cms)=		0.34	0.26	0.571 (iii)
TIME TO PEAK (hrs)=		5.25	5.50	5.25
RUNOFF VOLUME (mm)=		41.00	24.24	30.77
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.98	0.58	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9099)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	TOTAL HYD.(ID= 1):	16.13	0.57	5.25	30.77
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	16.13	0.57	5.25	30.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6099)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1					
DT= 15.0 min		0.0000	0.0000	0.1500	2.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9099)	16.130	0.571	5.25	30.77
OUTFLOW: ID= 1 (6099)	16.130	0.032	9.50	30.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.58
TIME SHIFT OF PEAK FLOW (min)=255.00
MAXIMUM STORAGE USED (ha.m.)= 0.4254

ADD HYD (4099)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3					
*** W A R N I N G :	HYDROGRAPH 9099 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
	ID1= 1 (6099):	16.13	0.032	9.50	30.57
	+ ID2= 2 (9099):	0.00	0.000	0.00	0.00
	ID = 3 (4099):	16.13	0.032	9.50	30.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1230)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2551):	7606.30	33.307	7.50	14.52
	+ ID2= 2 (4099):	16.13	0.032	9.50	30.57
	ID = 3 (1230):	7622.43	33.336	7.50	14.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5230)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (5230.0) ------>

Distance	Elevation	Manning	
0.00	206.83	0.1110	
4.14	206.00	0.1110	
22.63	198.67	0.1110	
36.40	196.50	0.1110	
112.13	195.70	0.1110	
118.23	195.50	0.1110	
122.94	195.00	0.1110	
123.65	194.50	0.1110 /0.0490	Main Channel

123.86	194.36	0.0490	Main Channel
135.37	194.41	0.0490	Main Channel
135.47	194.41	0.0490	Main Channel
135.58	194.50	0.0490 /0.1110	Main Channel
136.38	195.21	0.1110	
163.77	196.50	0.1110	
176.41	197.50	0.1110	
187.00	199.50	0.1110	
197.29	200.50	0.1110	
222.22	205.14	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	194.50	.102E+04	0.3	0.22	57.77
0.70	195.06	.639E+04	5.8	0.69	18.34
1.26	195.62	.149E+05	16.6	0.84	14.95
1.82	196.18	.395E+05	36.4	0.70	18.12
2.38	196.74	.894E+05	77.0	0.65	19.35
2.94	197.30	.147E+06	141.7	0.73	17.35
3.50	197.86	.210E+06	227.1	0.82	15.39
4.06	198.42	.275E+06	331.5	0.91	13.82
4.62	198.98	.343E+06	455.0	1.00	12.55
5.18	199.54	.412E+06	596.4	1.09	11.52
5.74	200.10	.485E+06	751.0	1.17	10.75
6.30	200.66	.560E+06	924.2	1.25	10.09
6.86	201.22	.637E+06	1117.9	1.33	9.50
7.42	201.78	.716E+06	1327.9	1.40	8.99
7.98	202.34	.797E+06	1554.0	1.47	8.55
8.54	202.90	.880E+06	1796.2	1.54	8.17
9.10	203.46	.965E+06	2054.2	1.61	7.83
9.66	204.02	.105E+07	2328.1	1.67	7.53
10.22	204.58	.114E+07	2617.9	1.74	7.26

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1230)	7622.43	33.34	7.50	14.55	1.73	0.71
OUTFLOW: ID= 1 (5230)	7622.43	32.77	7.75	14.55	1.71	0.72

CALIB					
STANDHYD (0230)	Area	(ha)=	73.89		
ID= 1 DT=15.0 min	Total Imp(%)=	28.00	Dir. Conn.(%)=	22.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.69	53.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.40
Length	(m)=	701.85	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	12.96
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	54.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW (cms)=		0.87	0.98	1.560 (iii)
TIME TO PEAK (hrs)=		5.25	6.00	5.25
RUNOFF VOLUME (mm)=		41.00	19.19	23.99

```
TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
RUNOFF COEFFICIENT   =       0.98         0.46           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0230):    73.89   1.560     5.25    23.99
       + ID2= 2 (5230):  7622.43  32.766     7.75    14.55
         ================================================
         ID = 3 (2230):  7696.32  33.303     7.75    14.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0561) |   Area    (ha)=  20.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  50.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      11.46         9.38
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.80
     Length            (m)=     372.74        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        15.07
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.40 (ii)   49.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.56         0.23          0.761 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      41.00        23.11         32.05
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.55          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9561) |
| Inlet Cap.=0.850 |
| #of Inlets=    1 |
| Total(cms)=  0.9 |      AREA     QPEAK     TPEAK    R.V.
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```
                          (ha)     (cms)     (hrs)    (mm)
TOTAL HYD.(ID= 1):  20.84      0.76      5.25   32.05
==================================================
MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
MINOR SYS.(ID= 3):  20.84      0.76      5.25   32.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2230):  7696.32  33.303     7.75    14.64
       + ID2= 2 (9561):    20.84   0.761     5.25    32.05
         ================================================
         ID = 3 (****):  7717.16  33.438     7.75    14.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5389) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5389.0) ------>
               Distance      Elevation       Manning
                   0.00         199.34        0.1110
                   3.25         198.31        0.1110
                   8.26         194.50        0.1110
                  12.49         192.78        0.1110
                  35.23         192.57        0.1110
                  45.14         192.86        0.1110
                  56.75         192.19        0.1110
                  64.87         192.00        0.1110
                  86.92         192.00        0.1110
                  87.41         191.50        0.1110
                  87.93         191.00        0.1110
                  88.41         190.96    0.1110 /0.0490  Main Channel
                  89.77         190.00        0.0490      Main Channel
                  93.81         190.00        0.0490      Main Channel
                  95.69         190.80        0.0490      Main Channel
                  96.61         191.00    0.0490 /0.1110  Main Channel
                  98.47         191.50        0.1110
                 113.20         193.50        0.1110
                 129.63         197.50        0.1110
                 129.73         197.53        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.32    190.32    .222E+04        0.9         0.58      42.60
      0.64    190.64    .502E+04        2.9         0.87      28.76
      0.96    190.96    .843E+04        5.9         1.05      23.65
      1.37    191.37    .142E+05       12.9         1.35      18.41
      1.78    191.78    .214E+05       22.3         1.55      16.04
      2.19    192.19    .382E+05       35.0         1.37      18.18
      2.60    192.60    .702E+05       55.8         1.19      20.95
      3.01    193.01    .124E+06       87.2         1.05      23.68
      3.42    193.42    .185E+06      135.4         1.09      22.78
      3.83    193.83    .248E+06      195.9         1.18      21.14
      4.24    194.24    .313E+06      267.3         1.27      19.55
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      4.66   194.66    .380E+06      349.2         1.37      18.15
      5.07   195.07    .448E+06      441.3         1.47      16.93
      5.48   195.48    .518E+06      542.9         1.57      15.90
      5.89   195.89    .589E+06      653.9         1.66      15.00
      6.30   196.30    .661E+06      773.9         1.75      14.23
      6.71   196.71    .734E+06      902.9         1.84      13.56
      7.12   197.12    .809E+06     1040.7         1.92      12.96
      7.53   197.53    .886E+06     1187.4         2.00      12.43

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (****) 7717.16    33.44    7.75  14.69      2.14      1.39
     OUTFLOW: ID= 1 (5389) 7717.16    32.97    8.00  14.69      2.12      1.40

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--------------------
| CALIB            |
| STANDHYD  (0389) |   Area    (ha)=  77.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.52        58.64
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.50
     Length            (m)=     717.22        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.12
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   52.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.99         0.87          1.700 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      41.00        16.04         22.03
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.38          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2389) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0389):    77.16   1.700     5.25    22.03
       + ID2= 2 (5389):  7717.16  32.967     8.00    14.69
         ================================================
         ID = 3 (2389):  7794.32  33.373     8.00    14.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5680) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5680.0) ------>
               Distance      Elevation       Manning
                   0.00         192.05        0.1110
                   4.42         191.50        0.1110
                  19.11         187.00        0.1110
                  24.86         186.33        0.1110
                  30.83         186.31        0.1110
                  36.85         186.50        0.1110
                  56.81         186.50        0.1110
                  63.15         186.00        0.1110
                  73.63         186.00        0.1110
                  74.48         185.90    0.1110 /0.0490  Main Channel
                  75.36         184.90        0.0490      Main Channel
                  82.36         184.90        0.0490      Main Channel
                  83.09         185.85    0.0490 /0.1110  Main Channel
                  83.24         185.85        0.1110
                  96.38         186.50        0.1110
                 112.87         191.86        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.32    185.22    .230E+04        1.5         0.64      26.12
      0.63    185.53    .476E+04        4.6         0.97      17.18
      0.95    185.85    .739E+04        9.1         1.22      13.61
      1.33    186.23    .150E+05       17.5         1.16      14.35
      1.70    186.60    .339E+05       31.6         0.93      17.88
      2.08    186.98    .626E+05       58.2         0.93      17.92
      2.45    187.35    .925E+05       94.4         1.02      16.33
      2.83    187.73    .123E+06      139.1         1.13      14.79
      3.20    188.10    .155E+06      191.4         1.23      13.51
      3.58    188.48    .188E+06      251.2         1.34      12.47
      3.96    188.86    .221E+06      318.1         1.44      11.60
      4.33    189.23    .256E+06      392.0         1.53      10.88
      4.71    189.61    .291E+06      472.7         1.62      10.27
      5.08    189.98    .328E+06      560.2         1.71       9.74
      5.46    190.36    .365E+06      654.4         1.79       9.29
      5.83    190.73    .403E+06      755.2         1.87       8.89
      6.21    191.11    .442E+06      862.6         1.95       8.53
      6.58    191.48    .482E+06      976.5         2.03       8.22
      6.96    191.86    .523E+06     1088.5         2.08       8.00

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2389) 7794.32    33.37    8.00  14.76      1.73      0.93
     OUTFLOW: ID= 1 (5680) 7794.32    32.95    8.25  14.76      1.72      0.93

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0680) |   Area    (ha)=  29.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  19.00   Dir. Conn.(%)=  19.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.64        24.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         8.80
```

```
Length           (m)=     444.97        40.00
Mannings n         =      0.013        0.250

Max.Eff.Inten.(mm/hr)=     19.32        10.12
          over (min)       15.00        30.00
Storage Coeff.  (min)=      6.00 (ii)   34.20 (ii)
Unit Hyd. Tpeak (min)=     15.00        30.00
Unit Hyd. peak  (cms)=      0.10         0.03
                                              *TOTALS*
PEAK FLOW       (cms)=      0.30         0.45          0.732 (iii)
TIME TO PEAK    (hrs)=      5.25         5.50           5.25
RUNOFF VOLUME    (mm)=     41.00        16.04          20.78
TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
RUNOFF COEFFICIENT   =      0.98         0.38           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2680) |
|   1 +   2 =   3  |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0680):    29.70   0.732     5.25    20.78
       + ID2= 2 (5680):  7794.32  32.949     8.25    14.76
         ================================================
         ID = 3 (2680):  7824.02  33.065     8.25    14.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0215) |   Area    (ha)= 168.73
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  52.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     97.86        70.87
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         1.80
     Length            (m)=   1060.60        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.32        17.00
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     15.60 (ii)   91.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        90.00
     Unit Hyd. peak  (cms)=      0.07         0.01
                                              *TOTALS*
     PEAK FLOW       (cms)=      4.64         1.36          5.277 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.50           5.25
     RUNOFF VOLUME    (mm)=     41.00        24.51          33.08
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.98         0.58           0.79
```



```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (5563) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5563.0) ------>
               Distance      Elevation       Manning
                  0.00         191.36        0.1110
                 14.77         191.00        0.1110
                 25.44         190.67        0.1110
                 80.93         190.90        0.1110
                145.10         190.42        0.1110
                212.09         190.83        0.1110
                285.12         189.56        0.1110
                295.52         188.71        0.1110
                307.38         188.32        0.1110
                307.51         188.31        0.1110
                312.32         188.04    0.1110 /0.0490  Main Channel
                317.15         187.12        0.0490      Main Channel
                321.73         188.01    0.0490 /0.1110  Main Channel
                327.33         189.06        0.1110
                328.00         189.07        0.1110
                347.82         189.58        0.1110
                348.77         189.58        0.1110
                359.57         189.55        0.1110
                452.50         191.17        0.1110
                496.50         191.28        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.18   187.30    .208E+03        0.1          0.42      50.17
       0.36   187.48    .832E+03        0.4          0.67      31.60
       0.53   187.65    .187E+04        1.3          0.87      24.12
       0.71   187.83    .333E+04        2.8          1.06      19.91
       0.89   188.01    .520E+04        5.1          1.23      17.16
       1.12   188.24    .862E+04       10.3          1.51      13.96
       1.36   188.48    .138E+05       17.5          1.60      13.14
       1.59   188.71    .214E+05       27.2          1.61      13.11
       1.82   188.94    .309E+05       40.1          1.64      12.84
       2.06   189.18    .419E+05       55.2          1.67      12.64
       2.29   189.41    .561E+05       74.0          1.66      12.65
       2.52   189.64    .755E+05       94.5          1.58      13.32
       2.76   189.88    .104E+06      122.0          1.47      14.28
       2.99   190.11    .141E+06      158.7          1.42      14.85
       3.23   190.35    .186E+06      205.5          1.39      15.10
       3.46   190.58    .244E+06      249.0          1.29      16.31
       3.69   190.81    .332E+06      310.8          1.18      17.80
       3.93   191.05    .455E+06      425.1          1.18      17.82
       4.16   191.28    .588E+06      551.2          1.18      17.79

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0215)  168.73     5.28    5.25  33.08      0.90      1.24
     OUTFLOW: ID= 1 (5563)  168.73     4.93    5.25  33.08      0.88      1.21
```



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--------------------
| CALIB            |
| STANDHYD  (0563) |   Area    (ha)=  27.61
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  37.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     10.22        17.39
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.90
     Length            (m)=    429.03        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.32        11.43
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.20 (ii)   42.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                              *TOTALS*
     PEAK FLOW       (cms)=      0.55         0.32          0.821 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75           5.25
     RUNOFF VOLUME    (mm)=     41.00        18.20          26.63
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.98         0.43           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2563) |
|   1 +   2 =   3  |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0563):    27.61   0.821     5.25    26.63
       + ID2= 2 (5563):   168.73   4.932     5.25    33.08
         ================================================
         ID = 3 (2563):   196.34   5.753     5.25    32.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0565) |   Area    (ha)=  11.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  54.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.11         5.20
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.20
     Length            (m)=    274.59        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.32        12.90
               over (min)       15.00        30.00
```



```
     Storage Coeff.  (min)=      6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                              *TOTALS*
     PEAK FLOW       (cms)=      0.33         0.12          0.434 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=     41.00        21.81          32.17
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00
     RUNOFF COEFFICIENT   =      0.98         0.52           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9290) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  11.31      0.43      5.25   32.17
     ================================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  11.31      0.43      5.25   32.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6680      0.3357
                          0.0690     0.0792   |   0.9860      0.4276
                          0.2090     0.1615   |   1.3660      0.5226
                          0.4090     0.2471   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9290)     11.310     0.434      5.25      32.17
     OUTFLOW: ID= 1 (6290)     11.310     0.196      6.00      32.14

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.10
                   TIME SHIFT OF PEAK FLOW         (min)= 45.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1539

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--------------------
| ADD HYD   (4290) |
|   1 +   2 =   3  |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9290 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6290):    11.31   0.196     6.00    32.14
       + ID2= 2 (9290):     0.00   0.000     0.00     0.00
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          ================================================
          ID = 3 (4290):    11.31   0.196     6.00    32.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (3563) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2563):   196.34   5.753     5.25    32.18
        + ID2= 2 (4290):    11.31   0.196     6.00    32.14
          ================================================
          ID = 3 (3563):   207.65   5.918     5.25    32.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (3680) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2680):  7824.02  33.065     8.25    14.79
        + ID2= 2 (3563):   207.65   5.918     5.25    32.17
          ================================================
          ID = 3 (3680):  8031.67  34.693     8.25    15.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.41
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        13.50
     Length            (m)=      63.25        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        11.92
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01      0.020 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      41.00        19.01      25.81
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.98         0.45       0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         1.10
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        13.50
     Length            (m)=     103.28        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        11.92
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03      0.053 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      41.00        19.01      25.82
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.98         0.45       0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  19.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.14        13.67
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        13.50
     Length            (m)=     363.41        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        11.92
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.33         0.32      0.652 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      41.00        19.01      25.83
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.98         0.45       0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    19.81   0.652     5.25    25.83
        + ID2= 2 (****):     1.60   0.053     5.25    25.82
          ================================================
          ID = 3 (0405):    21.41   0.704     5.25    25.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0404) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0405):    21.41   0.704     5.25    25.83
        + ID2= 2 (****):     0.60   0.020     5.25    25.81
          ================================================
          ID = 3 (0404):    22.01   0.724     5.25    25.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| DUHYD     (9473) |
| Inlet Cap.=0.059 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)      (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  22.01      0.72      5.25   25.83
     ================================================
     MAJOR SYS.(ID= 2):  15.45      0.67      5.25   25.83
     MINOR SYS.(ID= 3):   6.56      0.06      3.50   25.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6473) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0590     0.2565

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9473)     6.564     0.059      3.50      25.83
     OUTFLOW: ID= 1 (6473)     6.564     0.025     10.00      25.66

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.54
               TIME SHIFT OF PEAK FLOW         (min)=390.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.1092

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--------------------
| ADD HYD   (4473) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6473):     6.56   0.025    10.00    25.66
        + ID2= 2 (9473):    15.45   0.665     5.25    25.83
          ================================================
          ID = 3 (4473):    22.01   0.677     5.25    25.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1227) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3680):  8031.67  34.693     8.25    15.24
        + ID2= 2 (4473):    22.01   0.677     5.25    25.78
          ================================================
          ID = 3 (1227):  8053.68  34.747     8.25    15.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5227) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5227.0) ------>
               Distance      Elevation       Manning
                  0.00         183.10         0.1110
                  2.58         183.12         0.1110
                 12.20         179.50         0.1110
                 18.00         179.50         0.1110
                 24.51         179.00         0.1110
                 31.60         179.00         0.1110
                 36.79         179.37         0.1110
                 53.69         179.00    0.1110 /0.0490  Main Channel
                 55.00         178.00       0.0490       Main Channel
                 68.00         178.00       0.0490       Main Channel
                 69.17         179.00    0.0490 /0.1110  Main Channel
                 81.13         179.50         0.1110
                103.11         179.50         0.1110
                130.08         180.00         0.1110
                146.16         180.75         0.1110
                171.96         185.35         0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.25    178.25    .765E+04       2.3          0.70      54.53
       0.50    178.50    .157E+05       7.4          1.09      35.12
       0.75    178.75    .240E+05      14.6          1.40      27.35
       1.00    179.00    .327E+05      23.7          1.67      23.01
       1.27    179.27    .552E+05      37.9          1.58      24.27
       1.55    179.55    .952E+05      58.0          1.40      27.36
       1.82    179.82    .159E+06      89.5          1.29      29.60
       2.09    180.09    .232E+06     131.2          1.30      29.46
       2.37    180.37    .310E+06     183.3          1.36      28.21
       2.64    180.64    .393E+06     244.7          1.43      26.77
       2.91    180.91    .479E+06     316.3          1.52      25.24
       3.19    181.19    .567E+06     397.7          1.61      23.76
```

3.46	181.46	.656E+06	487.5	1.71	22.43
3.73	181.73	.747E+06	585.4	1.80	21.26
4.01	182.01	.839E+06	691.2	1.89	20.23
4.28	182.28	.933E+06	804.7	1.98	19.32
4.55	182.55	.103E+07	925.7	2.07	18.50
4.83	182.83	.112E+07	1054.1	2.16	17.77
5.10	183.10	.122E+07	1189.9	2.24	17.11

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1227)	8053.68	34.75	8.25	15.26	1.21	1.60
OUTFLOW: ID= 1 (5227)	8053.68	34.11	8.75	15.26	1.20	1.60

CALIB	
STANDHYD (****)	Area (ha)= 91.82
ID= 1 DT=15.0 min	Total Imp(%)= 32.00 Dir. Conn.(%)= 32.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	29.38	62.44
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.60
Length (m)=	782.39	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.53
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	1.57	0.88	2.160 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	41.00	16.72	24.49
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.40	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 4.30
ID= 1 DT=15.0 min	Total Imp(%)= 32.00 Dir. Conn.(%)= 32.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.38	2.92
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.60
Length (m)=	169.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.53
over (min)	15.00	30.00

Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)		
Unit Hyd. Tpeak (min)=	15.00	60.00		
Unit Hyd. peak (cms)=	0.09	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.07	0.04	0.101 (iii)	
TIME TO PEAK (hrs)=	5.25	6.00	5.25	
RUNOFF VOLUME (mm)=	41.00	16.72	24.48	
TOTAL RAINFALL (mm)=	42.00	42.00	42.00	
RUNOFF COEFFICIENT =	0.98	0.40	0.58	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 12.48
ID= 1 DT=15.0 min	Total Imp(%)= 32.00 Dir. Conn.(%)= 32.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.99	8.49
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.60
Length (m)=	288.44	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.53
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	0.21	0.12	0.294 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	41.00	16.72	24.48
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.40	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0359)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	12.48	0.294	5.25	24.48
+ ID2= 2 (****):	4.30	0.101	5.25	24.48
ID = 3 (0359):	16.78	0.395	5.25	24.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0358)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0359):	16.78	0.395	5.25	24.48
+ ID2= 2 (****):	91.82	2.160	5.25	24.49
ID = 3 (0358):	108.60	2.555	5.25	24.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2227)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0358):	108.60	2.555	5.25	24.49
+ ID2= 2 (5227):	8053.68	34.109	8.75	15.26
ID = 3 (2227):	8162.28	34.530	8.75	15.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0197)	Area (ha)= 124.38
ID= 1 DT=15.0 min	Total Imp(%)= 67.00 Dir. Conn.(%)= 62.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	83.33	41.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.50
Length (m)=	910.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	17.83
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	4.11	0.93	4.655 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	25.72	35.19
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.61	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

STANDHYD (0183)	Area (ha)= 74.89
ID= 1 DT=15.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	63.66	11.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	706.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.76
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	67.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	3.41	0.27	3.602 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	41.00	28.11	39.07
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.67	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1191)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0183):	74.89	3.602	5.25	39.07
+ ID2= 2 (0197):	124.38	4.655	5.25	35.19
ID = 3 (1191):	199.27	8.257	5.25	36.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5191)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5191.0) ------>

Distance	Elevation	Manning	
0.00	206.09	0.1110	
41.11	202.34	0.1110	
69.44	202.09	0.1110	
120.54	202.43	0.1110	
159.64	202.06	0.1110	
176.80	201.18	0.1110	
193.03	197.88	0.1110	
193.97	197.91	0.1110 /0.0490	Main Channel
202.84	197.45	0.0490	Main Channel
207.88	196.02	0.0490 /0.1110	Main Channel
219.68	198.15	0.1110	
226.18	199.27	0.1110	
252.21	200.52	0.1110	

288.65	200.95	0.1110	
324.33	200.78	0.1110	
336.83	201.55	0.1110	
350.63	201.56	0.1110	
407.58	202.86	0.1110	
457.84	201.67	0.1110	
478.94	202.83	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	196.38	.805E+03	0.2	0.26	88.04
0.72	196.74	.322E+04	1.0	0.42	55.46
1.08	197.10	.724E+04	2.9	0.54	42.32
1.43	197.45	.129E+05	6.1	0.66	35.09
1.79	197.81	.215E+05	10.3	0.66	34.83
2.15	198.17	.344E+05	20.5	0.83	27.92
2.51	198.53	.493E+05	35.2	0.99	23.31
2.87	198.89	.661E+05	53.8	1.13	20.47
3.23	199.25	.848E+05	76.3	1.24	18.53
3.58	199.60	.107E+06	99.7	1.29	17.82
3.94	199.96	.133E+06	128.8	1.34	17.20
4.30	200.32	.164E+06	163.8	1.38	16.67
4.66	200.68	.201E+06	198.9	1.37	16.81
5.02	201.04	.260E+06	234.3	1.24	18.51
5.38	201.40	.337E+06	305.3	1.25	18.42
5.73	201.75	.425E+06	376.5	1.22	18.83
6.09	202.11	.535E+06	456.7	1.18	19.53
6.45	202.47	.701E+06	555.9	1.10	21.03
6.81	202.83	.909E+06	714.3	1.09	21.22

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1191)	199.27	8.26	5.25	36.65	1.62	0.66
OUTFLOW: ID= 1 (5191)	199.27	6.73	5.25	36.65	1.49	0.66

CALIB	
STANDHYD (0191)	Area (ha)= 162.87
ID= 1 DT=15.0 min	Total Imp(%)= 82.00 Dir. Conn.(%)= 81.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	133.55	29.32
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	1042.02	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	17.21
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	78.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	7.03	0.64 7.412 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	41.00	27.25 38.39
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.65 0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2191)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0191):	162.87	7.412	5.25	38.39
	+ ID2= 2 (5191):	199.27	6.732	5.25	36.65
	ID = 3 (2191):	362.14	14.145	5.25	37.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5214)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5214.0) ------>

Distance	Elevation	Manning	
0.00	190.50	0.1110	
2.09	189.13	0.1110	
13.57	187.20	0.1110	
23.54	186.97	0.1110 /0.0490	Main Channel
26.84	186.32	0.0490	Main Channel
27.21	186.25	0.0490	Main Channel
31.31	187.11	0.0490 /0.1110	Main Channel
35.60	187.49	0.1110	
46.65	189.04	0.1110	
49.91	188.81	0.1110	
63.03	189.57	0.1110	
78.54	190.45	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	186.43	.305E+03	0.1	0.37	85.15
0.36	186.61	.121E+04	0.4	0.59	53.70
0.54	186.79	.272E+04	1.1	0.77	41.01
0.72	186.97	.484E+04	2.4	0.93	33.86
0.95	187.20	.104E+05	5.6	1.01	31.17
1.18	187.43	.196E+05	11.1	1.07	29.32
1.42	187.67	.303E+05	18.7	1.17	27.02
1.65	187.90	.424E+05	28.2	1.26	25.01
1.88	188.13	.558E+05	39.8	1.35	23.38
2.11	188.36	.705E+05	53.3	1.43	22.05
2.34	188.59	.866E+05	68.9	1.50	20.94
2.58	188.83	.104E+06	86.4	1.57	20.06
2.81	189.06	.125E+06	104.5	1.58	19.87
3.04	189.29	.148E+06	128.2	1.63	19.28
3.27	189.52	.174E+06	155.0	1.68	18.70
3.50	189.75	.201E+06	184.8	1.73	18.17
3.74	189.99	.231E+06	217.7	1.78	17.68
3.97	190.22	.262E+06	253.8	1.83	17.24
4.20	190.45	.296E+06	293.1	1.87	16.82

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2191)	362.14	14.14	5.25	37.43	1.28	1.11
OUTFLOW: ID= 1 (5214)	362.14	11.67	5.50	37.43	1.20	1.08

CALIB	
STANDHYD (0214)	Area (ha)= 38.36
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	19.18	19.18
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	505.70	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	12.97
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	1.03	0.40 1.379 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	41.00	20.81 30.90
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.50 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2214)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0214):	38.36	1.379	5.25	30.90
	+ ID2= 2 (5214):	362.14	11.668	5.50	37.43
	ID = 3 (2214):	400.50	12.610	5.25	36.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0134)	Area (ha)= 24.26
ID= 1 DT=15.0 min	Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.95	6.31
Dep. Storage (mm)=	1.00	4.00

Average Slope (%)=	1.00	2.30
Length (m)=	402.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	15.40
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	0.96	0.16 1.103 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	41.00	25.28 36.91
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.60 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9313)					
Inlet Cap.=8.700					
#of Inlets= 1					
Total(cms)= 8.7		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	24.26	1.10	5.25	36.91
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	24.26	1.10	5.25	36.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6313)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1050	0.6800
	0.1030	0.5950	8.7000	0.9200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9313)	24.260	1.103	5.25	36.91
OUTFLOW: ID= 1 (6313)	24.260	0.154	7.50	36.85

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.99
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 0.6815

ADD HYD (4313)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3					

*** W A R N I N G : HYDROGRAPH 9313 <ID= 2> IS DRY.

```
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6313):    24.26   0.154     7.50    36.85
        + ID2= 2 (9313):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4313):    24.26   0.154     7.50    36.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (3214) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2214):   400.50  12.610     5.25    36.80
        + ID2= 2 (4313):    24.26   0.154     7.50    36.85
          ================================================
          ID = 3 (3214):   424.76  12.689     5.25    36.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0189) |   Area    (ha)= 116.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      85.06        30.17
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.20
     Length            (m)=     879.51        40.00
     Mannings n         =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        15.40
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     10.80 (ii)   63.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      4.60         0.65         5.068 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=     41.00        25.28        36.91
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.98         0.60         0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (5200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5200.0) ------>
              Distance      Elevation       Manning
                  0.00         193.37        0.1110
```



```
                 17.44         193.51        0.1110
                 50.09         193.00        0.1110
                 90.09         192.83        0.1110
                121.68         192.17        0.1110
                128.93         192.61        0.1110
                141.32         191.78        0.1110
                147.98         191.88        0.1110
                197.61         189.48    0.1110 /0.0490  Main Channel
                204.01         189.06        0.0490      Main Channel
                205.40         188.96        0.0490      Main Channel
                211.29         189.53    0.0490 /0.1110  Main Channel
                222.97         191.23        0.1110
                226.70         191.10        0.1110
                263.00         191.03        0.1110
                355.09         192.45        0.1110
                382.19         192.49        0.1110
                383.02         192.49        0.1110
                396.28         192.31        0.1110
                520.20         195.65        0.1110

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
           0.17   189.13    .489E+03        0.1          0.39      56.62
           0.35   189.31    .199E+04        0.9          0.62      35.61
           0.52   189.48    .451E+04        2.8          0.82      27.13
           0.76   189.72    .990E+04        8.6          1.15      19.26
           1.01   189.97    .175E+05       17.5          1.33      16.62
           1.25   190.21    .272E+05       29.7          1.45      15.26
           1.49   190.45    .391E+05       45.3          1.54      14.36
           1.74   190.70    .531E+05       64.6          1.62      13.70
           1.98   190.94    .693E+05       87.8          1.68      13.16
           2.22   191.18    .945E+05      112.8          1.59      13.96
           2.47   191.43    .133E+06      151.5          1.51      14.68
           2.71   191.67    .179E+06      199.9          1.48      14.95
           2.95   191.91    .233E+06      253.7          1.45      15.28
           3.19   192.15    .294E+06      326.4          1.47      15.02
           3.44   192.40    .365E+06      396.3          1.44      15.34
           3.68   192.64    .457E+06      480.9          1.40      15.85
           3.92   192.88    .561E+06      600.7          1.42      15.57
           4.17   193.13    .680E+06      737.3          1.44      15.37
           4.41   193.37    .808E+06      909.7          1.50      14.81

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0189)  116.03     5.07    5.25  36.91      0.62      0.92
     OUTFLOW: ID= 1 (5200)  116.03     4.59    5.25  36.91      0.60      0.90

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-------------------
| CALIB             |
| STANDHYD  (0200) |   Area    (ha)=  47.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.50         9.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     562.91        40.00
     Mannings n         =       0.013        0.250
```



```
     Max.Eff.Inten.(mm/hr)=      19.32        16.07
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      9.60 (ii)   55.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.06         0.22         2.228 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75         5.25
     RUNOFF VOLUME    (mm)=     41.00        26.64        38.27
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.98         0.63         0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2200) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0200):    47.53   2.228     5.25    38.27
        + ID2= 2 (5200):   116.03   4.588     5.25    36.91
          ================================================
          ID = 3 (2200):   163.56   6.816     5.25    37.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1650) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2200):   163.56   6.816     5.25    37.31
        + ID2= 2 (3214):   424.76  12.689     5.25    36.81
          ================================================
          ID = 3 (1650):   588.32  19.505     5.25    36.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5650) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5650.0) ------>
              Distance      Elevation       Manning
                  0.00         186.99        0.1110
                  0.62         186.98        0.1110
                 54.47         185.71        0.1110
                 69.34         182.09    0.1110 /0.0490  Main Channel
                 71.18         181.64        0.0490      Main Channel
                 73.43         182.23    0.0490 /0.1110  Main Channel
                 82.69         184.73        0.1110
                 87.60         185.04        0.1110
                110.20         184.66        0.1110
                129.32         184.73        0.1110
```



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                164.79         185.85        0.1110
                170.26         185.86        0.1110

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
            (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
           0.15   181.79    .249E+02        0.0          0.18      26.45
           0.30   181.94    .997E+02        0.1          0.28      16.66
           0.45   182.09    .224E+03        0.3          0.37      12.71
           0.69   182.33    .521E+03        1.0          0.53       8.87
           0.92   182.56    .939E+03        2.1          0.63       7.37
           1.16   182.80    .148E+04        3.7          0.70       6.65
           1.39   183.03    .214E+04        5.7          0.75       6.21
           1.63   183.27    .292E+04        8.3          0.79       5.90
           1.86   183.50    .383E+04       11.3          0.83       5.65
           2.10   183.74    .486E+04       14.9          0.86       5.44
           2.34   183.98    .600E+04       19.0          0.89       5.26
           2.57   184.21    .727E+04       23.7          0.92       5.10
           2.81   184.45    .866E+04       29.1          0.94       4.96
           3.04   184.68    .102E+05       33.4          0.92       5.09
           3.28   184.92    .138E+05       39.5          0.80       5.82
           3.51   185.15    .190E+05       50.2          0.74       6.31
           3.75   185.39    .250E+05       64.4          0.72       6.46
           3.98   185.62    .315E+05       81.4          0.72       6.45
           4.22   185.86    .387E+05       96.4          0.70       6.69

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1650)  588.32    19.51    5.25  36.95      2.36      0.89
     OUTFLOW: ID= 1 (5650)  588.32    18.76    5.25  36.95      2.32      0.89

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-------------------
| CALIB             |
| STANDHYD  (0650) |   Area    (ha)=  10.55
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.59         4.96
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     265.20        40.00
     Mannings n         =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        12.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      5.40 (ii)   33.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.30         0.12         0.415 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=     41.00        19.88        31.07
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.98         0.47         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2650)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0650):		10.55	0.415	5.25	31.07
+ ID2= 2 (5650):		588.32	18.764	5.25	36.95
ID = 3 (2650):		598.87	19.178	5.25	36.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)= 103.50
STANDHYD (0187)	
ID= 1 DT=15.0 min	Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	83.83	19.66
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	830.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.07
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	4.47	0.40	4.705 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	26.64	38.27
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.63	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2187)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0187):		103.50	4.705	5.25	38.27
+ ID2= 2 (2650):		598.87	19.178	5.25	36.84
ID = 3 (2187):		702.37	23.883	5.25	37.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)= 14.09
STANDHYD (0212)	
ID= 1 DT=15.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.38	10.71
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.60
Length (m)=	306.49	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.97
over (min)	15.00	30.00
Storage Coeff. (min)=	5.40 (ii)	31.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.18	0.22	0.400 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	41.00	17.43	23.09
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.42	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9474)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=0.031					
#of Inlets= 1					
Total(cms)= 0.0		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		14.09	0.40	5.25	23.09
MAJOR SYS.(ID= 2):		10.08	0.37	5.25	23.09
MINOR SYS.(ID= 3):		4.01	0.03	3.50	23.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6474)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 15.0 min		0.0000	0.0000	0.0310	0.1340

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9474)	4.007	0.031	3.50	23.09
OUTFLOW: ID= 1 (6474)	4.007	0.014	10.75	22.82

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.98
TIME SHIFT OF PEAK FLOW (min)=435.00
MAXIMUM STORAGE USED (ha.m.)= 0.0589

ADD HYD (4474)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6474):		4.01	0.014	10.75	22.82
+ ID2= 2 (9474):		10.08	0.369	5.25	23.09
ID = 3 (4474):		14.09	0.375	5.25	23.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1210)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2187):		702.37	23.883	5.25	37.05
+ ID2= 2 (4474):		14.09	0.375	5.25	23.01
ID = 3 (1210):		716.46	24.257	5.25	36.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5210)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5210.0) ------>

Distance	Elevation	Manning		
0.00	186.99	0.1110		
0.62	186.98	0.1110		
54.47	185.71	0.1110		
69.34	182.09	0.1110 /0.0490	Main Channel	
71.18	181.64	0.0490	Main Channel	
73.43	182.23	0.0490 /0.1110	Main Channel	
82.69	184.73	0.1110		
87.60	185.04	0.1110		
110.20	184.66	0.1110		
129.32	184.73	0.1110		
164.79	185.85	0.1110		
170.26	185.86	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	181.79	.140E+03	0.0	0.24	111.40
0.30	181.94	.561E+03	0.1	0.37	70.18
0.45	182.09	.126E+04	0.4	0.49	53.56
0.69	182.33	.293E+04	1.3	0.70	37.38
0.92	182.56	.528E+04	2.8	0.85	31.04
1.16	182.80	.832E+04	4.9	0.94	28.03
1.39	183.03	.120E+05	7.7	1.00	26.17
1.63	183.27	.164E+05	11.0	1.06	24.84
1.86	183.50	.215E+05	15.1	1.10	23.79
2.10	183.74	.273E+05	19.8	1.15	22.92
2.34	183.98	.338E+05	25.4	1.19	22.17
2.57	184.21	.409E+05	31.7	1.22	21.50
2.81	184.45	.487E+05	38.8	1.26	20.91
3.04	184.68	.573E+05	44.5	1.22	21.46

3.28	184.92	.774E+05	52.7	1.07	24.50
3.51	185.15	.107E+06	67.1	0.99	26.57
3.75	185.39	.140E+06	86.0	0.97	27.21
3.98	185.62	.177E+06	108.6	0.97	27.17
4.22	185.86	.218E+06	128.7	0.93	28.18

	AREA	QPEAK	TPEAK	R.V.	<---- hydrograph ----> MAX DEPTH	<-pipe / channel-> MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1210)	716.46	24.26	5.25	36.78	2.29	1.18
OUTFLOW: ID= 1 (5210)	716.46	21.29	5.50	36.78	2.16	1.16

CALIB	Area (ha)= 20.85
STANDHYD (****)	
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.38	16.47
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	372.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.12
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	0.23	0.23	0.393 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	21.28
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	Area (ha)= 1.40
STANDHYD (****)	
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.29	1.11
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	96.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.12
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00

```
Unit Hyd. peak  (cms)=       0.09         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.02         0.02          0.026 (iii)
TIME TO PEAK    (hrs)=       5.25         6.00           5.25
RUNOFF VOLUME    (mm)=      41.00        16.04          21.26
TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
RUNOFF COEFFICIENT   =       0.98         0.38           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (0352) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    20.85   0.393     5.25    21.28
      + ID2= 2 (****):     1.40   0.026     5.25    21.26
        ================================================
        ID = 3 (0352):    22.25   0.420     5.25    21.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  32.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.90         25.96
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.70
     Length            (m)=     468.05         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         10.12
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.00 (ii)    53.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                  *TOTALS*
     PEAK FLOW       (cms)=       0.37          0.37          0.620 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=      41.00         16.04          21.28
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.98          0.38           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (0351) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0352):    22.25   0.420     5.25    21.28
      + ID2= 2 (****):    32.86   0.620     5.25    21.28
        ================================================
        ID = 3 (0351):    55.11   1.040     5.25    21.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (2210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0351):    55.11   1.040     5.25    21.28
      + ID2= 2 (5210):   716.46  21.287     5.50    36.78
        ================================================
        ID = 3 (2210):   771.57  22.087     5.50    35.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (1431) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2210):   771.57  22.087     5.50    35.67
      + ID2= 2 (2227):  8162.28  34.530     8.75    15.39
        ================================================
        ID = 3 (1431):  8933.85  41.570     6.50    17.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (5431) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5431.0) ------>
              Distance      Elevation        Manning
                 0.00         176.00         0.1110
                18.09         175.90         0.1110
                27.45         175.50         0.1110
                47.50         172.50         0.1110
                67.08         171.89         0.1110
               142.45         171.74         0.1110
               221.81         171.00         0.1110
               241.52         171.00         0.1110
               242.37         170.64    0.1110 /0.0490  Main Channel
               242.71         170.00         0.0490      Main Channel
               253.79         170.00         0.0490      Main Channel
               256.58         170.50    0.0490 /0.1110  Main Channel
               257.61         170.61         0.1110
               261.77         171.00         0.1110
               278.03         171.50         0.1110
               301.37         172.00         0.1110
               309.55         174.50         0.1110
               324.51         174.87         0.1110
```



```
              351.19       174.68        0.1110
              357.20       176.00        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   170.25    .704E+03       2.0          0.68       5.79
      0.50   170.50    .150E+04       6.6          1.04       3.81
      0.82   170.82    .273E+04      16.4          1.43       2.78
      1.15   171.15    .528E+04      30.8          1.38       2.86
      1.47   171.47    .117E+05      55.8          1.14       3.49
      1.79   171.79    .218E+05      93.3          1.02       3.90
      2.12   172.12    .393E+05     161.6          0.98       4.05
      2.44   172.44    .584E+05     263.6          1.07       3.69
      2.76   172.76    .781E+05     393.2          1.20       3.31
      3.09   173.09    .981E+05     546.6          1.33       2.99
      3.41   173.41    .118E+06     721.6          1.45       2.73
      3.74   173.74    .139E+06     917.2          1.57       2.52
      4.06   174.06    .160E+06    1132.4          1.69       2.35
      4.38   174.38    .181E+06    1366.6          1.80       2.20
      4.71   174.71    .202E+06    1590.5          1.87       2.12
      5.03   175.03    .226E+06    1819.4          1.91       2.07
      5.35   175.35    .251E+06    2124.7          2.01       1.97
      5.68   175.68    .276E+06    2436.9          2.10       1.89
      6.00   176.00    .302E+06    2681.4          2.11       1.88

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1431) 8933.85    41.57    6.50  17.14      1.29      1.27
     OUTFLOW: ID= 1 (5431) 8933.85    41.57    6.50  17.14      1.29      1.27
```

```
-------------------
| CALIB             |
| STANDHYD  (0431) |   Area    (ha)=   8.28
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  22.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.82          6.46
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.70
     Length            (m)=     234.95         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32          8.37
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       5.40 (ii)    30.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                  *TOTALS*
     PEAK FLOW       (cms)=       0.10          0.11          0.204 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      41.00         14.23          20.11
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.98          0.34           0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```



```
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (2431) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0431):     8.28   0.204     5.25    20.11
      + ID2= 2 (5431):  8933.85  41.565     6.50    17.14
        ================================================
        ID = 3 (2431):  8942.13  41.637     6.50    17.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (5213) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5213.0) ------>
              Distance      Elevation        Manning
                 0.00         171.99         0.1110
                10.86         169.00         0.1110
                21.10         168.00         0.1110
                30.39         165.73         0.1110
                64.57         165.00         0.1110
                65.32         164.91         0.1110
                68.94         164.50         0.1110
                71.70         164.50    0.1110 /0.0490  Main Channel
                71.83         163.50         0.0490      Main Channel
                75.93         163.50         0.0490      Main Channel
                76.19         164.48    0.0490 /0.1110  Main Channel
                76.80         164.50         0.1110
                78.99         165.50         0.1110
               107.09         166.50         0.1110
               126.24         171.00         0.1110
               133.28         171.50         0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.33   163.83    .319E+04       0.9          0.63      62.42
      0.65   164.15    .647E+04       2.5          0.92      42.47
      0.98   164.48    .986E+04       4.7          1.13      34.66
      1.42   164.92    .201E+05       9.6          1.13      34.67
      1.86   165.36    .410E+05      17.2          0.98      39.67
      2.30   165.80    .862E+05      31.4          0.85      45.81
      2.73   166.24    .152E+06      57.6          0.89      44.08
      3.17   166.67    .232E+06      95.3          0.96      40.57
      3.61   167.11    .317E+06     144.7          1.07      36.56
      4.05   167.55    .407E+06     204.0          1.18      33.22
      4.49   167.99    .500E+06     272.8          1.28      30.53
      4.93   168.43    .598E+06     346.1          1.36      28.78
      5.37   168.87    .702E+06     429.2          1.43      27.27
      5.81   169.31    .813E+06     527.3          1.52      25.69
      6.24   169.74    .927E+06     637.5          1.61      24.23
      6.68   170.18    .104E+07     757.3          1.70      22.98
      7.12   170.62    .117E+07     886.9          1.78      21.91
      7.56   171.06    .129E+07    1023.7          1.86      21.01
      8.00   171.50    .142E+07    1156.8          1.91      20.48
```

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2431)	8942.13	41.64	6.50	17.14	2.47	0.87
OUTFLOW: ID= 1 (5213)	8942.13	40.62	8.50	17.14	2.45	0.86

CALIB	
STANDHYD (0213)	Area (ha)= 101.69
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	50.85	50.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.80
Length (m)=	823.37	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.43
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.72 0.77 3.236 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	41.00 18.20 29.60
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.43 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2213)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0213):	101.69	3.236	5.25	29.60
+ ID2= 2 (5213):	8942.13	40.616	8.50	17.14
ID = 3 (2213):	9043.82	41.091	8.25	17.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0559)	Area (ha)= 35.17
ID= 1 DT=15.0 min	Total Imp(%)= 49.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.23	17.94
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80

Length (m)=	484.22	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	17.82	
over (min)	15.00	30.00	
Storage Coeff. (min)=	8.40 (ii)	50.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	0.72	0.51	1.162 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	41.00	24.20	30.58
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.58	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2561)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9561 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (0559):	35.17	1.162	5.25	30.58
+ ID2= 2 (9561):	0.00	0.000	0.00	0.00
ID = 3 (2561):	35.17	1.162	5.25	30.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9105)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	35.17	1.16	5.25	30.58
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	35.17	1.16	5.25	30.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6105)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6400	0.3000
	0.0990	0.0030	0.8600	0.4700
	0.2100	0.0050	1.3200	0.7100
	0.3400	0.0100	1.9000	0.9500

0.4600	0.0330	2.5600	1.2000	
0.5600	0.1330	3.2000	1.4500	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9105)	35.170	1.162	5.25	30.58
OUTFLOW: ID= 1 (6105)	35.170	0.598	6.25	30.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 51.45
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.2129

ADD HYD (4105)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9105 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6105):	35.17	0.598	6.25	30.58
+ ID2= 2 (9105):	0.00	0.000	0.00	0.00
ID = 3 (4105):	35.17	0.598	6.25	30.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 3.04
ID= 1 DT=15.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.73	2.31
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.60
Length (m)=	142.36	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.53
over (min)	15.00	30.00
Storage Coeff. (min)=	3.60 (ii)	22.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06

		TOTALS
PEAK FLOW (cms)=	0.04	0.06 0.096 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	41.00	16.72 22.54
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9470)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.04	0.10	5.25	22.54
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.04	0.10	5.25	22.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6470)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0190	0.1800
	0.0110	0.0490	0.4930	0.2300
	0.0160	0.1130	2.4340	0.3150

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9470)	3.040	0.096	5.25	22.54
OUTFLOW: ID= 1 (6470)	3.040	0.011	8.25	22.17

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.52
TIME SHIFT OF PEAK FLOW (min)=180.00
MAXIMUM STORAGE USED (ha.m.)= 0.0498

ADD HYD (4470)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9470 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6470):	3.04	0.011	8.25	22.17
+ ID2= 2 (9470):	0.00	0.000	0.00	0.00
ID = 3 (4470):	3.04	0.011	8.25	22.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2568)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4105):	35.17	0.598	6.25	30.58
+ ID2= 2 (4470):	3.04	0.011	8.25	22.17
ID = 3 (2568):	38.21	0.608	6.25	29.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

| STANDHYD (****) | Area (ha)= 3.77
|ID= 1 DT=15.0 min | Total Imp(%)= 49.00 Dir. Conn.(%)= 49.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.85	1.92
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	158.53	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.53
over (min)	15.00	30.00
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.10	0.05	0.153 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	21.81	31.21
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.52	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| DUHYD (9471) |
| Inlet Cap.=***** |
| #of Inlets= 1 |
| Total(cms)=***** |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.77	0.15	5.25	31.21
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.77	0.15	5.25	31.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (6471) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0110	0.1460
0.0050	0.0110	0.1620	0.1660
0.0090	0.0690	0.9650	0.2080

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9471)	3.770	0.153	5.25	31.21
OUTFLOW: ID= 1 (6471)	3.770	0.010	8.75	31.06

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.31
TIME SHIFT OF PEAK FLOW (min)=210.00
MAXIMUM STORAGE USED (ha.m.)= 0.0949

| ADD HYD (4471) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9471 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6471):	3.77	0.010	8.75	31.06
+ ID2= 2 (9471):	0.00	0.000	0.00	0.00
ID = 3 (4471):	3.77	0.010	8.75	31.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (2605) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2568):	38.21	0.608	6.25	29.91
+ ID2= 2 (4471):	3.77	0.010	8.75	31.06
ID = 3 (2605):	41.98	0.617	6.25	30.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB |
| STANDHYD (****) | Area (ha)= 128.50
|ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	57.83	70.68
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.60
Length (m)=	925.56	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.26
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	3.08	0.98	3.588 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	19.01	28.91
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.45	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (****) | Area (ha)= 3.04
|ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	1.67
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.60
Length (m)=	142.36	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.26
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	0.07	0.02	0.085 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	19.01	28.89
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.45	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (****) | Area (ha)= 24.00
|ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.80	13.20
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.60
Length (m)=	400.00	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.26
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	0.57	0.18	0.670 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	19.01	28.90
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.45	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0390) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	24.00	0.670	5.25	28.90
+ ID2= 2 (****):	3.04	0.085	5.25	28.89
ID = 3 (0390):	27.04	0.755	5.25	28.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0391) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0390):	27.04	0.755	5.25	28.90
+ ID2= 2 (****):	128.50	3.588	5.25	28.91
ID = 3 (0391):	155.54	4.343	5.25	28.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (2603) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0391):	155.54	4.343	5.25	28.91
+ ID2= 2 (2605):	41.98	0.617	6.25	30.02
ID = 3 (2603):	197.52	4.926	5.25	29.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| DUHYD (9961) |
| Inlet Cap.=***** |
| #of Inlets= 1 |
| Total(cms)=***** |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	197.52	4.93	5.25	29.14
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	197.52	4.93	5.25	29.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (6961) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	5.7000	4.8500
1.6000	3.9500	6.2000	5.1400

```
   3.4000     4.2400   |   7.2000      5.6300
   4.2000     4.4000   |  23.4500      7.4400

                          AREA     QPEAK     TPEAK      R.V.
                           (ha)     (cms)     (hrs)      (mm)
INFLOW : ID= 2 (9961)    197.520     4.926      5.25      29.14
OUTFLOW: ID= 1 (6961)    197.520     1.327      8.50      29.14

          PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.94
          TIME SHIFT OF PEAK FLOW         (min)=195.00
          MAXIMUM  STORAGE   USED       (ha.m.)=  3.2771

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| ADD HYD   (4961) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9961 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6961):   197.52   1.327     8.50    29.14
      + ID2= 2 (9961):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4961):   197.52   1.327     8.50    29.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5602) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (5602.0) ------>
             Distance      Elevation       Manning
                 0.00         188.36        0.1110
                46.99         187.30        0.1110
               162.32         186.72        0.1110
               234.98         185.20        0.1110
               249.46         183.65    0.1110 /0.0490  Main Channel
               254.33         182.64        0.0490      Main Channel
               258.04         183.49        0.0490      Main Channel
               258.31         183.51        0.0490      Main Channel
               262.53         182.77        0.0490      Main Channel
               262.63         182.75        0.0490      Main Channel
               267.86         183.52    0.0490 /0.1110  Main Channel
               270.83         183.61        0.1110
               286.95         183.40        0.1110
               289.09         183.46        0.1110
               298.71         185.52        0.1110
               325.92         186.31        0.1110
               406.09         185.45        0.1110
               529.18         187.66        0.1110
               556.31         187.61        0.1110
               804.52         190.22        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.29   182.93    .360E+03       0.3          0.50      19.84
      0.59   183.23    .179E+04       2.5          0.84      11.80
      0.88   183.52    .478E+04       8.3          1.03       9.61
      1.18   183.82    .119E+05      23.5          1.18       8.45
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      1.49   184.13    .200E+05      46.9          1.40       7.12
      1.79   184.43    .289E+05      77.4          1.60       6.23
      2.09   184.73    .386E+05     114.7          1.77       5.61
      2.39   185.03    .490E+05     158.8          1.93       5.15
      2.70   185.34    .604E+05     208.1          2.05       4.84
      3.00   185.64    .761E+05     241.2          1.89       5.26
      3.30   185.94    .103E+06     300.5          1.73       5.74
      3.60   186.24    .143E+06     390.6          1.63       6.12
      3.90   186.54    .194E+06     522.2          1.61       6.19
      4.21   186.85    .251E+06     675.9          1.61       6.19
      4.51   187.15    .321E+06     859.4          1.60       6.22
      4.81   187.45    .403E+06    1099.0          1.63       6.11
      5.11   187.75    .494E+06    1347.8          1.63       6.11
      5.42   188.06    .596E+06    1679.2          1.68       5.92
      5.72   188.36    .706E+06    2056.8          1.74       5.72

                          <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (4961)  197.52     1.33    8.50  29.14      0.43      0.62
OUTFLOW: ID= 1 (5602)  197.52     1.32    8.75  29.14      0.43      0.62

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| CALIB             |
| STANDHYD  (0602) |   Area    (ha)=  42.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  67.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       28.80         14.19
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.90
     Length            (m)=      535.35         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         14.13
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.00 (ii)    52.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.54          0.30          1.761 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75          5.25
     RUNOFF VOLUME    (mm)=      41.00         22.88         35.02
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.98          0.54          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2602) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0602):    42.99    1.761     5.25     35.02
```



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      + ID2= 2 (5602):   197.52   1.325     8.75    29.14
        ================================================
        ID = 3 (2602):   240.51   2.338     5.25    30.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5271) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (5271.0) ------>
             Distance      Elevation       Manning
                 0.00         187.00        0.1110
                 3.39         183.79        0.1110
                10.53         183.00        0.1110
                21.75         182.99        0.1110
                23.53         182.68    0.1110 /0.0490  Main Channel
                33.07         181.08        0.0490      Main Channel
                41.98         183.10    0.0490 /0.1110  Main Channel
                44.71         183.70        0.1110
                62.12         184.09        0.1110
                77.77         183.81        0.1110
               120.17         183.78        0.1110
               169.07         183.98        0.1110
               228.74         185.84        0.1110
               358.41         186.79        0.1110
               420.15         186.79        0.1110
               448.98         187.02        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.27   181.35    .272E+03       0.1          0.36      33.75
      0.53   181.61    .109E+04       0.9          0.58      21.26
      0.80   181.88    .245E+04       2.5          0.76      16.23
      1.07   182.15    .436E+04       5.4          0.92      13.39
      1.33   182.41    .681E+04       9.8          1.07      11.54
      1.60   182.68    .980E+04      16.0          1.20      10.22
      1.93   183.01    .144E+05      27.6          1.41       8.73
      2.26   183.34    .226E+05      44.8          1.46       8.42
      2.60   183.68    .319E+05      67.2          1.55       7.92
      2.93   184.01    .558E+05      97.7          1.29       9.52
      3.26   184.34    .978E+05     149.0          1.12      10.95
      3.59   184.67    .143E+06     217.6          1.12      10.94
      3.93   185.01    .190E+06     301.7          1.17      10.52
      4.26   185.34    .241E+06     400.7          1.23      10.02
      4.59   185.67    .294E+06     514.3          1.29       9.53
      4.92   186.00    .351E+06     627.2          1.32       9.32
      5.26   186.34    .418E+06     746.8          1.32       9.32
      5.59   186.67    .496E+06     891.5          1.33       9.27
      5.92   187.00    .594E+06    1023.1          1.27       9.68

                          <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (2602)  240.51     2.34    5.25  30.19      0.77      0.73
OUTFLOW: ID= 1 (5271)  240.51     2.14    5.25  30.19      0.74      0.71

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| CALIB             |
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| STANDHYD  (0271) |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  40.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        7.03         10.55
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.70
     Length            (m)=      342.34         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         11.92
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    34.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.38          0.23          0.604 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=      41.00         19.01         27.81
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.98          0.45          0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2271) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0271):    17.58   0.604     5.25    27.81
      + ID2= 2 (5271):   240.51   2.142     5.25    30.19
        ================================================
        ID = 3 (2271):   258.09   2.746     5.25    30.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (****) |   Area    (ha)= 198.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      113.05         85.28
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          5.10
     Length            (m)=     1149.87         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         14.75
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.80 (ii)    81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.02          1.52          6.859 (iii)
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     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      41.00        24.03         33.70
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.57          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  35.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.75         5.25
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.10
     Length            (m)=     483.05        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        14.75
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.58         0.09          1.635 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      41.00        24.03         38.45
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.57          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  35.00      1.64      5.25   38.45
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  35.00      1.64      5.25   38.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (****) |
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```
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.2800      1.3790
                         0.3900     0.0010   |   1.3400      1.7290
                         0.8700     0.1580   |   1.4700      2.5690
                         1.0600     0.4640   |   5.1200      2.6000
                         1.2300     1.0530   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     35.000     1.635      5.25      38.45
     OUTFLOW: ID= 1 (****)     35.000     0.950      5.50      38.51

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.08
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2885

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-------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    35.00   0.950     5.50    38.51
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ==============================================
        ID = 3 (****):    35.00   0.950     5.50    38.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  17.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.54         2.56
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.10
     Length            (m)=     337.64        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        14.75
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.77         0.05          0.799 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      41.00        24.03         38.45
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.57          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  17.10      0.80      5.25   38.45
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  17.10      0.80      5.25   38.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6300      0.6750
                         0.1900     0.0610   |   0.6600      0.8460
                         0.4200     0.0770   |   0.7200      1.2570
                         0.5200     0.2270   |   2.5000      1.3000
                         0.6000     0.5150   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     17.100     0.799      5.25      38.45
     OUTFLOW: ID= 1 (****)     17.100     0.481      5.50      38.45

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 60.24
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1708

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-------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    17.10   0.481     5.50    38.45
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ==============================================
        ID = 3 (****):    17.10   0.481     5.50    38.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    35.00   0.950     5.50    38.51
      + ID2= 2 (****):    17.10   0.481     5.50    38.45
```



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        ==============================================
        ID = 3 (****):    52.10   1.431     5.50    38.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  16.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.69         2.41
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.10
     Length            (m)=     327.62        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        14.75
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.73         0.04          0.752 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      41.00        24.03         38.45
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.57          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  16.10      0.75      5.25   38.45
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  16.10      0.75      5.25   38.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.5900      0.6350
                         0.1800     0.0610   |   0.6200      0.7960
                         0.4000     0.0730   |   0.6800      1.1820
                         0.4900     0.2140   |   2.3600      1.2000
                         0.5600     0.4850   |   0.0000      0.0000
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	16.100	0.752	5.25	38.45
OUTFLOW: ID= 1 (****)	16.100	0.455	5.50	38.45

PEAK FLOW REDUCTION [Qout/Qin](%)= 60.46
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1607

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	16.10	0.455	5.50	38.45
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	16.10	0.455	5.50	38.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	52.10	1.431	5.50	38.49
+ ID2= 2 (****):	16.10	0.455	5.50	38.45
ID = 3 (****):	68.20	1.886	5.50	38.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 37.00
Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	31.45	5.55	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.10	
Length (m)=	496.66	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	14.75	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	*TOTALS*
PEAK FLOW (cms)=	1.67	0.10	1.729 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	24.03	38.45
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.57	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	37.00	1.73	5.25	38.45
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	37.00	1.73	5.25	38.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.3600	1.4580
0.4100	0.0010	1.4200	1.8280
0.9200	0.1670	1.5600	2.7160
1.1200	0.4910	5.4000	2.8000
1.3000	1.1140	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	37.000	1.729	5.25	38.45
OUTFLOW: ID= 1 (****)	37.000	1.004	5.50	38.50

PEAK FLOW REDUCTION [Qout/Qin](%)= 58.08
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.3053

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	37.00	1.004	5.50	38.50
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	37.00	1.004	5.50	38.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	68.20	1.886	5.50	38.48
+ ID2= 2 (****):	37.00	1.004	5.50	38.50
ID = 3 (****):	105.20	2.890	5.50	38.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 17.40
Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	14.79	2.61	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.10	
Length (m)=	340.59	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	14.75	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	*TOTALS*
PEAK FLOW (cms)=	0.79	0.05	0.813 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	24.03	38.45
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.57	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	17.40	0.81	5.25	38.45
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	17.40	0.81	5.25	38.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

0.0000	0.0000	0.6300	0.6750
0.1900	0.0610	0.6600	0.8460
0.4200	0.0770	0.7200	1.2570
0.5200	0.2270	2.5500	1.3000
0.6000	0.5150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.400	0.813	5.25	38.45
OUTFLOW: ID= 1 (****)	17.400	0.484	5.50	38.45

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.54
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1747

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	17.40	0.484	5.50	38.45
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	17.40	0.484	5.50	38.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0218)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	105.20	2.890	5.50	38.49
+ ID2= 2 (****):	17.40	0.484	5.50	38.45
ID = 3 (0218):	122.60	3.374	5.50	38.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0218):	122.60	3.374	5.50	38.48
+ ID2= 2 (****):	198.33	6.859	5.25	33.70
ID = 3 (****):	320.93	10.170	5.25	35.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9962)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA	QPEAK	TPEAK	R.V.

```
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 320.93     10.17      5.25   35.53
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 320.93     10.17      5.25   35.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6962) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   8.8300     5.8290
                           0.7800     0.0930   |  14.9900     7.2690
                           3.3000     1.1140   |  22.7900     8.7080
                           4.6600     3.2000   |  28.8000    10.2730
                           5.2100     4.5150   |  31.2000    11.8370

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9962)    320.930    10.170      5.25      35.53
     OUTFLOW: ID= 1 (6962)    320.930     4.848      7.00      35.53

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.67
                   TIME SHIFT OF PEAK FLOW         (min)=105.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.6634

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--------------------
| ADD HYD   (4962) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9962 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6962):   320.93   4.848     7.00    35.53
        + ID2= 2 (9962):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4962):   320.93   4.848     7.00    35.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1273) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2271):   258.09   2.746     5.25    30.03
        + ID2= 2 (4962):   320.93   4.848     7.00    35.53
          ================================================
          ID = 3 (1273):   579.02   6.911     5.25    33.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5273) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION (5273.0) ------>
               Distance      Elevation       Manning
                   0.00        179.99       0.1110
                  18.34        178.57       0.1110
                  55.29        178.07       0.1110
                 114.00        177.92       0.1110
                 155.06        177.41       0.1110
                 161.65        174.89    0.1110 /0.0490  Main Channel
                 164.66        174.75       0.0490       Main Channel
                 167.51        174.61    0.0490 /0.1110  Main Channel
                 169.36        174.72       0.1110
                 179.42        177.94       0.1110
                 271.83        179.31       0.1110
                 298.09        178.85       0.1110
                 325.92        179.14       0.1110
                 444.55        179.57       0.1110
                 496.32        180.68       0.1110
                 506.76        181.27       0.1110
                 526.42        185.07       0.1110

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
       0.28   174.89    .871E+03       0.7          0.51      21.75
       0.57   175.18    .260E+04       3.9          1.01      11.13
       0.85   175.46    .463E+04       9.2          1.34       8.38
       1.13   175.74    .697E+04      16.5          1.59       7.05
       1.42   176.03    .963E+04      25.7          1.79       6.25
       1.70   176.31    .126E+05      36.8          1.96       5.70
       1.98   176.59    .159E+05      49.9          2.11       5.30
       2.27   176.88    .194E+05      65.0          2.24       4.99
       2.55   177.16    .233E+05      82.1          2.36       4.74
       2.83   177.44    .275E+05      99.6          2.43       4.61
       3.11   177.72    .346E+05     118.3          2.29       4.88
       3.40   178.01    .471E+05     137.4          1.96       5.71
       3.68   178.29    .741E+05     173.1          1.57       7.13
       3.96   178.57    .109E+06     235.8          1.45       7.71
       4.25   178.86    .150E+06     326.1          1.46       7.67
       4.53   179.14    .200E+06     429.3          1.44       7.75
       4.81   179.42    .266E+06     565.0          1.43       7.85
       5.10   179.71    .348E+06     760.3          1.47       7.63
       5.38   179.99    .435E+06    1005.3          1.55       7.21

                                   <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1273)  579.02    6.91    5.25  33.08      0.73      1.17
     OUTFLOW: ID= 1 (5273)  579.02    6.91    5.50  33.08      0.73      1.17


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0273) |   Area    (ha)=  25.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  65.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       16.68         8.98
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         4.70
     Length            (m)=      413.60        40.00
     Mannings n          =        0.013        0.250
```



```
     Max.Eff.Inten.(mm/hr)=      19.32        14.75
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                             *TOTALS*
     PEAK FLOW       (cms)=       0.90         0.23            1.103 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50            5.25
     RUNOFF VOLUME    (mm)=      41.00        24.03           35.06
     TOTAL RAINFALL   (mm)=      42.00        42.00           42.00
     RUNOFF COEFFICIENT   =       0.98         0.57            0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2273) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0273):    25.66   1.103     5.25    35.06
        + ID2= 2 (5273):   579.02   6.909     5.50    33.08
          ================================================
          ID = 3 (2273):   604.68   7.718     5.25    33.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0272) |   Area    (ha)=  42.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  78.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       32.83         9.26
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         1.70
     Length            (m)=      529.72        40.00
     Mannings n          =        0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        15.59
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.80 (ii)   62.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                             *TOTALS*
     PEAK FLOW       (cms)=       1.76         0.21            1.915 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75            5.25
     RUNOFF VOLUME    (mm)=      41.00        26.64           37.84
     TOTAL RAINFALL   (mm)=      42.00        42.00           42.00
     RUNOFF COEFFICIENT   =       0.98         0.63            0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0272):    42.09   1.915     5.25    37.84
        + ID2= 2 (2273):   604.68   7.718     5.25    33.16
          ================================================
          ID = 3 (2272):   646.77   9.633     5.25    33.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5260) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5260.0) ------>
               Distance      Elevation       Manning
                   0.00        175.32       0.1110
                  51.36        174.58       0.1110
                  87.35        174.75       0.1110
                 122.73        174.10       0.1110
                 131.56        174.13       0.1110
                 202.82        173.44       0.1110
                 276.03        173.59       0.1110
                 349.20        172.56       0.1110
                 376.00        173.21       0.1110
                 384.10        170.08    0.1110 /0.0490  Main Channel
                 390.86        169.74       0.0490       Main Channel
                 394.42        170.00    0.0490 /0.1110  Main Channel
                 398.31        170.30       0.1110
                 402.54        173.35       0.1110
                 447.19        173.02       0.1110
                 550.72        173.46       0.1110
                 592.93        173.28       0.1110
                 680.14        173.52       0.1110
                 753.95        175.23       0.1110
                 784.10        175.41       0.1110

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)      (cms)        (m/s)      (min)
       0.26   170.00    .960E+03       0.4          0.39      36.34
       0.54   170.28    .382E+04       3.3          0.72      19.54
       0.82   170.56    .743E+04       8.5          0.97      14.53
       1.10   170.84    .113E+05      15.8          1.18      11.94
       1.38   171.12    .155E+05      24.9          1.36      10.36
       1.66   171.40    .199E+05      35.7          1.52       9.28
       1.94   171.68    .245E+05      48.1          1.66       8.49
       2.22   171.96    .295E+05      62.2          1.79       7.89
       2.50   172.24    .346E+05      77.9          1.90       7.41
       2.78   172.52    .401E+05      95.2          2.01       7.02
       3.06   172.80    .486E+05     111.1          1.93       7.29
       3.34   173.08    .652E+05     125.2          1.62       8.68
       3.62   173.36    .108E+06     156.2          1.23      11.50
       3.90   173.64    .206E+06     216.9          0.89      15.81
       4.18   173.92    .330E+06     333.6          0.86      16.48
       4.46   174.20    .464E+06     483.8          0.88      15.99
```

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      4.74   174.48    .608E+06     675.3          0.94      15.00
      5.02   174.76    .761E+06     877.5          0.97      14.46
      5.30   175.04    .930E+06    1142.6          1.04      13.56

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
    INFLOW : ID= 2 (2272)  646.77     9.63    5.25  33.47      0.86      1.00
    OUTFLOW: ID= 1 (5260)  646.77     9.15    5.25  33.46      0.84      0.98


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--------------------
| CALIB              |
| STANDHYD  (0260) |   Area    (ha)=  60.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       45.70        15.23
    Dep. Storage     (mm)=        1.00         4.00
    Average Slope     (%)=        1.00         2.60
    Length            (m)=      637.39        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      19.32        15.40
              over (min)        15.00        30.00
    Storage Coeff.  (min)=      10.20 (ii)   60.60 (ii)
    Unit Hyd. Tpeak (min)=      15.00        60.00
    Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=       2.45         0.34        2.694 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.75        5.25
    RUNOFF VOLUME    (mm)=      41.00        25.28       37.07
    TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
    RUNOFF COEFFICIENT   =       0.98         0.60        0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2260) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0260):    60.94   2.694     5.25    37.07
       + ID2= 2 (5260):   646.77   9.149     5.25    33.46
         ================================================
         ID = 3 (2260):   707.71  11.843     5.25    33.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0643) |   Area    (ha)=   7.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  48.00
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                             IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=        3.44         3.72
    Dep. Storage     (mm)=        1.00         4.00
    Average Slope     (%)=        1.00        11.00
    Length            (m)=      218.48        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      19.32        13.53
              over (min)        15.00        15.00
    Storage Coeff.  (min)=       3.60 (ii)   21.00 (ii)
    Unit Hyd. Tpeak (min)=      15.00        15.00
    Unit Hyd. peak  (cms)=       0.11         0.06
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.18         0.12          0.307 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.25          5.25
    RUNOFF VOLUME    (mm)=      41.00        21.81         31.02
    TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
    RUNOFF COEFFICIENT   =       0.98         0.52          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9472) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):   7.16      0.31      5.25   31.02
    ================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3):   7.16      0.31      5.25   31.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6472) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3490      0.9110
                          0.0190     0.1220   |   0.4450      0.9620
                          0.0270     0.2490   |   1.0700      1.0670
                          0.1280     0.5180   |   2.6100      1.2280
                          0.2430     0.7100   |   4.0000      1.3380

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9472)      7.160     0.307      5.25       31.02
    OUTFLOW: ID= 1 (6472)      7.160     0.023      8.50       30.79

               PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.34
               TIME SHIFT OF PEAK FLOW          (min)=195.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.1781

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--------------------
| ADD HYD   (4472) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9472 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6472):     7.16   0.023     8.50    30.79
       + ID2= 2 (9472):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4472):     7.16   0.023     8.50    30.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  76.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       18.33        58.05
    Dep. Storage     (mm)=        1.00         4.00
    Average Slope     (%)=        1.00         4.70
    Length            (m)=      713.58        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      19.32        10.12
              over (min)        15.00        30.00
    Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
    Unit Hyd. Tpeak (min)=      15.00        75.00
    Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.98         0.73          1.357 (iii)
    TIME TO PEAK    (hrs)=       5.25         6.25          5.25
    RUNOFF VOLUME    (mm)=      41.00        16.04         22.03
    TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
    RUNOFF COEFFICIENT   =       0.98         0.38          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   2.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=        0.54         1.70
    Dep. Storage     (mm)=        1.00         4.00
    Average Slope     (%)=        1.00         4.70
    Length            (m)=      122.20        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      19.32        10.12
              over (min)        15.00        30.00
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```
    Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
    Unit Hyd. Tpeak (min)=      15.00        75.00
    Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.03         0.02          0.040 (iii)
    TIME TO PEAK    (hrs)=       5.25         6.25          5.25
    RUNOFF VOLUME    (mm)=      41.00        16.04         22.01
    TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
    RUNOFF COEFFICIENT   =       0.98         0.38          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  84.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       20.37        64.52
    Dep. Storage     (mm)=        1.00         4.00
    Average Slope     (%)=        1.00         4.70
    Length            (m)=      752.29        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      19.32        10.12
              over (min)        15.00        30.00
    Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
    Unit Hyd. Tpeak (min)=      15.00        75.00
    Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=       1.09         0.81          1.508 (iii)
    TIME TO PEAK    (hrs)=       5.25         6.25          5.25
    RUNOFF VOLUME    (mm)=      41.00        16.04         22.03
    TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
    RUNOFF COEFFICIENT   =       0.98         0.38          0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0380) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    84.89   1.508     5.25    22.03
       + ID2= 2 (****):     2.24   0.040     5.25    22.01
         ================================================
         ID = 3 (0380):    87.13   1.548     5.25    22.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (0381) |
|   1 +  2 =  3    |
--------------------          AREA    QPEAK    TPEAK     R.V.
                               (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):    87.13   1.548     5.25     22.03
      + ID2= 2 (****):    76.38   1.357     5.25     22.03
        ================================================
        ID = 3 (0381):   163.51   2.905     5.25     22.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (2251) |
|   1 +  2 =  3    |
--------------------          AREA    QPEAK    TPEAK     R.V.
                               (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0381):   163.51   2.905     5.25     22.03
      + ID2= 2 (4472):     7.16   0.023     8.50     30.79
        ================================================
        ID = 3 (2251):   170.67   2.923     5.25     22.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (0709) |   Area    (ha)=   7.69
|ID= 1 DT=15.0 min |   Total Imp(%)=   4.00   Dir. Conn.(%)=   4.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         7.38
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.30
     Length            (m)=     226.42        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         8.04
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   33.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.12          0.128 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      41.00        13.68          14.77
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.33           0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```



```
--------------------
| DUHYD    (9219) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |          AREA     QPEAK     TPEAK    R.V.
--------------------          (ha)      (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   7.69      0.13      5.25   14.77
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   7.69      0.13      5.25   14.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (6219) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------        (cms)     (ha.m.)   |   (cms)     (ha.m.)
                            0.0000     0.0000   |  0.5000      0.0350

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9219)      7.690      0.128      5.25      14.77
     OUTFLOW: ID= 1 (6219)      7.690      0.120      5.50      14.77

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.36
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0085
```

```
--------------------
| ADD HYD   (4219) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9219 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6219):     7.69   0.120     5.50    14.77
      + ID2= 2 (9219):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4219):     7.69   0.120     5.50    14.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  40.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.44        25.67
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.10
     Length            (m)=     517.11        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        11.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.80 (ii)   63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
```



```
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.77         0.39          1.033 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME    (mm)=      41.00        18.20          26.41
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.43           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.17
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.75
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.10
     Length            (m)=      88.32        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        11.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.80 (ii)   63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01          0.030 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME    (mm)=      41.00        18.20          26.38
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.43           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (0371) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    40.11   1.033     5.25     26.41
      + ID2= 2 (****):     1.17   0.030     5.25     26.38
        ================================================
        ID = 3 (0371):    41.28   1.063     5.25     26.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



```
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  70.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.32        45.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.10
     Length            (m)=     684.74        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        11.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.80 (ii)   63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.36         0.68          1.811 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME    (mm)=      41.00        18.20          26.41
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.43           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (0377) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0371):    41.28   1.063     5.25     26.41
      + ID2= 2 (****):    70.33   1.811     5.25     26.41
        ================================================
        ID = 3 (0377):   111.61   2.874     5.25     26.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (2248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0377):   111.61   2.874     5.25     26.41
      + ID2= 2 (4219):     7.69   0.120     5.50     14.77
        ================================================
        ID = 3 (2248):   119.30   2.979     5.25     25.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (1252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
```

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2248):	119.30	2.979	5.25	25.66
+ ID2= 2 (2251):	170.67	2.923	5.25	22.40
ID = 3 (1252):	289.97	5.901	5.25	23.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0252) | Area (ha)= 58.15
ID= 1 DT=15.0 min | Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	44.19	13.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.60
Length	(m)=	622.63	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.87
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	69.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	2.36	0.28 2.526 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	41.00	25.28 37.23
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.98	0.60 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2252)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):		58.15	2.526	5.25	37.23
+ ID2= 2 (1252):		289.97	5.901	5.25	23.74
ID = 3 (2252):		348.12	8.427	5.25	25.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1261)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2252):		348.12	8.427	5.25	25.99
+ ID2= 2 (2260):		707.71	11.843	5.25	33.78
ID = 3 (1261):		1055.83	20.270	5.25	31.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0261) | Area (ha)= 53.92
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	45.83	8.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	599.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	16.76
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.45	0.20 2.602 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	41.00	28.11 39.07
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.98	0.67 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1256)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0261):		53.92	2.602	5.25	39.07
+ ID2= 2 (1261):		1055.83	20.270	5.25	31.21
ID = 3 (1256):		1109.75	22.872	5.25	31.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5256)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5256.0) ------>

Distance	Elevation	Manning
0.00	169.02	0.1110
20.27	168.76	0.1110
52.65	169.09	0.1110
62.64	168.83	0.1110
71.51	165.89	0.1110
80.77	164.57	0.1110

89.62	164.27	0.1110 /0.0490	Main Channel
90.94	164.26	0.0490	Main Channel
95.82	164.32	0.0490	Main Channel
100.45	164.36	0.0490 /0.1110	Main Channel
108.74	168.86	0.1110	
132.94	169.64	0.1110	
157.62	169.90	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.01	164.27	.329E+01	0.0	0.07	75.11
0.26	164.52	.997E+03	2.1	0.66	7.75
0.51	164.77	.258E+04	8.6	1.02	5.02
0.76	165.02	.435E+04	18.4	1.31	3.93
1.01	165.27	.629E+04	31.4	1.54	3.34
1.26	165.52	.840E+04	47.4	1.74	2.95
1.51	165.77	.107E+05	66.3	1.91	2.68
1.76	166.02	.131E+05	88.5	2.08	2.47
2.01	166.27	.157E+05	113.9	2.24	2.29
2.26	166.52	.183E+05	142.1	2.39	2.15
2.51	166.77	.210E+05	173.0	2.54	2.02
2.76	167.02	.238E+05	206.6	2.67	1.92
3.01	167.27	.268E+05	242.9	2.80	1.84
3.26	167.52	.298E+05	281.9	2.92	1.76
3.51	167.77	.329E+05	323.6	3.03	1.69
3.76	168.02	.361E+05	367.9	3.14	1.63
4.01	168.27	.393E+05	414.8	3.25	1.58
4.26	168.52	.427E+05	464.5	3.35	1.53
4.51	168.77	.462E+05	509.4	3.40	1.51

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1256)	1109.75	22.87	5.25	31.59	0.85	1.38
OUTFLOW: ID= 1 (5256)	1109.75	22.55	5.25	31.59	0.84	1.37

CALIB
STANDHYD (0256) | Area (ha)= 20.70
ID= 1 DT=15.0 min | Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.94	4.76
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	371.48	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	16.07
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	43.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	0.86	0.13 0.975 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	41.00	26.64 37.69
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.98	0.63 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2256)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0256):		20.70	0.975	5.25	37.69
+ ID2= 2 (5256):		1109.75	22.549	5.25	31.59
ID = 3 (2256):		1130.45	23.524	5.25	31.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 116.17
ID= 1 DT=15.0 min | Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	85.97	30.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.60
Length	(m)=	880.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.87
over (min)		15.00	45.00
Storage Coeff. (min)=		14.40 (ii)	85.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01
			TOTALS
PEAK FLOW	(cms)=	4.57	0.54 4.823 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50 5.25
RUNOFF VOLUME	(mm)=	41.00	25.28 36.91
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.98	0.60 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.11
ID= 1 DT=15.0 min | Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.08	0.03
Dep. Storage	(mm)=	1.00	4.00

Average Slope	(%)=	1.00	1.60	
Length	(m)=	27.08	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	14.87	
over (min)		15.00	45.00	
Storage Coeff. (min)=		14.40 (ii)	85.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	90.00	
Unit Hyd. peak (cms)=		0.07	0.01	
				TOTALS
PEAK FLOW	(cms)=	0.00	0.00	0.005 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	41.00	25.28	36.60
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.60	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0367)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (****):	116.17	4.823	5.25	36.91	
+ ID2= 2 (****):	0.11	0.005	5.25	36.60	
ID = 3 (0367):	116.28	4.827	5.25	36.91	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1247)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0367):	116.28	4.827	5.25	36.91	
+ ID2= 2 (2256):	1130.45	23.524	5.25	31.70	
ID = 3 (1247):	1246.73	28.351	5.25	32.19	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5247)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5247.0) ------>

Distance	Elevation	Manning		
0.00	164.49	0.1110		
96.53	159.50	0.1110		
96.60	159.50	0.1110		
98.32	159.15	0.1110		
99.07	159.00	0.1110 /0.0490	Main Channel	
101.36	158.57	0.0490	Main Channel	

101.75	158.00	0.0490	Main Channel		
102.83	158.00	0.0490	Main Channel		
104.82	158.00	0.0490	Main Channel		
105.65	158.66	0.0490	Main Channel		
107.41	159.00	0.0490 /0.1110	Main Channel		
109.23	159.35	0.1110			
110.01	159.50	0.1110			
111.19	159.56	0.1110			
111.57	159.58	0.1110			
121.33	160.00	0.1110			
148.53	160.00	0.1110			
158.08	161.00	0.1110			
169.93	164.43	0.1110			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	158.33	.750E+03	0.9	0.78	14.16
0.67	158.67	.166E+04	2.7	1.09	10.15
1.00	159.00	.311E+04	5.5	1.18	9.36
1.34	159.34	.538E+04	12.3	1.52	7.28
1.68	159.68	.874E+04	21.6	1.64	6.76
2.02	160.02	.154E+05	34.0	1.46	7.54
2.36	160.36	.305E+05	57.4	1.25	8.85
2.70	160.70	.478E+05	90.5	1.26	8.79
3.04	161.04	.673E+05	133.4	1.31	8.40
3.38	161.38	.887E+05	186.9	1.40	7.91
3.71	161.71	.112E+06	250.3	1.48	7.45
4.05	162.05	.137E+06	323.8	1.57	7.04
4.39	162.39	.163E+06	407.4	1.65	6.68
4.73	162.73	.192E+06	501.6	1.73	6.37
5.07	163.07	.222E+06	606.4	1.81	6.10
5.41	163.41	.254E+06	722.2	1.89	5.86
5.75	163.75	.287E+06	849.3	1.96	5.64
6.09	164.09	.323E+06	987.9	2.03	5.45
6.43	164.43	.360E+06	1138.4	2.10	5.27

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1247)	1246.73	28.35	5.25	32.19	1.86	1.54
OUTFLOW: ID= 1 (5247)	1246.73	27.01	5.25	32.19	1.83	1.55

CALIB	
STANDHYD (0247)	Area (ha)= 38.02
ID= 1 DT=15.0 min	Total Imp(%)= 64.00 Dir. Conn.(%)= 64.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.33	13.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.50
Length	(m)=	503.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.13
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	45.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS

PEAK FLOW	(cms)=	1.31	0.32	1.582 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	22.88	34.48
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.54	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2247)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0247):	38.02	1.582	5.25	34.48	
+ ID2= 2 (5247):	1246.73	27.010	5.25	32.19	
ID = 3 (2247):	1284.75	28.593	5.25	32.26	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1226)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2213):	9043.82	41.091	8.25	17.28	
+ ID2= 2 (2247):	1284.75	28.593	5.25	32.26	
ID = 3 (1226):	10328.57	53.162	7.25	19.14	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5226)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5226.0) ------>

Distance	Elevation	Manning		
0.00	167.48	0.1110		
4.33	163.54	0.1110		
26.47	158.00	0.1110		
57.29	157.00	0.1110		
63.27	155.78	0.1110		
63.95	155.50	0.1110 /0.0490	Main Channel	
64.81	155.10	0.0490	Main Channel	
74.07	155.10	0.0490	Main Channel	
75.37	155.50	0.0490 /0.1110	Main Channel	
81.00	157.00	0.1110		
137.94	159.50	0.1110		
171.75	168.01	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.40	155.50	.560E+04	3.0	0.72	31.36
1.03	156.13	.172E+05	16.4	1.29	17.55
1.66	156.76	.334E+05	38.9	1.58	14.28
2.29	157.39	.588E+05	70.0	1.61	14.02
2.92	158.02	.111E+06	119.9	1.46	15.48
3.55	158.65	.185E+06	198.8	1.45	15.52
4.18	159.28	.273E+06	304.3	1.51	14.97
4.81	159.91	.374E+06	443.6	1.61	14.04
5.44	160.54	.479E+06	613.0	1.73	13.02
6.07	161.17	.588E+06	808.3	1.86	12.13
6.71	161.81	.702E+06	1028.8	1.98	11.38
7.34	162.44	.820E+06	1274.3	2.10	10.73
7.97	163.07	.943E+06	1544.4	2.22	10.18
8.60	163.70	.107E+07	1841.5	2.33	9.68
9.23	164.33	.120E+07	2170.2	2.45	9.21
9.86	164.96	.133E+07	2522.8	2.57	8.80
10.49	165.59	.147E+07	2898.9	2.68	8.44
11.12	166.22	.161E+07	3298.4	2.78	8.11
11.75	166.85	.175E+07	3721.0	2.89	7.82

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1226)	*******	53.16	7.25	19.14	1.95	1.59
OUTFLOW: ID= 1 (5226)	*******	52.90	7.50	19.14	1.94	1.59

CALIB	
STANDHYD (0226)	Area (ha)= 128.50
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.25	64.25
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.40
Length	(m)=	925.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.92
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	3.44	1.01 4.118 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	41.00	19.01 30.01
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.98	0.45 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2226)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0226):	128.50	4.118	5.25	30.01
	+ ID2= 2 (5226):	10328.57	52.895	7.50	19.14
	ID = 3 (2226):	10457.07	53.944	7.25	19.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5237) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5237.0) ------>

Distance	Elevation	Manning	
0.00	158.00	0.1110	
14.00	155.00	0.1110	
15.00	154.50	0.1110	
45.00	154.00	0.1110	
65.00	153.50	0.1110	
97.00	153.50	0.1110	
101.00	154.00	0.1110	
102.00	154.00	0.1110	
105.00	153.50	0.1110	
120.00	153.00	0.1110	
121.00	152.50	0.1110 /0.0490	Main Channel
122.00	151.40	0.0490	Main Channel
134.00	151.40	0.0490	Main Channel
135.00	152.50	0.0490 /0.1110	Main Channel
144.00	153.50	0.1110	
146.00	154.00	0.1110	
160.00	164.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	151.67	.218E+04	1.7	0.51	21.12
0.55	151.95	.446E+04	5.4	0.79	13.63
0.83	152.22	.682E+04	10.7	1.01	10.64
1.10	152.50	.927E+04	17.2	1.20	8.97
1.47	152.87	.131E+05	28.8	1.43	7.56
1.83	153.23	.183E+05	43.3	1.53	7.05
2.20	153.60	.290E+05	61.9	1.39	7.79
2.57	153.97	.497E+05	90.9	1.18	9.12
2.93	154.33	.759E+05	130.0	1.11	9.73
3.30	154.70	.107E+06	183.2	1.11	9.71
3.67	155.07	.138E+06	249.6	1.17	9.23
4.03	155.43	.170E+06	325.8	1.24	8.71
4.40	155.80	.203E+06	411.6	1.31	8.22
4.77	156.17	.236E+06	506.6	1.39	7.77
5.13	156.53	.270E+06	610.4	1.47	7.36
5.50	156.90	.304E+06	722.7	1.54	7.01
5.87	157.27	.339E+06	843.4	1.61	6.69
6.23	157.63	.374E+06	972.3	1.69	6.41
6.60	158.00	.410E+06	1109.3	1.76	6.15

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2226) *******		53.94	7.25	19.28	2.04	1.44
OUTFLOW: ID= 1 (5237) *******		53.81	7.50	19.28	2.04	1.45

CALIB | STANDHYD (0237) | Area (ha)= 15.48
ID= 1 DT=15.0 min | Total Imp(%)= 25.00 Dir. Conn.(%)= 25.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.87	11.61
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.30
Length (m)=	321.25	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	9.73		
over (min)	15.00	30.00		
Storage Coeff. (min)=	5.40 (ii)	32.40 (ii)		
Unit Hyd. Tpeak (min)=	15.00	30.00		
Unit Hyd. peak (cms)=	0.11	0.04		
			TOTALS	
PEAK FLOW (cms)=	0.21	0.21	0.410 (iii)	
TIME TO PEAK (hrs)=	5.25	5.50	5.25	
RUNOFF VOLUME (mm)=	41.00	15.40	21.80	
TOTAL RAINFALL (mm)=	42.00	42.00	42.00	
RUNOFF COEFFICIENT =	0.98	0.37	0.52	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2237)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0237):	15.48	0.410	5.25	21.80
	+ ID2= 2 (5237):	10457.07	53.813	7.50	19.28
	ID = 3 (2237):	10472.55	53.894	7.50	19.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | NASHYD (0447) | Area (ha)= 106.74 Curve Number (CN)= 79.0
ID= 1 DT=15.0 min | Ia (mm)= 6.80 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.58

Unit Hyd Qpeak (cms)= 6.969

PEAK FLOW (cms)= 1.410 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 12.037
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.287

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5024) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5024.0) ------>

Distance	Elevation	Manning	
0.00	247.19	0.1000	
52.21	246.15	0.1000	
62.95	246.38	0.1000	
94.83	245.47	0.1000	
131.08	245.92	0.1000	
263.16	244.86	0.1000	
320.30	244.93	0.1000	
355.96	243.82	0.1000	
398.49	243.50	0.1000	
420.89	243.19	0.1000 /0.0440	Main Channel
421.43	243.14	0.0440	Main Channel
424.25	243.19	0.0440 /0.1000	Main Channel
502.84	245.16	0.1000	
552.79	245.54	0.1000	
669.65	247.85	0.1000	
770.08	247.29	0.1000	
869.85	249.34	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	243.19	.204E+03	0.0	0.13	310.61
0.26	243.40	.796E+04	0.8	0.25	159.47
0.47	243.61	.287E+05	3.6	0.31	131.52
0.68	243.82	.673E+05	9.9	0.36	112.91
0.89	244.03	.119E+06	21.9	0.45	90.72
1.10	244.24	.178E+06	38.5	0.52	77.32
1.31	244.45	.246E+06	59.9	0.59	68.34
1.52	244.66	.321E+06	86.4	0.65	61.83
1.73	244.87	.403E+06	112.5	0.68	59.76
1.94	245.08	.527E+06	138.2	0.64	63.51
2.16	245.30	.673E+06	183.9	0.66	60.98
2.37	245.51	.846E+06	238.8	0.69	59.06
2.58	245.72	.105E+07	306.9	0.71	57.14
2.79	245.93	.129E+07	393.3	0.74	54.65
3.00	246.14	.155E+07	515.2	0.81	50.02
3.21	246.35	.182E+07	640.6	0.86	47.28
3.42	246.56	.210E+07	791.7	0.91	44.30
3.63	246.77	.240E+07	960.6	0.97	41.68
3.84	246.98	.271E+07	1145.3	1.03	39.46

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0447)	106.74	1.41	5.50	12.04	0.30	0.26
OUTFLOW: ID= 1 (5024)	106.74	0.52	6.75	12.02	0.18	0.19

CALIB | NASHYD (0024) | Area (ha)= 140.14 Curve Number (CN)= 76.0
ID= 1 DT=15.0 min | Ia (mm)= 8.10 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.56

Unit Hyd Qpeak (cms)= 9.610

PEAK FLOW (cms)= 1.554 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 10.045
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.239

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2024)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0024):	140.14	1.554	5.50	10.05
	+ ID2= 2 (5024):	106.74	0.515	6.75	12.02
	ID = 3 (2024):	246.88	1.771	5.50	10.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5045) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5045.0) ------>

Distance	Elevation	Manning	
0.00	245.32	0.1000	
48.84	244.35	0.1000	
66.83	244.49	0.1000	
77.60	244.28	0.1000	
92.37	244.53	0.1000	
148.98	243.76	0.1000	
202.60	243.77	0.1000	
250.13	244.20	0.1000	
292.80	243.79	0.1000	
323.01	243.86	0.1000	
373.16	242.22	0.1000 /0.0440	Main Channel
377.19	242.15	0.0440	Main Channel
382.31	242.13	0.0440	Main Channel
387.43	242.26	0.0440 /0.1000	Main Channel
438.88	244.46	0.1000	
489.19	244.67	0.1000	
537.88	243.99	0.1000	
580.30	244.40	0.1000	
602.74	244.26	0.1000	
764.27	245.55	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	242.22	.178E+03	0.3	0.43	9.82
0.25	242.38	.901E+03	3.2	0.90	4.65
0.42	242.55	.199E+04	9.0	1.14	3.67
0.58	242.71	.343E+04	17.7	1.29	3.24
0.74	242.87	.524E+04	29.4	1.41	2.97
0.91	243.04	.741E+04	44.5	1.51	2.78
1.07	243.20	.994E+04	63.0	1.59	2.63
1.23	243.36	.128E+05	85.3	1.67	2.51

1.40	243.53	.161E+05	111.5	1.74	2.40
1.56	243.69	.197E+05	141.8	1.81	2.31
1.72	243.85	.252E+05	158.6	1.58	2.65
1.88	244.01	.348E+05	205.5	1.48	2.82
2.05	244.18	.472E+05	259.7	1.38	3.03
2.21	244.34	.626E+05	336.4	1.35	3.10
2.37	244.50	.822E+05	430.4	1.31	3.18
2.54	244.67	.106E+06	568.2	1.34	3.11
2.70	244.83	.132E+06	747.9	1.42	2.94
2.86	244.99	.159E+06	953.9	1.50	2.78
3.03	245.16	.188E+06	1185.5	1.59	2.64

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2024)	246.88	1.77	5.50	10.90	0.17	0.58
OUTFLOW: ID= 1 (5045)	246.88	1.81	5.75	10.90	0.17	0.58

CALIB			
NASHYD (0045)	Area (ha)=	69.60	Curve Number (CN)= 78.0
ID= 1 DT=15.0 min	Ia (mm)=	7.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.59	

Unit Hyd Qpeak (cms)= 4.483

PEAK FLOW (cms)= 0.859 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 11.410
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.272

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2045)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0045):	69.60	0.859	5.50	11.41
	+ ID2= 2 (5045):	246.88	1.805	5.75	10.90
	ID = 3 (2045):	316.48	2.622	5.75	11.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0016)	Area (ha)=	208.86	Curve Number (CN)= 79.0
ID= 1 DT=15.0 min	Ia (mm)=	6.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.80	

Unit Hyd Qpeak (cms)= 9.972

PEAK FLOW (cms)= 2.321 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 12.169
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.290

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1048)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0016):	208.86	2.321	5.75	12.17
	+ ID2= 2 (2045):	316.48	2.622	5.75	11.01
	ID = 3 (1048):	525.34	4.943	5.75	11.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5048)	
IN= 1---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5048.0) ------>

Distance	Elevation	Manning	
0.00	243.03	0.1000	
359.76	240.13	0.1000	
503.08	241.12	0.1000	
509.36	239.75	0.1000	
547.35	239.09	0.1000	
550.14	239.02	0.1000	
571.65	237.24	0.1000 /0.0440	Main Channel
573.01	237.04	0.0440	Main Channel
575.59	237.59	0.0440 /0.1000	Main Channel
588.26	239.41	0.1000	
637.64	239.34	0.1000	
713.38	240.34	0.1000	
773.29	240.09	0.1000	
817.41	241.38	0.1000	
880.91	240.96	0.1000	
1218.10	243.31	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	237.24	.152E+03	0.0	0.15	75.62
0.50	237.54	.113E+04	0.4	0.23	46.91
0.81	237.85	.318E+04	1.4	0.30	36.85
1.11	238.15	.640E+04	3.3	0.34	32.68
1.42	238.46	.108E+05	6.0	0.37	29.97
1.72	238.76	.163E+05	9.8	0.39	27.86
2.03	239.07	.231E+05	14.5	0.41	26.52
2.33	239.37	.328E+05	18.1	0.36	30.17
2.64	239.68	.585E+05	28.4	0.32	34.30
2.94	239.98	.918E+05	46.9	0.34	32.63
3.25	240.29	.136E+06	61.5	0.30	36.76
3.55	240.59	.208E+06	94.6	0.30	36.68
3.86	240.90	.300E+06	146.5	0.32	34.13
4.16	241.20	.416E+06	204.2	0.32	33.93
4.47	241.51	.561E+06	293.7	0.35	31.81
4.77	241.81	.724E+06	413.2	0.38	29.19
5.08	242.12	.903E+06	556.1	0.41	27.06
5.38	242.42	.110E+07	723.7	0.43	25.30
5.69	242.73	.131E+07	917.4	0.46	23.82

INFLOW : ID= 2 (1048)	525.34	4.94	5.75	11.47	1.30	0.35
OUTFLOW: ID= 1 (5048)	525.34	4.12	6.25	11.47	1.21	0.35

CALIB			
STANDHYD (0048)	Area (ha)=	61.81	
ID= 1 DT=15.0 min	Total Imp(%)=	29.00	Dir. Conn.(%)= 23.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.92	43.89
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	641.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.43
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.76	0.66	1.199 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	41.00	16.36	22.03
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.39	0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2048)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0048):	61.81	1.199	5.25	22.03
	+ ID2= 2 (5048):	525.34	4.121	6.25	11.47
	ID = 3 (2048):	587.15	4.943	6.25	12.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5046)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5046.0) ------>

Distance	Elevation	Manning
0.00	242.13	0.1000
21.95	242.56	0.1000
73.65	242.53	0.1000

129.75	241.36	0.1000
150.90	241.54	0.1000
175.31	240.19	0.1000
191.36	239.80	0.1000
206.39	238.06	0.1000
242.75	238.88	0.1000
260.87	237.01	0.1000 /0.0440 Main Channel
262.52	236.94	0.0440 Main Channel
262.96	236.99	0.0440 /0.1000 Main Channel
316.06	239.46	0.1000
411.45	238.61	0.1000
755.24	241.81	0.1000
768.93	242.79	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	236.99	.275E+02	0.0	0.13	85.24
0.32	237.26	.115E+04	0.6	0.36	31.89
0.59	237.53	.383E+04	2.5	0.44	25.54
0.86	237.80	.806E+04	6.2	0.52	21.83
1.13	238.07	.138E+05	11.9	0.58	19.41
1.40	238.34	.226E+05	19.8	0.59	19.09
1.67	238.61	.356E+05	32.4	0.62	18.28
1.94	238.88	.583E+05	45.2	0.53	21.51
2.21	239.15	.948E+05	78.6	0.56	20.10
2.48	239.42	.144E+06	129.6	0.61	18.49
2.76	239.70	.203E+06	205.8	0.69	16.41
3.03	239.97	.268E+06	297.8	0.76	14.98
3.30	240.24	.340E+06	408.5	0.82	13.86
3.57	240.51	.419E+06	544.6	0.88	12.81
3.84	240.78	.504E+06	702.1	0.95	11.96
4.11	241.05	.595E+06	882.1	1.01	11.25
4.38	241.32	.693E+06	1085.3	1.07	10.64
4.65	241.59	.800E+06	1271.2	1.08	10.48
4.92	241.86	.916E+06	1530.3	1.14	9.98

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2048)	587.15	4.94	6.25	12.58	0.77	0.49
OUTFLOW: ID= 1 (5046)	587.15	4.71	6.50	12.58	0.75	0.49

CALIB			
STANDHYD (0046)	Area (ha)=	117.70	
ID= 1 DT=15.0 min	Total Imp(%)=	37.00	Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.55	74.15
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	885.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.30
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

TOTALS

PEAK FLOW	(cms)=	1.88	1.05	2.432 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	17.30	24.41
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.41	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2046)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0046):	117.70	2.432	5.25	24.41
+ ID2= 2 (5046):	587.15	4.705	6.50	12.58
ID = 3 (2046):	704.85	6.179	6.25	14.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0058) | Area (ha)= 66.21
ID= 1 DT=15.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.10	33.10
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	664.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	16.67
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	1.38	0.75	1.907 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	41.00	22.34	29.62
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.53	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1065)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0058):	66.21	1.907	5.25	29.62
+ ID2= 2 (2046):	704.85	6.179	6.25	14.56
ID = 3 (1065):	771.06	7.266	6.25	15.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5065)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5065.0) ------>

Distance	Elevation	Manning	
0.00	239.31	0.1000	
5.58	239.49	0.1000	
15.91	238.39	0.1000	
40.00	238.08	0.1000	
49.46	237.62	0.1000	
60.68	238.23	0.1000	
78.72	234.07	0.1000	
80.23	233.37	0.1000 /0.0440	Main Channel
81.64	232.65	0.0440	Main Channel
82.98	233.25	0.0440 /0.1000	Main Channel
90.42	235.93	0.1000	
96.97	235.80	0.1000	
141.98	236.43	0.1000	
154.34	236.80	0.1000	
162.27	236.56	0.1000	
167.80	237.32	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	232.95	.996E+02	0.1	0.73	12.12
0.60	233.25	.399E+03	0.9	1.15	7.63
0.97	233.62	.106E+04	3.4	1.71	5.16
1.33	233.98	.207E+04	7.8	1.98	4.44
1.70	234.35	.347E+04	14.0	2.13	4.14
2.07	234.72	.538E+04	22.5	2.21	3.98
2.44	235.09	.780E+04	33.7	2.28	3.86
2.80	235.45	.107E+05	47.7	2.35	3.74
3.17	235.82	.142E+05	63.0	2.35	3.75
3.54	236.19	.220E+05	81.7	1.97	4.48
3.90	236.55	.352E+05	120.0	1.80	4.89
4.27	236.92	.528E+05	176.3	1.76	4.99
4.64	237.29	.723E+05	258.3	1.89	4.67
5.00	237.65	.925E+05	357.0	2.04	4.32
5.37	238.02	.115E+06	459.2	2.12	4.16
5.74	238.39	.141E+06	584.5	2.19	4.02
6.11	238.76	.171E+06	760.2	2.35	3.74
6.47	239.12	.201E+06	958.4	2.52	3.50
6.84	239.49	.233E+06	1168.1	2.65	3.32

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1065)	771.06	7.27	6.25	15.85	1.29	1.95
OUTFLOW: ID= 1 (5065)	771.06	7.22	6.25	15.85	1.29	1.94

CALIB
STANDHYD (0065) | Area (ha)= 10.36
ID= 1 DT=15.0 min | Total Imp(%)= 57.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.91	4.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.40
Length	(m)=	262.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.20
over (min)		15.00	15.00
Storage Coeff. (min)=		4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.29	0.13	0.426 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	20.99	31.59
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.50	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2065)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0065):	10.36	0.426	5.25	31.59
+ ID2= 2 (5065):	771.06	7.222	6.25	15.85
ID = 3 (2065):	781.42	7.372	6.25	16.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0734) | Area (ha)= 28.31 Curve Number (CN)= 80.0
ID= 1 DT=15.0 min | Ia (mm)= 9.50 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.30

Unit Hyd Qpeak (cms)= 3.653

PEAK FLOW	(cms)=	0.472 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	10.703
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.255

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0545) | Area (ha)= 6.45
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.42	3.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.80
Length	(m)=	207.36	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	18.19
over (min)		15.00	15.00
Storage Coeff. (min)=		4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.15	0.12	0.264 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	24.38	31.35
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.58	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9130)
Inlet Cap.=0.009
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	6.45	0.26	5.25	31.35
MAJOR SYS.(ID= 2):	5.45	0.25	5.25	31.35
MINOR SYS.(ID= 3):	1.00	0.01	2.50	31.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6130)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0090	0.0800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9130)	1.001	0.009	2.50	31.35
OUTFLOW: ID= 1 (6130)	1.001	0.003	12.50	29.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.36
TIME SHIFT OF PEAK FLOW (min)=600.00

MAXIMUM STORAGE USED (ha.m.)= 0.0251

ADD HYD (4130)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6130):	1.00	0.003	12.50	29.12
	+ ID2= 2 (9130):	5.45	0.255	5.25	31.35
	ID = 3 (4130):	6.45	0.256	5.25	31.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2734)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0734):	28.31	0.472	5.25	10.70
	+ ID2= 2 (4130):	6.45	0.256	5.25	31.01
	ID = 3 (2734):	34.76	0.727	5.25	14.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0741) | ID= 1 DT=15.0 min | Area (ha)= 3.39 | Total Imp(%)= 47.00 | Dir. Conn.(%)= 44.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.59	1.80
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.50
Length	(m)=	150.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.40
over (min)		15.00	30.00
Storage Coeff. (min)=		3.60 (ii)	19.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.08	0.03	0.112 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	11.09	24.25
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.26	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2741)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0741):	3.39	0.112	5.25	24.25
	+ ID2= 2 (2734):	34.76	0.727	5.25	14.47
	ID = 3 (2741):	38.15	0.839	5.25	15.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | NASHYD (0041) | ID= 1 DT=15.0 min | Area (ha)= 263.00 | Ia (mm)= 8.90 | U.H. Tp(hrs)= 0.52 | Curve Number (CN)= 74.0 | # of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 19.468

PEAK FLOW (cms)= 2.660 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 8.925
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.212

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2041)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0041):	263.00	2.660	5.50	8.92
	+ ID2= 2 (2741):	38.15	0.839	5.25	15.34
	ID = 3 (2041):	301.15	3.247	5.25	9.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9001) | Inlet Cap.=0.000 | #of Inlets= 1 | Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	301.15	3.25	5.25	9.74
MAJOR SYS.(ID= 2):	301.15	3.25	5.25	9.74
MINOR SYS.(ID= 3):	0.00	0.00	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | NASHYD (0064) | ID= 1 DT=15.0 min | Area (ha)= 67.94 | Ia (mm)= 8.50 | U.H. Tp(hrs)= 0.37 | Curve Number (CN)= 75.0 | # of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 7.071

PEAK FLOW (cms)= 0.872 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 9.379
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.223

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1068)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0064):	67.94	0.872	5.25	9.38
	+ ID2= 2 (9001):	301.15	3.247	5.25	9.74
	ID = 3 (1068):	369.09	4.119	5.25	9.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5068) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5068.0) ------>

Distance	Elevation	Manning	
0.00	243.69	0.1000	
1.05	244.22	0.1000	
19.37	243.89	0.1000	
41.05	239.31	0.1000	
42.39	239.06	0.1000	
54.90	238.66	0.1000	
104.87	239.47	0.1000	
187.22	239.06	0.1000	
198.63	238.28	0.1000	
214.93	233.81	0.1000 /0.0440	Main Channel
224.74	232.68	0.0440	Main Channel
234.23	233.89	0.0440 /0.1000	Main Channel
244.57	237.42	0.1000	
253.16	237.28	0.1000	
264.49	238.25	0.1000	
303.31	239.05	0.1000	
336.23	238.84	0.1000	
370.20	238.82	0.1000	
618.04	242.11	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.57	233.24	.503E+04	2.0	0.75	42.17
1.13	233.81	.201E+05	12.6	1.20	26.56
1.74	234.42	.447E+05	43.5	1.86	17.13
2.35	235.03	.741E+05	90.1	2.32	13.71
2.97	235.65	.108E+06	151.2	2.67	11.92
3.58	236.26	.147E+06	226.7	2.95	10.80
4.19	236.87	.190E+06	316.7	3.18	10.02
4.80	237.48	.241E+06	415.4	3.29	9.67
5.42	238.10	.310E+06	540.6	3.33	9.55
6.03	238.71	.399E+06	666.7	3.19	9.97
6.64	239.32	.651E+06	821.2	2.41	13.21

7.25	239.93	.110E+07	1176.4	2.04	15.63
7.87	240.55	.162E+07	1669.2	1.97	16.15
8.48	241.16	.219E+07	2289.5	2.00	15.94
9.09	241.77	.282E+07	3040.5	2.06	15.45
9.70	242.38	.350E+07	3971.5	2.17	14.69
10.32	243.00	.419E+07	5093.0	2.32	13.72
10.93	243.61	.489E+07	6341.8	2.48	12.85
11.54	244.22	.560E+07	7596.9	2.59	12.28

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1068)	369.09	4.12	5.25	9.67	0.68	0.81
OUTFLOW: ID= 1 (5068)	369.09	2.96	6.00	9.67	0.62	0.78

CALIB | STANDHYD (0068) | ID= 1 DT=15.0 min | Area (ha)= 67.87 | Total Imp(%)= 24.00 | Dir. Conn.(%)= 22.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.29	51.58
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	672.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.76
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	56.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.80	0.66	1.239 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	41.00	14.52	20.35
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.35	0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2068)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0068):	67.87	1.239	5.25	20.35
	+ ID2= 2 (5068):	369.09	2.957	6.00	9.67
	ID = 3 (2068):	436.96	3.852	6.00	11.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| CALIB            |
| STANDHYD  (0075) |   Area    (ha)=  90.63
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  54.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      53.47        37.16
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.00
     Length            (m)=     777.30        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        13.67
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   66.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.62         0.67          3.075 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME    (mm)=      41.00        19.62          31.17
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.47           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1074) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0075):    90.63   3.075     5.25    31.17
       + ID2= 2 (2068):   436.96   3.852     6.00    11.33
         ================================================
         ID = 3 (1074):   527.59   6.094     5.25    14.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5074) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5074.0) ------>
               Distance      Elevation       Manning
                  0.00         237.79        0.1000
                113.79         235.41        0.1000
                164.89         228.84    0.1000 /0.0440  Main Channel
                166.86         228.66        0.0440      Main Channel
                168.93         229.03    0.0440 /0.1000  Main Channel
                184.89         232.46        0.1000
                190.40         232.85        0.1000
                196.98         234.94        0.1000
                215.36         235.65        0.1000
                232.15         237.32        0.1000
                254.34         236.11        0.1000
```



```
                290.72         237.19        0.1000
                335.58         237.37        0.1000
                355.30         236.87        0.1000
                416.53         238.54        0.1000
                454.71         237.66        0.1000
                532.81         237.74        0.1000
                585.25         238.79        0.1000
                633.15         238.27        0.1000
                651.47         238.62        0.1000

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.18   228.84    .883E+02        0.1         0.42      13.12
      0.70   229.36    .119E+04        3.7         1.03       5.33
      1.23   229.89    .342E+04       13.1         1.26       4.34
      1.75   230.41    .677E+04       29.3         1.43       3.85
      2.27   230.93    .112E+05       53.3         1.56       3.51
      2.80   231.46    .168E+05       86.4         1.69       3.25
      3.32   231.98    .236E+05      129.4         1.81       3.04
      3.85   232.51    .314E+05      182.7         1.92       2.87
      4.37   233.03    .408E+05      246.6         1.99       2.76
      4.89   233.55    .514E+05      329.5         2.11       2.60
      5.42   234.08    .630E+05      426.4         2.23       2.46
      5.94   234.60    .756E+05      537.9         2.34       2.34
      6.46   235.12    .893E+05      650.4         2.40       2.29
      6.99   235.65    .106E+06      732.6         2.28       2.41
      7.51   236.17    .128E+06      845.2         2.17       2.53
      8.04   236.70    .158E+06      973.3         2.02       2.71
      8.56   237.22    .200E+06     1148.0         1.89       2.90
      9.08   237.74    .263E+06     1390.2         1.74       3.15
      9.61   238.27    .349E+06     1932.2         1.82       3.01

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1074)  527.59     6.09    5.25  14.74      0.84      1.08
     OUTFLOW: ID= 1 (5074)  527.59     5.68    5.25  14.74      0.81      1.07


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--------------------
| CALIB            |
| STANDHYD  (0074) |   Area    (ha)=  22.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  40.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      11.34        11.34
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     388.76        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        15.69
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   41.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.49         0.30          0.749 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      41.00        21.27          29.16
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
```



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     RUNOFF COEFFICIENT   =       0.98         0.51           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2074) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0074):    22.67   0.749     5.25    29.16
       + ID2= 2 (5074):   527.59   5.684     5.25    14.74
         ================================================
         ID = 3 (2074):   550.26   6.433     5.25    15.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1073) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2065):   781.42   7.372     6.25    16.06
       + ID2= 2 (2074):   550.26   6.433     5.25    15.33
         ================================================
         ID = 3 (1073):  1331.68  12.899     6.25    15.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0073) |   Area    (ha)=  52.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  44.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.29        25.20
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     591.55        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        13.98
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   53.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.24         0.51          1.599 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME    (mm)=      41.00        19.32          28.86
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.46           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2073) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0073):    52.49   1.599     5.25    28.86
       + ID2= 2 (1073):  1331.68  12.899     6.25    15.76
         ================================================
         ID = 3 (2073):  1384.17  14.239     5.25    16.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| DUHYD     (9013) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):1384.17     14.24      5.25   16.25
     ================================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):1384.17     14.24      5.25   16.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6013) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------        (cms)     (ha.m.)   |   (cms)     (ha.m.)
                            0.0000     0.0000   |   3.8550     10.8920
                            0.0000     0.0000   |   4.2540     12.9360
                            0.0400     0.8560   |   4.6190     15.0330
                            0.1500     1.7950   |   4.9570     17.1840
                            0.5660     2.8160   |   5.2730     19.3870
                            0.7780     3.9200   |   5.6900     20.1320
                            0.9440     5.1060   |   9.2940     23.1620
                            1.1480     6.9760   |  13.1840     25.4880
                            1.3740     7.6130   |  17.8240     27.8720
                            3.1710     8.9050   |   0.0000      0.0000
                            3.5640     9.5610   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9013)   1384.170     14.239      5.25      16.25
     OUTFLOW: ID= 1 (6013)   1384.170      4.387      9.25      16.25

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.81
                TIME SHIFT OF PEAK FLOW         (min)=240.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 13.7053

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| ADD HYD   (4013) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9013 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6013):  1384.17   4.387     9.25    16.25
      + ID2= 2 (9013):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4013):  1384.17   4.387     9.25    16.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5081) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5081.0) ------>
             Distance      Elevation        Manning
                0.00         225.82         0.1000
                5.97         224.62         0.1000
               29.57         222.64         0.1000
               40.42         222.57         0.1000
               76.56         222.70         0.1000
               80.13         222.70         0.1000
               86.10         222.50         0.1000
               92.53         222.61         0.1000
               98.56         222.41         0.1000
               98.87         222.40         0.1000
              105.10         222.00    0.1000 /0.0440  Main Channel
              110.31         221.50         0.0440      Main Channel
              112.61         221.67         0.0440      Main Channel
              114.64         221.50         0.0440      Main Channel
              114.83         221.49         0.0440      Main Channel
              116.29         222.00    0.0440 /0.1000  Main Channel
              119.94         222.25         0.1000
              167.66         226.18         0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.17   221.66    .987E+03       0.2          0.35      87.86
      0.34   221.83    .345E+04       1.2          0.65      47.66
      0.51   222.00    .662E+04       3.1          0.86      35.87
      0.75   222.24    .132E+05       8.0          1.12      27.52
      0.99   222.48    .229E+05      15.2          1.23      25.11
      1.23   222.72    .475E+05      25.7          1.00      30.83
      1.46   222.95    .917E+05      46.2          0.94      33.04
      1.70   223.19    .138E+06      74.5          1.00      30.96
      1.94   223.43    .188E+06     109.8          1.08      28.50
      2.18   223.67    .240E+06     151.7          1.17      26.33
      2.42   223.91    .294E+06     200.1          1.26      24.49
      2.66   224.15    .351E+06     254.8          1.35      22.95
      2.90   224.39    .410E+06     316.0          1.43      21.64
      3.14   224.63    .472E+06     383.6          1.51      20.52
      3.37   224.86    .537E+06     460.0          1.59      19.44
      3.61   225.10    .603E+06     542.8          1.67      18.50
      3.85   225.34    .670E+06     632.0          1.75      17.68
      4.09   225.58    .740E+06     727.6          1.82      16.95
      4.33   225.82    .811E+06     829.6          1.90      16.30

                                  <---- hydrograph ---->   <-pipe / channel->
```



```
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (4013) 1384.17     4.39    9.25  16.25      0.57      0.92
     OUTFLOW: ID= 1 (5081) 1384.17     4.37    9.75  16.25      0.57      0.92

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--------------------
| CALIB            |
| STANDHYD  (0081) |   Area    (ha)= 131.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  36.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        57.90          73.70
     Dep. Storage     (mm)=         1.00           4.00
     Average Slope     (%)=         1.00           3.60
     Length            (m)=       936.66          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          14.60
               over (min)          15.00          30.00
     Storage Coeff.  (min)=        12.00 (ii)     69.00 (ii)
     Unit Hyd. Tpeak (min)=        15.00          75.00
     Unit Hyd. peak  (cms)=         0.08           0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=         2.53           1.37          3.294 (iii)
     TIME TO PEAK    (hrs)=         5.25           6.25          5.25
     RUNOFF VOLUME    (mm)=        41.00          20.67         27.99
     TOTAL RAINFALL   (mm)=        42.00          42.00         42.00
     RUNOFF COEFFICIENT   =         0.98           0.49          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (2081) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0081):   131.60   3.294     5.25    27.99
      + ID2= 2 (5081):  1384.17   4.368     9.75    16.25
        ================================================
        ID = 3 (2081):  1515.77   5.046     8.25    17.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5446) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5446.0) ------>
             Distance      Elevation        Manning
                0.00         217.81         0.1000
               11.08         216.00         0.1000
               36.54         215.00         0.1000
               55.05         214.88         0.1000
```



```
               57.65         214.50         0.1000
               65.88         212.00    0.1000 /0.0440  Main Channel
               65.89         212.00         0.0440      Main Channel
               71.62         211.78         0.0440      Main Channel
               71.62         211.62         0.0440      Main Channel
               74.08         211.60         0.0440      Main Channel
               82.25         211.66         0.0440      Main Channel
               86.11         212.00         0.0440      Main Channel
               86.23         212.02    0.0440 /0.1000  Main Channel
               94.33         213.50         0.1000
              134.71         215.48         0.1000
              170.10         216.00         0.1000
              190.26         216.67         0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   211.80    .388E+04       1.2          0.50      56.18
      0.40   212.00    .994E+04       4.7          0.79      35.45
      0.67   212.27    .199E+05      14.2          1.20      23.33
      0.95   212.55    .309E+05      27.8          1.52      18.54
      1.22   212.82    .431E+05      45.1          1.77      15.91
      1.50   213.10    .564E+05      66.1          1.98      14.22
      1.77   213.37    .708E+05      90.5          2.16      13.03
      2.05   213.65    .865E+05     118.0          2.30      12.23
      2.32   213.92    .105E+06     149.2          2.39      11.75
      2.60   214.20    .127E+06     184.8          2.46      11.43
      2.87   214.47    .151E+06     224.9          2.51      11.22
      3.15   214.75    .179E+06     269.4          2.53      11.09
      3.42   215.02    .213E+06     313.7          2.48      11.31
      3.70   215.30    .257E+06     372.2          2.44      11.52
      3.97   215.57    .308E+06     435.1          2.38      11.79
      4.25   215.85    .369E+06     503.4          2.30      12.21
      4.52   216.12    .441E+06     588.7          2.25      12.48
      4.80   216.40    .519E+06     690.4          2.24      12.53
      5.07   216.67    .602E+06     802.7          2.25      12.49

                                  <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2081) 1515.77     5.05    8.25  17.27      0.41      0.80
     OUTFLOW: ID= 1 (5446) 1515.77     4.99    8.50  17.27      0.41      0.80


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0446) |   Area    (ha)= 124.88
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  28.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        43.71          81.17
     Dep. Storage     (mm)=         1.00           4.00
     Average Slope     (%)=         1.00           3.90
     Length            (m)=       912.43          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          12.42
               over (min)          15.00          30.00
     Storage Coeff.  (min)=        11.40 (ii)     66.60 (ii)
     Unit Hyd. Tpeak (min)=        15.00          60.00
     Unit Hyd. peak  (cms)=         0.08           0.02
                                                          *TOTALS*
```



```
     PEAK FLOW       (cms)=         1.87           1.31          2.746 (iii)
     TIME TO PEAK    (hrs)=         5.25           6.00          5.25
     RUNOFF VOLUME    (mm)=        41.00          17.96         24.41
     TOTAL RAINFALL   (mm)=        42.00          42.00         42.00
     RUNOFF COEFFICIENT   =         0.98           0.43          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (2446) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0446):   124.88   2.746     5.25    24.41
      + ID2= 2 (5446):  1515.77   4.990     8.50    17.27
        ================================================
        ID = 3 (2446):  1640.65   5.821     7.50    17.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5110) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5110.0) ------>
             Distance      Elevation        Manning
                0.00         210.19         0.1000
               21.36         209.50         0.1000
               46.49         206.88         0.1000
               52.44         205.50    0.1000 /0.0440  Main Channel
               56.57         203.68         0.0440      Main Channel
               58.67         203.50         0.0440      Main Channel
               62.44         203.66         0.0440      Main Channel
               67.42         205.50    0.0440 /0.1000  Main Channel
               71.31         206.50         0.1000
               89.08         207.50         0.1000
              149.36         207.99         0.1000
              149.52         208.00         0.1000
              155.13         208.50         0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   203.75    .141E+04       0.6          0.64      36.91
      0.50   204.00    .384E+04       3.0          1.10      21.46
      0.75   204.25    .672E+04       6.8          1.43      16.47
      1.00   204.50    .100E+05      12.1          1.71      13.82
      1.25   204.75    .138E+05      19.0          1.94      12.13
      1.50   205.00    .180E+05      27.5          2.16      10.93
      1.75   205.25    .226E+05      37.7          2.36      10.01
      2.00   205.50    .277E+05      49.8          2.54       9.28
      2.27   205.77    .339E+05      68.3          2.85       8.28
      2.55   206.05    .410E+05      89.4          3.09       7.64
      2.82   206.32    .489E+05     113.3          3.27       7.20
      3.09   206.59    .578E+05     139.7          3.42       6.90
```

3.36	206.86	.687E+05	169.1	3.48	6.77
3.64	207.14	.822E+05	201.9	3.48	6.78
3.91	207.41	.985E+05	239.1	3.44	6.86
4.18	207.68	.120E+06	277.9	3.27	7.20
4.45	207.95	.155E+06	326.8	2.98	7.91
4.73	208.23	.200E+06	392.5	2.78	8.48
5.00	208.50	.247E+06	469.4	2.69	8.75

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2446)	1640.65	5.82	7.50	17.81	0.69	1.33
OUTFLOW: ID= 1 (5110)	1640.65	5.80	7.75	17.81	0.68	1.32

CALIB			
STANDHYD (0110)	Area (ha)=	86.93	
ID= 1 DT=15.0 min	Total Imp(%)=	36.00	Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	31.29	55.64
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	761.27	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.67
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	1.40	1.01 2.088 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	41.00	20.13 26.39
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.48 0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):	86.93	2.088	5.25	26.39
+ ID2= 2 (5110):	1640.65	5.804	7.75	17.81
ID = 3 (2110):	1727.58	6.513	7.50	18.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5721)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5721.0) ------>

Distance	Elevation	Manning	
0.00	199.53	0.1000	
12.53	199.00	0.1000	
12.61	199.00	0.1000	
22.51	197.82	0.1000 /0.0440	Main Channel
24.05	197.50	0.0440	Main Channel
30.35	196.57	0.0440	Main Channel
32.97	196.00	0.0440	Main Channel
34.58	195.50	0.0440	Main Channel
38.37	195.83	0.0440	Main Channel
39.72	196.22	0.0440	Main Channel
45.13	197.31	0.0440	Main Channel
49.32	197.68	0.0440 /0.1000	Main Channel
62.29	198.50	0.1000	
76.95	199.00	0.1000	
82.76	199.28	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	195.70	.369E+03	0.1	0.46	46.56
0.40	195.90	.145E+04	0.9	0.77	27.85
0.59	196.09	.297E+04	2.4	1.05	20.39
0.79	196.29	.489E+04	4.8	1.25	17.02
0.99	196.49	.727E+04	8.1	1.43	14.94
1.19	196.69	.102E+05	12.5	1.57	13.56
1.39	196.89	.136E+05	18.2	1.71	12.49
1.59	197.09	.177E+05	25.5	1.84	11.56
1.78	197.28	.223E+05	34.5	1.98	10.77
1.98	197.48	.277E+05	44.4	2.05	10.38
2.18	197.68	.339E+05	57.1	2.15	9.90
2.38	197.88	.411E+05	76.1	2.37	9.00
2.58	198.08	.495E+05	99.1	2.56	8.33
2.78	198.28	.592E+05	125.0	2.70	7.89
2.98	198.48	.701E+05	153.9	2.81	7.59
3.18	198.68	.825E+05	185.7	2.88	7.40
3.38	198.88	.968E+05	221.1	2.92	7.30
3.58	199.08	.113E+06	260.2	2.94	7.24
3.78	199.28	.132E+06	303.3	2.95	7.23

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2110)	1727.58	6.51	7.50	18.24	0.90	1.34
OUTFLOW: ID= 1 (5721)	1727.58	6.47	7.75	18.24	0.89	1.33

CALIB			
STANDHYD (0721)	Area (ha)=	44.92	
ID= 1 DT=15.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 31.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.07	27.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	547.24	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	14.59	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	0.75	0.60	1.177 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	41.00	21.21	27.35
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.51	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2721)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0721):	44.92	1.177	5.25	27.35
+ ID2= 2 (5721):	1727.58	6.473	7.75	18.24
ID = 3 (2721):	1772.50	6.992	5.50	18.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0699)	Area (ha)=	49.10	Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)=	7.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.37	

Unit Hyd Qpeak (cms)= 5.138

PEAK FLOW	(cms)=	0.724 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	10.595
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.252

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0540)	Area (ha)=	11.06	
ID= 1 DT=15.0 min	Total Imp(%)=	55.00	Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.08	4.98
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	271.54	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	17.95	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	0.27	0.16	0.410 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	41.00	24.26	31.79
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.58	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9214)				
Inlet Cap.=0.031				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	11.06	0.41	5.25	31.79
MAJOR SYS.(ID= 2):	8.07	0.38	5.25	31.79
MINOR SYS.(ID= 3):	2.99	0.03	2.75	31.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6214)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0280	0.3760
	0.0230	0.2300	0.0290	0.4150
	0.0240	0.2640	0.0300	0.4560
	0.0260	0.3000	0.0310	0.4990
	0.0270	0.3370	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9214)	2.992	0.031	2.75	31.79
OUTFLOW: ID= 1 (6214)	2.992	0.008	12.50	30.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 24.63
TIME SHIFT OF PEAK FLOW (min)=585.00
MAXIMUM STORAGE USED (ha.m.)= 0.0764

ADD HYD (4214)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6214):	2.99	0.008	12.50	30.95

```
       + ID2= 2 (9214):     8.07   0.379     5.25    31.79
         ================================================
         ID = 3 (4214):    11.06   0.382     5.25    31.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0539) |   Area    (ha)=  12.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.52         5.79
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         7.20
     Length            (m)=    286.47        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.32        12.43
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.35         0.14         0.494 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=     41.00        19.88        31.07
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.98         0.47         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9381) |
| Inlet Cap.=1.587 |
| #of Inlets=    1 |
| Total(cms)=  1.6 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  12.31      0.49      5.25   31.07
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  12.31      0.49      5.25   31.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6381) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0140      0.4484
                          0.0100     0.1881   |   0.1560      0.5370
                          0.0110     0.2208   |   0.7460      0.6320
                          0.0120     0.2905   |   1.5870      0.7334
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     Length            (m)=    536.22        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.32        15.40
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.20 (ii)   41.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.13         0.47         1.543 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=     41.00        20.59        30.59
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.98         0.49         0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9282) |
| Inlet Cap.=5.313 |
| #of Inlets=    1 |
| Total(cms)=  5.3 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.13      1.54      5.25   30.59
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.13      1.54      5.25   30.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6282) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0900      0.5455
                          0.0350     0.1299   |   0.6640      0.6004
                          0.0540     0.2338   |   1.8780      0.6553
                          0.0680     0.3377   |   3.4510      0.7101
                          0.0800     0.4416   |   5.3130      0.7650

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9282)     43.130     1.543      5.25      30.59
     OUTFLOW: ID= 1 (6282)     43.130     1.043      5.50      30.57

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 67.62
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6244

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--------------------
| ADD HYD   (4282) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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     0.0130     0.3662   |   0.0000      0.0000

                          AREA     QPEAK     TPEAK       R.V.
                          (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9381)     12.310     0.494      5.25      31.07
     OUTFLOW: ID= 1 (6381)     12.310     0.013     12.25      30.68

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.58
                    TIME SHIFT OF PEAK FLOW         (min)=420.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3467

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--------------------
| ADD HYD   (4381) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9381 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6381):    12.31   0.013    12.25    30.68
       + ID2= 2 (9381):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4381):    12.31   0.013    12.25    30.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------------------

--------------------
| ADD HYD   (1699) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
         ID1= 1 (4214):    11.06   0.382     5.25    31.56
       + ID2= 2 (4381):    12.31   0.013    12.25    30.68
         ================================================
         ID = 3 (1699):    23.37   0.392     5.25    31.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2699) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
         ID1= 1 (0699):    49.10   0.724     5.25    10.60
       + ID2= 2 (1699):    23.37   0.392     5.25    31.10
         ================================================
         ID = 3 (2699):    72.47   1.116     5.25    17.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0535) |   Area    (ha)=  43.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  49.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     25.02        18.11
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         6.60
```



```
     Length            (m)=    485.59        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.32        17.46
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      5.40 (ii)   33.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.78         0.58         1.355 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=     41.00        23.35        30.59
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.98         0.56         0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------------------------------------------------------------------------------
--------------------
| DUHYD     (9281) |
| Inlet Cap.=7.470 |
| #of Inlets=    1 |
| Total(cms)=  7.5 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  35.37      1.35      5.25   30.59
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  35.37      1.35      5.25   30.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------------------
--------------------
| RESERVOIR (6281) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
```

(cms)	(ha.m.)	(cms)	(ha.m.)
0.0000	0.0000	0.2800	0.5448
0.0200	0.8450	0.7000	0.6092
0.0300	0.2238	2.1800	0.6713
0.0400	0.3704	4.5300	0.7352
0.0500	0.4902	7.4700	0.8009

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9281)	35.370	1.355	5.25	30.59
OUTFLOW: ID= 1 (6281)	35.370	3.602	7.00	30.27

PEAK FLOW REDUCTION [Qout/Qin](%)=265.82
TIME SHIFT OF PEAK FLOW (min)=105.00
MAXIMUM STORAGE USED (ha.m.)= 0.8578

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.
**** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.

ADD HYD (4281)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6281):	35.37	3.602	7.00	30.27
+ ID2= 2 (9281):	0.00	0.000	0.00	0.00
ID = 3 (4281):	35.37	3.602	7.00	30.27

*** W A R N I N G : HYDROGRAPH 9281 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2535)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4281):	35.37	3.602	7.00	30.27
+ ID2= 2 (4282):	43.13	1.043	5.50	30.57
ID = 3 (2535):	78.50	4.059	7.00	30.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2541)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2535):	78.50	4.059	7.00	30.43
+ ID2= 2 (2699):	72.47	1.116	5.25	17.21
ID = 3 (2541):	150.97	4.365	7.00	24.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1130)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2541):	150.97	4.365	7.00	24.09
+ ID2= 2 (9001):	0.00	0.000	0.00	0.00
ID = 3 (1130):	150.97	4.365	7.00	24.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0532) | Area (ha)= 8.69
ID= 1 DT=15.0 min | Total Imp(%)= 27.00 Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.35	6.34
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	240.69	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.68
over (min)	15.00	30.00
Storage Coeff. (min)=	5.40 (ii)	31.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

			TOTALS
PEAK FLOW	(cms)=	0.10	0.13	0.221 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	15.72	21.02
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.37	0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2532)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0532):	8.69	0.221	5.25	21.02
+ ID2= 2 (1130):	150.97	4.365	7.00	24.09
ID = 3 (2532):	159.66	4.426	7.00	23.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9000)
Inlet Cap.=***** |
#of Inlets= 1 |
Total(cms)=***** | AREA QPEAK TPEAK R.V.

	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	159.66	4.43	7.00	23.92
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	159.66	4.43	7.00	23.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6000)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.5300	11.9290
0.6800	2.1800	1.8100	17.4390
1.1800	6.8490	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9000)	159.660	4.426	7.00	23.92
OUTFLOW: ID= 1 (6000)	159.660	0.463	8.25	23.91

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.47
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 1.4860

ADD HYD (4000)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6000):	159.66	0.463	8.25	23.91
+ ID2= 2 (9000):	0.00	0.000	0.00	0.00
ID = 3 (4000):	159.66	0.463	8.25	23.91

*** W A R N I N G : HYDROGRAPH 9000 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0542) | Area (ha)= 5.19 Curve Number (CN)= 78.0
ID= 1 DT=15.0 min | Ia (mm)= 7.30 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.17

Unit Hyd Qpeak (cms)= 1.153

PEAK FLOW	(cms)=	0.087 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	9.486
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.226

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2542)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0542):	5.19	0.087	5.25	9.49
+ ID2= 2 (4000):	159.66	0.463	8.25	23.91
ID = 3 (2542):	164.85	0.474	8.25	23.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0130) | Area (ha)= 99.94
ID= 1 DT=15.0 min | Total Imp(%)= 47.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	46.97	52.97
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.50
Length (m)=	816.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	15.12
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

			TOTALS
PEAK FLOW	(cms)=	2.03	1.12	2.826 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	41.00	20.96	28.57
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.50	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2130)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0130):	99.94	2.826	5.25	28.57
+ ID2= 2 (2542):	164.85	0.474	8.25	23.46
ID = 3 (2130):	264.79	3.022	5.25	25.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5550)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5550.0) ------>
Distance Elevation Manning

0.00	209.58	0.1000	
3.56	209.62	0.1000	
42.74	208.52	0.1000	
77.30	208.87	0.1000	
107.41	207.79	0.1000	
124.03	207.40	0.1000 /0.0440	Main Channel
150.79	206.87	0.0440	Main Channel
152.45	206.85	0.0440	Main Channel
162.04	206.90	0.0440	Main Channel
164.71	206.92	0.0440	Main Channel
184.43	207.42	0.0440	Main Channel
186.09	207.46	0.0440 /0.1000	Main Channel
213.15	208.26	0.1000	
241.57	209.72	0.1000	
256.40	208.62	0.1000	
290.72	210.48	0.1000	
292.65	210.48	0.1000	
306.25	210.74	0.1000	
413.63	210.84	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	206.99	.251E+04	0.8	0.39	55.21
0.28	207.13	.762E+04	3.6	0.61	35.24
0.41	207.26	.149E+05	9.0	0.78	27.54
0.55	207.40	.244E+05	17.6	0.93	23.15
0.70	207.55	.368E+05	32.8	1.15	18.69
0.84	207.69	.512E+05	52.9	1.34	16.15
0.99	207.84	.677E+05	77.2	1.48	14.61
1.13	207.98	.860E+05	106.0	1.60	13.53
1.28	208.13	.106E+06	139.0	1.70	12.71
1.42	208.27	.128E+06	176.2	1.79	12.07
1.57	208.42	.151E+06	218.0	1.87	11.52
1.71	208.56	.175E+06	262.8	1.94	11.12
1.86	208.71	.204E+06	310.0	1.97	10.97
2.00	208.85	.239E+06	363.7	1.97	10.94
2.15	209.00	.278E+06	426.8	1.99	10.85
2.29	209.14	.319E+06	496.3	2.01	10.72
2.44	209.29	.363E+06	571.9	2.04	10.58
2.58	209.43	.409E+06	653.6	2.07	10.44
2.73	209.58	.458E+06	741.6	2.10	10.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2130)	264.79	3.02	5.25	25.39	0.25	0.55
OUTFLOW: ID= 1 (5550)	264.79	2.20	5.50	25.39	0.21	0.48

CALIB	
STANDHYD (0550)	Area (ha)= 48.26
ID= 1 DT=15.0 min	Total Imp(%)= 34.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.41	31.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	567.22	40.00
Mannings n =	0.013	0.250

1.80	205.01	.534E+04	8.7	0.93	10.18
2.08	205.29	.706E+04	12.9	1.04	9.13
2.35	205.56	.903E+04	17.9	1.12	8.43
2.62	205.83	.112E+05	23.6	1.19	7.94
2.89	206.10	.137E+05	30.2	1.25	7.56
3.16	206.37	.164E+05	37.5	1.30	7.27
3.43	206.64	.193E+05	45.8	1.35	7.03
3.70	206.91	.225E+05	54.8	1.39	6.83
3.97	207.18	.259E+05	64.8	1.42	6.66
4.25	207.46	.295E+05	75.7	1.46	6.51
4.52	207.73	.334E+05	87.5	1.49	6.37
4.79	208.00	.405E+05	93.1	1.31	7.25
5.06	208.27	.594E+05	108.4	1.04	9.14

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2550)	313.05	3.31	5.25	25.25	1.24	0.74
OUTFLOW: ID= 1 (5144)	313.05	3.15	5.50	25.25	1.21	0.72

CALIB	
STANDHYD (0144)	Area (ha)= 57.15
ID= 1 DT=15.0 min	Total Imp(%)= 78.00 Dir. Conn.(%)= 77.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	44.58	12.57
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	617.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.33
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	58.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	2.36	0.30	2.580 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	41.00	25.81	37.51
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.61	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2144)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0144):	57.15	2.580	5.25	37.51
+ ID2= 2 (5144):	313.05	3.150	5.50	25.25
	==========	==========	==========	==========

Max.Eff.Inten.(mm/hr)=	19.32	11.59	
over (min)	15.00	30.00	
Storage Coeff. (min)=	7.80 (ii)	47.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.02	

			TOTALS
PEAK FLOW (cms)=	0.78	0.57	1.253 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	41.00	17.43	24.50
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.42	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2550)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0550):	48.26	1.253	5.25	24.50
+ ID2= 2 (5550):	264.79	2.202	5.50	25.39
	==========	==========	==========	==========
ID = 3 (2550):	313.05	3.308	5.25	25.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5144)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5144.0) ------>

Distance	Elevation	Manning	
0.00	208.27	0.1000	
28.32	207.87	0.1000	
28.56	207.85	0.1000	
31.58	206.89	0.1000	
40.26	204.20	0.1000 /0.0440	Main Channel
43.45	203.21	0.0440	Main Channel
48.11	205.04	0.0440 /0.1000	Main Channel
55.33	207.89	0.1000	
67.35	208.20	0.1000	
92.04	207.79	0.1000	
193.51	208.52	0.1000	
218.35	209.53	0.1000	
291.67	210.56	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.46	.100E+03	0.0	0.24	39.00
0.50	203.71	.402E+03	0.3	0.39	24.57
0.74	203.95	.904E+03	0.8	0.51	18.75
0.99	204.20	.161E+04	1.7	0.61	15.48
1.26	204.47	.261E+04	3.5	0.75	12.60
1.53	204.74	.385E+04	5.8	0.85	11.12

ID = 3 (2144):	370.20	5.492	5.25	27.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0133)	Area (ha)= 124.55
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	64.77	59.78
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	911.23	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	17.05
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

			TOTALS
PEAK FLOW (cms)=	2.79	1.26	3.500 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	23.15	30.64
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.55	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0157)	Area (ha)= 123.16
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 46.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	67.74	55.42
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.90
Length (m)=	906.13	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.88
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	82.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

			TOTALS
PEAK FLOW (cms)=	3.02	1.13	3.642 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	23.06	31.31
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.55	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2157)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0133):	124.55	3.500	5.25	30.64
	+ ID2= 2 (0157):	123.16	3.642	5.25	31.31
	ID = 3 (2157):	247.71	7.142	5.25	30.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0156)	Area (ha)= 110.69			
ID= 1 DT=15.0 min	Total Imp(%)= 64.00	Dir. Conn.(%)= 56.00		

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	70.84	39.85	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	1.80	
Length (m)=	859.03	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	18.60	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
			TOTALS
PEAK FLOW (cms)=	3.30	0.92	3.828 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	25.30	34.09
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.60	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2156)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0156):	110.69	3.828	5.25	34.09
	+ ID2= 2 (2157):	247.71	7.142	5.25	30.98
	ID = 3 (2156):	358.40	10.970	5.25	31.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5166)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5166.0) ------>

Distance	Elevation	Manning	
0.00	217.55	0.1000	
11.14	217.28	0.1000	
32.85	217.25	0.1000	
39.83	217.02	0.1000	
53.80	215.11	0.1000	
167.72	214.15	0.1000	
197.58	214.84	0.1000	
250.68	213.38	0.1000 /0.0440	Main Channel
255.86	213.24	0.0440	Main Channel
258.84	213.31	0.0440	Main Channel
259.52	213.31	0.0440	Main Channel
265.88	213.29	0.0440	Main Channel
268.98	213.36	0.0440 /0.1000	Main Channel
364.18	213.80	0.1000	
385.22	213.65	0.1000	
407.72	214.38	0.1000	
418.33	214.17	0.1000	
471.33	215.45	0.1000	
543.86	215.79	0.1000	
581.28	217.51	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	213.36	.284E+03	0.2	0.18	24.77
0.34	213.58	.297E+04	3.3	0.30	15.16
0.56	213.80	.944E+04	11.3	0.33	13.96
0.78	214.02	.190E+05	28.3	0.40	11.22
0.99	214.23	.297E+05	51.0	0.47	9.71
1.21	214.45	.438E+05	81.1	0.50	9.01
1.43	214.67	.613E+05	123.3	0.55	8.28
1.65	214.89	.818E+05	176.9	0.59	7.73
1.87	215.11	.105E+06	243.4	0.63	7.17
2.09	215.33	.129E+06	325.5	0.69	6.61
2.30	215.54	.154E+06	409.3	0.72	6.28
2.52	215.76	.182E+06	496.1	0.74	6.11
2.74	215.98	.211E+06	620.0	0.80	5.68
2.96	216.20	.241E+06	759.1	0.86	5.30
3.18	216.42	.272E+06	910.1	0.91	4.97
3.40	216.64	.302E+06	1072.7	0.97	4.70
3.61	216.85	.333E+06	1246.5	1.02	4.46
3.83	217.07	.365E+06	1429.4	1.07	4.25
4.05	217.29	.397E+06	1584.2	1.09	4.18

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2156)	358.40	10.97	5.25	31.94	0.55	0.32
OUTFLOW: ID= 1 (5166)	358.40	10.15	5.25	31.94	0.53	0.32

CALIB				
STANDHYD (0166)	Area (ha)= 11.81			
ID= 1 DT=15.0 min	Total Imp(%)= 83.00	Dir. Conn.(%)= 83.00		

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	9.80	2.01	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.50	
Length (m)=	280.59	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	15.40	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.60 (ii)	37.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	0.53	0.06	0.576 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	41.00	25.28	38.33
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.60	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2166)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0166):	11.81	0.576	5.25	38.33
	+ ID2= 2 (5166):	358.40	10.154	5.25	31.94
	ID = 3 (2166):	370.21	10.731	5.25	32.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5160)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5160.0) ------>

Distance	Elevation	Manning	
0.00	220.97	0.1000	
17.68	215.64	0.1000	
29.90	215.85	0.1000	
34.23	215.87	0.1000	
296.26	212.66	0.1000	
299.34	211.63	0.1000 /0.0440	Main Channel
304.29	210.00	0.0440	Main Channel
306.02	209.43	0.0440	Main Channel
310.37	211.42	0.0440 /0.1000	Main Channel
313.87	213.06	0.1000	
653.61	215.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	209.71	.349E+02	0.1	0.37	7.47
0.57	210.00	.139E+03	0.5	0.59	4.70
0.85	210.28	.314E+03	1.5	0.77	3.59
1.14	210.57	.558E+03	3.1	0.93	2.96
1.42	210.85	.872E+03	5.7	1.08	2.55
1.71	211.14	.126E+04	9.3	1.22	2.26
1.99	211.42	.171E+04	14.0	1.35	2.04
2.30	211.73	.229E+04	21.6	1.56	1.77
2.62	212.05	.295E+04	31.5	1.76	1.56
2.93	212.36	.370E+04	43.1	1.92	1.43
3.24	212.67	.453E+04	56.3	2.05	1.34
3.56	212.99	.614E+04	71.7	1.93	1.43
3.87	213.30	.985E+04	92.0	1.54	1.79
4.18	213.61	.174E+05	125.0	1.19	2.32
4.50	213.93	.289E+05	175.6	1.00	2.75
4.81	214.24	.443E+05	248.2	0.93	2.98
5.12	214.55	.637E+05	346.9	0.90	3.06
5.44	214.87	.870E+05	475.7	0.90	3.05
5.75	215.18	.114E+06	638.0	0.92	2.98

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2166)	370.21	10.73	5.25	32.14	1.79	1.26
OUTFLOW: ID= 1 (5160)	370.21	10.61	5.25	32.14	1.79	1.25

CALIB				
STANDHYD (0160)	Area (ha)= 41.13			
ID= 1 DT=15.0 min	Total Imp(%)= 62.00	Dir. Conn.(%)= 62.00		

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	25.50	15.63	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.70	
Length (m)=	523.64	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	13.53	
over (min)	15.00	30.00	
Storage Coeff. (min)=	7.20 (ii)	42.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	1.37	0.35	1.675 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	41.00	21.81	33.71
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.52	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2160)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0160):		41.13	1.675	5.25	33.71
+ ID2= 2 (5160):		370.21	10.609	5.25	32.14
ID = 3 (2160):		411.34	12.284	5.25	32.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5164)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5164.0) ------>

Distance	Elevation	Manning	
0.00	212.78	0.1000	
18.70	212.77	0.1000	
200.84	210.24	0.1000	
234.88	210.16	0.1000	
258.11	210.46	0.1000	
258.43	210.47	0.1000	
263.50	208.74	0.1000 /0.0440	Main Channel
269.32	206.81	0.0440	Main Channel
277.54	208.63	0.0440 /0.1000	Main Channel
291.76	210.46	0.1000	
323.24	210.56	0.1000	
387.30	209.40	0.1000	
387.95	209.38	0.1000	
408.71	210.26	0.1000	
538.36	212.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	207.07	.240E+03	0.1	0.34	45.94
0.52	207.33	.959E+03	0.6	0.54	28.94
0.78	207.59	.216E+04	1.6	0.71	22.08
1.04	207.85	.384E+04	3.5	0.86	18.23
1.30	208.11	.600E+04	6.4	1.00	15.71
1.56	208.37	.863E+04	10.3	1.13	13.91
1.82	208.63	.118E+05	15.6	1.25	12.55
2.12	208.93	.160E+05	24.8	1.46	10.76
2.41	209.22	.212E+05	36.3	1.62	9.71
2.71	209.52	.278E+05	49.7	1.68	9.33
3.00	209.81	.409E+05	66.9	1.54	10.19
3.30	210.11	.613E+05	89.7	1.38	11.40
3.60	210.41	.993E+05	119.8	1.14	13.82
3.89	210.70	.165E+06	166.6	0.95	16.52
4.19	211.00	.246E+06	238.9	0.91	17.18
4.48	211.29	.339E+06	330.8	0.92	17.08
4.78	211.59	.443E+06	443.5	0.94	16.66
5.07	211.88	.559E+06	578.0	0.97	16.12
5.37	212.18	.686E+06	735.6	1.01	15.55

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2160)	411.34	12.28	5.25	32.30	1.66	1.17

OUTFLOW: ID= 1 (5164)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	411.34	11.44	5.50	32.30	1.61	1.15

CALIB
STANDHYD (0164) | Area (ha)= 45.17
ID= 1 DT=15.0 min | Total Imp(%)= 69.00 Dir. Conn.(%)= 69.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.17	14.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.20
Length	(m)=	548.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.75
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.963 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	35.74
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2164)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0164):	45.17	1.963	5.25	35.74
+ ID2= 2 (5164):	411.34	11.437	5.50	32.30
ID = 3 (2164):	456.51	13.329	5.25	32.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0154) | Area (ha)= 31.75
ID= 1 DT=15.0 min | Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.37	12.38
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.90
Length	(m)=	460.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.13

over (min)	15.00	30.00			
Storage Coeff. (min)=	7.20 (ii)	41.40 (ii)			
Unit Hyd. Tpeak (min)=	15.00	45.00			
Unit Hyd. peak (cms)=	0.10	0.03			
			TOTALS		
PEAK FLOW (cms)=	1.04	0.30	1.301 (iii)		
TIME TO PEAK (hrs)=	5.25	5.50	5.25		
RUNOFF VOLUME (mm)=	41.00	22.88	33.93		
TOTAL RAINFALL (mm)=	42.00	42.00	42.00		
RUNOFF COEFFICIENT =	0.98	0.54	0.81		

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1159)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	31.75	1.301	5.25	33.93
+ ID2= 2 (2164):	456.51	13.329	5.25	32.64
ID = 3 (1159):	488.26	14.630	5.25	32.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5159)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5159.0) ------>

Distance	Elevation	Manning	
0.00	214.26	0.1000	
15.15	209.75	0.1000	
214.62	207.44	0.1000	
237.60	208.06	0.1000	
238.63	207.69	0.1000 /0.0440	Main Channel
243.51	206.03	0.0440	Main Channel
248.17	207.75	0.0440 /0.1000	Main Channel
253.75	209.16	0.1000	
368.44	208.65	0.1000	
396.47	209.34	0.1000	
401.21	210.91	0.1000	
408.62	210.88	0.1000	
414.76	209.90	0.1000	
416.35	209.56	0.1000	
419.98	210.43	0.1000	
428.66	212.47	0.1000	
428.84	212.42	0.1000	
434.05	211.02	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	206.27	.421E+02	0.1	0.36	12.23
0.47	206.50	.169E+03	0.4	0.57	7.71

0.71	206.74	.379E+03	1.1	0.75	5.88
0.95	206.98	.674E+03	2.3	0.91	4.85
1.19	207.22	.105E+04	4.2	1.06	4.18
1.42	207.45	.152E+04	6.8	1.19	3.71
1.66	207.69	.309E+04	11.0	0.94	4.70
1.94	207.97	.738E+04	21.4	0.77	5.74
2.21	208.24	.141E+05	39.7	0.74	5.94
2.49	208.52	.228E+05	66.4	0.77	5.72
2.77	208.80	.341E+05	102.4	0.80	5.55
3.05	209.08	.521E+05	154.2	0.79	5.63
3.32	209.35	.762E+05	230.1	0.80	5.52
3.60	209.63	.103E+06	330.8	0.85	5.17
3.88	209.91	.131E+06	461.9	0.94	4.72
4.16	210.19	.159E+06	620.4	1.03	4.28
4.43	210.46	.188E+06	798.9	1.12	3.93
4.71	210.74	.218E+06	996.5	1.21	3.64
4.99	211.02	.248E+06	1205.6	1.29	3.42

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1159)	488.26	14.63	5.25	32.72	1.76	0.87
OUTFLOW: ID= 1 (5159)	488.26	13.82	5.25	32.72	1.74	0.89

CALIB
STANDHYD (0159) | Area (ha)= 10.94
ID= 1 DT=15.0 min | Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.42	2.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	270.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	16.07
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.532 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	37.69
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2159)
1 + 2 = 3 | AREA | QPEAK | TPEAK | R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0159):	10.94	0.532	5.25	37.69
+ ID2= 2 (5159):	488.26	13.824	5.25	32.72
ID = 3 (2159):	499.20	14.356	5.25	32.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1151)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2144):	370.20	5.492	5.25	27.14
+ ID2= 2 (2159):	499.20	14.356	5.25	32.83
ID = 3 (1151):	869.40	19.848	5.25	30.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5151)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5151.0) ------>

Distance	Elevation	Manning	
0.00	212.00	0.1000	
50.00	204.31	0.1000	
134.63	203.45	0.1000	
205.73	202.20	0.1000	
253.61	202.65	0.1000	
253.97	202.65	0.1000	
254.84	202.67	0.1000	
258.44	201.10	0.1000 /0.0160	Main Channel
264.70	199.68	0.0160	Main Channel
267.15	200.66	0.0160 /0.1000	Main Channel
273.37	202.49	0.1000	
291.37	202.23	0.1000	
375.68	203.79	0.1000	
411.05	210.16	0.1000	
440.50	211.13	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	200.17	.139E+04	1.8	2.11	13.18
0.98	200.66	.554E+04	11.1	3.36	8.30
1.60	201.28	.149E+05	43.4	4.85	5.74
2.21	201.89	.283E+05	101.2	5.98	4.65
2.83	202.51	.660E+05	179.5	4.54	6.13
3.44	203.12	.221E+06	329.9	2.50	11.15
4.06	203.74	.451E+06	567.3	2.10	13.24
4.68	204.36	.760E+06	929.7	2.04	13.63
5.29	204.97	.110E+07	1451.7	2.20	12.66
5.91	205.59	.145E+07	2082.2	2.39	11.63
6.52	206.20	.181E+07	2813.7	2.60	10.73
7.14	206.82	.218E+07	3641.2	2.80	9.96
7.75	207.43	.255E+07	4561.1	2.99	9.32
8.37	208.05	.293E+07	5570.6	3.18	8.77
8.99	208.67	.332E+07	6667.7	3.36	8.29
9.60	209.28	.371E+07	7850.6	3.53	7.89

10.22	209.90	.412E+07	9118.1	3.70	7.53
10.83	210.51	.453E+07	10363.7	3.82	7.29
11.45	211.13	.497E+07	11638.8	3.91	7.11

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1151)	869.40	19.85	5.25	30.41	1.15	3.66
OUTFLOW: ID= 1 (5151)	869.40	19.28	5.50	30.41	1.14	3.64

CALIB
STANDHYD (0151) | Area (ha)= 74.96
ID= 1 DT=15.0 min | Total Imp(%)= 72.00 Dir. Conn.(%)= 72.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	53.97	20.99
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	706.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.75
over (min)		15.00	30.00
Storage Coeff.	(min)=	10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak	(min)=	15.00	60.00
Unit Hyd. peak	(cms)=	0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.89	0.43	3.192 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	41.00	24.03	36.25
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.57	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2151)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0151):	74.96	3.192	5.25	36.25
+ ID2= 2 (5151):	869.40	19.277	5.50	30.41
ID = 3 (2151):	944.36	21.713	5.25	30.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0093) | Area (ha)= 175.48
ID= 1 DT=15.0 min | Total Imp(%)= 51.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	89.49	85.99
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	1081.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	15.96
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	3.93	1.68	4.861 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	21.97	29.96
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.52	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5549)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5549.0) ------>

Distance	Elevation	Manning	
0.00	227.98	0.1000	
41.86	226.96	0.1000	
67.38	227.16	0.1000	
115.79	225.66	0.1000	
158.71	225.52	0.1000	
214.74	223.93	0.1000	
246.25	223.89	0.1000	
247.96	223.81	0.1000	
263.08	220.73	0.1000 /0.0160	Main Channel
265.84	219.85	0.0160	Main Channel
269.95	220.94	0.0160 /0.1000	Main Channel
278.51	223.27	0.1000	
327.48	223.31	0.1000	
332.73	223.20	0.1000	
383.18	224.76	0.1000	
395.33	224.82	0.1000	
445.70	224.10	0.1000	
465.54	224.23	0.1000	
609.26	227.27	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	220.14	.215E+03	0.4	1.20	10.10
0.59	220.44	.862E+03	2.3	1.90	6.36
0.88	220.73	.194E+04	6.7	2.49	4.86
1.29	221.14	.426E+04	19.9	3.38	3.57
1.70	221.55	.763E+04	40.6	3.86	3.13
2.11	221.96	.120E+05	67.6	4.07	2.97

2.51	222.36	.175E+05	100.9	4.18	2.89
2.92	222.77	.240E+05	140.3	4.24	2.85
3.33	223.18	.315E+05	186.1	4.28	2.82
3.74	223.59	.537E+05	239.9	3.24	3.73
4.15	224.00	.867E+05	307.4	2.57	4.70
4.56	224.41	.141E+06	403.2	2.08	5.81
4.97	224.82	.218E+06	536.2	1.78	6.79
5.38	225.23	.315E+06	732.9	1.69	7.17
5.78	225.63	.423E+06	952.6	1.63	7.41
6.19	226.04	.551E+06	1248.0	1.64	7.36
6.60	226.45	.689E+06	1596.8	1.68	7.19
7.01	226.86	.836E+06	1995.8	1.73	6.98
7.42	227.27	.998E+06	2405.0	1.75	6.91

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0093)	175.48	4.86	5.25	29.96	0.76	2.21
OUTFLOW: ID= 1 (5549)	175.48	4.76	5.25	29.96	0.75	2.19

CALIB
STANDHYD (0549) | Area (ha)= 32.18
ID= 1 DT=15.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 40.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.09	16.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	463.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	16.88
over (min)		15.00	30.00
Storage Coeff.	(min)=	7.80 (ii)	45.60 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.10	0.02
			TOTALS
PEAK FLOW	(cms)=	0.69	0.45	1.083 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	23.06	30.24
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.55	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2549)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0549):	32.18	1.083	5.25	30.24
+ ID2= 2 (5549):	175.48	4.760	5.25	29.96

ID = 3 (2549): 207.66 5.843 5.25 30.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0531)	Area (ha)= 79.42
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 29.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	27.80	51.62
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.20
Length (m)=	727.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.12
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	57.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	1.23	0.95	1.896 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	41.00	19.29	25.59
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.46	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1123)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0531):		79.42	1.896	5.25	25.59
+ ID2= 2 (2549):		207.66	5.843	5.25	30.01
ID = 3 (1123):		287.08	7.738	5.25	28.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5123)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5123.0) ------>

Distance	Elevation	Manning
0.00	221.63	0.1000
49.32	221.56	0.1000
108.94	221.01	0.1000
120.64	220.69	0.1000
151.95	218.35	0.1000
162.10	216.92	0.1000

166.38	215.80	0.1000 /0.0160 Main Channel
169.01	215.15	0.0160 Main Channel
172.24	215.79	0.0160 /0.1000 Main Channel
191.35	219.36	0.1000
202.67	220.68	0.1000
243.44	220.80	0.1000
288.84	220.47	0.1000
300.34	220.10	0.1000
334.49	221.22	0.1000
348.80	221.25	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	215.47	.344E+03	0.9	2.00	6.15
0.64	215.79	.138E+04	5.9	3.18	3.87
0.96	216.11	.311E+04	19.0	4.52	2.72
1.28	216.43	.554E+04	38.2	5.09	2.42
1.60	216.75	.867E+04	63.0	5.37	2.29
1.92	217.07	.125E+05	93.3	5.51	2.24
2.25	217.40	.173E+05	129.4	5.53	2.23
2.57	217.72	.230E+05	171.5	5.50	2.24
2.89	218.04	.297E+05	219.7	5.47	2.25
3.21	218.36	.373E+05	274.3	5.43	2.27
3.53	218.68	.461E+05	334.3	5.35	2.30
3.85	219.00	.564E+05	402.0	5.27	2.34
4.17	219.32	.681E+05	477.6	5.18	2.38
4.49	219.64	.813E+05	560.0	5.09	2.42
4.82	219.97	.961E+05	651.4	5.01	2.46
5.14	220.29	.113E+06	734.6	4.78	2.57
5.46	220.61	.138E+06	824.5	4.43	2.78
5.78	220.93	.180E+06	935.3	3.84	3.20
6.10	221.25	.235E+06	1080.9	3.40	3.62

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1123)	287.08	7.74	5.25	28.78	0.68	3.32
OUTFLOW: ID= 1 (5123)	287.08	7.50	5.25	28.78	0.68	3.30

CALIB	
STANDHYD (0123)	Area (ha)= 21.65
ID= 1 DT=15.0 min	Total Imp(%)= 42.00 Dir. Conn.(%)= 33.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.09	12.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	379.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	14.84
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	40.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.38	0.31	0.658 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	41.00	20.80	27.47

TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.50	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2123)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0123):		21.65	0.658	5.25	27.47
+ ID2= 2 (5123):		287.08	7.501	5.25	28.78
ID = 3 (2123):		308.73	8.159	5.25	28.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5445)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5445.0) ------>

Distance	Elevation	Manning	
0.00	217.15	0.1000	
23.77	216.85	0.1000	
57.10	215.44	0.1000	
113.41	215.01	0.1000	
116.54	215.05	0.1000	
139.11	215.26	0.1000	
185.92	215.20	0.1000	
230.25	214.45	0.1000	
235.73	214.29	0.1000	
267.98	213.04	0.1000 /0.0160	Main Channel
269.89	212.75	0.0160	Main Channel
271.26	212.92	0.0160 /0.1000	Main Channel
292.87	215.83	0.1000	
310.23	215.75	0.1000	
315.65	215.41	0.1000	
331.32	215.86	0.1000	
358.01	217.44	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	212.92	.531E+02	0.3	1.32	3.16
0.39	213.14	.305E+03	2.6	2.17	1.93
0.62	213.37	.935E+03	7.7	2.06	2.03
0.84	213.59	.198E+04	15.6	1.97	2.12
1.06	213.81	.343E+04	26.6	1.94	2.15
1.28	214.03	.530E+04	41.0	1.94	2.16
1.51	214.26	.758E+04	59.2	1.96	2.14
1.73	214.48	.103E+05	80.7	1.96	2.13
1.95	214.70	.138E+05	105.6	1.93	2.17
2.17	214.92	.180E+05	136.9	1.90	2.20
2.40	215.15	.237E+05	164.7	1.75	2.39

2.62	215.37	.341E+05	206.2	1.52	2.75
2.84	215.59	.473E+05	280.9	1.49	2.81
3.06	215.81	.617E+05	372.5	1.51	2.76
3.29	216.04	.777E+05	494.0	1.60	2.62
3.51	216.26	.942E+05	634.4	1.69	2.48
3.73	216.48	.111E+06	791.6	1.79	2.34
3.95	216.70	.129E+06	965.2	1.88	2.22
4.18	216.93	.147E+06	1146.8	1.96	2.13

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2123)	308.73	8.16	5.25	28.69	0.63	2.06
OUTFLOW: ID= 1 (5445)	308.73	8.07	5.25	28.69	0.63	2.06

CALIB	
STANDHYD (0445)	Area (ha)= 47.14
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.98	22.16
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	560.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	18.84
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	1.06	0.67	1.652 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	41.00	25.41	31.96
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.61	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2445)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0445):		47.14	1.652	5.25	31.96
+ ID2= 2 (5445):		308.73	8.070	5.25	28.69
ID = 3 (2445):		355.87	9.722	5.25	29.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5121)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5121.0) ------>

Distance	Elevation	Manning	
0.00	209.51	0.1000	
18.50	208.32	0.1000	
51.25	205.70	0.1000	
100.36	204.89	0.1000	
124.00	203.76	0.1000	
172.44	203.13	0.1000	
180.24	202.88	0.1000	
186.88	202.01	0.1000 /0.0440	Main Channel
194.59	201.00	0.0440	Main Channel
200.49	202.11	0.0440 /0.1000	Main Channel
208.49	203.60	0.1000	
211.23	203.87	0.1000	
250.29	205.16	0.1000	
290.65	205.13	0.1000	
356.36	205.76	0.1000	
385.25	205.85	0.1000	
434.54	206.45	0.1000	
484.26	205.90	0.1000	
505.84	206.94	0.1000	
561.50	207.35	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	201.25	.658E+03	0.2	0.57	46.37
0.50	201.50	.263E+04	1.5	0.91	29.21
0.76	201.76	.592E+04	4.4	1.19	22.29
1.01	202.01	.105E+05	9.5	1.44	18.40
1.37	202.37	.193E+05	23.3	1.93	13.76
1.72	202.72	.306E+05	43.1	2.25	11.83
2.08	203.08	.453E+05	68.5	2.41	11.03
2.43	203.43	.703E+05	101.3	2.30	11.58
2.79	203.79	.112E+06	147.5	2.10	12.65
3.15	204.15	.166E+06	211.7	2.04	13.05
3.50	204.50	.230E+06	293.6	2.04	13.04
3.86	204.86	.304E+06	394.5	2.07	12.85
4.21	205.21	.397E+06	489.6	1.97	13.52
4.57	205.57	.538E+06	637.4	1.89	14.06
4.93	205.93	.714E+06	835.4	1.87	14.24
5.28	206.28	.931E+06	1091.8	1.87	14.21
5.64	206.64	.118E+07	1428.0	1.92	13.83
5.99	206.99	.145E+07	1832.3	2.02	13.18
6.35	207.35	.174E+07	2254.3	2.07	12.83

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2445)	355.87	9.72	5.25	29.12	1.01	1.45
OUTFLOW: ID= 1 (5121)	355.87	9.01	5.50	29.12	0.98	1.41

CALIB
STANDHYD (0121)
ID= 1 DT=15.0 min

Area (ha)= 133.85
Total Imp(%)= 55.00 Dir. Conn.(%)= 49.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	73.62	60.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	944.63	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	16.18
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	73.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	3.50	1.23	4.199 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	23.35	32.00
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.56	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2121)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0121):	133.85	4.199	5.25	32.00
+ ID2= 2 (5121):	355.87	9.014	5.50	29.12
ID = 3 (2121):	489.72	12.941	5.25	29.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5136)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5136.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.816E+02	0.0	0.27	52.78
0.20	195.20	.326E+03	0.2	0.42	33.25
0.29	195.29	.734E+03	0.5	0.56	25.37
0.39	195.39	.130E+04	1.0	0.68	20.88
0.49	195.49	.203E+04	1.9	0.79	17.97
0.61	195.61	.310E+04	3.6	0.99	14.22
0.74	195.74	.428E+04	5.9	1.16	12.15
0.86	195.86	.557E+04	8.6	1.31	10.82
0.98	195.98	.698E+04	12.0	1.46	9.68
1.11	196.11	.865E+04	16.0	1.57	9.01
1.23	196.23	.108E+05	20.6	1.62	8.74
1.35	196.35	.134E+05	25.9	1.64	8.63
1.48	196.48	.166E+05	32.0	1.64	8.61
1.60	196.60	.202E+05	38.9	1.64	8.63
1.73	196.73	.245E+05	46.4	1.61	8.80
1.85	196.85	.299E+05	55.2	1.57	9.02
1.97	196.97	.362E+05	65.3	1.53	9.25
2.10	197.10	.436E+05	76.7	1.49	9.48
2.22	197.22	.521E+05	89.7	1.46	9.68

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2121)	489.72	12.94	5.25	29.91	1.01	1.48
OUTFLOW: ID= 1 (5136)	489.72	12.46	5.50	29.91	1.00	1.47

CALIB
STANDHYD (0136)
ID= 1 DT=15.0 min

Area (ha)= 79.16
Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	41.16	38.00
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	726.45	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	17.26
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	1.82	0.86	2.323 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	23.92	31.26
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.57	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2136)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0136):	79.16	2.323	5.25	31.26
+ ID2= 2 (5136):	489.72	12.459	5.50	29.91
ID = 3 (2136):	568.88	14.499	5.25	30.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1149)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2136):	568.88	14.499	5.25	30.10
+ ID2= 2 (2151):	944.36	21.713	5.25	30.87
ID = 3 (1149):	1513.24	36.212	5.25	30.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5149)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5149.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.366E+02	0.0	0.27	23.37
0.20	195.20	.146E+03	0.2	0.43	14.72
0.29	195.29	.329E+03	0.5	0.56	11.24
0.39	195.39	.585E+03	1.1	0.68	9.25
0.49	195.49	.911E+03	1.9	0.80	7.96
0.61	195.61	.139E+04	3.7	1.01	6.30
0.74	195.74	.192E+04	5.9	1.18	5.38
0.86	195.86	.250E+04	8.7	1.32	4.79
0.98	195.98	.313E+04	12.2	1.48	4.29

1.11	196.11	.388E+04	16.2	1.59	3.99
1.23	196.23	.485E+04	20.9	1.64	3.87
1.35	196.35	.603E+04	26.3	1.66	3.82
1.48	196.48	.742E+04	32.4	1.66	3.81
1.60	196.60	.904E+04	39.4	1.66	3.82
1.73	196.73	.110E+05	47.0	1.63	3.90
1.85	196.85	.134E+05	55.9	1.59	3.99
1.97	196.97	.163E+05	66.1	1.55	4.10
2.10	197.10	.196E+05	77.7	1.51	4.20
2.22	197.22	.234E+05	90.9	1.48	4.29

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1149)	1513.24	36.21	5.25	30.58	1.55	1.66
OUTFLOW: ID= 1 (5149)	1513.24	35.78	5.50	30.58	1.54	1.66

CALIB	
STANDHYD (0149)	Area (ha)= 3.06
ID= 1 DT=15.0 min	Total Imp(%)= 34.00 Dir. Conn.(%)= 29.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.04	2.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.80
Length (m)=	142.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	12.32
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06
		TOTALS
PEAK FLOW (cms)=	0.05	0.06	0.109 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	18.33	24.90
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.44	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2149)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0149):	3.06	0.109	5.25	24.90	
+ ID2= 2 (5149):	1513.24	35.783	5.50	30.58	
ID = 3 (2149):	1516.30	35.835	5.50	30.57	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1150)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2149):	1516.30	35.835	5.50	30.57	
+ ID2= 2 (2721):	1772.50	6.992	5.50	18.48	
ID = 3 (1150):	3288.80	42.827	5.50	24.05	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5150)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5150.0) ------>

Distance	Elevation	Manning	
0.00	193.23	0.1000	
0.00	194.50	0.1000	
210.65	190.50	0.1000	
223.18	188.00	0.1000 /0.0440	Main Channel
226.63	187.00	0.0440	Main Channel
230.00	186.50	0.0440	Main Channel
233.00	186.50	0.0440	Main Channel
237.18	187.00	0.0440	Main Channel
241.05	188.00	0.0440 /0.1000	Main Channel
252.73	190.50	0.1000	
267.79	191.00	0.1000	
282.60	194.00	0.1000	
291.93	194.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	186.80	.773E+03	0.9	0.58	14.02
0.60	187.10	.219E+04	4.0	0.89	9.18
0.90	187.40	.401E+04	9.6	1.18	6.93
1.20	187.70	.615E+04	17.8	1.41	5.78
1.50	188.00	.862E+04	28.5	1.62	5.04
1.87	188.37	.122E+05	48.8	1.96	4.17
2.25	188.75	.165E+05	73.9	2.20	3.71
2.62	189.12	.214E+05	104.0	2.38	3.43
2.99	189.49	.270E+05	139.0	2.52	3.24
3.37	189.87	.332E+05	179.2	2.64	3.09
3.74	190.24	.401E+05	224.6	2.74	2.98
4.11	190.61	.479E+05	271.1	2.77	2.95
4.49	190.99	.602E+05	323.8	2.63	3.10
4.86	191.36	.773E+05	394.7	2.50	3.26
5.24	191.74	.984E+05	479.5	2.39	3.42
5.61	192.11	.123E+06	579.5	2.30	3.55
5.98	192.48	.152E+06	696.2	2.24	3.65
6.36	192.86	.185E+06	830.9	2.20	3.71
6.73	193.23	.222E+06	985.0	2.17	3.75

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1150)	3288.80	42.83	5.50	24.05	1.76	1.84
OUTFLOW: ID= 1 (5150)	3288.80	43.34	5.50	24.05	1.77	1.85

CALIB	
STANDHYD (0150)	Area (ha)= 55.43
ID= 1 DT=15.0 min	Total Imp(%)= 73.00 Dir. Conn.(%)= 73.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	40.46	14.97
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	607.89	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	14.75
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	57.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	2.17	0.32	2.401 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	41.00	24.03	36.42
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.57	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2150)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0150):	55.43	2.401	5.25	36.42	
+ ID2= 2 (5150):	3288.80	43.336	5.50	24.05	
ID = 3 (2150):	3344.23	44.565	5.50	24.26	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5175)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5175.0) ------>

Distance	Elevation	Manning	
0.00	190.19	0.1000	
183.72	188.50	0.1000	
199.34	185.08	0.1000	
204.64	184.92	0.1000	
226.50	184.89	0.1000	
232.59	184.66	0.1000	
236.19	184.34	0.1000	
237.52	184.12	0.1000 /0.0440	Main Channel

237.54	182.90	0.0440	Main Channel
242.00	182.90	0.0440	Main Channel
242.55	184.03	0.0440 /0.1000	Main Channel
249.56	184.50	0.1000	
284.14	185.34	0.1000	
284.72	187.50	0.1000	
288.13	188.00	0.1000	
319.42	187.98	0.1000	
319.74	187.98	0.1000	
332.36	187.82	0.1000	
357.39	187.66	0.1000	
357.40	190.19	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	183.28	.193E+04	1.5	0.87	21.55
0.75	183.65	.393E+04	4.5	1.27	14.71
1.13	184.03	.602E+04	8.3	1.56	12.03
1.52	184.41	.975E+04	14.2	1.63	11.46
1.90	184.80	.190E+05	23.1	1.36	13.72
2.29	185.19	.457E+05	41.1	1.01	18.50
2.67	185.57	.824E+05	76.1	1.04	18.03
3.06	185.96	.120E+06	124.9	1.17	16.07
3.44	186.34	.159E+06	184.9	1.30	14.36
3.83	186.73	.199E+06	255.1	1.44	13.00
4.21	187.11	.239E+06	335.0	1.57	11.92
4.60	187.50	.281E+06	424.1	1.70	11.04
4.98	187.88	.328E+06	465.5	1.60	11.73
5.37	188.27	.397E+06	553.5	1.56	11.97
5.75	188.65	.474E+06	659.3	1.56	11.98
6.14	189.04	.565E+06	767.5	1.53	12.27
6.52	189.42	.674E+06	931.4	1.55	12.07
6.91	189.81	.802E+06	1138.5	1.60	11.74
7.29	190.19	.947E+06	1387.0	1.64	11.38

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2150)	3344.23	44.56	5.50	24.26	2.32	1.01
OUTFLOW: ID= 1 (5175)	3344.23	39.74	5.75	24.26	2.26	1.03

CALIB	
STANDHYD (0175)	Area (ha)= 60.91
ID= 1 DT=15.0 min	Total Imp(%)= 69.00 Dir. Conn.(%)= 69.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	42.03	18.88
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	637.23	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.53
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	2.25	0.37	2.514 (iii)

```
TIME TO PEAK    (hrs)=       5.25         6.00          5.25
RUNOFF VOLUME    (mm)=      41.00        21.81         35.05
TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
RUNOFF COEFFICIENT   =       0.98         0.52          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2175) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0175):    60.91   2.514     5.25    35.05
      + ID2= 2 (5175):  3344.23  39.745     5.75    24.26
        ================================================
        ID = 3 (2175):  3405.14  40.819     5.75    24.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| CALIB            |
| STANDHYD  (0128) |   Area    (ha)= 191.08
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  49.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.00        84.08
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.90
     Length            (m)=    1128.66        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        17.33
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      15.60 (ii)   93.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        90.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.96         1.64          5.719 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.50          5.25
     RUNOFF VOLUME    (mm)=      41.00        24.68         32.67
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.59          0.78


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2128) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
```



```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0128):   191.08   5.719     5.25    32.67
      + ID2= 2 (2175):  3405.14  40.819     5.75    24.45
        ================================================
        ID = 3 (2128):  3596.22  44.053     5.75    24.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  24.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      10.85        13.27
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         8.60
     Length            (m)=     401.00        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        12.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       5.40 (ii)   31.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.58         0.32          0.894 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      41.00        19.88         29.38
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.47          0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| DUHYD     (9476) |
| Inlet Cap.=0.030 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.12      0.89      5.25   29.38
     ================================================
     MAJOR SYS.(ID= 2):  20.48      0.86      5.25   29.38
     MINOR SYS.(ID= 3):   3.64      0.03      2.50   29.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (6476) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.0300      0.1280
```



```
                          AREA     QPEAK     TPEAK       R.V.
                          (ha)     (cms)     (hrs)       (mm)
INFLOW : ID= 2 (9476)      3.636     0.030      2.50      29.38
OUTFLOW: ID= 1 (6476)      3.636     0.016     12.50      29.09

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.19
               TIME SHIFT OF PEAK FLOW         (min)=600.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.0696
```

```
--------------------
| ADD HYD   (4476) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6476):     3.64   0.016    12.50    29.09
      + ID2= 2 (9476):    20.48   0.864     5.25    29.38
        ================================================
        ID = 3 (4476):    24.12   0.870     5.25    29.34

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (1171) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2128):  3596.22  44.053     5.75    24.89
      + ID2= 2 (4476):    24.12   0.870     5.25    29.34
        ================================================
        ID = 3 (1171):  3620.34  44.446     5.75    24.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5171) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

```
              <------ DATA FOR SECTION (5171.0) ------>
              Distance      Elevation       Manning
                  0.00         182.62        0.1000
                 70.19         179.50        0.1000
                139.11         179.00    0.1000 /0.0440  Main Channel
                140.08         178.61        0.0440      Main Channel
                140.35         177.50        0.0440      Main Channel
                146.00         177.50        0.0440      Main Channel
                146.96         178.83        0.0440      Main Channel
                148.70         178.92        0.0440      Main Channel
                148.90         179.00    0.0440 /0.1000  Main Channel
                169.23         179.25        0.1000
                181.85         182.00        0.1000
                283.06         182.00        0.1000
                330.41         180.56        0.1000
                373.02         181.50        0.1000
                398.28         181.61        0.1000
                428.84         182.54        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   177.75    .105E+04       0.9         0.61       19.95
```



```
0.50   178.00    .214E+04       2.7          0.92       13.14
0.75   178.25    .328E+04       5.2          1.16       10.44
1.00   178.50    .446E+04       8.3          1.36        8.93
1.25   178.75    .570E+04      11.7          1.50        8.08
1.50   179.00    .723E+04      14.6          1.46        8.27
1.77   179.27    .151E+05      23.2          1.12       10.82
2.04   179.54    .322E+05      39.5          0.89       13.61
2.32   179.82    .530E+05      65.3          0.90       13.52
2.59   180.09    .753E+05      98.9          0.95       12.69
2.86   180.36    .990E+05     139.6          1.03       11.81
3.13   180.63    .124E+06     184.2          1.08       11.25
3.41   180.91    .154E+06     232.9          1.10       11.03
3.68   181.18    .190E+06     294.7          1.13       10.73
3.95   181.45    .231E+06     368.9          1.16       10.44
4.22   181.72    .280E+06     452.1          1.17       10.33
4.50   182.00    .336E+06     559.3          1.21       10.02
4.77   182.27    .416E+06     668.9          1.17       10.36
5.04   182.54    .499E+06     833.8          1.21        9.97

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1171) 3620.34    44.45    5.75  24.92      2.10      0.89
OUTFLOW: ID= 1 (5171) 3620.34    43.33    6.00  24.92      2.09      0.89
```

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.53
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.50
     Length            (m)=      65.83        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.73
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.015 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      41.00        15.40         19.97
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.37          0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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CALIB	
STANDHYD (****)	Area (ha)= 11.04
ID= 1 DT=15.0 min	Total Imp(%)= 18.00 Dir. Conn.(%)= 18.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.99	9.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.50
Length (m)=	271.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.73
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	35.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.11	0.16	0.258 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	15.40	20.01
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.37	0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0339)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	11.04	0.258	5.25	20.01
+ ID2= 2 (****):	0.65	0.015	5.25	19.97
ID = 3 (0339):	11.69	0.274	5.25	20.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 5.40
ID= 1 DT=15.0 min	Total Imp(%)= 18.00 Dir. Conn.(%)= 18.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.97	4.43
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.50
Length (m)=	189.74	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.73
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	35.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00

		TOTALS
Unit Hyd. peak (cms)=	0.10	0.03	
PEAK FLOW (cms)=	0.05	0.08	0.126 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	41.00	15.40	20.00
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.37	0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0342)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0339):	11.69	0.274	5.25	20.01
+ ID2= 2 (****):	5.40	0.126	5.25	20.00
ID = 3 (0342):	17.09	0.400	5.25	20.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2171)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0342):	17.09	0.400	5.25	20.01
+ ID2= 2 (5171):	3620.34	43.326	6.00	24.92
ID = 3 (2171):	3637.43	43.545	6.00	24.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0659)	Area (ha)= 24.81
ID= 1 DT=15.0 min	Total Imp(%)= 47.00 Dir. Conn.(%)= 47.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	11.66	13.15
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.20
Length (m)=	406.69	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	12.97
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	35.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

TOTALS

			TOTALS
PEAK FLOW	(cms)=	0.63	0.32	0.936 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	20.81	30.30
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.50	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9475)				
Inlet Cap.=0.060				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.81	0.94	5.25	30.30
MAJOR SYS.(ID= 2):	18.69	0.88	5.25	30.30
MINOR SYS.(ID= 3):	6.12	0.06	2.75	30.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6475)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.2570

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9475)	6.122	0.060	2.75	30.30
OUTFLOW: ID= 1 (6475)	6.122	0.027	10.75	30.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 45.55
TIME SHIFT OF PEAK FLOW (min)=480.00
MAXIMUM STORAGE USED (ha.m.)= 0.1171

ADD HYD (4475)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6475):	6.12	0.027	10.75	30.12
+ ID2= 2 (9475):	18.69	0.876	5.25	30.30
ID = 3 (4475):	24.81	0.889	5.25	30.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.70
ID= 1 DT=15.0 min	Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

CALIB	
STANDHYD (****)	Area (ha)= 0.27
ID= 1 DT=15.0 min	Total Imp(%)= 0.43 Dir. Conn.(%)= 0.43

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.43	0.27
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	68.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	12.97
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	0.02	0.00	0.025 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	20.81	33.07
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.50	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.32
ID= 1 DT=15.0 min	Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.20	0.12
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	46.19	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	12.97
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	0.01	0.00	0.012 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	20.81	33.02
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.50	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 100.13				
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	61.08	39.05	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.90	
Length	(m)=	817.03	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	12.97	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.02	
				TOTALS
PEAK FLOW	(cms)=	3.27	0.65	3.621 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	20.81	33.13
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.50	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0400)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	100.13	3.621	5.25	33.13
+	ID2= 2 (****):	0.32	0.012	5.25	33.02
	ID = 3 (0400):	100.45	3.632	5.25	33.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0401)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0400):	100.45	3.632	5.25	33.12
+	ID2= 2 (****):	0.70	0.025	5.25	33.07
	ID = 3 (0401):	101.15	3.658	5.25	33.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2655)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)

ID1= 1 (0401):	101.15	3.658	5.25	33.12
+ ID2= 2 (4475):	24.81	0.889	5.25	30.25
ID = 3 (2655):	125.96	4.547	5.25	32.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1179)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2171):	3637.43	43.545	6.00	24.89
+	ID2= 2 (2655):	125.96	4.547	5.25	32.56
	ID = 3 (1179):	3763.39	45.521	6.00	25.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5179)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5179.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
19.81	179.88	0.1000	
80.23	175.31	0.1000	
87.64	175.00	0.1000	
94.94	174.57	0.1000	
96.72	174.50	0.1000 /0.0440	Main Channel
98.15	174.00	0.0440	Main Channel
106.22	174.15	0.0440	Main Channel
107.82	174.50	0.0440 /0.1000	Main Channel
109.71	175.00	0.1000	
183.40	175.01	0.1000	
204.12	175.50	0.1000	
218.61	176.50	0.1000	
246.72	177.50	0.1000	
258.61	177.66	0.1000	
277.61	177.68	0.1000	
284.71	177.58	0.1000	
296.45	177.54	0.1000	
401.58	180.45	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	174.25	.162E+04	0.6	0.40	44.60
0.50	174.50	.432E+04	2.7	0.67	26.29
0.82	174.82	.947E+04	8.1	0.91	19.51
1.15	175.15	.285E+05	17.9	0.67	26.63
1.47	175.47	.682E+05	40.2	0.63	28.27
1.79	175.79	.113E+06	74.8	0.70	25.16
2.12	176.12	.161E+06	119.9	0.79	22.34
2.44	176.44	.212E+06	175.1	0.88	20.14
2.76	176.76	.266E+06	237.8	0.95	18.64
3.09	177.09	.325E+06	310.2	1.01	17.47
3.41	177.41	.389E+06	393.0	1.07	16.49
3.74	177.74	.463E+06	442.2	1.01	17.46
4.06	178.06	.554E+06	559.8	1.07	16.48

4.38	178.38	.650E+06	692.2	1.13	15.64
4.71	178.71	.751E+06	839.8	1.19	14.91
5.03	179.03	.858E+06	1002.8	1.24	14.26
5.35	179.35	.971E+06	1181.8	1.29	13.69
5.68	179.68	.109E+07	1377.0	1.34	13.18
6.00	180.00	.121E+07	1555.4	1.36	13.00

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1179)	3763.39	45.52	6.00	25.15	1.52	0.64
OUTFLOW: ID= 1 (5179)	3763.39	42.84	6.50	25.15	1.50	0.63

CALIB					
STANDHYD (****)	Area (ha)= 1.25				
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.38	0.87	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.70	
Length	(m)=	91.29	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	10.12	
over (min)		15.00	30.00	
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.01	0.031 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	41.00	16.04	23.51
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.38	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 0.98				
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.29	0.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	80.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.12
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)

Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.01	0.024 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	41.00	16.04	23.50
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.38	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0347)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	1.25	0.031	5.25	23.51
+	ID2= 2 (****):	0.98	0.024	5.25	23.50
	ID = 3 (0347):	2.23	0.056	5.25	23.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 37.99				
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	11.40	26.59	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.70	
Length	(m)=	503.26	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	10.12	
over (min)		15.00	30.00	
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.61	0.41	0.948 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	41.00	16.04	23.53
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.38	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0345) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0347):    2.23   0.056     5.25    23.50
      + ID2= 2 (****):   37.99   0.948     5.25    23.53
        ================================================
        ID = 3 (0345):   40.22   1.004     5.25    23.53

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (2179) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0345):   40.22  1.004     5.25    23.53
      + ID2= 2 (5179): 3763.39  42.842     6.50    25.15
        ================================================
        ID = 3 (2179): 3803.61  43.270     6.50    25.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (5429) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5429.0) ------>
             Distance      Elevation       Manning
                0.00         173.91        0.1110
                0.00         176.00        0.1110
                9.53         173.50        0.1110
               25.59         171.50        0.1110
               90.97         171.00        0.1110
               96.91         170.58        0.1110
               97.41         170.50        0.1110
               98.56         170.14    0.1110 /0.0490  Main Channel
               99.04         169.50        0.0490      Main Channel
              103.00         169.50        0.0490      Main Channel
              103.89         170.28    0.0490 /0.1110  Main Channel
              105.84         170.39        0.1110
              106.34         170.41        0.1110
              106.80         170.50        0.1110
              128.20         170.89        0.1110
              130.65         171.00        0.1110
              148.78         175.86        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)    (cu.m.)       (cms)         (m/s)      (min)
       0.32   169.82    .693E+03         1.0          0.72      11.79
       0.64   170.14    .148E+04         3.1          1.07       7.94
       0.98   170.48    .268E+04         6.9          1.31       6.45
       1.33   170.83    .614E+04        13.2          1.09       7.74
       1.67   171.17    .138E+05        25.1          0.92       9.19
       2.02   171.52    .289E+05        47.4          0.83      10.16
       2.36   171.86    .480E+05        85.7          0.91       9.34
       2.71   172.21    .678E+05       135.8          1.02       8.32
       3.05   172.55    .884E+05       196.7          1.13       7.49
```



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      3.40   172.90    .110E+06     267.9          1.24       6.82
      3.74   173.24    .132E+06     348.8          1.35       6.29
      4.09   173.59    .154E+06     440.0          1.45       5.84
      4.43   173.93    .177E+06     542.4          1.55       5.45
      4.78   174.28    .201E+06     653.2          1.65       5.13
      5.12   174.62    .225E+06     772.9          1.74       4.85
      5.47   174.97    .250E+06     901.1          1.83       4.62
      5.81   175.31    .275E+06    1037.8          1.92       4.41
      6.16   175.66    .300E+06    1183.0          2.00       4.23
      6.50   176.00    .326E+06    1339.1          2.09       4.06

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (2179) 3803.61    43.27    6.50  25.13      1.95      0.85
    OUTFLOW: ID= 1 (5429) 3803.61    42.72    6.75  25.13      1.94      0.85


--------------------
| CALIB            |
| STANDHYD  (0429) |   Area    (ha)=  13.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  54.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.51         6.39
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.80
     Length            (m)=     304.41        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        12.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       5.40 (ii)   32.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.40         0.15       0.552 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50        5.25
     RUNOFF VOLUME    (mm)=      41.00        19.88       31.28
     TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
     RUNOFF COEFFICIENT   =       0.98         0.47        0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (2429) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0429):    13.90   0.552     5.25    31.28
      + ID2= 2 (5429):  3803.61  42.722     6.75    25.15
        ================================================
        ID = 3 (2429):  3817.51  42.846     6.75    25.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  91.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.35        39.49
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     782.47        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        13.53
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.80         0.67        3.168 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=      41.00        21.81        32.75
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.98         0.52         0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.44
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.82         0.62
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=      97.98        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        13.53
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.01        0.050 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=      41.00        21.81        32.71
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.98         0.52         0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   6.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.76         2.83
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     209.60        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        13.53
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.05        0.227 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=      41.00        21.81        32.74
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.98         0.52         0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| ADD HYD   (0408) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):     6.59   0.227     5.25    32.74
      + ID2= 2 (****):     1.44   0.050     5.25    32.71
        ================================================
        ID = 3 (0408):     8.03   0.277     5.25    32.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (0409) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):     8.03   0.277     5.25    32.74
      + ID2= 2 (****):    91.84   3.168     5.25    32.75
        ================================================
        ID = 3 (0409):    99.87   3.445     5.25    32.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (1443) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0409):    99.87   3.445     5.25    32.75
      + ID2= 2 (2429):  3817.51  42.846     6.75    25.15
        ================================================
        ID = 3 (1443):  3917.38  43.977     6.75    25.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5443) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5443.0) ------>
             Distance      Elevation       Manning
                0.00         173.50        0.1110
               17.61         172.50        0.1110
               27.53         170.50        0.1110
               72.93         169.50        0.1110
               74.99         169.29        0.1110
               75.21         169.27        0.1110
               79.81         168.50    0.1110 /0.0490  Main Channel
               79.88         168.48        0.0490      Main Channel
               80.70         168.00        0.0490      Main Channel
               82.05         167.90        0.0490      Main Channel
               83.55         167.90        0.0490      Main Channel
               85.02         168.50    0.0490 /0.1110  Main Channel
               86.14         168.83        0.1110
               86.71         168.98        0.1110
              119.24         170.00        0.1110
              133.40         171.00        0.1110
              147.56         173.96        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   168.10    .106E+03        0.5         0.95       3.31
      0.40   168.30    .254E+03        2.0         1.46       2.15
      0.60   168.50    .434E+03        4.2         1.84       1.71
      0.91   168.81    .828E+03       10.5         2.40       1.31
      1.23   169.13    .145E+04       19.6         2.54       1.24
      1.54   169.44    .271E+04       33.2         2.31       1.36
      1.85   169.75    .495E+04       53.2         2.03       1.55
      2.16   170.06    .859E+04       85.8         1.89       1.67
      2.48   170.38    .134E+05      134.7         1.89       1.66
      2.79   170.69    .192E+05      203.3         2.00       1.58
      3.10   171.00    .255E+05      290.7         2.16       1.46
      3.41   171.31    .319E+05      397.9         2.35       1.34
      3.73   171.63    .386E+05      520.4         2.55       1.24
      4.04   171.94    .455E+05      657.6         2.73       1.15
      4.35   172.25    .525E+05      809.1         2.91       1.08
      4.66   172.56    .597E+05      971.5         3.07       1.02
      4.98   172.88    .672E+05     1136.3         3.19       0.99
      5.29   173.19    .752E+05     1316.7         3.31       0.95
      5.60   173.50    .836E+05     1513.2         3.42       0.92

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
```



```
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1443) 3917.38    43.98    6.75  25.35     1.71      2.15
    OUTFLOW: ID= 1 (5443) 3917.38    43.96    6.75  25.35     1.70      2.15


--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  58.41
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  59.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       34.46         23.95
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.40
     Length            (m)=      624.02         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       19.32         13.53
               over (min)         15.00         30.00
     Storage Coeff.  (min)=      11.40 (ii)    65.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.08          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=        1.84          0.44          2.144 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=       41.00         21.81          33.13
     TOTAL RAINFALL   (mm)=       42.00         42.00          42.00
     RUNOFF COEFFICIENT   =        0.98          0.52           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.93
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  59.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.55          0.38
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.40
     Length            (m)=       78.74         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       19.32         13.53
               over (min)         15.00         30.00
     Storage Coeff.  (min)=      11.40 (ii)    65.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.08          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=        0.03          0.01          0.034 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=       41.00         21.81          33.09
     TOTAL RAINFALL   (mm)=       42.00         42.00          42.00
     RUNOFF COEFFICIENT   =        0.98          0.52           0.79
```



```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  11.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  59.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        6.65          4.62
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.40
     Length            (m)=      274.10         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       19.32         13.53
               over (min)         15.00         30.00
     Storage Coeff.  (min)=      11.40 (ii)    65.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.08          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=        0.36          0.08          0.414 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=       41.00         21.81          33.13
     TOTAL RAINFALL   (mm)=       42.00         42.00          42.00
     RUNOFF COEFFICIENT   =        0.98          0.52           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (0386) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    11.27   0.414     5.25    33.13
      + ID2= 2 (****):     0.93   0.034     5.25    33.09
        ================================================
        ID = 3 (0386):    12.20   0.448     5.25    33.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (0385) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):    12.20   0.448     5.25    33.12
      + ID2= 2 (****):    58.41   2.144     5.25    33.13
        ================================================
```



```
        ID = 3 (0385):    70.61   2.592     5.25    33.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (2443) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0385):    70.61   2.592     5.25    33.13
      + ID2= 2 (5443):  3917.38  43.959     6.75    25.35
        ================================================
        ID = 3 (2443):  3987.99  44.733     6.75    25.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5181) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5181.0) ------>
             Distance      Elevation       Manning
                0.00         171.99        0.1110
               16.11         168.50        0.1110
               29.63         167.81        0.1110
               33.91         167.00    0.1110 /0.0490  Main Channel
               34.47         166.92        0.0490      Main Channel
               35.37         166.79        0.0490      Main Channel
               35.56         166.82        0.0490      Main Channel
               36.36         167.00    0.0490 /0.1110  Main Channel
               41.32         168.00        0.1110
               66.08         168.05        0.1110
              107.13         169.00        0.1110
              117.25         169.50        0.1110
              126.27         171.00        0.1110
              127.87         171.44        0.1110
              128.10         171.50        0.1110
              132.70         172.29        0.1110
              134.72         172.50        0.1110
              136.24         172.85        0.1110
              136.87         173.00        0.1110
              136.98         173.00        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.21   167.00    .227E+03        0.1         0.31      46.72
      0.47   167.26    .109E+04        0.7         0.55      26.16
      0.74   167.53    .256E+04        1.9         0.65      22.33
      1.00   167.79    .465E+04        3.8         0.71      20.28
      1.26   168.05    .824E+04        5.8         0.61      23.67
      1.52   168.31    .195E+05       11.8         0.53      27.45
      1.79   168.58    .344E+05       21.9         0.55      26.25
      2.05   168.84    .524E+05       36.5         0.60      23.97
      2.31   169.10    .732E+05       56.1         0.66      21.75
      2.57   169.36    .957E+05       81.2         0.73      19.66
      2.84   169.63    .120E+06      111.6         0.81      17.87
      3.10   169.89    .144E+06      147.4         0.88      16.31
      3.36   170.15    .170E+06      187.6         0.96      15.06
      3.62   170.41    .196E+06      232.1         1.03      14.04
      3.89   170.68    .222E+06      280.8         1.09      13.18
```

4.15	170.94	.249E+06	333.6	1.16	12.45	
4.41	171.20	.277E+06	391.3	1.22	11.80	
4.67	171.46	.305E+06	453.4	1.28	11.22	
4.94	171.73	.334E+06	518.3	1.34	10.75	

	<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2443)	3987.99	44.73	6.75	25.49	2.16	0.63
OUTFLOW: ID= 1 (5181)	3987.99	43.83	7.00	25.49	2.15	0.62

CALIB		
STANDHYD (0181)	Area (ha)= 136.82	
ID= 1 DT=15.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	97.14	39.68	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.10	
Length	(m)=	955.06	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	13.52	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.80 (ii)	82.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	90.00	
Unit Hyd. peak (cms)=		0.08	0.01	
			TOTALS	
PEAK FLOW	(cms)=	5.17	0.65	5.465 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	41.00	22.88	35.74
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.54	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2181)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0181):	136.82	5.465	5.25	35.74	
+ ID2= 2 (5181):	3987.99	43.826	7.00	25.49	
ID = 3 (2181):	4124.81	45.221	7.00	25.83	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5204)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5204.0) ------>

Distance	Elevation	Manning	
0.00	172.00	0.1110	
11.08	169.71	0.1110	
48.53	169.00	0.1110	
90.99	164.50	0.1110	
111.26	164.00	0.1110	
133.15	164.00	0.1110	
142.64	163.50	0.1110	
145.01	162.66	0.1110	
145.24	162.50	0.1110 /0.0490	Main Channel
146.03	161.80	0.0490	Main Channel
152.91	161.80	0.0490	Main Channel
153.42	162.68	0.0490 /0.1110	Main Channel
153.67	162.73	0.1110	
154.07	163.00	0.1110	
155.88	163.50	0.1110	
178.24	164.14	0.1110	
184.53	164.50	0.1110	
207.67	165.50	0.1110	
224.19	166.50	0.1110	
245.67	169.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	162.15	.121E+04	2.5	1.00	8.01
0.70	162.50	.253E+04	8.0	1.52	5.29
1.11	162.91	.426E+04	18.0	2.03	3.96
1.52	163.32	.641E+04	31.6	2.38	3.38
1.94	163.74	.971E+04	48.9	2.43	3.31
2.35	164.15	.187E+05	74.3	1.91	4.20
2.76	164.56	.356E+05	120.7	1.64	4.92
3.17	164.97	.559E+05	188.5	1.63	4.94
3.58	165.38	.789E+05	276.4	1.69	4.76
3.99	165.79	.104E+06	386.3	1.79	4.50
4.41	166.21	.132E+06	517.4	1.89	4.25
4.82	166.62	.162E+06	671.3	2.00	4.02
5.23	167.03	.193E+06	850.6	2.13	3.78
5.64	167.44	.226E+06	1051.0	2.25	3.58
6.05	167.85	.260E+06	1272.3	2.36	3.40
6.46	168.26	.295E+06	1514.8	2.48	3.25
6.88	168.68	.332E+06	1778.5	2.59	3.11
7.29	169.09	.370E+06	2042.5	2.66	3.02
7.70	169.50	.412E+06	2268.8	2.66	3.03

	<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2181)	4124.81	45.22	7.00	25.83	1.85	2.42
OUTFLOW: ID= 1 (5204)	4124.81	45.22	7.00	25.83	1.85	2.42

CALIB		
STANDHYD (0204)	Area (ha)= 12.60	
ID= 1 DT=15.0 min	Total Imp(%)= 25.00	Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.15	9.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.10

Length	(m)=	289.83	40.00			
Mannings n	=	0.013	0.250			
Max.Eff.Inten.(mm/hr)=		19.32	9.00			
over (min)		15.00	30.00			
Storage Coeff. (min)=		4.80 (ii)	28.20 (ii)			
Unit Hyd. Tpeak (min)=		15.00	30.00			
Unit Hyd. peak (cms)=		0.11	0.04			
				TOTALS		
PEAK FLOW	(cms)=	0.17	0.16	0.329 (iii)		
TIME TO PEAK	(hrs)=	5.25	5.50	5.25		
RUNOFF VOLUME	(mm)=	41.00	14.23	20.92		
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00		
RUNOFF COEFFICIENT	=	0.98	0.34	0.50		

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2204)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0204):	12.60	0.329	5.25	20.92	
+ ID2= 2 (5204):	4124.81	45.219	7.00	25.83	
ID = 3 (2204):	4137.41	45.301	7.00	25.81	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0742)	Area (ha)= 13.26	
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	5.97	7.29	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	297.32	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	10.97	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.10	0.03	
			TOTALS	
PEAK FLOW	(cms)=	0.32	0.15	0.462 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	17.43	28.04
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.42	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9607)				
Inlet Cap.=0.144				
#of Inlets= 1				
Total(cms)= 0.1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	13.26	0.46	5.25	28.04
MAJOR SYS.(ID= 2):	4.18	0.32	5.25	28.04
MINOR SYS.(ID= 3):	9.08	0.14	4.50	28.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6607)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.1440	0.6200

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9607)	9.081	0.144	4.50	28.04
OUTFLOW: ID= 1 (6607)	9.081	0.041	8.50	27.92

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.63
TIME SHIFT OF PEAK FLOW (min)=240.00
MAXIMUM STORAGE USED (ha.m.)= 0.1775

ADD HYD (4607)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6607):	9.08	0.041	8.50	27.92
+ ID2= 2 (9607):	4.18	0.318	5.25	28.04
ID = 3 (4607):	13.26	0.340	5.25	27.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2742)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2204):	4137.41	45.301	7.00	25.81
+ ID2= 2 (4607):	13.26	0.340	5.25	27.96
ID = 3 (2742):	4150.67	45.338	7.00	25.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0636)  |   Area    (ha)= 167.13
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      75.21         91.92
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          1.40
     Length            (m)=    1055.56         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32          9.08
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      16.80 (ii)    99.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        105.00
     Unit Hyd. peak  (cms)=       0.07          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.96          0.89          4.262 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.75          5.25
     RUNOFF VOLUME    (mm)=      41.00         15.40         26.92
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.98          0.37          0.64


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| DUHYD     (9605)  |
| Inlet Cap.=0.240  |
| #of Inlets=    1  |
| Total(cms)=  0.2  |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 167.13      4.26      5.25   26.92
     ================================================
     MAJOR SYS.(ID= 2): 131.18      4.02      5.25   26.92
     MINOR SYS.(ID= 3):  35.95      0.24      2.75   26.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| RESERVOIR (6605)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2400      1.9400

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9605)     35.951     0.240     2.75      26.92
     OUTFLOW: ID= 1 (6605)     35.951     0.088    13.50      26.86

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.68
                    TIME SHIFT OF PEAK FLOW         (min)=645.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.7117
```



```
-------------------
| ADD HYD   (4605)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6605):    35.95   0.088    13.50    26.86
        + ID2= 2 (9605):   131.18   4.022     5.25    26.92
          ================================================
          ID = 3 (4605):   167.13   4.050     5.25    26.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB             |
| STANDHYD  (0641)  |   Area    (ha)=   7.45
|ID= 1 DT=15.0 min  |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.71          5.74
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.00
     Length            (m)=     222.86         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32          9.00
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       4.80 (ii)    26.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09          0.10          0.191 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=      41.00         14.23         20.38
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.98          0.34          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (2641)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0641):     7.45   0.191     5.25    20.38
        + ID2= 2 (4605):   167.13   4.050     5.25    26.91
          ================================================
          ID = 3 (2641):   174.58   4.242     5.25    26.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (1206)  |
```



```
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2641):   174.58   4.242     5.25    26.63
        + ID2= 2 (2742):  4150.67  45.338     7.00    25.82
          ================================================
          ID = 3 (1206):  4325.25  46.701     7.00    25.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (5206)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
               <---- DATA FOR SECTION (5206.0) ------>
               Distance      Elevation      Manning
                  0.00         168.00        0.1110
                 93.40         167.00        0.1110
                125.20         166.00        0.1110
                131.90         165.50        0.1110
                147.90         162.50        0.1110
                154.70         162.00        0.1110
                156.80         162.00        0.1110
                159.70         162.50        0.1110
                181.80         162.50        0.1110
                197.10         161.50        0.1110
                254.30         160.00        0.1110
                256.80         159.00    0.1110 /0.0490  Main Channel
                257.00         158.60        0.0490      Main Channel
                266.00         158.60        0.0490      Main Channel
                266.30         159.00    0.0490 /0.1110  Main Channel
                270.90         160.00        0.1110
                308.40         162.00        0.1110
                338.30         168.50        0.1110
                351.00         169.00        0.1110
                400.10         169.50        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.40    159.00    .108E+04       3.3         0.88        5.51
      0.87    159.47    .263E+04      12.5         1.39        3.49
      1.35    159.95    .464E+04      26.9         1.70        2.87
      1.82    160.42    .840E+04      46.9         1.63        2.98
      2.29    160.89    .159E+05      79.2         1.46        3.34
      2.77    161.37    .271E+05     128.0         1.38        3.53
      3.24    161.84    .416E+05     199.3         1.40        3.48
      3.72    162.32    .587E+05     291.2         1.45        3.36
      4.19    162.79    .800E+05     403.7         1.47        3.30
      4.66    163.26    .103E+06     565.2         1.60        3.04
      5.14    163.74    .127E+06     752.2         1.73        2.82
      5.61    164.21    .152E+06     963.8         1.86        2.62
      6.08    164.68    .177E+06    1199.2         1.98        2.46
      6.56    165.16    .203E+06    1457.9         2.10        2.32
      7.03    165.63    .229E+06    1734.7         2.21        2.20
      7.51    166.11    .257E+06    2012.4         2.29        2.13
      7.98    166.58    .286E+06    2284.4         2.33        2.09
      8.45    167.05    .318E+06    2571.2         2.36        2.06
      8.93    167.53    .355E+06    2790.7         2.29        2.12

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
```



```
     INFLOW : ID= 2 (1206) 4325.25    46.70    7.00  25.85      1.82      1.63
     OUTFLOW: ID= 1 (5206) 4325.25    46.63    7.00  25.85      1.81      1.63
```

```
-------------------
| CALIB             |
| STANDHYD  (0206)  |   Area    (ha)=   4.99
|ID= 1 DT=15.0 min  |   Total Imp(%)=  14.00   Dir. Conn.(%)=  14.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.70          4.29
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          7.50
     Length            (m)=     182.39         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32          8.66
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       3.60 (ii)    21.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04          0.09          0.125 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      41.00         13.68         17.51
     TOTAL RAINFALL   (mm)=      42.00         42.00         42.00
     RUNOFF COEFFICIENT   =       0.98          0.33          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (2206)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0206):     4.99   0.125     5.25    17.51
        + ID2= 2 (5206):  4325.25  46.628     7.00    25.85
          ================================================
          ID = 3 (2206):  4330.24  46.655     7.00    25.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB             |
| STANDHYD  (0638)  |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min  |   Total Imp(%)=  84.00   Dir. Conn.(%)=  84.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      43.01          8.19
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          1.80
     Length            (m)=     584.24         40.00
```

```
Mannings n           =      0.013        0.250

Max.Eff.Inten.(mm/hr)=      19.32        16.76
          over (min)        15.00        30.00
Storage Coeff.  (min)=      10.80 (ii)   64.80 (ii)
Unit Hyd. Tpeak (min)=      15.00        60.00
Unit Hyd. peak  (cms)=       0.09         0.02
                                                 *TOTALS*
PEAK FLOW       (cms)=       2.30         0.20      2.450 (iii)
TIME TO PEAK    (hrs)=       5.25         5.75        5.25
RUNOFF VOLUME    (mm)=      41.00        28.11       38.94
TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
RUNOFF COEFFICIENT   =       0.98         0.67        0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  95.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1635) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0638):    51.20   2.450     5.25     38.94
       + ID2= 2 (2206):  4330.24  46.655     7.00     25.84
         ==========================================
         ID = 3 (1635):  4381.44  47.145     7.00     25.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0642) |   Area    (ha)=  81.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.03        34.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.50
     Length            (m)=     735.26        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        12.97
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   66.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                 *TOTALS*
     PEAK FLOW       (cms)=       2.52         0.58      2.913 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00        5.25
     RUNOFF VOLUME    (mm)=      41.00        20.81       32.52
     TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
     RUNOFF COEFFICIENT   =       0.98         0.50        0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```



```
          CN*  =  89.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| DUHYD     (9609) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)= 14.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  81.09      2.91      5.25   32.52
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  81.09      2.91      5.25   32.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR (6609) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3680      1.3972
                          0.1520     0.0433   |   2.7440      1.7980
                          0.2370     0.2233   |   9.7830      2.5193
                          0.2980     0.5550   |  12.8700      3.3070
                          0.3490     1.1433   |  14.0910      3.8116

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9609)     81.090     2.913     5.25      32.52
     OUTFLOW: ID= 1 (6609)     81.090     0.908     6.75      32.52

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.16
               TIME SHIFT OF PEAK FLOW         (min)= 90.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.4898

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--------------------
| ADD HYD   (4609) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9609 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6609):    81.09   0.908     6.75    32.52
       + ID2= 2 (9609):     0.00   0.000     0.00     0.00
         ==========================================
         ID = 3 (4609):    81.09   0.908     6.75    32.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2642) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1635):  4381.44  47.145     7.00    25.99
```



```
       + ID2= 2 (4609):    81.09   0.908     6.75    32.52
         ==========================================
         ID = 3 (2642):  4462.53  48.025     7.00    26.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ROUTE CHN (5635) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (5635.0) ------>
              Distance      Elevation       Manning
                  0.00         162.99        0.1110
                 23.31         157.07        0.1110
                 32.56         156.00        0.1110
                 59.26         155.00        0.1110
                 62.94         154.00        0.1110
                 63.09         153.97        0.1110
                 63.13         153.97        0.1110
                 63.76         153.82    0.1110 /0.0490  Main Channel
                 63.87         153.50        0.0490      Main Channel
                 66.42         153.50        0.0490      Main Channel
                 67.30         153.81    0.0490 /0.1110  Main Channel
                 68.02         153.82        0.1110
                 68.09         153.82        0.1110
                 71.13         155.00        0.1110
                 91.29         155.00        0.1110
                108.35         155.11        0.1110
                126.23         155.50        0.1110
                133.49         156.00        0.1110
                156.41         161.00        0.1110
                158.20         161.50        0.1110

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.31   153.81    .112E+04       0.7         0.77      25.85
       0.71   154.21    .384E+04       3.7         1.13      17.50
       1.12   154.62    .780E+04       8.8         1.34      14.81
       1.52   155.02    .136E+05      14.9         1.30      15.22
       1.93   155.43    .423E+05      32.3         0.91      21.79
       2.33   155.83    .835E+05      67.6         0.96      20.59
       2.74   156.24    .132E+06     122.0         1.10      18.03
       3.14   156.64    .183E+06     193.8         1.26      15.76
       3.55   157.05    .237E+06     280.8         1.41      14.09
       3.95   157.45    .294E+06     384.2         1.56      12.73
       4.36   157.86    .351E+06     501.9         1.70      11.67
       4.76   158.26    .411E+06     633.4         1.83      10.81
       5.17   158.67    .472E+06     778.3         1.96      10.11
       5.57   159.07    .535E+06     936.5         2.08       9.52
       5.98   159.48    .599E+06    1107.8         2.20       9.02
       6.38   159.88    .666E+06    1292.3         2.31       8.58
       6.79   160.29    .733E+06    1489.8         2.42       8.20
       7.19   160.69    .803E+06    1700.4         2.52       7.87
       7.60   161.10    .874E+06    1924.8         2.62       7.57

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2642) 4462.53    48.02    7.00  26.11      2.11      0.93
     OUTFLOW: ID= 1 (5635) 4462.53    47.10    7.25  26.11      2.10      0.93
```



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--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0635) |   Area    (ha)=  73.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  39.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      28.47        44.54
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     697.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.47
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.80 (ii)   63.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                 *TOTALS*
     PEAK FLOW       (cms)=       1.52         0.59      1.912 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00        5.25
     RUNOFF VOLUME    (mm)=      41.00        16.04       25.77
     TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
     RUNOFF COEFFICIENT   =       0.98         0.38        0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2635) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0635):    73.01   1.912     5.25     25.77
       + ID2= 2 (5635):  4462.53  47.095     7.25     26.11
         ==========================================
         ID = 3 (2635):  4535.54  47.716     7.25     26.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0186) |   Area    (ha)= 388.73
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  44.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     171.04       217.69
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.10
     Length            (m)=    1609.82        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.47
               over (min)        30.00        45.00
     Storage Coeff.  (min)=      19.20 (ii)  112.20 (ii)
```

```
    Unit Hyd. Tpeak (min)=      15.00       105.00
    Unit Hyd. peak  (cms)=       0.06         0.01
                                                    *TOTALS*
    PEAK FLOW       (cms)=       8.92         2.05          9.603 (iii)
    TIME TO PEAK    (hrs)=       5.25         6.75          5.25
    RUNOFF VOLUME    (mm)=      41.00        16.04         27.02
    TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
    RUNOFF COEFFICIENT   =       0.98         0.38          0.64


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD    (9611) |
| Inlet Cap.=1.944 |
| #of Inlets=    1 |
| Total(cms)=  1.9 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1): 388.73      9.60      5.25   27.02
    ================================================
    MAJOR SYS.(ID= 2): 176.28      7.66      5.25   27.02
    MINOR SYS.(ID= 3): 212.45      1.94      3.50   27.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6611) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   1.9440      8.4000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9611)    212.452     1.944      3.50      27.02
    OUTFLOW: ID= 1 (6611)    212.452     0.829     11.00      27.02

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 42.66
                   TIME SHIFT OF PEAK FLOW          (min)=450.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.5840

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--------------------
| ADD HYD   (4611) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6611):   212.45   0.829    11.00    27.02
       + ID2= 2 (9611):   176.28   7.659     5.25    27.02
         ================================================
         ID = 3 (4611):   388.73   8.001     5.25    27.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1637) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2635):  4535.54  47.716     7.25    26.11
       + ID2= 2 (4611):   388.73   8.001     5.25    27.02
         ================================================
         ID = 3 (1637):  4924.27  49.762     7.25    26.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5637) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5637.0) ------>
             Distance      Elevation       Manning
                0.00         159.54        0.1110
               26.71         153.00        0.1110
               28.32         152.50        0.1110
               28.88         152.18        0.1110
               29.32         152.00        0.1110
               29.68         151.83        0.1110
               31.21         151.87    0.1110 /0.0490  Main Channel
               31.97         151.50        0.0490      Main Channel
               36.66         151.50        0.0490      Main Channel
               36.81         151.73        0.0490      Main Channel
               37.62         151.95    0.0490 /0.1110  Main Channel
               37.67         151.96        0.1110
               37.83         152.00        0.1110
               38.03         152.07        0.1110
               39.32         152.50        0.1110
               39.70         152.62        0.1110
               40.47         152.84        0.1110
               41.06         153.00        0.1110
               66.35         154.00        0.1110
               91.54         159.93        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
      0.37   151.87    .213E+04         1.2         0.59      30.61
      0.77   152.27    .599E+04         4.8         0.87      20.60
      1.18   152.68    .107E+05        10.8         1.08      16.65
      1.58   153.08    .167E+05        18.7         1.20      14.91
      1.98   153.48    .266E+05        29.4         1.19      15.07
      2.39   153.89    .416E+05        44.4         1.15      15.58
      2.79   154.29    .607E+05        65.7         1.16      15.41
      3.20   154.70    .815E+05        92.5         1.22      14.69
      3.60   155.10    .104E+06       124.2         1.29      13.93
      4.00   155.50    .128E+06       160.9         1.36      13.21
      4.41   155.91    .153E+06       202.4         1.43      12.57
      4.81   156.31    .179E+06       249.0         1.49      12.00
      5.21   156.71    .207E+06       300.6         1.56      11.50
      5.62   157.12    .237E+06       357.3         1.62      11.05
      6.02   157.52    .268E+06       419.3         1.68      10.65
      6.43   157.93    .300E+06       486.5         1.74      10.29
      6.83   158.33    .334E+06       559.2         1.80       9.97
      7.23   158.73    .370E+06       637.5         1.86       9.67
      7.64   159.14    .407E+06       721.3         1.91       9.40

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
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```
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1637) 4924.27    49.76    7.25  26.18      2.49      1.15
    OUTFLOW: ID= 1 (5637) 4924.27    49.08    7.50  26.18      2.48      1.15

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--------------------
| CALIB            |
| STANDHYD  (0637) |   Area    (ha)=  30.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  16.00   Dir. Conn.(%)=  16.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       4.89        25.70
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         7.50
    Length            (m)=     451.59        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      19.32         8.66
              over (min)        15.00        30.00
    Storage Coeff.  (min)=       6.00 (ii)   36.00 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
    PEAK FLOW       (cms)=       0.26         0.40          0.637 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.50          5.25
    RUNOFF VOLUME    (mm)=      41.00        13.68         18.05
    TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
    RUNOFF COEFFICIENT   =       0.98         0.33          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  79.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2637) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0637):    30.59   0.637     5.25    18.05
       + ID2= 2 (5637):  4924.27  49.075     7.50    26.18
         ================================================
         ID = 3 (2637):  4954.86  49.229     7.50    26.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1717) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2237): 10472.55  53.894     7.50    19.28
       + ID2= 2 (2637):  4954.86  49.229     7.50    26.13
         ================================================
         ID = 3 (1717): 15427.41 103.123     7.50    21.48
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    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5717) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5717.0) ------>
             Distance      Elevation       Manning
                0.00         159.92        0.1110
               16.17         156.24        0.1110
               31.63         155.13        0.1110
               53.62         154.50        0.1110
               65.20         152.50        0.1110
               91.81         150.00        0.1110
              110.61         150.00        0.1110
              111.90         149.13    0.1110 /0.0490  Main Channel
              112.55         148.60        0.0490      Main Channel
              125.01         148.60        0.0490      Main Channel
              125.79         149.17    0.0490 /0.1110  Main Channel
              127.48         149.50        0.1110
              210.24         149.92        0.1110
              212.41         150.00        0.1110
              224.55         150.00        0.1110
              334.54         151.50        0.1110
              364.54         157.50        0.1110
              384.84         164.02        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
      0.53   149.13    .527E+04         4.4         0.63      19.84
      1.10   149.70    .148E+05        16.1         0.82      15.33
      1.67   150.27    .628E+05        47.3         0.57      22.13
      2.23   150.83    .140E+06       112.6         0.61      20.66
      2.80   151.40    .237E+06       212.9         0.68      18.54
      3.37   151.97    .349E+06       364.8         0.79      15.94
      3.94   152.54    .465E+06       556.7         0.90      13.92
      4.51   153.11    .584E+06       785.4         1.02      12.40
      5.07   153.67    .706E+06      1047.1         1.12      11.24
      5.64   154.24    .831E+06      1340.6         1.22      10.33
      6.21   154.81    .959E+06      1648.4         1.30       9.70
      6.78   155.38    .110E+07      1991.0         1.37       9.17
      7.34   155.94    .124E+07      2379.5         1.45       8.67
      7.91   156.51    .138E+07      2806.9         1.53       8.22
      8.48   157.08    .153E+07      3272.6         1.61       7.81
      9.05   157.65    .168E+07      3771.6         1.69       7.45
      9.62   158.22    .184E+07      4307.0         1.77       7.11
     10.18   158.78    .199E+07      4873.0         1.85       6.82
     10.75   159.35    .215E+07      5469.0         1.92       6.55

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1717) *******   103.12    7.50  21.48      2.15      0.60
    OUTFLOW: ID= 1 (5717) *******   101.88    7.75  21.48      2.13      0.60

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| CALIB            |
| STANDHYD  (0717) |   Area    (ha)=  33.60
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|ID= 1 DT=15.0 min | Total Imp(%)= 17.00 Dir. Conn.(%)= 17.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.71	27.89
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.70
Length (m)=	473.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	8.34
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	36.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

			TOTALS
PEAK FLOW	(cms)=	0.31	0.41	0.693 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	13.17	17.90
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.31	0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2717)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0717):	33.60	0.693	5.25	17.90
	+ ID2= 2 (5717):	15427.41	101.880	7.75	21.48
	ID = 3 (2717):	15461.01	102.021	7.75	21.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0257)	Area (ha)= 75.57				
ID= 1 DT=15.0 min	Total Imp(%)= 83.00 Dir. Conn.(%)= 83.00				

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	62.72	12.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.50
Length (m)=	709.79	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	15.59
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

TOTALS

PEAK FLOW	(cms)=	3.34	0.26	3.498 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	26.64	38.56
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.63	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2257)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0257):	75.57	3.498	5.25	38.56
	+ ID2= 2 (2717):	15461.01	102.021	7.75	21.47
	ID = 3 (2257):	15536.58	102.494	7.75	21.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5240)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5240.0) ------>

Distance	Elevation	Manning	
0.00	156.50	0.1110	
20.51	149.00	0.1110	
31.95	149.00	0.1110	
39.82	148.00	0.1110	
48.42	148.00	0.1110	
51.87	147.50	0.1110	
73.08	147.00	0.1110	
76.22	146.00	0.1110 /0.0490	Main Channel
77.04	145.00	0.0490	Main Channel
87.93	145.00	0.0490	Main Channel
88.30	146.00	0.0490 /0.1110	Main Channel
89.26	146.52	0.1110	
90.21	147.00	0.1110	
114.82	147.00	0.1110	
123.73	146.85	0.1110	
126.70	147.00	0.1110	
143.61	152.00	0.1110	
155.99	159.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	145.50	.727E+04	5.6	1.01	21.49
1.00	146.00	.149E+05	17.6	1.53	14.15
1.62	146.62	.259E+05	40.8	2.05	10.57
2.24	147.24	.531E+05	74.9	1.83	11.81
2.85	147.85	.113E+06	140.3	1.61	13.45
3.47	148.47	.186E+06	235.4	1.65	13.14
4.09	149.09	.266E+06	354.8	1.73	12.51

4.71	149.71	.359E+06	517.8	1.87	11.55
5.32	150.32	.455E+06	710.3	2.03	10.67
5.94	150.94	.553E+06	930.7	2.19	9.91
6.56	151.56	.655E+06	1178.2	2.34	9.26
7.18	152.18	.760E+06	1453.5	2.49	8.71
7.79	152.79	.867E+06	1758.1	2.64	8.22
8.41	153.41	.976E+06	2087.9	2.78	7.79
9.03	154.03	.109E+07	2442.5	2.92	7.42
9.65	154.65	.120E+07	2821.5	3.05	7.10
10.26	155.26	.132E+07	3224.5	3.18	6.81
10.88	155.88	.144E+07	3651.5	3.30	6.55
11.50	156.50	.156E+07	4102.3	3.42	6.32

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> <-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2257)	*******	102.49	7.75	21.56	2.50	1.73
OUTFLOW: ID= 1 (5240)	*******	101.97	8.00	21.56	2.49	1.74

CALIB					
STANDHYD (0240)	Area (ha)= 49.43				
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 35.00				

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.30	32.13
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.70
Length (m)=	574.05	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.35
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	39.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

TOTALS

PEAK FLOW	(cms)=	0.93	0.49	1.339 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	41.00	14.80	23.97
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.35	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2240)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0240):	49.43	1.339	5.25	23.97
	+ ID2= 2 (5240):	15536.58	101.974	8.00	21.56
	ID = 3 (2240):	15586.01	102.198	8.00	21.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0634)	Area (ha)= 320.52				
ID= 1 DT=15.0 min	Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00				

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	115.39	205.13
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	1461.78	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	8.72
over (min)	30.00	45.00
Storage Coeff. (min)=	18.00 (ii)	106.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01

TOTALS

PEAK FLOW	(cms)=	6.05	1.83	6.655 (iii)
TIME TO PEAK	(hrs)=	5.25	6.75	5.25
RUNOFF VOLUME	(mm)=	41.00	14.80	24.23
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.35	0.58

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9604)					
Inlet Cap.=1.303					
#of Inlets= 1					
Total(cms)= 1.3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	TOTAL HYD.(ID= 1):	320.52	6.65	5.25	24.23
	MAJOR SYS.(ID= 2):	152.76	5.35	5.25	24.23
	MINOR SYS.(ID= 3):	167.76	1.30	3.50	24.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6604)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	1.3030	5.6300

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9604)		167.763	1.303	3.50	24.23
OUTFLOW: ID= 1 (6604)		167.763	0.585	11.25	24.22

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.88

TIME SHIFT OF PEAK FLOW (min)=465.00
MAXIMUM STORAGE USED (ha.m.)= 2.5279

ADD HYD (4604)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6604):	167.76	0.585	11.25	24.22
	+ ID2= 2 (9604):	152.76	5.352	5.25	24.23
	ID = 3 (4604):	320.52	5.582	5.25	24.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1264)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2240):	15586.01	102.198	8.00	21.56
	+ ID2= 2 (4604):	320.52	5.582	5.25	24.23
	ID = 3 (1264):	15906.53	103.393	8.00	21.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5264)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5264.0) ------>

Distance	Elevation	Manning	
0.00	159.01	0.1110	
18.68	154.00	0.1110	
32.14	153.50	0.1110	
59.08	147.50	0.1110	
71.63	147.50	0.1110	
77.74	146.50	0.1110	
81.24	145.00	0.1110 /0.0490	Main Channel
81.73	143.80	0.0490	Main Channel
88.41	143.80	0.0490	Main Channel
89.20	145.00	0.0490 /0.1110	Main Channel
101.11	147.50	0.1110	
105.58	148.00	0.1110	
134.97	150.00	0.1110	
141.87	151.00	0.1110	
157.92	151.30	0.1110	
158.71	151.50	0.1110	
160.99	151.50	0.1110	
169.62	154.50	0.1110	
173.70	155.00	0.1110	
177.64	156.04	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	144.40	.305E+04	3.2	0.77	15.68
1.20	145.00	.637E+04	10.0	1.14	10.64
1.85	145.65	.112E+05	21.9	1.42	8.51

2.50	146.30	.182E+05	38.8	1.55	7.83
3.15	146.95	.277E+05	61.0	1.60	7.56
3.80	147.60	.413E+05	88.5	1.55	7.78
4.45	148.25	.639E+05	129.3	1.47	8.24
5.10	148.90	.920E+05	183.3	1.44	8.37
5.75	149.55	.126E+06	252.5	1.45	8.32
6.40	150.20	.166E+06	339.8	1.49	8.13
7.04	150.84	.210E+06	447.2	1.55	7.81
7.69	151.49	.260E+06	556.6	1.55	7.80
8.34	152.14	.318E+06	709.7	1.62	7.47
8.99	152.79	.378E+06	886.6	1.70	7.10
9.64	153.44	.440E+06	1083.6	1.79	6.77
10.29	154.09	.507E+06	1263.9	1.81	6.69
10.94	154.74	.579E+06	1512.2	1.90	6.38
11.59	155.39	.653E+06	1776.3	1.97	6.13
12.24	156.04	.730E+06	2060.1	2.05	5.91

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1264) *******		103.39	8.00	21.62	4.03	1.52
OUTFLOW: ID= 1 (5264) *******		103.15	8.25	21.62	4.01	1.52

CALIB	
STANDHYD (0264)	Area (ha)= 37.54
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.88	29.66
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.60
Length	(m)=	500.27	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.03
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.42 0.38 0.741 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	41.00 12.68 18.63
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.30 0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2264)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

ID1= 1 (0264):		37.54	0.741	5.25	18.63
+ ID2= 2 (5264):		15906.53	103.146	8.25	21.62
ID = 3 (2264):		15944.07	103.286	8.25	21.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0631)	Area (ha)= 49.79
ID= 1 DT=15.0 min	Total Imp(%)= 18.00 Dir. Conn.(%)= 18.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.96	40.83
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	576.14	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.16
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.48 0.47 0.858 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	41.00 12.22 17.40
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.29 0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9606)					
Inlet Cap.=0.099					
#of Inlets= 1					
Total(cms)= 0.1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		49.79	0.86	5.25	17.40
MAJOR SYS.(ID= 2):		32.60	0.76	5.25	17.40
MINOR SYS.(ID= 3):		17.19	0.10	3.50	17.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6606)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.0990	0.4270

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9606)	17.192	0.099	3.50	17.40
OUTFLOW: ID= 1 (6606)	17.192	0.044	11.00	17.33

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.61
TIME SHIFT OF PEAK FLOW (min)=450.00
MAXIMUM STORAGE USED (ha.m.)= 0.1905

ADD HYD (4606)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6606):	17.19	0.044	11.00	17.33
	+ ID2= 2 (9606):	32.60	0.759	5.25	17.40
	ID = 3 (4606):	49.79	0.777	5.25	17.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3264)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2264):	15944.07	103.286	8.25	21.61
	+ ID2= 2 (4606):	49.79	0.777	5.25	17.37
	ID = 3 (3264):	15993.86	103.414	8.25	21.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0276)	Area (ha)= 265.62
ID= 1 DT=15.0 min	Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	204.53	61.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	1330.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.75
over (min)		30.00	45.00
Storage Coeff. (min)=		16.80 (ii)	97.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	10.78 0.95 11.141 (iii)
TIME TO PEAK	(hrs)=	5.25 6.75 5.25
RUNOFF VOLUME	(mm)=	41.00 24.03 37.10
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.57 0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

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          CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0438) |   Area    (ha)=  65.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.79        16.26
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     658.58        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        13.52
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     11.40 (ii)   67.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.61         0.31        2.824 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=      41.00        22.88        36.47
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.98         0.54         0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1435) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0276):   265.62  11.141     5.25    37.10
       + ID2= 2 (0438):    65.06   2.824     5.25    36.47
         ================================================
         ID = 3 (1435):   330.68  13.965     5.25    36.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0435) |   Area    (ha)=  78.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  72.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.18        21.85
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.90
     Length            (m)=     721.25        40.00
     Mannings n           =      0.013        0.250
```



```
     Max.Eff.Inten.(mm/hr)=      19.32        12.90
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   72.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.00         0.37        3.206 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=      41.00        21.81        35.63
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.98         0.52         0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2435) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0435):    78.03   3.206     5.25    35.63
       + ID2= 2 (1435):   330.68  13.965     5.25    36.97
         ================================================
         ID = 3 (2435):   408.71  17.172     5.25    36.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1616) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2435):   408.71  17.172     5.25    36.72
       + ID2= 2 (3264): 15993.86 103.414     8.25    21.60
         ================================================
         ID = 3 (1616): 16402.57 105.923     8.00    21.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0632) |   Area    (ha)=  43.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.23        34.71
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.00
     Length            (m)=     541.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         8.37
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      9.00 (ii)   52.80 (ii)
```



```
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.49         0.44        0.786 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=      41.00        14.23        19.85
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.98         0.34         0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9603) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.94      0.79      5.25   19.85
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.94      0.79      5.25   19.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6603) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7000      2.4800

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9603)     43.940      0.786      5.25      19.85
     OUTFLOW: ID= 1 (6603)     43.940      0.163      8.50      19.83

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.74
                TIME SHIFT OF PEAK FLOW          (min)=195.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5780

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--------------------
| ADD HYD   (4603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9603 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6603):    43.94   0.163     8.50    19.83
       + ID2= 2 (9603):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4603):    43.94   0.163     8.50    19.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (0633) |   Area    (ha)=  19.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.88        15.50
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=     359.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.12
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.21         0.26         0.427 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75         5.25
     RUNOFF VOLUME    (mm)=      41.00        16.04        21.03
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.98         0.38         0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9602) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  19.38      0.43      5.25   21.03
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  19.38      0.43      5.25   21.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6602) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.8000      0.4900

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9602)     19.380      0.427      5.25      21.03
     OUTFLOW: ID= 1 (6602)     19.380      0.225      6.50      21.02
```

PEAK FLOW REDUCTION [Qout/Qin](%)= 52.55
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.1385

ADD HYD (4602)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6602):		19.38	0.225	6.50	21.02
+ ID2= 2 (9602):		0.00	0.000	0.00	0.00
ID = 3 (4602):		19.38	0.225	6.50	21.02

*** W A R N I N G : HYDROGRAPH 9602 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0630)	Area (ha)= 120.64			
ID= 1 DT=15.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 27.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	32.57	88.07
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.60
Length (m)=	896.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.47
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	74.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	1.74	1.06	2.280 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	22.78
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9601)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		120.64	2.28	5.25	22.78
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00

MINOR SYS.(ID= 3): 120.64 2.28 5.25 22.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6601)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	2.0000	3.5700	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9601)	120.640	2.280	5.25	22.78
OUTFLOW: ID= 1 (6601)	120.640	0.777	8.00	22.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.08
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 1.3872

ADD HYD (4601)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6601):		120.64	0.777	8.00	22.78
+ ID2= 2 (9601):		0.00	0.000	0.00	0.00
ID = 3 (4601):		120.64	0.777	8.00	22.78

*** W A R N I N G : HYDROGRAPH 9601 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2601)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (4601):		120.64	0.777	8.00	22.78
+ ID2= 2 (4602):		19.38	0.225	6.50	21.02
ID = 3 (2601):		140.02	0.964	7.50	22.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1602)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2601):		140.02	0.964	7.50	22.53
+ ID2= 2 (4603):		43.94	0.163	8.50	19.83
ID = 3 (1602):		183.96	1.120	7.50	21.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1603)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1602):		183.96	1.120	7.50	21.89
+ ID2= 2 (1616):		16402.57	105.923	8.00	21.97
ID = 3 (1603):		16586.53	107.033	8.00	21.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5616)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5616.0) ------>

Distance	Elevation	Manning	
0.00	155.00	0.1110	
50.69	148.87	0.1110	
67.28	145.00	0.1110	
75.68	144.20	0.1110	
78.03	143.38	0.1110	
78.57	143.00	0.1110 /0.0490	Main Channel
78.71	141.40	0.0490	Main Channel
91.20	141.40	0.0490	Main Channel
92.33	143.00	0.0490 /0.1110	Main Channel
93.98	143.50	0.1110	
211.31	144.60	0.1110	
232.18	145.00	0.1110	
242.93	145.50	0.1110	
278.58	153.02	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	141.93	.821E+04	4.9	0.72	27.93
1.07	142.47	.167E+05	15.1	1.10	18.40
1.60	143.00	.254E+05	29.0	1.38	14.62
2.23	143.63	.380E+05	51.7	1.64	12.28
2.85	144.25	.869E+05	87.9	1.22	16.49
3.48	144.88	.187E+06	155.9	1.01	20.03
4.10	145.50	.316E+06	268.0	1.03	19.65
4.73	146.13	.453E+06	422.4	1.13	17.87
5.36	146.76	.594E+06	610.6	1.24	16.22
5.98	147.38	.740E+06	830.5	1.36	14.85
6.61	148.01	.890E+06	1080.9	1.47	13.72
7.24	148.64	.104E+07	1361.0	1.58	12.79
7.86	149.26	.120E+07	1667.3	1.68	12.02
8.49	149.89	.137E+07	2001.7	1.77	11.39
9.11	150.51	.154E+07	2366.3	1.86	10.84
9.74	151.14	.172E+07	2760.9	1.95	10.36
10.37	151.77	.190E+07	3185.8	2.03	9.94
10.99	152.39	.209E+07	3641.0	2.11	9.56
11.62	153.02	.229E+07	4127.0	2.19	9.23

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1603) *******	107.03	8.00	21.97	3.03	1.15	
OUTFLOW: ID= 1 (5616) *******	106.06	8.50	21.97	3.01	1.16	

CALIB				
STANDHYD (0616)	Area (ha)= 105.56			
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	55.95	49.61
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.00
Length (m)=	838.89	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.43
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	3.00	0.79	3.543 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	41.00	18.20	30.28
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.43	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2616)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0616):		105.56	3.543	5.25	30.28
+ ID2= 2 (5616):		16586.53	106.061	8.50	21.97
ID = 3 (2616):		16692.09	106.552	8.25	22.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0293)	Area (ha)= 152.56			
ID= 1 DT=15.0 min	Total Imp(%)= 79.00	Dir. Conn.(%)= 79.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	120.52	32.04
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	1008.50	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	14.75
over (min)	15.00	30.00

```
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.42         0.57      6.731 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25      5.25
     RUNOFF VOLUME    (mm)=      41.00        24.03     37.44
     TOTAL RAINFALL   (mm)=      42.00        42.00     42.00
     RUNOFF COEFFICIENT   =       0.98         0.57      0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (1300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0293):   152.56   6.731     5.25    37.44
       + ID2= 2 (2616): 16692.09 106.552     8.25    22.03
         ================================================
         ID = 3 (1300): 16844.65 107.420     8.25    22.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5300) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (5300.0) ------>
               Distance      Elevation       Manning
                   0.00         144.96        0.1110
                  34.18         134.00        0.1110
                  50.16         133.00        0.1110
                  68.52         132.51        0.1110
                  90.08         132.00        0.1110
                 110.50         131.00        0.1110
                 111.48         131.00    0.1110 /0.0490  Main Channel
                 114.14         130.50        0.0490      Main Channel
                 123.12         130.50        0.0490      Main Channel
                 124.57         131.00    0.0490 /0.1110  Main Channel
                 124.89         131.00        0.1110
                 133.94         145.00        0.1110
                 152.13         145.00        0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.50   131.00    .181E+05        4.0         0.73       75.07
       1.23   131.73    .716E+05       23.7         1.09       50.39
       1.97   132.47    .170E+06       60.5         1.17       46.89
       2.70   133.20    .337E+06      124.6         1.21       45.12
       3.44   133.94    .544E+06      220.9         1.33       41.04
       4.17   134.67    .770E+06      352.8         1.51       36.40
       4.91   135.41    .100E+07      512.5         1.68       32.64
       5.64   136.14    .124E+07      697.6         1.84       29.71
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      6.38   136.88    .149E+07     907.0          2.00      27.38
      7.11   137.61    .174E+07    1139.9          2.15      25.49
      7.85   138.35    .200E+07    1395.8          2.29      23.92
      8.58   139.08    .227E+07    1674.1          2.42      22.60
      9.32   139.82    .254E+07    1974.6          2.55      21.47
     10.05   140.55    .282E+07    2297.1          2.67      20.49
     10.79   141.29    .311E+07    2641.3          2.79      19.63
     11.52   142.02    .340E+07    3007.1          2.90      18.86
     12.26   142.76    .370E+07    3394.4          3.01      18.18
     12.99   143.49    .401E+07    3803.3          3.12      17.57
     13.73   144.23    .432E+07    4233.6          3.22      17.02

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1300) *******   107.42    8.25  22.16      2.51      1.20
     OUTFLOW: ID= 1 (5300) *******   104.04    9.00  22.16      2.47      1.20

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-------------------
| CALIB             |
| STANDHYD  (0300) |   Area    (ha)= 140.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  36.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       54.60         85.40
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          8.20
     Length            (m)=      966.09         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         10.54
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=       9.60 (ii)    54.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.70          1.26      3.552 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00      5.25
     RUNOFF VOLUME    (mm)=      41.00         15.97     24.98
     TOTAL RAINFALL   (mm)=      42.00         42.00     42.00
     RUNOFF COEFFICIENT   =       0.98          0.38      0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0300):   140.00   3.552     5.25    24.98
       + ID2= 2 (5300): 16844.65 104.040     9.00    22.16
         ================================================
         ID = 3 (2300): 16984.65 104.481     9.00    22.19
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0614) |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       14.00          2.47
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.30
     Length            (m)=      331.36         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         16.07
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=       7.20 (ii)    42.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.75          0.07      0.814 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50      5.25
     RUNOFF VOLUME    (mm)=      41.00         26.64     38.84
     TOTAL RAINFALL   (mm)=      42.00         42.00     42.00
     RUNOFF COEFFICIENT   =       0.98          0.63      0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9614) |
| Inlet Cap.=4.124 |
| #of Inlets=    1 |
| Total(cms)=  4.1 |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  16.47      0.81      5.25   38.84
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  16.47      0.81      5.25   38.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0728) |   Area    (ha)=  12.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  68.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        8.23          3.87
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.10
     Length            (m)=      284.02         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         14.13
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```
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=       5.40 (ii)    33.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.44          0.11      0.547 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50      5.25
     RUNOFF VOLUME    (mm)=      41.00         22.88     35.20
     TOTAL RAINFALL   (mm)=      42.00         42.00     42.00
     RUNOFF COEFFICIENT   =       0.98          0.54      0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2728) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0728):    12.10   0.547     5.25    35.20
       + ID2= 2 (9614):    16.47   0.814     5.25    38.84
         ================================================
         ID = 3 (2728):    28.57   1.360     5.25    37.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| DUHYD     (9270) |
| Inlet Cap.=8.836 |
| #of Inlets=    1 |
| Total(cms)=  8.8 |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  28.57      1.36      5.25   37.30
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  28.57      1.36      5.25   37.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------        (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   3.5480     0.8200
                           0.0870     0.6030   |   4.3140     0.8520
                           0.2750     0.6330   |   5.1300     0.8840
                           0.6180     0.6640   |   5.9920     0.9160
                           1.0600     0.6950   |   6.8990     0.9480
                           1.5840     0.7260   |   7.8470     0.9800
                           2.1780     0.7570   |   8.8360     1.0120
                           2.8350     0.7890   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
```

```
INFLOW : ID= 2 (9270)     28.570      1.360      5.25      37.30
OUTFLOW: ID= 1 (6270)     28.570      0.511      5.75      37.24

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.55
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6549

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------------------
| ADD HYD   (4270) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9270 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6270):    28.57   0.511     5.75    37.24
      + ID2= 2 (9270):     0.00   0.000     0.00     0.00
        ==============================================
        ID = 3 (4270):    28.57   0.511     5.75    37.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD   (1427) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2300): 16984.65 104.481     9.00     22.19
      + ID2= 2 (4270):    28.57   0.511     5.75     37.24
        ==============================================
        ID = 3 (1427): 17013.22 104.578     9.00     22.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| CALIB            |
| STANDHYD  (0606) |   Area    (ha)=  53.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  55.00
------------------

                        IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      29.20         23.89
    Dep. Storage     (mm)=       1.00          4.00
    Average Slope     (%)=       1.00          3.80
    Length            (m)=     594.98         40.00
    Mannings n           =      0.013         0.250

    Max.Eff.Inten.(mm/hr)=      19.32         11.92
              over (min)        15.00         30.00
    Storage Coeff.  (min)=       9.00 (ii)    52.20 (ii)
    Unit Hyd. Tpeak (min)=      15.00         45.00
    Unit Hyd. peak  (cms)=       0.09          0.02
                                                        *TOTALS*
    PEAK FLOW       (cms)=       1.57          0.43          1.919 (iii)
    TIME TO PEAK    (hrs)=       5.25          5.75           5.25
    RUNOFF VOLUME    (mm)=      41.00         19.01          31.10
    TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
    RUNOFF COEFFICIENT   =       0.98          0.45           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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 (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
       CN*  =  87.0    Ia = Dep. Storage  (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
     THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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------------------
| DUHYD     (9269) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
------------------          (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):  53.10      1.92      5.25   31.10
    ==============================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3):  53.10      1.92      5.25   31.10

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| RESERVOIR (6269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.3230      1.1320
                         0.0860     0.3350   |   3.0230      1.4270
                         0.1240     0.6920   |   8.0750      1.7920
                         0.1530     1.0380   |   9.7660      1.9010

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9269)     53.100      1.919      5.25      31.10
    OUTFLOW: ID= 1 (6269)     53.100      0.457      7.25      31.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.81
                TIME SHIFT OF PEAK FLOW         (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1467

--------------------------------------------------------------------------------

------------------
| ADD HYD   (4269) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9269 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6269):    53.10   0.457     7.25    31.09
      + ID2= 2 (9269):     0.00   0.000     0.00     0.00
        ==============================================
        ID = 3 (4269):    53.10   0.457     7.25    31.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

------------------
| ADD HYD   (2606) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1427): 17013.22 104.578     9.00     22.21
```



```
      + ID2= 2 (4269):    53.10   0.457     7.25    31.09
        ==============================================
        ID = 3 (2606): 17066.32 104.847     9.00     22.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| ROUTE CHN (5427) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
------------------

             <------ DATA FOR SECTION (5427.0) ------>
             Distance      Elevation       Manning
                 0.00         130.04        0.1110
                10.57         125.00        0.1110
                81.38         125.00        0.1110
               102.44         125.68        0.1110
               131.41         124.00        0.1110
               136.25         123.00        0.1110
               143.40         123.00    0.1110 /0.0490  Main Channel
               144.00         122.20        0.0490      Main Channel
               150.83         122.20        0.0490      Main Channel
               153.56         123.00    0.0490 /0.1110  Main Channel
               154.90         123.00        0.1110
               156.48         124.00        0.1110
               164.24         125.00        0.1110
               200.91         125.50        0.1110
               246.89         125.00        0.1110
               283.84         125.00        0.1110
               303.71         126.00        0.1110
               334.11         130.00        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)         (m/s)      (min)
       0.40   122.60    .199E+04        2.1          0.69      15.73
       0.80   123.00    .441E+04        7.0          1.02      10.56
       1.21   123.41    .975E+04       16.7          1.11       9.71
       1.62   123.82    .158E+05       30.7          1.26       8.56
       2.04   124.24    .229E+05       47.9          1.36       7.96
       2.45   124.65    .325E+05       69.8          1.39       7.77
       2.86   125.06    .493E+05       86.0          1.13       9.55
       3.27   125.47    .108E+06      147.0          0.88      12.25
       3.68   125.88    .184E+06      253.0          0.89      12.15
       4.09   126.29    .263E+06      398.4          0.98      11.02
       4.51   126.71    .344E+06      576.0          1.09       9.94
       4.92   127.12    .425E+06      782.8          1.20       9.04
       5.33   127.53    .507E+06     1017.2          1.30       8.31
       5.74   127.94    .591E+06     1277.8          1.40       7.70
       6.15   128.35    .675E+06     1563.6          1.50       7.19
       6.56   128.76    .760E+06     1873.9          1.60       6.76
       6.98   129.18    .847E+06     2207.9          1.69       6.39
       7.39   129.59    .935E+06     2565.3          1.78       6.07
       7.80   130.00    .102E+07     2945.4          1.87       5.79

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (2606) *******   104.85    9.00  22.24      2.99      1.04
    OUTFLOW: ID= 1 (5427) *******   104.50    9.25  22.24      2.98      1.04

--------------------------------------------------------------------------------
```



```
------------------
| CALIB            |
| STANDHYD  (0427) |   Area    (ha)=  22.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  17.00   Dir. Conn.(%)=  14.00
------------------

                        IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       3.83         18.69
    Dep. Storage     (mm)=       1.00          4.00
    Average Slope     (%)=       1.00          5.60
    Length            (m)=     387.47         40.00
    Mannings n           =      0.013         0.250

    Max.Eff.Inten.(mm/hr)=      19.32          8.24
              over (min)        15.00         30.00
    Storage Coeff.  (min)=       6.00 (ii)    36.00 (ii)
    Unit Hyd. Tpeak (min)=      15.00         30.00
    Unit Hyd. peak  (cms)=       0.10          0.03
                                                        *TOTALS*
    PEAK FLOW       (cms)=       0.17          0.27           0.427 (iii)
    TIME TO PEAK    (hrs)=       5.25          5.50           5.25
    RUNOFF VOLUME    (mm)=      41.00         12.59          16.57
    TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
    RUNOFF COEFFICIENT   =       0.98          0.30           0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

 (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
       CN*  =  76.0    Ia = Dep. Storage  (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
     THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

------------------
| ADD HYD   (2427) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0427):    22.52   0.427     5.25    16.57
      + ID2= 2 (5427): 17066.32 104.499     9.25    22.24
        ==============================================
        ID = 3 (2427): 17088.84 104.539     9.25    22.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| CALIB            |
| STANDHYD  (0312) |   Area    (ha)= 233.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  38.00
------------------

                        IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=     107.58        126.29
    Dep. Storage     (mm)=       1.00          4.00
    Average Slope     (%)=       1.00          2.90
    Length            (m)=    1248.65         40.00
    Mannings n           =      0.013         0.250

    Max.Eff.Inten.(mm/hr)=      19.32         14.16
              over (min)        15.00         30.00
    Storage Coeff.  (min)=      15.00 (ii)    88.20 (ii)
```

```
Unit Hyd. Tpeak (min)=      15.00        90.00
Unit Hyd. peak  (cms)=       0.07         0.01
                                              *TOTALS*
PEAK FLOW       (cms)=       4.71         1.98          5.585 (iii)
TIME TO PEAK    (hrs)=       5.25         6.50          5.25
RUNOFF VOLUME    (mm)=      41.00        19.90         27.92
TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
RUNOFF COEFFICIENT   =       0.98         0.47          0.66


  (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
      CN*  =  86.0    Ia = Dep. Storage  (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
      THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (1341) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   233.87   5.585     5.25    27.92
      + ID2= 2 (2427): 17088.84 104.539     9.25    22.23
        ================================================
        ID = 3 (1341): 17322.71 105.582     9.25    22.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5341) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5341.0) ------>
              Distance      Elevation       Manning
                  0.00         129.00        0.1110
                 19.97         122.00        0.1110
                 43.39         121.83        0.1110
                 70.95         121.00        0.1110
                 78.38         122.00        0.1110
                110.84         122.00        0.1110
                127.33         120.00        0.1110
                127.83         120.00    0.1110 /0.0490  Main Channel
                128.71         118.60        0.0490      Main Channel
                147.85         118.60        0.0490      Main Channel
                147.86         120.00    0.0490 /0.1110  Main Channel
                148.30         120.00        0.1110
                149.10         120.67        0.1110
                154.79         121.69        0.1110
                172.71         122.26        0.1110
                194.33         126.00        0.1110
                343.54         129.42        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.47   119.07    .628E+04       3.7          0.41      28.15
      0.93   119.53    .127E+05      11.6          0.64      18.23
      1.40   120.00    .191E+05      22.3          0.81      14.29
      1.96   120.56    .284E+05      39.9          0.98      11.86
      2.53   121.12    .403E+05      62.0          1.07      10.83
      3.09   121.69    .615E+05      90.7          1.03      11.29
```



```
      3.65   122.25    .106E+06     130.5          0.86      13.58
      4.21   122.81    .167E+06     196.4          0.82      14.21
      4.78   123.38    .231E+06     279.4          0.85      13.75
      5.34   123.94    .296E+06     378.0          0.89      13.03
      5.90   124.50    .362E+06     491.4          0.95      12.29
      6.46   125.06    .431E+06     619.1          1.00      11.61
      7.03   125.63    .502E+06     760.5          1.06      11.00
      7.59   126.19    .575E+06     906.8          1.10      10.57
      8.15   126.75    .656E+06    1059.7          1.13      10.32
      8.71   127.31    .748E+06    1236.5          1.15      10.08
      9.28   127.88    .850E+06    1435.7          1.18       9.87
      9.84   128.44    .962E+06    1657.4          1.20       9.68
     10.40   129.00    .108E+07    1902.7          1.22       9.50

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1341) ********   105.58    9.25  22.31      3.30      0.96
OUTFLOW: ID= 1 (5341) *******    104.58    9.50  22.31      3.29      0.96
```

```
--------------------
| CALIB            |
| STANDHYD  (0341) |   Area    (ha)=  71.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  32.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       28.03        43.84
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         4.00
     Length            (m)=      692.19        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        12.55
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   55.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                   *TOTALS*
     PEAK FLOW       (cms)=       1.23         0.77          1.767 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      41.00        18.03         25.38
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.43          0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2341) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0341):    71.87   1.767     5.25    25.38
      + ID2= 2 (5341): 17322.71 104.578     9.50    22.31
        ================================================
```



```
        ID = 3 (2341): 17394.58 104.787     9.25    22.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5328.0) ------>
              Distance      Elevation       Manning
                  0.00         122.83        0.1110
                 38.42         122.00        0.1110
                 76.21         122.00        0.1110
                 99.10         119.00        0.1110
                111.79         118.00        0.1110
                116.05         117.00        0.1110
                120.04         117.00    0.1110 /0.0490  Main Channel
                121.01         116.40        0.0490      Main Channel
                129.65         116.40        0.0490      Main Channel
                129.67         117.00    0.0490 /0.1110  Main Channel
                130.14         117.00        0.1110
                130.87         118.00        0.1110
                139.94         119.00        0.1110
                157.92         118.89        0.1110
                175.26         119.00        0.1110
                192.73         119.00        0.1110
                216.81         119.91        0.1110
                239.98         121.57        0.1110
                256.21         122.00        0.1110
                324.25         122.00        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   116.60    .235E+04       1.2          0.66      33.87
      0.40   116.80    .478E+04       3.6          1.01      21.95
      0.60   117.00    .731E+04       7.1          1.29      17.19
      0.91   117.31    .135E+05      15.3          1.51      14.73
      1.22   117.62    .204E+05      26.4          1.73      12.86
      1.54   117.94    .278E+05      40.1          1.92      11.57
      1.85   118.25    .367E+05      55.9          2.03      10.94
      2.16   118.56    .483E+05      75.3          2.08      10.70
      2.47   118.87    .628E+05      98.7          2.10      10.60
      2.79   119.19    .962E+05     129.5          1.80      12.38
      3.10   119.50    .140E+06     176.6          1.68      13.22
      3.41   119.81    .188E+06     235.3          1.67      13.34
      3.72   120.12    .241E+06     306.8          1.70      13.08
      4.04   120.44    .296E+06     390.4          1.76      12.64
      4.35   120.75    .354E+06     485.2          1.83      12.17
      4.66   121.06    .415E+06     591.3          1.90      11.70
      4.97   121.37    .479E+06     708.7          1.97      11.26
      5.29   121.69    .546E+06     831.7          2.03      10.93
      5.60   122.00    .618E+06     958.2          2.07      10.74

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (2341) *******   104.79    9.25  22.32      2.54      2.03
OUTFLOW: ID= 1 (5328) *******   104.66    9.75  22.32      2.53      2.04
```

```
--------------------
| CALIB            |
| STANDHYD  (0328) |   Area    (ha)= 240.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  49.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      134.40       105.60
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         2.80
     Length            (m)=     1264.91        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        15.48
               over (min)        30.00        30.00
     Storage Coeff.  (min)=      15.00 (ii)   88.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        90.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                   *TOTALS*
     PEAK FLOW       (cms)=       6.24         1.83          7.062 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.50          5.25
     RUNOFF VOLUME    (mm)=      41.00        21.72         31.16
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.52          0.74


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2328) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0328):   240.00   7.062     5.25    31.16
      + ID2= 2 (5328): 17394.58 104.660     9.75    22.32
        ================================================
        ID = 3 (2328): 17634.58 105.422     9.75    22.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (0274) |   Area    (ha)=  98.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       57.32        41.50
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         2.50
     Length            (m)=      811.66        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        11.77
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   70.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                   *TOTALS*
```

PEAK FLOW	(cms)=	3.06	0.64	3.409 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	19.88	32.13
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.47	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0287)	Area (ha)= 145.43
ID= 1 DT=15.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	74.17	71.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	984.65	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.88
over (min)		15.00	45.00
Storage Coeff. (min)=		13.80 (ii)	80.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	3.95	0.86	4.386 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	16.72	29.10
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1301)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0274):	98.82	3.409	5.25	32.13
	+ ID2= 2 (0287):	145.43	4.386	5.25	29.10
	ID = 3 (1301):	244.25	7.796	5.25	30.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

STANDHYD (0301)	Area (ha)= 32.30
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 17.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.78	25.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	464.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.79
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.29	0.39	0.617 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	41.00	14.79	19.24
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.35	0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2301)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0301):	32.30	0.617	5.25	19.24
	+ ID2= 2 (1301):	244.25	7.796	5.25	30.33
	ID = 3 (2301):	276.55	8.413	5.25	29.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0683)	Area (ha)= 98.00
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.86	42.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	808.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	13.42
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

				TOTALS
PEAK FLOW	(cms)=	2.94	0.75	3.449 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	41.00	21.10	32.24
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.50	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0263)	Area (ha)= 112.72
ID= 1 DT=15.0 min	Total Imp(%)= 20.00 Dir. Conn.(%)= 16.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.54	90.18
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.20
Length	(m)=	866.87	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.42
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.97	1.13	1.710 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	41.00	14.23	18.51
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.34	0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2263)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0263):	112.72	1.710	5.25	18.51
	+ ID2= 2 (0683):	98.00	3.449	5.25	32.24
	ID = 3 (2263):	210.72	5.158	5.25	24.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1428)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2263):	210.72	5.158	5.25	24.90
	+ ID2= 2 (2301):	276.55	8.413	5.25	29.03
	ID = 3 (1428):	487.27	13.571	5.25	27.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5428)	Routing time step (min)'= 15.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (5428.0) ------>

Distance	Elevation	Manning	
0.00	138.98	0.1110	
32.39	138.00	0.1110	
48.96	135.08	0.1110	
48.99	135.08	0.1110	
49.39	135.00	0.1110	
58.21	134.38	0.1110	
80.35	133.30	0.1110 /0.0490	Main Channel
85.70	132.80	0.0490	Main Channel
88.03	132.80	0.0490	Main Channel
90.50	133.26	0.0490 /0.1110	Main Channel
97.60	134.00	0.1110	
112.23	135.00	0.1110	
113.23	135.00	0.1110	
127.46	137.03	0.1110	
133.90	137.78	0.1110	
136.01	138.00	0.1110	
139.38	138.17	0.1110	
153.22	139.00	0.1110	
157.75	139.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	133.03	.593E+03	0.3	0.31	33.11
0.46	133.26	.171E+04	1.3	0.46	22.49
0.80	133.60	.470E+04	4.9	0.64	16.06
1.13	133.93	.980E+04	11.1	0.70	14.66
1.47	134.27	.171E+05	20.4	0.74	13.98
1.81	134.61	.268E+05	33.4	0.77	13.36
2.14	134.94	.385E+05	50.4	0.81	12.73
2.48	135.28	.520E+05	72.5	0.86	11.95
2.82	135.62	.664E+05	99.1	0.92	11.16
3.15	135.95	.817E+05	129.9	0.98	10.48
3.49	136.29	.979E+05	164.7	1.04	9.91
3.82	136.62	.115E+06	203.6	1.09	9.41
4.16	136.96	.133E+06	246.6	1.14	8.99
4.50	137.30	.152E+06	293.4	1.19	8.63
4.83	137.63	.172E+06	344.5	1.24	8.31
5.17	137.97	.193E+06	399.7	1.28	8.03
5.51	138.31	.216E+06	441.5	1.26	8.14
5.84	138.64	.242E+06	492.5	1.25	8.20
6.18	138.98	.272E+06	553.1	1.25	8.20

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1428)	487.27	13.57	5.25	27.24	1.22	0.71
OUTFLOW: ID= 1 (5428)	487.27	12.53	5.25	27.24	1.18	0.71

CALIB	
STANDHYD (0428)	Area (ha)= 43.25
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	22.92	20.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.20
Length (m)=	536.97	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	18.19
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	51.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.97 0.59 1.485 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	41.00 24.38 31.36
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.58 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2428)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0428):	43.25	1.485	5.25	31.36
+ ID2= 2 (5428):	487.27	12.530	5.25	27.24
ID = 3 (2428):	530.52	14.015	5.25	27.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5309)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5309.0) ------>

Distance	Elevation	Manning
0.00	135.01	0.1110
88.30	132.00	0.1110
91.73	132.10	0.1110

PEAK FLOW	(cms)=	1.29	0.83	1.880 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	41.00	21.08	28.05
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.50	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2309)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0309):	68.51	1.880	5.25	28.05
+ ID2= 2 (5309):	530.52	12.961	5.50	27.58
ID = 3 (2309):	599.03	14.549	5.25	27.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5615)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5615.0) ------>

Distance	Elevation	Manning	
0.00	126.00	0.1110	
5.19	124.23	0.1110	
5.94	124.00	0.1110	
8.92	123.00	0.1110	
9.88	122.62	0.1110	
11.32	122.00	0.1110	
12.54	122.00	0.1110 /0.0490	Main Channel
13.18	121.10	0.0490	Main Channel
14.84	121.10	0.0490	Main Channel
15.91	122.00	0.0490 /0.1110	Main Channel
20.85	123.00	0.1110	
21.91	123.56	0.1110	
25.11	125.00	0.1110	
26.34	125.69	0.1110	
28.50	126.85	0.1110	
28.61	126.92	0.1110	
30.55	128.00	0.1110	
32.32	128.23	0.1110	
34.17	128.53	0.1110	
36.76	129.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	121.33	.431E+03	0.3	0.79	21.69
0.45	121.55	.960E+03	1.1	1.14	14.94
0.67	121.77	.159E+04	2.2	1.40	12.17
0.90	122.00	.231E+04	3.7	1.61	10.55
1.17	122.27	.383E+04	6.6	1.76	9.69

100.02	131.00	0.1110	
103.43	130.00	0.1110 /0.0490	Main Channel
105.04	128.50	0.0490	Main Channel
106.10	128.50	0.0490	Main Channel
107.39	130.00	0.0490 /0.1110	Main Channel
107.67	130.05	0.1110	
111.76	131.00	0.1110	
120.80	132.00	0.1110	
120.87	132.00	0.1110	
133.03	133.00	0.1110	
148.52	134.00	0.1110	
172.34	134.99	0.1110	
172.97	134.99	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	128.80	.529E+03	0.2	0.59	37.05
0.60	129.10	.129E+04	0.8	0.83	26.15
0.90	129.40	.227E+04	1.8	1.02	21.39
1.20	129.70	.348E+04	3.1	1.18	18.51
1.50	130.00	.492E+04	5.0	1.32	16.50
1.86	130.36	.743E+04	8.6	1.51	14.46
2.21	130.71	.112E+05	13.4	1.55	14.02
2.57	131.07	.163E+05	19.5	1.56	13.97
2.93	131.43	.237E+05	27.3	1.50	14.49
3.28	131.78	.339E+05	37.6	1.45	14.99
3.64	132.14	.475E+05	49.5	1.36	16.01
4.00	132.50	.688E+05	67.2	1.28	17.08
4.35	132.85	.970E+05	91.4	1.23	17.70
4.71	133.21	.132E+06	122.7	1.21	17.95
5.06	133.56	.175E+06	162.7	1.22	17.90
5.42	133.92	.225E+06	212.7	1.24	17.62
5.78	134.28	.283E+06	271.6	1.26	17.34
6.13	134.63	.349E+06	343.0	1.28	16.98
6.49	134.99	.425E+06	427.8	1.32	16.56

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2428)	530.52	14.02	5.25	27.58	2.25	1.55
OUTFLOW: ID= 1 (5309)	530.52	12.96	5.50	27.58	2.18	1.55

CALIB	
STANDHYD (0309)	Area (ha)= 68.51
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 35.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	30.83	37.68
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.90
Length (m)=	675.82	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	15.35
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

TOTALS

1.43	122.53	.587E+04	10.5	1.83	9.28
1.70	122.80	.845E+04	15.6	1.89	9.01
1.97	123.07	.116E+05	22.0	1.94	8.77
2.23	123.33	.151E+05	29.7	2.01	8.46
2.50	123.60	.189E+05	38.7	2.09	8.15
2.77	123.87	.232E+05	49.1	2.16	7.87
3.03	124.13	.278E+05	60.8	2.23	7.62
3.30	124.40	.328E+05	74.0	2.30	7.39
3.57	124.67	.382E+05	88.7	2.37	7.18
3.83	124.93	.440E+05	105.0	2.44	6.98
4.10	125.20	.501E+05	123.0	2.51	6.79
4.37	125.47	.566E+05	142.7	2.58	6.61
4.63	125.73	.634E+05	164.1	2.65	6.44
4.90	126.00	.706E+05	187.1	2.71	6.29

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2309)	599.03	14.55	5.25	27.63	1.64	1.88
OUTFLOW: ID= 1 (5615)	599.03	14.35	5.50	27.63	1.63	1.88

CALIB	
STANDHYD (0615)	Area (ha)= 31.22
ID= 1 DT=15.0 min	Total Imp(%)= 34.00 Dir. Conn.(%)= 27.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.61	20.61
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.40
Length (m)=	456.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	12.39
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.45 0.43 0.827 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	41.00 17.94 24.17
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.43 0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2615)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0615):	31.22	0.827	5.25	24.17
+ ID2= 2 (5615):	599.03	14.354	5.50	27.63

ID = 3 (2615):	630.25	14.948	5.50	27.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1335)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2328):	17634.58	105.422	9.75	22.44
+ ID2= 2 (2615):	630.25	14.948	5.50	27.46
ID = 3 (1335):	18264.83	107.581	9.50	22.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5335)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5335.0) ------>

Distance	Elevation	Manning	
0.00	125.00	0.1110	
40.36	116.00	0.1110	
71.40	114.00	0.1110	
88.94	113.71	0.1110	
106.14	114.00	0.1110	
116.89	114.00	0.1110	
122.13	112.00	0.1110	
122.45	112.00	0.1110	
122.47	112.00	0.1110 /0.0490	Main Channel
122.55	111.50	0.0490	Main Channel
131.77	111.50	0.0490	Main Channel
131.80	112.00	0.0490 /0.1110	Main Channel
132.16	112.00	0.1110	
134.04	113.00	0.1110	
155.71	114.00	0.1110	
250.45	117.00	0.1110	
599.03	117.00	0.1110	
740.01	120.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	111.75	.868E+03	1.2	0.54	11.65
0.50	112.00	.174E+04	3.8	0.83	7.57
0.97	112.47	.370E+04	11.8	1.20	5.21
1.44	112.94	.603E+04	23.5	1.46	4.27
1.91	113.41	.937E+04	38.9	1.56	4.02
2.38	113.88	.154E+05	58.7	1.43	4.37
2.85	114.35	.305E+05	94.5	1.16	5.38
3.32	114.82	.503E+05	150.1	1.12	5.59
3.79	115.29	.740E+05	225.3	1.14	5.47
4.26	115.76	.102E+06	321.5	1.19	5.27
4.74	116.24	.133E+06	443.1	1.25	5.00
5.21	116.71	.168E+06	591.2	1.32	4.72
5.68	117.18	.228E+06	663.8	1.09	5.73
6.15	117.65	.331E+06	985.9	1.12	5.60
6.62	118.12	.439E+06	1389.2	1.19	5.27
7.09	118.59	.551E+06	1868.4	1.27	4.91

7.56	119.06	.667E+06	2420.4	1.36	4.59
8.03	119.53	.787E+06	3043.6	1.45	4.31
8.50	120.00	.912E+06	3736.8	1.54	4.07

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1335)	*******	107.58	9.50	22.62	2.96	1.15
OUTFLOW: ID= 1 (5335)	*******	107.46	9.50	22.62	2.96	1.15

CALIB
STANDHYD (0335) | Area (ha)= 17.42
ID= 1 DT=15.0 min | Total Imp(%)= 43.00 Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.49	9.93
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.90
Length	(m)=	340.78	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	13.18
over (min)		15.00	30.00
Storage Coeff.	(min)=	5.40 (ii)	32.40 (ii)
Unit Hyd. Tpeak	(min)=	15.00	30.00
Unit Hyd. peak	(cms)=	0.11	0.04
			TOTALS
PEAK FLOW	(cms)=	0.34	0.25	0.580 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	18.85	26.83
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.45	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2335)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0335):	17.42	0.580	5.25	26.83
+ ID2= 2 (5335):	18264.83	107.465	9.50	22.62
ID = 3 (2335):	18282.25	107.493	9.50	22.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0672) | Area (ha)= 420.75
ID= 1 DT=15.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 52.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	252.45	168.30
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	1674.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	17.51
over (min)	30.00	45.00
Storage Coeff. (min)=	18.00 (ii)	106.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01
		TOTALS
PEAK FLOW (cms)=	11.47	3.01	12.635 (iii)
TIME TO PEAK (hrs)=	5.25	6.75	5.25
RUNOFF VOLUME (mm)=	41.00	24.04	32.86
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.57	0.78

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9672)
Inlet Cap.=***** |
#of Inlets= 1 |
Total(cms)=***** |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	420.75	12.64	5.25	32.86
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	420.75	12.64	5.25	32.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6672)
IN= 2---> OUT= 1
DT= 15.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.0660	11.8000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9672)	420.750	12.635	5.25	32.86
OUTFLOW: ID= 1 (6672)	420.750	2.304	9.00	32.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.24
TIME SHIFT OF PEAK FLOW (min)=225.00
MAXIMUM STORAGE USED (ha.m.)= 8.8721

ADD HYD (4672)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 9672 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6672):	420.75	2.304	9.00	32.86
+ ID2= 2 (9672):	0.00	0.000	0.00	0.00
ID = 3 (4672):	420.75	2.304	9.00	32.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0322) | Area (ha)= 139.97
ID= 1 DT=15.0 min | Total Imp(%)= 56.00 Dir. Conn.(%)= 46.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	78.38	61.59
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	965.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	18.05
over (min)		15.00	30.00
Storage Coeff.	(min)=	13.20 (ii)	79.20 (ii)
Unit Hyd. Tpeak	(min)=	15.00	75.00
Unit Hyd. peak	(cms)=	0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	3.43	1.38	4.219 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	24.31	31.99
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.58	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2322)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0322):	139.97	4.219	5.25	31.99
+ ID2= 2 (4672):	420.75	2.304	9.00	32.86
ID = 3 (2322):	560.72	5.470	5.25	32.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1346)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2322):	560.72	5.470	5.25	32.64

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      + ID2= 2 (2335): 18282.25 107.493     9.50    22.62
        ================================================
        ID = 3 (1346): 18842.97 110.282     9.50    22.92

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5346) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5346.0) ------>
              Distance      Elevation       Manning
                  0.00         119.00        0.1110
                  0.00         117.00        0.1110
                 13.24         112.00        0.1110
                 20.29         111.00        0.1110
                 39.56         110.00        0.1110
                 39.81         110.00        0.1110
                 44.05         109.55        0.1110
                 47.94         109.01        0.1110
                 47.99         109.00        0.1110
                 48.77         109.00    0.1110 /0.0490  Main Channel
                 50.01         108.50        0.0490      Main Channel
                 66.15         108.50        0.0490      Main Channel
                 68.59         109.00    0.0490 /0.1110  Main Channel
                 68.90         109.00        0.1110
                 70.88         110.00        0.1110
                 80.34         116.00        0.1110
                 82.24         117.02        0.1110
                 82.27         117.04        0.1110
                 86.00         118.64        0.1110
                 86.92         119.00        0.1110

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   109.00    .644E+04      12.3          1.37       8.73
      1.03   109.53    .152E+05      45.2          2.13       5.61
      1.55   110.05    .261E+05      95.1          2.61       4.57
      2.08   110.58    .403E+05     162.3          2.88       4.14
      2.61   111.11    .587E+05     250.2          3.05       3.91
      3.13   111.63    .796E+05     361.0          3.25       3.68
      3.66   112.16    .102E+06     492.6          3.46       3.46
      4.18   112.68    .126E+06     645.9          3.68       3.24
      4.71   113.21    .150E+06     817.9          3.90       3.06
      5.24   113.74    .175E+06    1008.2          4.12       2.90
      5.76   114.26    .202E+06    1216.4          4.32       2.76
      6.29   114.79    .228E+06    1442.2          4.52       2.64
      6.82   115.32    .256E+06    1685.5          4.71       2.53
      7.34   115.84    .285E+06    1946.1          4.89       2.44
      7.87   116.37    .314E+06    2223.6          5.07       2.36
      8.39   116.89    .345E+06    2518.3          5.23       2.28
      8.92   117.42    .376E+06    2837.9          5.41       2.21
      9.45   117.95    .407E+06    3175.6          5.58       2.14
      9.97   118.47    .439E+06    3529.2          5.75       2.08

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1346) *******   110.28    9.50  22.92      1.67      2.67
    OUTFLOW: ID= 1 (5346) *******   110.25    9.50  22.92      1.67      2.67
```



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--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0346)  |   Area    (ha)=  29.38
|ID= 1 DT=15.0 min  |   Total Imp(%)=  68.00   Dir. Conn.(%)=  68.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.98          9.40
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.40
     Length            (m)=     442.57         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         12.43
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.07          0.20          1.244 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      41.00         19.88          34.24
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.98          0.47           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (2346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0346):    29.38   1.244     5.25     34.24
       + ID2= 2 (5346): 18842.97 110.254     9.50     22.92
         ================================================
         ID = 3 (2346): 18872.35 110.302     9.50     22.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0356)  |   Area    (ha)=  67.12
|ID= 1 DT=15.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.34         16.78
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.40
     Length            (m)=     668.93         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         14.75
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.60 (ii)   57.60 (ii)
```



```
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.70          0.36          2.958 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME    (mm)=      41.00         24.03          36.76
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.98          0.57           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1355) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):    67.12   2.958     5.25     36.76
       + ID2= 2 (2346): 18872.35 110.302     9.50     22.94
         ================================================
         ID = 3 (1355): 18939.47 110.437     9.50     22.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5355) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5355.0) ------>
              Distance      Elevation       Manning
                  0.00         113.00        0.1110
                 27.22         105.00        0.1110
                 79.42         103.00        0.1110
                 81.02         102.67    0.1110 /0.0490  Main Channel
                 84.17         102.00        0.0490      Main Channel
                 84.81         102.00        0.0490      Main Channel
                 87.18         101.40        0.0490      Main Channel
                 94.91         101.40        0.0490      Main Channel
                 97.82         102.00        0.0490      Main Channel
                 98.24         102.00        0.0490      Main Channel
                 98.77         103.00    0.0490 /0.1110  Main Channel
                100.12         106.88        0.1110
                100.16         107.00        0.1110
                108.13         108.00        0.1110
                111.00         109.00        0.1110
                115.64         112.00        0.1110
                133.82         113.00        0.1110

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.42   101.82    .720E+04       3.0          0.73      40.33
      0.85   102.25    .175E+05      10.6          1.08      27.37
      1.27   102.67    .298E+05      23.5          1.40      21.16
      1.92   103.32    .538E+05      55.5          1.83      16.16
      2.56   103.96    .953E+05     102.9          1.92      15.44
```



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      3.21   104.61    .156E+06     169.3          1.92      15.39
      3.85   105.25    .236E+06     260.4          1.96      15.08
      4.50   105.90    .321E+06     378.0          2.09      14.15
      5.14   106.54    .409E+06     516.3          2.24      13.20
      5.79   107.19    .500E+06     674.0          2.39      12.36
      6.44   107.84    .598E+06     851.6          2.53      11.70
      7.08   108.48    .703E+06    1050.5          2.65      11.16
      7.73   109.13    .813E+06    1270.1          2.77      10.67
      8.37   109.77    .927E+06    1510.1          2.89      10.24
      9.02   110.42    .105E+07    1769.8          3.00       9.84
      9.66   111.06    .117E+07    2049.2          3.12       9.49
     10.31   111.71    .129E+07    2348.2          3.22       9.17
     10.95   112.35    .142E+07    2654.6          3.31       8.93
     11.60   113.00    .157E+07    2983.1          3.38       8.76

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1355) *******   110.44    9.50  22.99      2.63      1.92
    OUTFLOW: ID= 1 (5355) *******   110.16    9.75  22.99      2.63      1.92

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0355)  |   Area    (ha)=  83.93
|ID= 1 DT=15.0 min  |   Total Imp(%)=  56.00   Dir. Conn.(%)=  56.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.00         36.93
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          6.50
     Length            (m)=     748.02         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         10.97
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.40 (ii)   51.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.52          0.61          3.020 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME    (mm)=      41.00         17.43          30.63
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.98          0.42           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (2355) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0355):    83.93   3.020     5.25     30.63
       + ID2= 2 (5355): 18939.47 110.159     9.75     22.99
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         ================================================
         ID = 3 (2355): 19023.40 110.296     9.75    23.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0314)  |   Area    (ha)= 515.06
|ID= 1 DT=15.0 min  |   Total Imp(%)=  62.00   Dir. Conn.(%)=  60.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    319.34       195.72
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.60
     Length            (m)=   1853.03        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.32        13.99
               over (min)       30.00        45.00
     Storage Coeff.  (min)=     18.00 (ii)  104.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00       105.00
     Unit Hyd. peak  (cms)=      0.06         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=     16.21         2.75       17.209 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.75         5.25
     RUNOFF VOLUME    (mm)=     41.00        21.45        33.18
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.98         0.51         0.79


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (2314)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9614 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (0314):   515.06  17.209     5.25    33.18
       + ID2= 2 (9614):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (2314):   515.06  17.209     5.25    33.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0675)  |   Area    (ha)=  71.22
|ID= 1 DT=15.0 min  |   Total Imp(%)=  34.00   Dir. Conn.(%)=  27.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     24.21        47.01
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.30
```



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     Length            (m)=    689.06        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.32        10.68
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     16.20 (ii)   59.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.07         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.02         0.68         1.466 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=     41.00        15.38        22.30
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.98         0.37         0.53


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9153)  |
| Inlet Cap.=*****  |
| #of Inlets=    1  |
| Total(cms)=*****  |      AREA     QPEAK     TPEAK    R.V.
-------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  71.22      1.47      5.25   22.30
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  71.22      1.47      5.25   22.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (6153)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.2100     0.1500
                         3.5200     0.0800   |   9.2000     0.2500
                         5.8400     0.1100   |  12.9500     0.3500

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9153)     71.220      1.466      5.25      22.30
     OUTFLOW: ID= 1 (6153)     71.220      1.418      5.25      22.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.76
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0344

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (4153)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9153 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
```



```
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6153):    71.22   1.418     5.25    22.30
       + ID2= 2 (9153):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4153):    71.22   1.418     5.25    22.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (9152)  |
| Inlet Cap.=*****  |
| #of Inlets=    1  |
| Total(cms)=*****  |      AREA     QPEAK     TPEAK    R.V.
-------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  71.22      1.42      5.25   22.30
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  71.22      1.42      5.25   22.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (6152)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.0000     1.1800
                         0.8000     0.3000   |   1.9000     1.4000
                         0.9000     0.7000   |   3.5000     1.9100

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9152)     71.220      1.418      5.25      22.30
     OUTFLOW: ID= 1 (6152)     71.220      0.825      6.50      22.30

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.19
                TIME SHIFT OF PEAK FLOW         (min)= 75.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4015

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-------------------
| ADD HYD   (4152)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9152 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6152):    71.22   0.825     6.50    22.30
       + ID2= 2 (9152):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4152):    71.22   0.825     6.50    22.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (1314)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
```



```
         ID1= 1 (2314):   515.06  17.209     5.25    33.18
       + ID2= 2 (4152):    71.22   0.825     6.50    22.30
         ================================================
         ID = 3 (1314):   586.28  17.943     5.25    31.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0670)  |   Area    (ha)=  43.66
|ID= 1 DT=15.0 min  |   Total Imp(%)=  70.00   Dir. Conn.(%)=  70.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.56        13.10
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.40
     Length            (m)=    539.51        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     19.32        14.75
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.60 (ii)   56.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.64         0.28         1.843 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75         5.25
     RUNOFF VOLUME    (mm)=     41.00        24.03        35.91
     TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
     RUNOFF COEFFICIENT   =      0.98         0.57         0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (8607)  |
| Inlet Cap.=5.000  |
| #of Inlets=    1  |
| Total(cms)=  5.0  |      AREA     QPEAK     TPEAK    R.V.
-------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.66      1.84      5.25   35.91
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.66      1.84      5.25   35.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=  68.64
|ID= 1 DT=15.0 min  |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     33.63        35.01
     Dep. Storage     (mm)=      1.00         4.00
```

```
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     676.46        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        12.97
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.80         0.56          2.094 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=     41.00        20.81         30.70
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.98         0.50          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  15.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.43         2.37
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     324.55        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        12.97
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.72         0.04          0.737 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=     41.00        20.81         37.97
     TOTAL RAINFALL   (mm)=     42.00        42.00         42.00
     RUNOFF COEFFICIENT   =      0.98         0.50          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
```



```
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.80      0.74      5.25   37.97
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.80      0.74      5.25   37.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.6600      1.5800

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     15.800     0.737      5.25      37.97
     OUTFLOW: ID= 1 (****)     15.800     0.156      6.75      37.93

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.19
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3742

--------------------------------------------------------------------------------
--------------------
| ADD HYD    (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    15.80   0.156     6.75    37.93
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ==============================================
        ID = 3 (****):    15.80   0.156     6.75    37.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  44.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.99         6.70
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     545.83        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        12.97
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.03         0.11          2.085 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=     41.00        20.81         37.97
```



```
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.50          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  44.69      2.08      5.25   37.97
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  44.69      2.08      5.25   37.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  1.8800      4.4690

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     44.690      2.085      5.25      37.97
     OUTFLOW: ID= 1 (****)     44.690      0.444      6.75      37.96

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.30
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0566

--------------------------------------------------------------------------------
--------------------
| ADD HYD    (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    44.69   0.444     6.75    37.96
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ==============================================
        ID = 3 (****):    44.69   0.444     6.75    37.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD    (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```



```
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    15.80   0.156     6.75    37.93
      + ID2= 2 (****):    44.69   0.444     6.75    37.96
        ==============================================
        ID = 3 (****):    60.49   0.600     6.75    37.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD    (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    68.64   2.094     5.25    30.70
      + ID2= 2 (****):    60.49   0.600     6.75    37.95
        ==============================================
        ID = 3 (****):   129.13   2.564     5.25    34.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2599) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8607):    43.66   1.843     5.25    35.91
      + ID2= 2 (****):    129.13   2.564     5.25    34.10
        ==============================================
        ID = 3 (2599):   172.79   4.407     5.25    34.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9964) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 172.79      4.41      5.25   34.56
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 172.79      4.41      5.25   34.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6964) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.3000      2.2107
                         0.0400     0.1758    |  0.3200      2.4327
                         0.0700     0.3516    |  0.3400      2.6546
                         0.1100     0.5274    |  0.3500      2.8766
                         0.1500     0.7032    |  0.3700      3.0985
                         0.1800     0.8790    |  0.3800      3.3711
                         0.2000     1.1010    |  0.3900      3.6437
                         0.2300     1.3229    |  0.7400      3.9163
                         0.2500     1.5449    |  0.7600      4.1889
```

```
   0.2700     1.7668   |   0.0000      0.0000
   0.2900     1.9888   |   0.0000      0.0000

                          AREA     QPEAK     TPEAK      R.V.
                           (ha)     (cms)     (hrs)      (mm)
INFLOW : ID= 2 (9964)    172.790     4.407      5.25      34.56
OUTFLOW: ID= 1 (6964)    172.790     0.618     10.75      34.55

          PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.03
          TIME SHIFT OF PEAK FLOW         (min)=330.00
          MAXIMUM  STORAGE   USED       (ha.m.)=  3.8217
```

```
| ADD HYD   (4964) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9964 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6964):   172.79   0.618    10.75    34.55
      + ID2= 2 (9964):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4964):   172.79   0.618    10.75    34.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB                |
| STANDHYD  (****) |   Area    (ha)=  72.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      32.44        39.65
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         3.40
    Length            (m)=     693.25        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      19.32        12.43
                 over (min)=    15.00        30.00
    Storage Coeff.  (min)=     10.80 (ii)   64.80 (ii)
    Unit Hyd. Tpeak (min)=     15.00        60.00
    Unit Hyd. peak  (cms)=      0.09         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=      1.74         0.65        2.180 (iii)
    TIME TO PEAK    (hrs)=      5.25         6.00         5.25
    RUNOFF VOLUME    (mm)=     41.00        19.88        29.38
    TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
    RUNOFF COEFFICIENT   =      0.98         0.47         0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| CALIB                |
| STANDHYD  (****) |   Area    (ha)=  26.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      22.82         4.03
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         3.40
    Length            (m)=     423.08        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      19.32        12.43
                 over (min)=    15.00        30.00
    Storage Coeff.  (min)=     10.80 (ii)   64.80 (ii)
    Unit Hyd. Tpeak (min)=     15.00        60.00
    Unit Hyd. peak  (cms)=      0.09         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=      1.22         0.07        1.267 (iii)
    TIME TO PEAK    (hrs)=      5.25         6.00         5.25
    RUNOFF VOLUME    (mm)=     41.00        19.88        37.83
    TOTAL RAINFALL   (mm)=     42.00        42.00        42.00
    RUNOFF COEFFICIENT   =      0.98         0.47         0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK     R.V.
-------------------       (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  26.85      1.27      5.25    37.83
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00     0.00
     MINOR SYS.(ID= 3):  26.85      1.27      5.25    37.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  1.1300      2.6850

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     26.850     1.267      5.25      37.83
     OUTFLOW: ID= 1 (****)     26.850     0.268      6.50      37.81

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.17
               TIME SHIFT OF PEAK FLOW         (min)= 75.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.6379
```

```
| ADD HYD   (****) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    26.85   0.268     6.50    37.81
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (****):    26.85   0.268     6.50    37.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (****) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    72.09   2.180     5.25    29.38
      + ID2= 2 (****):    26.85   0.268     6.50    37.81
        ================================================
        ID = 3 (****):    98.94   2.394     5.25    31.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| DUHYD     (9963) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK     R.V.
-------------------       (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  98.94      2.39      5.25    31.67
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00     0.00
     MINOR SYS.(ID= 3):  98.94      2.39      5.25    31.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (6963) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.1600      1.2340
                          0.0200     0.0978   |  0.1700      1.3620
                          0.0400     0.1956   |  0.1800      1.6181
                          0.0600     0.2934   |  0.1900      1.7409
                          0.0800     0.3911   |  0.2000      1.9865
                          0.0900     0.4889   |  0.4400      2.1093
                          0.1100     0.5867   |  0.4600      2.3550
                          0.1200     0.6845   |  0.4700      2.5275
                          0.1300     0.7823   |  0.4800      2.7000
                          0.1400     0.8801   |  0.0000      0.0000
                          0.1500     1.1059   |  0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9963)     98.940     2.394      5.25      31.67
```



```
     OUTFLOW: ID= 1 (6963)     98.940     0.361     10.00      31.66

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.06
               TIME SHIFT OF PEAK FLOW         (min)=285.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.0689
```

```
| ADD HYD   (4963) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9963 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6963):    98.94   0.361     10.00    31.66
      + ID2= 2 (9963):     0.00   0.000      0.00     0.00
        ================================================
        ID = 3 (4963):    98.94   0.361     10.00    31.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (1598) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4963):    98.94   0.361     10.00    31.66
      + ID2= 2 (4964):   172.79   0.618     10.75    34.55
        ================================================
        ID = 3 (1598):   271.73   0.970     10.25    33.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5598) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (5598.0) ------>
              Distance      Elevation       Manning
                 0.00         178.57         0.1110
                19.93         178.35         0.1110
                22.69         178.35         0.1110
                34.83         178.58         0.1110
                49.82         178.60         0.1110
                87.96         179.03         0.1110
                96.42         177.27    0.1110 /0.0490  Main Channel
                97.49         177.31       0.0490       Main Channel
               109.98         177.60    0.0490 /0.1110  Main Channel
               112.52         177.61         0.1110
               121.23         177.69         0.1110
               124.63         177.56         0.1110
               134.04         178.00         0.1110
               155.00         178.79         0.1110
               163.70         178.63         0.1110
               200.02         178.57         0.1110
               211.27         178.56         0.1110
               222.53         178.69         0.1110
               241.93         178.51         0.1110
               275.14         178.54         0.1110
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	177.36	.149E+03	0.0	0.20	80.33
0.19	177.46	.675E+03	0.2	0.32	48.76
0.28	177.55	.159E+04	0.7	0.43	36.60
0.37	177.64	.314E+04	1.7	0.52	30.31
0.46	177.73	.586E+04	3.5	0.56	27.95
0.56	177.83	.896E+04	6.0	0.63	25.06
0.65	177.92	.123E+05	9.0	0.70	22.66
0.74	178.01	.158E+05	12.7	0.76	20.79
0.83	178.10	.195E+05	16.8	0.81	19.37
0.93	178.20	.236E+05	21.6	0.86	18.22
1.02	178.29	.278E+05	26.9	0.91	17.27
1.11	178.38	.325E+05	32.1	0.94	16.85
1.20	178.47	.385E+05	38.5	0.95	16.65
1.30	178.57	.474E+05	40.9	0.82	19.32
1.39	178.66	.642E+05	49.0	0.72	21.84
1.48	178.75	.849E+05	63.4	0.71	22.32
1.57	178.84	.107E+06	81.3	0.72	21.95
1.67	178.94	.130E+06	102.1	0.74	21.22
1.76	179.03	.154E+06	125.6	0.77	20.41

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1598)	271.73	0.97	10.25	33.50	0.30	0.45
OUTFLOW: ID= 1 (5598)	271.73	0.95	11.00	33.50	0.30	0.45

CALIB
STANDHYD (0598)
ID= 1 DT=15.0 min

Area (ha)= 75.95
Total Imp(%)= 52.00 Dir. Conn.(%)= 52.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.49	36.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.90
Length	(m)=	711.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.43
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.12	0.63	2.637 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	41.00	18.20	30.05
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.43	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2598)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0598):	75.95	2.637	5.25	30.05
+ ID2= 2 (5598):	271.73	0.953	11.00	33.50
ID = 3 (2598):	347.68	2.903	5.25	32.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5299)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5299.0) ------>

Distance	Elevation	Manning	
0.00	161.64	0.1110	
34.74	161.51	0.1110	
56.59	160.87	0.1110	
67.95	160.99	0.1110	
90.67	160.84	0.1110	
101.14	160.42	0.1110	
118.03	158.89	0.1110	
128.87	156.59	0.1110 /0.0490	Main Channel
130.10	156.35	0.0490	Main Channel
133.94	156.82	0.0490 /0.1110	Main Channel
146.85	159.32	0.1110	
163.58	161.17	0.1110	
166.21	161.74	0.1110	
176.37	161.83	0.1110	
182.39	161.67	0.1110	
190.74	162.12	0.1110	
232.24	162.94	0.1110	
274.39	164.95	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	156.59	.282E+03	0.2	0.58	21.17
0.51	156.86	.124E+04	1.7	0.99	12.45
0.77	157.12	.278E+04	5.0	1.34	9.20
1.04	157.39	.482E+04	10.1	1.55	7.95
1.30	157.65	.739E+04	17.0	1.70	7.24
1.57	157.92	.105E+05	25.8	1.82	6.76
1.83	158.18	.141E+05	36.6	1.92	6.40
2.10	158.45	.182E+05	49.5	2.01	6.11
2.37	158.72	.228E+05	64.7	2.10	5.87
2.63	158.98	.279E+05	81.8	2.16	5.69
2.90	159.25	.339E+05	100.9	2.20	5.59
3.16	159.51	.407E+05	122.6	2.22	5.53
3.43	159.78	.486E+05	147.6	2.24	5.48
3.70	160.05	.575E+05	176.6	2.27	5.43
3.96	160.31	.674E+05	209.6	2.29	5.36
4.23	160.58	.786E+05	244.4	2.29	5.36
4.49	160.84	.914E+05	283.0	2.28	5.38
4.76	161.11	.111E+06	309.9	2.06	5.96
5.02	161.37	.134E+06	376.8	2.07	5.94

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2598)	347.68	2.90	5.25	32.74	0.60	1.09
OUTFLOW: ID= 1 (5299)	347.68	2.78	5.25	32.74	0.59	1.08

CALIB
STANDHYD (0299)
ID= 1 DT=15.0 min

Area (ha)= 97.19
Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.86	23.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	804.94	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	15.40
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	70.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	3.95	0.47	4.220 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	25.28	37.23
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.60	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2299)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0299):	97.19	4.220	5.25	37.23
+ ID2= 2 (5299):	347.68	2.777	5.25	32.74
ID = 3 (2299):	444.87	6.996	5.25	33.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5303)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5303.0) ------>

Distance	Elevation	Manning
0.00	153.79	0.1110
19.01	151.85	0.1110
37.34	151.82	0.1110
41.85	151.52	0.1110

47.90	151.66	0.1110
87.41	151.69	0.1110
105.06	149.50	0.1110
125.35	148.50	0.1110
125.85	148.42	0.1110 /0.0490 Main Channel
127.68	148.13	0.0490 Main Channel
128.23	147.30	0.0490 Main Channel
130.21	147.30	0.0490 Main Channel
131.55	148.23	0.0490 Main Channel
132.42	148.32	0.0490 /0.1110 Main Channel
137.58	148.90	0.1110
138.78	149.00	0.1110
150.21	149.50	0.1110
156.60	150.50	0.1110
175.54	151.00	0.1110
263.18	153.41	0.1110

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	147.56	.857E+03	0.5	0.81	30.68
0.51	147.81	.192E+04	1.5	1.18	21.08
0.77	148.07	.318E+04	3.1	1.45	17.13
1.02	148.32	.486E+04	4.6	1.42	17.54
1.36	148.66	.944E+04	10.5	1.66	14.97
1.70	149.00	.187E+05	20.4	1.62	15.34
2.04	149.34	.344E+05	35.2	1.53	16.26
2.38	149.68	.568E+05	58.3	1.53	16.23
2.72	150.02	.822E+05	89.6	1.63	15.29
3.06	150.36	.110E+06	128.2	1.74	14.32
3.40	150.70	.141E+06	169.5	1.79	13.91
3.73	151.03	.180E+06	219.3	1.82	13.69
4.07	151.37	.227E+06	281.8	1.86	13.40
4.41	151.71	.285E+06	310.6	1.63	15.27
4.75	152.05	.377E+06	412.0	1.63	15.26
5.09	152.39	.481E+06	550.2	1.71	14.57
5.43	152.73	.593E+06	713.3	1.80	13.85
5.77	153.07	.712E+06	901.5	1.89	13.17
6.11	153.41	.840E+06	1115.6	1.99	12.55

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2299)	444.87	7.00	5.25	33.72	1.16	1.51
OUTFLOW: ID= 1 (5303)	444.87	6.47	5.25	33.72	1.13	1.49

CALIB
STANDHYD (0303)
ID= 1 DT=15.0 min

Area (ha)= 227.30
Total Imp(%)= 65.00 Dir. Conn.(%)= 65.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	147.75	79.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.00
Length	(m)=	1230.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	13.53
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	73.80 (ii)

```
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.89         1.34         8.618 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=      41.00        21.81        34.28
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.98         0.52         0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2303) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303):   227.30   8.618     5.25    34.28
       + ID2= 2 (5303):   444.87   6.472     5.25    33.72
         ==========================================
         ID = 3 (2303):   672.17  15.090     5.25    33.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5306) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5306.0) ------>
               Distance      Elevation       Manning
                   0.00         145.38        0.1110
                  57.12         144.00        0.1110
                  73.05         143.00        0.1110
                  79.09         141.50        0.1110
                  80.80         140.20    0.1110 /0.0490  Main Channel
                  81.66         139.76        0.0490      Main Channel
                  83.06         139.50        0.0490      Main Channel
                  84.74         139.32        0.0490      Main Channel
                  85.03         139.00        0.0490      Main Channel
                  85.78         139.00        0.0490      Main Channel
                  87.80         139.39        0.0490      Main Channel
                  89.94         139.50        0.0490      Main Channel
                  94.17         140.00    0.0490 /0.1110  Main Channel
                  97.58         140.50        0.1110
                 127.69         142.00        0.1110
                 132.10         144.00        0.1110
                 141.18         144.50        0.1110
                 164.76         144.55        0.1110
                 191.51         145.00        0.1110
                 226.92         145.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.25   139.25    .425E+03       0.2          0.50      37.48
       0.50   139.50    .153E+04       0.8          0.57      32.75
```



```
       0.75   139.75    .394E+04       2.9          0.83      22.69
       1.00   140.00    .722E+04       6.8          1.06      17.70
       1.33   140.33    .126E+05      16.0          1.43      13.15
       1.67   140.67    .193E+05      28.8          1.68      11.15
       2.00   141.00    .284E+05      45.5          1.80      10.41
       2.33   141.33    .402E+05      66.5          1.86      10.08
       2.67   141.67    .547E+05      92.2          1.90       9.89
       3.00   142.00    .722E+05     123.3          1.92       9.76
       3.33   142.33    .915E+05     162.2          1.99       9.40
       3.67   142.67    .112E+06     206.6          2.08       9.01
       4.00   143.00    .133E+06     256.3          2.17       8.62
       4.33   143.33    .155E+06     310.0          2.25       8.34
       4.67   143.67    .180E+06     370.0          2.32       8.10
       5.00   144.00    .207E+06     436.4          2.37       7.90
       5.33   144.33    .239E+06     495.1          2.33       8.03
       5.67   144.67    .282E+06     525.8          2.10       8.93
       6.00   145.00    .341E+06     609.9          2.01       9.33

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2303)  672.17   15.09    5.25  33.91      1.30      1.38
     OUTFLOW: ID= 1 (5306)  672.17   14.46    5.25  33.91      1.27      1.34


--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0306)  |   Area    (ha)= 195.25
|ID= 1 DT=15.0 min  |   Total Imp(%)=  79.00   Dir. Conn.(%)=  79.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     154.25        41.00
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.80
     Length            (m)=    1140.91        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        15.40
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.40 (ii)   84.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        90.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.20         0.74         8.544 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.50         5.25
     RUNOFF VOLUME    (mm)=      41.00        25.28        37.70
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.98         0.60         0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2306) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```



```
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0306):   195.25   8.544     5.25    37.70
       + ID2= 2 (5306):   672.17  14.464     5.25    33.91
         ==========================================
         ID = 3 (2306):   867.42  23.008     5.25    34.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5314) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5314.0) ------>
               Distance      Elevation       Manning
                  0.00         140.46        0.1110
                 17.34         140.00        0.1110
                 23.79         140.00        0.1110
                 36.31         139.52        0.1110
                 67.27         139.06        0.1110
                 99.03         138.86        0.1110
                131.93         136.23    0.1110 /0.0490  Main Channel
                135.37         135.79        0.0490      Main Channel
                137.27         135.30        0.0490      Main Channel
                139.14         135.30        0.0490      Main Channel
                143.23         135.76        0.0490      Main Channel
                147.44         136.00    0.0490 /0.1110  Main Channel
                161.11         136.74        0.1110
                190.39         137.50        0.1110
                204.58         137.50        0.1110
                211.94         139.50        0.1110
                219.37         139.79        0.1110
                272.20         138.00        0.1110
                297.42         138.00        0.1110
                390.77         140.46        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.23   135.53    .686E+03       0.4          0.52      28.15
       0.47   135.77    .198E+04       1.7          0.76      19.22
       0.70   136.00    .418E+04       4.1          0.86      16.87
       0.98   136.28    .842E+04      10.9          1.13      12.91
       1.26   136.56    .147E+05      21.8          1.30      11.18
       1.54   136.84    .231E+05      36.7          1.39      10.49
       1.81   137.11    .347E+05      56.1          1.42      10.30
       2.09   137.39    .498E+05      81.3          1.43      10.21
       2.37   137.67    .700E+05     112.5          1.41      10.37
       2.65   137.95    .928E+05     155.2          1.46       9.96
       2.93   138.23    .123E+06     195.9          1.39      10.50
       3.21   138.51    .161E+06     255.7          1.39      10.47
       3.49   138.79    .204E+06     327.5          1.41      10.36
       3.77   139.07    .255E+06     399.4          1.37      10.64
       4.04   139.34    .318E+06     500.8          1.38      10.59
       4.32   139.62    .391E+06     621.2          1.39      10.49
       4.60   139.90    .472E+06     768.9          1.43      10.23
       4.88   140.18    .559E+06     940.3          1.47       9.91
       5.16   140.46    .652E+06    1136.8          1.53       9.55

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2306)  867.42   23.01    5.25  34.76      1.28      1.31
```



```
     OUTFLOW: ID= 1 (5314)  867.42    21.78    5.25  34.76      1.25      1.30


--------------------------------------------------------------------------------
--------------------
| ADD HYD   (3314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1314):   586.28  17.943     5.25    31.86
       + ID2= 2 (5314):   867.42  21.778     5.25    34.76
         ==========================================
         ID = 3 (3314):  1453.70  39.721     5.25    33.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5349) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5349.0) ------>
               Distance      Elevation       Manning
                  0.00         136.55        0.1110
                  0.00         135.00        0.1110
                 31.90         134.50        0.1110
                 37.07         134.28        0.1110
                 50.37         134.19        0.1110
                 65.47         134.50        0.1110
                 85.81         134.00        0.1110
                128.41         131.00        0.1110
                135.25         130.00        0.1110
                136.03         129.98    0.1110 /0.0490  Main Channel
                139.71         129.30        0.0490      Main Channel
                144.95         129.30        0.0490      Main Channel
                145.11         129.76    0.0490 /0.1110  Main Channel
                150.30         130.50        0.1110
                165.12         134.00        0.1110
                169.18         134.50        0.1110
                187.64         135.50        0.1110
                226.77         135.49        0.1110
                233.13         135.35        0.1110
                285.67         136.55        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.23   129.53    .178E+04       0.6          0.41      52.79
       0.46   129.76    .396E+04       1.9          0.62      35.44
       0.86   130.16    .958E+04       6.3          0.86      25.49
       1.26   130.56    .182E+05      13.9          1.00      21.93
       1.66   130.96    .294E+05      24.6          1.10      19.93
       2.06   131.36    .435E+05      38.4          1.16      18.89
       2.46   131.76    .615E+05      56.1          1.20      18.27
       2.86   132.16    .834E+05      78.2          1.23      17.77
       3.26   132.56    .109E+06     105.0          1.26      17.31
       3.66   132.96    .139E+06     137.0          1.30      16.87
       4.05   133.35    .172E+06     174.4          1.33      16.44
       4.45   133.75    .209E+06     217.8          1.37      16.02
       4.85   134.15    .251E+06     263.1          1.38      15.89
       5.25   134.55    .312E+06     297.4          1.25      17.51
       5.65   134.95    .395E+06     363.3          1.21      18.13
       6.05   135.35    .490E+06     459.6          1.23      17.78
```

6.45	135.75	.609E+06	550.5	1.19	18.43
6.85	136.15	.745E+06	696.6	1.23	17.82
7.25	136.55	.890E+06	863.1	1.27	17.19

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3314)	1453.70	39.72	5.25	33.59	2.09	1.16
OUTFLOW: ID= 1 (5349)	1453.70	35.04	5.50	33.59	1.96	1.14

CALIB	
STANDHYD (0349)	Area (ha)= 324.03
ID= 1 DT=15.0 min	Total Imp(%)= 44.00 Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	142.57	181.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	1469.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	13.22
over (min)		30.00	30.00
Storage Coeff. (min)=		16.20 (ii)	93.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01
			TOTALS
PEAK FLOW (cms)=		6.33	2.56	7.430 (iii)
TIME TO PEAK (hrs)=		5.25	6.50	5.25
RUNOFF VOLUME (mm)=		41.00	18.88	27.06
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.98	0.45	0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2349)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0349):	324.03	7.430	5.25	27.06	
+ ID2= 2 (5349):	1453.70	35.045	5.50	33.59	
ID = 3 (2349):	1777.73	41.679	5.25	32.40	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5364)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5364.0) ------>

Distance	Elevation	Manning
0.00	131.00	0.1110
136.00	129.99	0.1110
155.89	129.00	0.1110
172.09	127.83	0.1110
181.41	127.29	0.1110
190.94	127.00	0.1110
195.38	127.00	0.1110
195.81	126.76	0.1110
198.20	126.00	0.1110 /0.0490 Main Channel
200.00	125.00	0.0490 Main Channel
207.00	125.00	0.0490 Main Channel
207.99	126.00	0.0490 /0.1110 Main Channel
210.39	126.42	0.1110
214.18	126.91	0.1110
215.71	127.00	0.1110
249.46	127.00	0.1110
263.00	128.00	0.1110
269.13	129.00	0.1110
275.81	129.51	0.1110
283.52	130.00	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	125.25	.202E+04	1.0	0.57	32.17
0.50	125.50	.422E+04	3.3	0.87	21.07
0.75	125.75	.662E+04	6.6	1.10	16.62
1.00	126.00	.922E+04	10.9	1.29	14.13
1.27	126.27	.124E+05	17.1	1.51	12.10
1.53	126.53	.163E+05	24.7	1.66	11.04
1.80	126.80	.211E+05	33.6	1.75	10.45
2.07	127.07	.296E+05	43.4	1.61	11.37
2.33	127.33	.494E+05	60.0	1.33	13.74
2.60	127.60	.721E+05	82.1	1.25	14.64
2.87	127.87	.971E+05	109.3	1.23	14.82
3.13	128.13	.124E+06	142.1	1.25	14.58
3.40	128.40	.153E+06	180.5	1.29	14.15
3.67	128.67	.184E+06	223.9	1.34	13.67
3.93	128.93	.216E+06	272.5	1.39	13.19
4.20	129.20	.249E+06	323.7	1.42	12.85
4.47	129.47	.286E+06	379.6	1.46	12.55
4.73	129.73	.325E+06	440.5	1.49	12.29
5.00	130.00	.367E+06	506.2	1.52	12.08

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2349)	1777.73	41.68	5.25	32.40	2.02	1.63
OUTFLOW: ID= 1 (5364)	1777.73	39.70	5.50	32.40	1.97	1.66

CALIB	
STANDHYD (0364)	Area (ha)= 187.80
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	93.90	93.90
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	1118.93	40.00
Mannings n	=	0.013	0.250

		IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=		19.32	15.31
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	82.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW (cms)=		4.10	1.66	4.848 (iii)
TIME TO PEAK (hrs)=		5.25	6.50	5.25
RUNOFF VOLUME (mm)=		41.00	21.06	29.24
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.98	0.50	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2364)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0364):	187.80	4.848	5.25	29.24	
+ ID2= 2 (5364):	1777.73	39.704	5.50	32.40	
ID = 3 (2364):	1965.53	42.886	5.50	32.10	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5361)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5361.0) ------>

Distance	Elevation	Manning
0.00	129.00	0.1110
0.38	129.00	0.1110
13.51	128.00	0.1110
18.25	127.00	0.1110
41.14	126.00	0.1110
49.43	125.20	0.1110
51.30	125.00	0.1110
54.61	124.00	0.1110
56.73	124.00	0.1110 /0.0490 Main Channel
61.39	123.80	0.0490 Main Channel
63.13	123.80	0.0490 Main Channel
64.17	124.00	0.0490 /0.1110 Main Channel
65.93	124.00	0.1110
70.09	124.99	0.1110
70.11	124.99	0.1110
70.14	125.00	0.1110
73.16	125.00	0.1110
79.53	125.23	0.1110
104.69	126.00	0.1110
114.76	128.97	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	124.00	.961E+03	0.4	0.42	41.30
0.46	124.26	.433E+04	2.9	0.71	24.65
0.72	124.52	.823E+04	7.3	0.93	18.67
0.98	124.78	.127E+05	13.5	1.11	15.69
1.25	125.05	.178E+05	20.6	1.21	14.43
1.51	125.31	.256E+05	30.0	1.22	14.25
1.77	125.57	.364E+05	42.4	1.22	14.31
2.03	125.83	.503E+05	58.5	1.22	14.32
2.29	126.09	.672E+05	79.0	1.23	14.16
2.55	126.35	.862E+05	104.9	1.27	13.69
2.82	126.62	.107E+06	135.5	1.32	13.16
3.08	126.88	.130E+06	171.1	1.38	12.65
3.34	127.14	.154E+06	212.9	1.44	12.08
3.60	127.40	.179E+06	260.6	1.52	11.48
3.86	127.66	.205E+06	312.9	1.60	10.93
4.12	127.92	.232E+06	369.6	1.67	10.45
4.39	128.19	.259E+06	428.4	1.73	10.06
4.65	128.45	.287E+06	490.9	1.79	9.74
4.91	128.71	.316E+06	558.1	1.85	9.45

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2364)	1965.53	42.89	5.50	32.10	1.78	1.22
OUTFLOW: ID= 1 (5361)	1965.53	41.36	5.75	32.10	1.75	1.22

CALIB	
STANDHYD (0361)	Area (ha)= 35.90
ID= 1 DT=15.0 min	Total Imp(%)= 46.00 Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.51	19.39
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	489.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.48
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	47.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW (cms)=		0.71	0.27	0.930 (iii)
TIME TO PEAK (hrs)=		5.25	5.75	5.25
RUNOFF VOLUME (mm)=		41.00	12.49	23.04
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.98	0.30	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2361)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0361):	35.90	0.930	5.25	23.04
	+ ID2= 2 (5361):	1965.53	41.356	5.75	32.10
	ID = 3 (2361):	2001.43	41.840	5.75	31.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5357)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5357.0) ------>

Distance	Elevation	Manning	
0.00	123.98	0.1110	
7.26	122.14	0.1110	
10.93	121.00	0.1110	
13.86	120.00	0.1110	
18.79	119.00	0.1110	
24.81	118.00	0.1110	
26.76	117.00	0.1110	
28.16	117.00	0.1110 /0.0490	Main Channel
29.00	116.20	0.0490	Main Channel
34.00	116.20	0.0490	Main Channel
34.48	117.00	0.0490 /0.1110	Main Channel
36.38	117.00	0.1110	
39.42	118.00	0.1110	
44.78	119.00	0.1110	
47.65	120.00	0.1110	
50.41	121.00	0.1110	
57.87	121.95	0.1110	
58.40	122.00	0.1110	
58.65	122.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	116.47	.174E+04	0.9	0.64	32.42
0.53	116.73	.363E+04	2.8	0.97	21.46
0.80	117.00	.566E+04	5.5	1.22	17.09
1.11	117.31	.973E+04	10.5	1.35	15.49
1.42	117.62	.144E+05	17.0	1.48	14.11
1.74	117.94	.197E+05	25.1	1.59	13.07
2.05	118.25	.258E+05	34.5	1.67	12.49
2.36	118.56	.334E+05	45.7	1.72	12.15
2.67	118.87	.423E+05	59.1	1.75	11.91
2.99	119.19	.525E+05	75.1	1.79	11.65
3.30	119.50	.637E+05	93.5	1.84	11.35
3.61	119.81	.759E+05	114.3	1.88	11.06
3.92	120.12	.889E+05	137.6	1.94	10.77
4.24	120.44	.103E+06	163.7	1.99	10.46
4.55	120.75	.117E+06	192.3	2.05	10.17
4.86	121.06	.133E+06	222.6	2.10	9.92
5.17	121.37	.149E+06	253.5	2.13	9.79
5.49	121.69	.167E+06	287.6	2.16	9.66
5.80	122.00	.186E+06	324.8	2.19	9.53

<---- hydrograph ----> <-pipe / channel->

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2361) 2001.43	41.84	5.75	31.94	2.25	1.70
OUTFLOW: ID= 1 (5357) 2001.43	40.90	6.00	31.94	2.22	1.69

CALIB			
STANDHYD (0357)	Area (ha)= 135.25		
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 50.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	77.09	58.16	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.10	
Length	(m)=	949.56	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	12.93	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.60 (ii)	73.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.02	
				TOTALS
PEAK FLOW	(cms)=	3.61	0.92	4.098 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	17.85	29.42
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.42	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2357)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0357):	135.25	4.098	5.25	29.42
	+ ID2= 2 (5357):	2001.43	40.903	6.00	31.94
	ID = 3 (2357):	2136.68	42.898	6.00	31.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5363)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5363.0) ------>

Distance	Elevation	Manning
0.00	116.00	0.1110
3.24	115.00	0.1110
7.85	114.00	0.1110
11.35	113.00	0.1110

15.57	112.00	0.1110	
15.63	111.99	0.1110	
15.65	111.98	0.1110	
20.70	111.00	0.1110	
22.85	111.00	0.1110 /0.0490	Main Channel
26.11	110.00	0.0490	Main Channel
29.00	110.00	0.0490	Main Channel
29.19	111.00	0.0490 /0.1110	Main Channel
32.26	111.00	0.1110	
35.40	112.00	0.1110	
37.70	112.15	0.1110	
53.24	113.00	0.1110	
53.72	113.00	0.1110	
79.32	114.00	0.1110	
92.95	115.00	0.1110	
115.26	115.98	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	110.25	.368E+03	0.8	0.92	8.07
0.50	110.50	.833E+03	2.5	1.34	5.51
0.75	110.75	.139E+04	5.2	1.66	4.46
1.00	111.00	.205E+04	8.9	1.92	3.85
1.33	111.33	.395E+04	17.7	1.98	3.73
1.66	111.66	.627E+04	29.9	2.12	3.49
2.00	112.00	.898E+04	45.6	2.26	3.28
2.33	112.33	.124E+05	64.9	2.29	3.23
2.66	112.66	.169E+05	87.7	2.31	3.21
2.99	112.99	.225E+05	117.5	2.32	3.19
3.32	113.32	.294E+05	153.2	2.31	3.20
3.66	113.66	.377E+05	197.3	2.32	3.19
3.99	113.99	.475E+05	250.6	2.34	3.16
4.32	114.32	.584E+05	316.2	2.40	3.08
4.65	114.65	.703E+05	391.6	2.47	2.99
4.98	114.98	.830E+05	476.9	2.55	2.90
5.32	115.32	.968E+05	568.4	2.61	2.84
5.65	115.65	.112E+06	671.3	2.66	2.78
5.98	115.98	.128E+06	786.6	2.72	2.72

<---- hydrograph ----> <-pipe / channel->

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2357) 2136.68	42.90	6.00	31.78	1.94	2.23
OUTFLOW: ID= 1 (5363) 2136.68	43.09	6.00	31.78	1.94	2.23

CALIB			
STANDHYD (0363)	Area (ha)= 99.54		
ID= 1 DT=15.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 68.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.67	28.87
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.20
Length	(m)=	814.62	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.98
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	74.40 (ii)

Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	3.61	0.54	3.912 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	41.00	22.04	34.93
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.52	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2363)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0363):	99.54	3.912	5.25	34.93
	+ ID2= 2 (5363):	2136.68	43.086	6.00	31.78
	ID = 3 (2363):	2236.22	44.715	6.00	31.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5368)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5368.0) ------>

Distance	Elevation	Manning	
0.00	109.72	0.1110	
5.88	105.92	0.1110	
7.79	105.00	0.1110	
12.32	103.17	0.1110	
12.72	103.00	0.1110	
26.16	103.00	0.1110	
40.07	102.16	0.1110	
41.21	102.13	0.1110	
42.95	102.00	0.1110	
44.48	102.00	0.1110 /0.0490	Main Channel
46.98	101.70	0.0490	Main Channel
51.64	101.70	0.0490	Main Channel
52.36	102.00	0.0490 /0.1110	Main Channel
52.69	102.00	0.1110	
54.36	102.70	0.1110	
55.02	103.00	0.1110	
55.44	103.16	0.1110	
57.25	104.00	0.1110	
67.26	109.40	0.1110	
68.34	109.93	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	102.00	.139E+04	1.7	0.91	13.57
0.71	102.41	.548E+04	9.9	1.33	9.25

1.11	102.81	.119E+05	25.0	1.55	7.96
1.52	103.22	.226E+05	48.0	1.57	7.85
1.93	103.63	.359E+05	85.5	1.76	7.00
2.33	104.03	.498E+05	132.8	1.97	6.24
2.74	104.44	.641E+05	189.4	2.18	5.64
3.14	104.84	.791E+05	254.7	2.38	5.17
3.55	105.25	.945E+05	328.7	2.57	4.79
3.96	105.66	.110E+06	411.1	2.75	4.48
4.36	106.06	.127E+06	501.8	2.92	4.21
4.77	106.47	.144E+06	600.9	3.09	3.98
5.18	106.88	.161E+06	707.8	3.25	3.79
5.58	107.28	.179E+06	822.5	3.40	3.62
5.99	107.69	.197E+06	944.7	3.55	3.47
6.39	108.09	.215E+06	1074.5	3.69	3.34
6.80	108.50	.234E+06	1211.9	3.82	3.22
7.21	108.91	.253E+06	1356.7	3.95	3.11
7.61	109.31	.273E+06	1509.1	4.08	3.02

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2363)	2236.22	44.72	6.00	31.92	1.46	1.56
OUTFLOW: ID= 1 (5368)	2236.22	44.32	6.00	31.92	1.45	1.56

CALIB			
STANDHYD (0368)	Area (ha)=	23.76	
ID= 1 DT=15.0 min	Total Imp(%)=	64.00	Dir. Conn.(%)= 64.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	15.21	8.55
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.50
Length (m)=	397.99	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.43
over (min)	15.00	30.00
Storage Coeff. (min)=	5.40 (ii)	31.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.82	0.19	0.998 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	18.20	32.79
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.43	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2368)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0368):	23.76	0.998	5.25	32.79
+ ID2= 2 (5368):	2236.22	44.321	6.00	31.92
ID = 3 (2368):	2259.98	44.675	6.00	31.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1365)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2355):	19023.40	110.296	9.75	23.02
+ ID2= 2 (2368):	2259.98	44.675	6.00	31.93
ID = 3 (1365):	21283.38	124.450	6.50	23.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5365)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5365.0) ------>

Distance	Elevation	Manning	
0.00	110.00	0.1110	
7.40	110.00	0.1110	
15.33	109.51	0.1110	
47.93	98.00	0.1110	
65.73	98.00	0.1110	
114.24	97.34	0.1110	
131.22	97.00	0.1110	
141.72	95.00	0.1110 /0.0490	Main Channel
142.05	94.60	0.0490	Main Channel
155.43	94.60	0.0490	Main Channel
155.44	95.00	0.0490 /0.1110	Main Channel
161.18	95.00	0.1110	
168.95	96.00	0.1110	
203.06	97.00	0.1110	
211.77	97.00	0.1110	
222.30	108.79	0.1110	
223.07	109.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	95.00	.538E+04	4.5	0.83	19.81
1.14	95.74	.231E+05	29.7	1.27	12.99
1.87	96.47	.508E+05	74.2	1.45	11.41
2.61	97.21	.101E+06	146.9	1.45	11.44
3.35	97.95	.186E+06	275.5	1.47	11.23
4.08	98.68	.306E+06	482.4	1.56	10.57
4.82	99.42	.429E+06	757.2	1.75	9.45
5.56	100.16	.555E+06	1088.0	1.95	8.50
6.29	100.89	.682E+06	1470.4	2.14	7.73
7.03	101.63	.811E+06	1901.3	2.33	7.11
7.77	102.37	.943E+06	2378.5	2.50	6.61
8.51	103.11	.108E+07	2900.2	2.68	6.18
9.24	103.84	.121E+07	3465.1	2.84	5.83
9.98	104.58	.135E+07	4071.9	3.00	5.52

10.72	105.32	.149E+07	4719.8	3.15	5.26
11.45	106.05	.163E+07	5407.9	3.29	5.02
12.19	106.79	.177E+07	6135.7	3.43	4.82
12.93	107.53	.192E+07	6902.4	3.57	4.63
13.66	108.26	.207E+07	7707.8	3.70	4.47

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1365)	*******	124.45	6.50	23.96	2.38	1.45
OUTFLOW: ID= 1 (5365)	*******	123.78	6.75	23.96	2.38	1.45

CALIB			
STANDHYD (0365)	Area (ha)=	165.69	
ID= 1 DT=15.0 min	Total Imp(%)=	59.00	Dir. Conn.(%)= 56.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.76	67.93
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	1051.00	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.36
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	4.96	0.94	5.453 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	41.00	16.89	30.39
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2365)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0365):	165.69	5.453	5.25	30.39
+ ID2= 2 (5365):	21283.38	123.776	6.75	23.96
ID = 3 (2365):	21449.07	125.415	6.75	24.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0671)	Area (ha)=	266.27	

ID= 1 DT=15.0 min	Total Imp(%)=	80.00	Dir. Conn.(%)= 80.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	213.02	53.25
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	1332.34	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.53
over (min)	30.00	30.00
Storage Coeff. (min)=	14.40 (ii)	84.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	11.32	0.82	11.684 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	41.00	21.81	37.16
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.52	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9671)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	266.27	11.68	5.25	37.16
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	266.27	11.68	5.25	37.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6671)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.4020	9.4300

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9671)	266.270	11.684	5.25	37.16
OUTFLOW: ID= 1 (6671)	266.270	2.268	7.25	37.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.41
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 6.2949

ADD HYD (4671)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9671 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6671):		266.27	2.268	7.25	37.16
+ ID2= 2 (9671):		0.00	0.000	0.00	0.00
ID = 3 (4671):		266.27	2.268	7.25	37.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1372)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2365):		21449.07	125.415	6.75	24.01
+ ID2= 2 (4671):		266.27	2.268	7.25	37.16
ID = 3 (1372):		21715.34	127.664	6.75	24.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5372)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5372.0) ------>

Distance	Elevation	Manning	
0.00	105.00	0.1110	
20.51	95.49	0.1110	
91.87	93.94	0.1110	
96.84	93.74	0.1110	
105.67	92.57	0.1110	
106.66	92.00	0.1110 /0.0490	Main Channel
109.09	90.50	0.0490	Main Channel
122.15	90.50	0.0490	Main Channel
123.13	92.00	0.0490 /0.1110	Main Channel
127.73	92.00	0.1110	
158.37	93.00	0.1110	
213.54	94.00	0.1110	
217.83	95.00	0.1110	
233.02	105.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	91.25	.531E+04	25.0	2.40	3.53
1.50	92.00	.113E+05	79.9	3.61	2.35
2.26	92.76	.243E+05	179.6	3.75	2.26
3.03	93.53	.500E+05	338.8	3.44	2.46
3.79	94.29	.949E+05	604.9	3.24	2.62
4.56	95.06	.157E+06	1023.9	3.33	2.55
5.32	95.82	.231E+06	1611.1	3.54	2.39
6.09	96.59	.310E+06	2362.5	3.88	2.18
6.85	97.35	.389E+06	3246.6	4.25	2.00
7.62	98.12	.469E+06	4254.1	4.61	1.84
8.38	98.88	.550E+06	5378.1	4.97	1.71
9.15	99.65	.633E+06	6613.7	5.32	1.59

9.91	100.41	.716E+06	7956.7	5.65	1.50
10.68	101.18	.801E+06	9403.9	5.97	1.42
11.44	101.94	.887E+06	10952.7	6.28	1.35
12.21	102.71	.974E+06	12600.7	6.58	1.29
12.97	103.47	.106E+07	14346.0	6.88	1.23
13.74	104.24	.115E+07	16186.9	7.16	1.18
14.50	105.00	.124E+07	18122.2	7.43	1.14

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1372)	*******	127.66	6.75	24.18		1.87	3.68
OUTFLOW: ID= 1 (5372)	*******	127.58	7.00	24.18		1.87	3.68

CALIB	
STANDHYD (0372)	Area (ha)= 47.90
ID= 1 DT=15.0 min	Total Imp(%)= 49.00 Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	23.47	24.43	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	5.50	
Length	(m)=	565.10	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	11.10	
over (min)		15.00	30.00	
Storage Coeff. (min)=		7.20 (ii)	43.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.10	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.05	0.43	1.413 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	41.00	15.33	25.85
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.36	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2372)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0372):		47.90	1.413	5.25	25.85
+ ID2= 2 (5372):		21715.34	127.583	7.00	24.18
ID = 3 (2372):		21763.24	127.979	6.75	24.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5373)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5373.0) ------>

Distance	Elevation	Manning	
0.00	101.00	0.1110	
12.77	94.00	0.1110	
32.99	89.39	0.1110	
76.52	87.19	0.1110	
79.48	87.00	0.1110	
80.86	86.13	0.1110	
81.09	86.00	0.1110	
81.97	86.00	0.1110 /0.0490	Main Channel
82.61	85.50	0.0490	Main Channel
88.00	85.50	0.0490	Main Channel
89.14	86.00	0.0490 /0.1110	Main Channel
95.90	86.00	0.1110	
106.27	87.00	0.1110	
106.34	87.01	0.1110	
117.67	87.86	0.1110	
158.30	88.14	0.1110	
158.41	88.15	0.1110	
185.29	101.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	86.00	.231E+04	2.5	0.81	15.12
1.29	86.79	.137E+05	18.4	0.99	12.36
2.08	87.58	.328E+05	49.8	1.12	11.00
2.87	88.37	.764E+05	104.1	1.00	12.24
3.66	89.16	.143E+06	224.2	1.16	10.62
4.45	89.95	.217E+06	398.3	1.35	9.10
5.24	90.74	.295E+06	619.7	1.55	7.94
6.03	91.53	.376E+06	883.1	1.73	7.10
6.82	92.32	.460E+06	1187.0	1.90	6.45
7.61	93.11	.546E+06	1530.0	2.06	5.95
8.39	93.89	.636E+06	1911.6	2.21	5.54
9.18	94.68	.728E+06	2340.7	2.37	5.18
9.97	95.47	.821E+06	2808.2	2.52	4.87
10.76	96.26	.917E+06	3312.0	2.66	4.61
11.55	97.05	.101E+07	3851.3	2.80	4.39
12.34	97.84	.111E+07	4425.6	2.93	4.19
13.13	98.63	.121E+07	5034.5	3.05	4.02
13.92	99.42	.132E+07	5677.8	3.18	3.86
14.71	100.21	.142E+07	6355.0	3.30	3.72

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2372)	*******	127.98	6.75	24.18		3.03	1.03
OUTFLOW: ID= 1 (5373)	*******	127.65	7.00	24.18		3.02	1.03

CALIB	
STANDHYD (0373)	Area (ha)= 86.20
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.17	56.03
Dep. Storage	(mm)=	1.00	4.00

Average Slope	(%)=	1.00	4.10
Length	(m)=	758.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.19
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	58.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.29	0.58 1.667 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	41.00	11.16 19.52
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.98	0.27 0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2373)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0373):		86.20	1.667	5.25	19.52
+ ID2= 2 (5373):		21763.24	127.652	7.00	24.18
ID = 3 (2373):		21849.44	128.271	7.00	24.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5374)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5374.0) ------>

Distance	Elevation	Manning	
0.00	98.97	0.1110	
36.91	86.49	0.1110	
134.42	84.00	0.1110 /0.0490	Main Channel
141.69	83.20	0.0490	Main Channel
152.50	83.20	0.0490	Main Channel
159.42	84.00	0.0490 /0.1110	Main Channel
175.53	98.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	83.60	.239E+04	4.2	0.73	9.54
0.80	84.00	.596E+04	15.3	1.07	6.49
1.62	84.82	.202E+05	72.8	1.50	4.63
2.45	85.65	.459E+05	179.3	1.63	4.26
3.27	86.47	.829E+05	344.5	1.73	4.01
4.09	87.29	.126E+06	593.4	1.95	3.55
4.92	88.12	.171E+06	902.7	2.20	3.16
5.74	88.94	.217E+06	1267.1	2.43	2.85

6.56	89.76	.264E+06	1683.7	2.66	2.61
7.39	90.59	.312E+06	2150.3	2.87	2.42
8.21	91.41	.362E+06	2665.3	3.07	2.26
9.04	92.24	.412E+06	3227.6	3.26	2.13
9.86	93.06	.464E+06	3836.1	3.44	2.01
10.68	93.88	.516E+06	4490.2	3.62	1.92
11.51	94.71	.570E+06	5189.2	3.79	1.83
12.33	95.53	.626E+06	5932.8	3.95	1.76
13.15	96.35	.682E+06	6720.5	4.10	1.69
13.98	97.18	.739E+06	7552.1	4.25	1.63
14.80	98.00	.798E+06	8427.5	4.40	1.58

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2373) *******	128.27	7.00	24.16	2.05	1.56	
OUTFLOW: ID= 1 (5374) *******	128.25	7.25	24.16	2.05	1.56	

CALIB	STANDHYD (0673)	ID= 1 DT=15.0 min

Area (ha)= 211.75
Total Imp(%)= 65.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	137.64	74.11
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.60
Length	(m)=	1188.14	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.38
over (min)		15.00	45.00
Storage Coeff. (min)=		17.40 (ii)	103.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	6.46 1.13 6.874 (iii)
TIME TO PEAK	(hrs)=	5.25 6.75 5.25
RUNOFF VOLUME	(mm)=	41.00 20.45 32.37
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.49 0.77

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9673)	Inlet Cap.=*****	#of Inlets= 1	Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	211.75	6.87	5.25	32.37
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	211.75	6.87	5.25	32.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6673)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	1.7310	6.2000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9673)	211.750	6.874	5.25	32.37
OUTFLOW: ID= 1 (6673)	211.750	1.224	8.50	32.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.81
TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 4.3884

ADD HYD (4673)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (6673):	211.75	1.224	8.50	32.36
		+ ID2= 2 (9673):	0.00	0.000	0.00	0.00
		ID = 3 (4673):	211.75	1.224	8.50	32.36

*** W A R N I N G : HYDROGRAPH 9673 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1374)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (4673):	211.75	1.224	8.50	32.36
		+ ID2= 2 (5374):	21849.44	128.247	7.25	24.16
		ID = 3 (1374):	22061.19	129.426	7.25	24.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0374)	ID= 1 DT=15.0 min

Area (ha)= 32.64
Total Imp(%)= 45.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.69	17.95
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.80
Length	(m)=	466.48	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.51
over (min)		15.00	30.00

Storage Coeff. (min)=		7.20 (ii)	42.00 (ii)		
Unit Hyd. Tpeak (min)=		15.00	45.00		
Unit Hyd. peak (cms)=		0.10	0.03		
				TOTALS	
PEAK FLOW	(cms)=	0.61	0.33	0.894 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME	(mm)=	41.00	15.57	24.47	
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00	
RUNOFF COEFFICIENT	=	0.98	0.37	0.58	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2374)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0374):	32.64	0.894	5.25	24.47
		+ ID2= 2 (1374):	22061.19	129.426	7.25	24.24
		ID = 3 (2374):	22093.83	129.671	7.25	24.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5396)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5396.0) ------>

Distance	Elevation	Manning	
0.00	97.95	0.1110	
17.75	83.00	0.1110	
23.72	82.08	0.1110	
24.22	82.00	0.1110	
25.33	82.00	0.1110 /0.0490	Main Channel
26.00	81.40	0.0490	Main Channel
33.68	81.40	0.0490	Main Channel
35.87	82.00	0.0490 /0.1110	Main Channel
43.42	82.00	0.1110	
69.25	82.98	0.1110	
140.88	83.00	0.1110	
166.30	97.94	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	82.00	.162E+04	6.3	1.16	4.27
1.44	82.84	.981E+04	41.2	1.24	3.97
2.28	83.68	.373E+05	147.1	1.17	4.23
3.12	84.52	.687E+05	348.9	1.50	3.28
3.96	85.36	.101E+06	621.1	1.83	2.70
4.79	86.19	.133E+06	955.6	2.12	2.32
5.63	87.03	.167E+06	1347.8	2.40	2.06
6.47	87.87	.200E+06	1794.3	2.65	1.86
7.31	88.71	.235E+06	2292.7	2.89	1.71

8.15	89.55	.270E+06	2841.1	3.12	1.58
8.99	90.39	.305E+06	3438.0	3.34	1.48
9.83	91.23	.342E+06	4082.2	3.54	1.39
10.67	92.07	.378E+06	4772.8	3.74	1.32
11.51	92.91	.416E+06	5508.8	3.93	1.26
12.35	93.75	.454E+06	6289.6	4.11	1.20
13.18	94.58	.492E+06	7114.7	4.28	1.15
14.02	95.42	.532E+06	7983.6	4.45	1.11
14.86	96.26	.571E+06	8895.9	4.61	1.07
15.70	97.10	.612E+06	9851.2	4.77	1.04

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2374) *******	129.67	7.25	24.24	2.14	1.18	
OUTFLOW: ID= 1 (5396) *******	129.68	7.25	24.24	2.14	1.18	

CALIB	STANDHYD (0396)	ID= 1 DT=15.0 min

Area (ha)= 4.65
Total Imp(%)= 17.00 Dir. Conn.(%)= 15.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.79	3.86
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	16.10
Length	(m)=	176.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.74
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	0.04 0.06 0.102 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	41.00 10.41 15.00
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.25 0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2396)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0396):	4.65	0.102	5.25	15.00
		+ ID2= 2 (5396):	22093.83	129.675	7.25	24.24
		ID = 3 (2396):	22098.48	129.695	7.25	24.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0375)	Area (ha)= 52.21
ID= 1 DT=15.0 min	Total Imp(%)= 20.00 Dir. Conn.(%)= 16.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.44	41.77
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.30
Length	(m)=	589.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.74
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	46.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.02

		TOTALS
PEAK FLOW	(cms)=	0.45 0.32 0.700 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	41.00 7.82 13.13
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.19 0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1376)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0375):		52.21	0.700	5.25	13.13
+ ID2= 2 (2396):		22098.48	129.695	7.25	24.24
ID = 3 (1376):		22150.69	129.934	7.25	24.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5376)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5376.0) ------>

Distance	Elevation	Manning
0.00	85.02	0.1110
7.10	80.04	0.1110
61.55	79.68	0.1110
116.38	79.93	0.1110
143.52	79.00	0.1110

Distance	Elevation	Manning	
158.92	78.00	0.1110	
166.66	76.00	0.1110	
167.10	75.50	0.0490	Main Channel
200.00	75.50	0.0490	Main Channel
202.57	76.00	0.0490 /0.1110	Main Channel
207.88	78.85	0.1110	
214.22	80.17	0.1110	
238.13	81.00	0.1110	
277.55	82.00	0.1110	
278.31	83.03	0.1110	
282.09	84.00	0.1110	
288.47	83.19	0.1110	
296.01	84.00	0.1110	
384.91	84.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	75.95	.696E+04	12.6	0.82	9.22
0.89	76.39	.145E+05	41.2	1.30	5.84
1.34	76.84	.225E+05	82.6	1.67	4.54
1.79	77.29	.310E+05	135.2	1.98	3.83
2.24	77.74	.401E+05	198.5	2.25	3.37
2.68	78.18	.498E+05	271.2	2.48	3.06
3.13	78.63	.608E+05	354.3	2.65	2.86
3.58	79.08	.735E+05	448.2	2.77	2.73
4.03	79.53	.888E+05	553.5	2.83	2.68
4.47	79.97	.114E+06	661.9	2.63	2.88
4.92	80.42	.157E+06	829.0	2.40	3.15
5.37	80.87	.202E+06	1031.7	2.32	3.26
5.82	81.32	.250E+06	1266.7	2.30	3.29
6.26	81.76	.302E+06	1534.7	2.31	3.28
6.71	82.21	.357E+06	1840.9	2.35	3.23
7.16	82.66	.412E+06	2183.9	2.41	3.15
7.61	83.11	.468E+06	2556.2	2.48	3.05
8.05	83.55	.525E+06	2944.5	2.55	2.97
8.50	84.00	.584E+06	3359.5	2.61	2.90

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1376)	*******	129.93	7.25	24.21	1.74	1.94	
OUTFLOW: ID= 1 (5376)	*******	130.00	7.25	24.21	1.74	1.94	

CALIB	
STANDHYD (0376)	Area (ha)= 61.67
ID= 1 DT=15.0 min	Total Imp(%)= 39.00 Dir. Conn.(%)= 33.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.05	37.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.30
Length	(m)=	641.20	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.81
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	46.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.02

		TOTALS
PEAK FLOW	(cms)=	1.09 0.56 1.554 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	41.00 14.20 23.05
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.34 0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2376)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0376):		61.67	1.554	5.25	23.05
+ ID2= 2 (5376):		22150.69	129.998	7.25	24.21
ID = 3 (2376):		22212.36	130.446	7.25	24.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5395)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5395.0) ------>

Distance	Elevation	Manning	
0.00	80.00	0.0700	
23.38	80.00	0.0700	
28.10	79.57	0.0700	
49.96	79.59	0.0700	
59.82	79.36	0.0700	
73.05	78.62	0.0700	
86.41	78.00	0.0700	
92.93	77.00	0.0700	
131.54	76.00	0.0700	
223.71	75.98	0.0700 /0.0490	Main Channel
232.74	74.00	0.0490	Main Channel
260.75	74.00	0.0490	Main Channel
263.06	76.00	0.0490 /0.0700	Main Channel
265.52	76.00	0.0700	
297.15	77.04	0.0700	
323.06	78.00	0.0700	
327.20	79.00	0.0700	
341.44	79.37	0.0700	
370.62	80.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	74.28	.496E+04	7.0	0.86	11.77
0.57	74.57	.102E+05	22.5	1.34	7.56
0.85	74.85	.157E+05	44.5	1.72	5.88
1.13	75.13	.215E+05	72.6	2.05	4.93
1.41	75.41	.276E+05	106.4	2.35	4.32

1.70	75.70	.339E+05	145.6	2.61	3.88
1.98	75.98	.405E+05	190.4	2.86	3.55
2.31	76.31	.693E+05	278.8	2.45	4.14
2.65	76.65	.103E+06	406.6	2.39	4.24
2.98	76.98	.142E+06	571.0	2.44	4.15
3.32	77.32	.185E+06	780.5	2.57	3.94
3.65	77.65	.229E+06	1027.4	2.72	3.72
3.99	77.99	.276E+06	1310.5	2.88	3.51
4.32	78.32	.325E+06	1625.0	3.04	3.34
4.66	78.66	.376E+06	1974.5	3.19	3.17
4.99	78.99	.428E+06	2362.2	3.35	3.02
5.33	79.33	.483E+06	2754.4	3.46	2.93
5.66	79.66	.544E+06	3054.6	3.41	2.97
6.00	80.00	.613E+06	3561.5	3.53	2.87

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2376)	*******	130.45	7.25	24.21	1.59	2.50	
OUTFLOW: ID= 1 (5395)	*******	130.49	7.25	24.21	1.58	2.50	

CALIB	
STANDHYD (0395)	Area (ha)= 36.20
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.67	23.53
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	491.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.43
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.58 0.43 0.943 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	41.00 16.93 24.15
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.40 0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2395)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0395):		36.20	0.943	5.25	24.15
+ ID2= 2 (5395):		22212.36	130.488	7.25	24.21

ID = 3 (2395): 22248.56 130.775 7.25 24.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

** SIMULATION NUMBER: 2 **

READ STORM | Filename: C:\Users\P006437C\AppData\Local\Temp\9f309ab1-fec3-4607-958c-354f894587d2\321a93d1
Ptotal= 54.38 mm | Comments: 5yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB
NASHYD (0176) | Area (ha)= 121.04 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min | Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.37

Unit Hyd Qpeak (cms)= 3.387

PEAK FLOW (cms)= 1.173 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 14.454
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.266

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0168) | Area (ha)= 103.55 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min | Ia (mm)= 9.80 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.38

Unit Hyd Qpeak (cms)= 2.868

PEAK FLOW (cms)= 0.955 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 13.862

TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.255

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0170) | Area (ha)= 31.80 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min | Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.10

Unit Hyd Qpeak (cms)= 1.100

PEAK FLOW (cms)= 0.334 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 13.913
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2176)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0168):	103.55	0.955	6.75	13.86
+ ID2= 2 (0170):	31.80	0.334	6.25	13.91
ID = 3 (2176):	135.35	1.276	6.50	13.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1167)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0176):	121.04	1.173	6.75	14.45
+ ID2= 2 (2176):	135.35	1.276	6.50	13.87
ID = 3 (1167):	256.39	2.447	6.75	14.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5167)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5167.0) ------>

Distance	Elevation	Manning	
0.00	262.16	0.0930	
17.98	262.04	0.0930	
21.42	262.78	0.0930	
45.50	262.15	0.0930	
50.47	262.37	0.0930	
76.45	262.32	0.0930	
82.50	261.71	0.0930	
84.15	261.00	0.0930 /0.0410	Main Channel

85.06	260.58	0.0410	Main Channel
85.95	260.18	0.0410	Main Channel
87.25	260.94	0.0410 /0.0930	Main Channel
88.72	261.80	0.0930	
126.19	262.11	0.0930	
151.18	262.60	0.0930	
158.48	262.60	0.0930	
162.67	262.66	0.0930	
162.97	262.66	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	260.31	.213E+02	0.0	0.09	118.24
0.25	260.43	.850E+02	0.0	0.15	74.49
0.38	260.56	.191E+03	0.1	0.20	56.84
0.51	260.69	.340E+03	0.1	0.24	46.86
0.63	260.81	.530E+03	0.2	0.28	40.37
0.76	260.94	.763E+03	0.4	0.31	35.75
0.90	261.08	.107E+04	0.6	0.37	30.02
1.04	261.22	.144E+04	0.9	0.42	26.45
1.18	261.36	.185E+04	1.3	0.46	24.26
1.33	261.51	.233E+04	1.7	0.49	22.76
1.47	261.65	.285E+04	2.2	0.52	21.67
1.61	261.79	.345E+04	2.7	0.53	21.01
1.75	261.93	.488E+04	3.3	0.46	24.35
1.89	262.07	.813E+04	4.3	0.35	31.78
2.03	262.21	.143E+05	5.9	0.28	40.27
2.18	262.36	.227E+05	8.3	0.25	45.66
2.32	262.50	.347E+05	12.1	0.23	47.80
2.46	262.64	.483E+05	16.8	0.23	47.89
2.60	262.78	.635E+05	23.6	0.25	44.82

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1167)	256.39	2.45	6.75	14.15	1.53	0.53
OUTFLOW: ID= 1 (5167)	256.39	2.33	7.00	14.15	1.50	0.52

CALIB
NASHYD (0167) | Area (ha)= 45.12 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min | Ia (mm)= 9.10 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.67

Unit Hyd Qpeak (cms)= 2.588

PEAK FLOW (cms)= 0.686 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 15.222
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.280

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2167)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0167):	45.12	0.686	5.75	15.22
+ ID2= 2 (5167):	256.39	2.329	7.00	14.15
ID = 3 (2167):	301.51	2.744	6.75	14.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0147) | Area (ha)= 71.89 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min | Ia (mm)= 9.30 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.38

Unit Hyd Qpeak (cms)= 1.996

PEAK FLOW (cms)= 0.677 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 14.125
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.260

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1153)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0147):	71.89	0.677	6.75	14.13
+ ID2= 2 (2167):	301.51	2.744	6.75	14.31
ID = 3 (1153):	373.40	3.421	6.75	14.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5153)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5153.0) ------>

Distance	Elevation	Manning	
0.00	265.12	0.0930	
61.22	264.43	0.0930	
92.80	264.46	0.0930	
229.62	263.26	0.0930	
264.40	263.29	0.0930	
313.73	261.28	0.0930	
323.84	261.53	0.0930	
325.29	261.12	0.0930 /0.0410	Main Channel
327.44	260.56	0.0410	Main Channel
330.20	261.79	0.0410 /0.0930	Main Channel
418.41	263.95	0.0930	
464.80	264.28	0.0930	
495.72	265.14	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	260.75	.661E+02	0.1	0.53	19.62
0.37	260.93	.265E+03	0.4	0.84	12.36

0.56	261.12	.595E+03	1.1	1.10	9.43
0.81	261.37	.140E+04	3.0	1.33	7.83
1.06	261.62	.434E+04	7.3	1.04	9.96
1.31	261.87	.875E+04	15.4	1.10	9.47
1.56	262.12	.154E+05	28.4	1.15	9.00
1.81	262.37	.245E+05	47.4	1.21	8.62
2.06	262.62	.362E+05	73.6	1.27	8.21
2.31	262.87	.505E+05	108.0	1.33	7.79
2.56	263.12	.673E+05	151.7	1.41	7.39
2.81	263.37	.891E+05	180.7	1.27	8.22
3.06	263.62	.120E+06	251.0	1.31	7.96
3.31	263.87	.157E+06	341.6	1.36	7.64
3.56	264.12	.200E+06	442.6	1.38	7.54
3.81	264.37	.254E+06	578.1	1.42	7.31
4.06	264.62	.317E+06	738.9	1.45	7.15
4.31	264.87	.387E+06	966.8	1.56	6.67
4.56	265.12	.462E+06	1227.8	1.66	6.27

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1153)	373.40	3.42	6.75	14.27	0.84	1.29
OUTFLOW: ID= 1 (5153)	373.40	3.39	7.00	14.27	0.83	1.29

CALIB				
NASHYD (0153)	Area	(ha)= 34.14	Curve Number	(CN)= 72.0
ID= 1 DT=15.0 min	Ia	(mm)= 9.80	# of Linear Res.	(N)= 3.00
	U.H. Tp(hrs)= 0.72			

Unit Hyd Qpeak (cms)= 1.809

PEAK FLOW (cms)= 0.452 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 13.850
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.255

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2153)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0153):	34.14	0.452	5.75	13.85
+ ID2= 2 (5153):	373.40	3.393	7.00	14.27
ID = 3 (2153):	407.54	3.705	6.75	14.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0140)	Area	(ha)= 157.95	Curve Number	(CN)= 73.0
ID= 1 DT=15.0 min	Ia	(mm)= 9.70	# of Linear Res.	(N)= 3.00
	U.H. Tp(hrs)= 1.60			

Unit Hyd Qpeak (cms)= 3.782

PEAK FLOW (cms)= 1.387 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 14.400
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.265

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1132)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0140):	157.95	1.387	7.00	14.40
+ ID2= 2 (2153):	407.54	3.705	6.75	14.24
ID = 3 (1132):	565.49	5.073	6.75	14.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5132)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5132.0) ------>

Distance	Elevation	Manning	
0.00	265.71	0.0930	
157.54	260.12	0.0930 /0.0410	Main Channel
162.96	260.04	0.0410	Main Channel
165.46	260.06	0.0410 /0.0930	Main Channel
230.27	261.15	0.0930	
271.12	261.23	0.0930	
301.57	261.74	0.0930	
340.02	262.22	0.0930	
355.40	262.69	0.0930	
390.99	263.30	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.02	260.06	.461E+02	0.0	0.04	507.91
0.19	260.23	.275E+04	0.4	0.17	118.51
0.36	260.40	.859E+04	1.6	0.22	91.47
0.53	260.57	.175E+05	3.7	0.25	79.15
0.70	260.74	.294E+05	6.9	0.28	71.09
0.87	260.91	.444E+05	11.4	0.31	65.09
1.04	261.08	.624E+05	17.2	0.33	60.33
1.21	261.25	.862E+05	22.8	0.32	63.13
1.38	261.42	.118E+06	33.6	0.34	58.33
1.55	261.59	.152E+06	46.8	0.37	54.18
1.73	261.77	.190E+06	62.3	0.39	50.75
1.90	261.94	.231E+06	79.9	0.41	48.16
2.07	262.11	.276E+06	100.2	0.43	45.88
2.24	262.28	.324E+06	124.0	0.46	43.60
2.41	262.45	.375E+06	152.0	0.48	41.16
2.58	262.62	.428E+06	182.8	0.51	39.06
2.75	262.79	.484E+06	215.5	0.53	37.42
2.92	262.96	.542E+06	250.3	0.55	36.09
3.09	263.13	.603E+06	288.3	0.57	34.89

0.56	261.12	.595E+03	1.1	1.10	9.43
0.81	261.37	.140E+04	3.0	1.33	7.83
1.06	261.62	.434E+04	7.3	1.04	9.96
1.31	261.87	.875E+04	15.4	1.10	9.47
1.56	262.12	.154E+05	28.4	1.15	9.00
1.81	262.37	.245E+05	47.4	1.21	8.62
2.06	262.62	.362E+05	73.6	1.27	8.21
2.31	262.87	.505E+05	108.0	1.33	7.79
2.56	263.12	.673E+05	151.7	1.41	7.39
2.81	263.37	.891E+05	180.7	1.27	8.22
3.06	263.62	.120E+06	251.0	1.31	7.96
3.31	263.87	.157E+06	341.6	1.36	7.64
3.56	264.12	.200E+06	442.6	1.38	7.54
3.81	264.37	.254E+06	578.1	1.42	7.31
4.06	264.62	.317E+06	738.9	1.45	7.15
4.31	264.87	.387E+06	966.8	1.56	6.67
4.56	265.12	.462E+06	1227.8	1.66	6.27
195.91	262.32	0.0930			
196.76	262.30	0.0930			
198.83	261.60	0.0930 /0.0410	Main Channel		
200.27	261.11	0.0410	Main Channel		
204.45	262.14	0.0410 /0.0930	Main Channel		
207.10	262.78	0.0930			
228.84	263.27	0.0930			
329.55	263.73	0.0930			
365.52	264.37	0.0930			
372.71	264.35	0.0930			
402.90	265.06	0.0930			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	261.27	.156E+03	0.0	0.29	97.17
0.33	261.44	.623E+03	0.2	0.45	61.21
0.49	261.60	.140E+04	0.5	0.60	46.71
0.66	261.77	.253E+04	1.1	0.75	37.05
0.83	261.94	.399E+04	2.1	0.86	32.23
0.99	262.10	.578E+04	3.3	0.96	29.09
1.16	262.27	.790E+04	5.1	1.09	25.62
1.33	262.44	.115E+05	7.3	1.07	26.06
1.50	262.61	.189E+05	10.6	0.93	29.79
1.67	262.78	.304E+05	15.2	0.84	33.30
1.83	262.94	.467E+05	21.4	0.77	36.32
2.00	263.11	.689E+05	30.1	0.73	38.19
2.17	263.28	.970E+05	41.4	0.71	39.04
2.34	263.45	.136E+06	55.7	0.69	40.59
2.51	263.62	.188E+06	75.6	0.67	41.55
2.68	263.79	.255E+06	102.5	0.67	41.44
2.84	263.95	.329E+06	137.5	0.70	39.94
3.01	264.12	.411E+06	176.5	0.72	38.78
3.18	264.29	.505E+06	217.3	0.72	38.70

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1132)	565.49	5.07	6.75	14.28	0.61	0.26
OUTFLOW: ID= 1 (5132)	565.49	4.08	8.00	14.28	0.55	0.25

CALIB				
NASHYD (0132)	Area	(ha)= 78.02	Curve Number	(CN)= 72.0
ID= 1 DT=15.0 min	Ia	(mm)= 9.60	# of Linear Res.	(N)= 3.00
	U.H. Tp(hrs)= 0.87			

Unit Hyd Qpeak (cms)= 3.421

PEAK FLOW (cms)= 0.936 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 13.962
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.257

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2132)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0132):	78.02	0.936	6.00	13.96
+ ID2= 2 (5132):	565.49	4.080	8.00	14.28
ID = 3 (2132):	643.51	4.547	7.75	14.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0108)	Area	(ha)= 82.89	Curve Number	(CN)= 72.0
ID= 1 DT=15.0 min	Ia	(mm)= 10.70	# of Linear Res.	(N)= 3.00
	U.H. Tp(hrs)= 1.34			

Unit Hyd Qpeak (cms)= 2.368

PEAK FLOW (cms)= 0.749 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 13.392
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.246

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5118)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5118.0) ------>

Distance	Elevation	Manning
0.00	264.29	0.0930
54.59	264.08	0.0930

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0108)	82.89	0.75	6.75	13.39	0.56	0.65
OUTFLOW: ID= 1 (5118)	82.89	0.68	7.50	13.39	0.54	0.63

CALIB				
NASHYD (0118)	Area	(ha)= 127.26	Curve Number	(CN)= 71.0
ID= 1 DT=15.0 min	Ia	(mm)= 9.70	# of Linear Res.	(N)= 3.00
	U.H. Tp(hrs)= 1.42			

Unit Hyd Qpeak (cms)= 3.416

PEAK FLOW (cms)= 1.115 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 13.449
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.247

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2118)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0118):	127.26	1.115	6.75	13.45
+ ID2= 2 (5118):	82.89	0.678	7.50	13.39
ID = 3 (2118):	210.15	1.765	7.00	13.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1125)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2118):	210.15	1.765	7.00	13.42
+ ID2= 2 (2132):	643.51	4.547	7.75	14.24
ID = 3 (1125):	853.66	6.226	7.50	14.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5125)

IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5125.0) ------>

Distance	Elevation	Manning	
0.00	261.06	0.0930	
112.10	260.66	0.0930	
128.23	260.37	0.0930	
184.04	259.72	0.0930	
217.53	259.61	0.0930	
253.86	259.67	0.0930	
268.78	259.50	0.0930	
310.66	258.59	0.0930	
323.55	258.45	0.0930 /0.0410	Main Channel
324.18	258.37	0.0410	Main Channel
328.71	257.57	0.0410	Main Channel
330.84	258.63	0.0410 /0.0930	Main Channel
332.23	258.70	0.0930	
402.29	261.32	0.0930	
415.98	261.42	0.0930	
435.71	261.26	0.0930	
609.12	263.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	257.75	.817E+02	0.0	0.15	77.13
0.35	257.92	.327E+03	0.1	0.24	48.59
0.53	258.10	.735E+03	0.3	0.31	37.08
0.70	258.27	.131E+04	0.7	0.37	30.61
0.88	258.45	.205E+04	1.3	0.43	26.77
1.07	258.64	.402E+04	2.4	0.41	28.11
1.25	258.82	.772E+04	4.3	0.38	30.28
1.44	259.01	.131E+05	7.0	0.36	31.41
1.63	259.20	.203E+05	10.7	0.36	31.50
1.81	259.38	.292E+05	15.7	0.37	30.98
2.00	259.57	.399E+05	21.8	0.38	30.52
2.19	259.76	.579E+05	27.1	0.32	35.56
2.37	259.94	.822E+05	40.1	0.33	34.21

114.39	257.69	0.0930	
138.64	257.87	0.0930	
178.64	259.30	0.0930	
197.11	259.23	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	256.48	.737E+02	0.0	0.20	79.74
0.29	256.62	.296E+03	0.1	0.32	50.29
0.43	256.77	.669E+03	0.3	0.43	38.35
0.57	256.91	.119E+04	0.6	0.52	31.64
0.75	257.09	.205E+04	1.3	0.64	25.38
0.92	257.26	.366E+04	2.5	0.68	24.06
1.10	257.44	.671E+04	4.3	0.63	25.84
1.28	257.62	.112E+05	6.9	0.60	27.04
1.46	257.80	.176E+05	10.1	0.56	29.00
1.63	257.97	.276E+05	15.3	0.54	30.14
1.81	258.15	.392E+05	22.5	0.56	29.03
1.99	258.33	.520E+05	31.4	0.59	27.60
2.17	258.51	.691E+05	41.5	0.59	27.75
2.34	258.68	.898E+05	55.9	0.61	26.80
2.52	258.86	.112E+06	72.8	0.64	25.56
2.70	259.04	.135E+06	92.4	0.67	24.32
2.88	259.22	.159E+06	114.5	0.70	23.15
3.05	259.39	.188E+06	130.8	0.68	23.93
3.23	259.57	.220E+06	159.7	0.71	23.02

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2125)	905.88	6.17	8.00	14.00	1.23	0.61
OUTFLOW: ID= 1 (5107)	905.88	6.00	8.50	14.00	1.21	0.61

CALIB

NASHYD (0107) Area (ha)= 121.76 Curve Number (CN)= 70.0

ID= 1 DT=15.0 min Ia (mm)= 9.70 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 1.34

Unit Hyd Qpeak (cms)= 3.460

PEAK FLOW (cms)= 1.065 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 13.001
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.239

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2107)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0107):	121.76	1.065	6.75	13.00
+ ID2= 2 (5107):	905.88	5.996	8.50	14.00
ID = 3 (2107):	1027.64	6.703	8.25	13.88

2.56	260.13	.109E+06	56.1	0.35	32.46
2.74	260.31	.139E+06	75.4	0.37	30.73
2.93	260.50	.171E+06	98.6	0.40	28.93
3.12	260.69	.205E+06	124.1	0.42	27.59
3.30	260.87	.245E+06	146.5	0.41	27.88
3.49	261.06	.292E+06	175.3	0.41	27.76

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1125)	853.66	6.23	7.50	14.04	1.39	0.37
OUTFLOW: ID= 1 (5125)	853.66	5.88	8.00	14.04	1.36	0.37

CALIB

NASHYD (0125) Area (ha)= 52.22 Curve Number (CN)= 72.0

ID= 1 DT=15.0 min Ia (mm)= 10.60 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 0.95

Unit Hyd Qpeak (cms)= 2.093

PEAK FLOW (cms)= 0.570 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 13.441
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.247

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2125)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0125):	52.22	0.570	6.25	13.44
+ ID2= 2 (5125):	853.66	5.875	8.00	14.04
ID = 3 (2125):	905.88	6.174	8.00	14.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5107)

IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5107.0) ------>

Distance	Elevation	Manning	
0.00	259.47	0.0930	
7.84	259.44	0.0930	
11.25	259.57	0.0930	
21.80	259.34	0.0930	
32.98	259.22	0.0930	
41.05	258.44	0.0930	
73.72	258.37	0.0930	
80.66	257.81	0.0930	
83.82	256.91	0.0930 /0.0410	Main Channel
85.86	256.34	0.0410	Main Channel
86.32	256.46	0.0410	Main Channel
88.86	257.10	0.0410 /0.0930	Main Channel

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

NASHYD (0090) Area (ha)= 67.74 Curve Number (CN)= 73.0

ID= 1 DT=15.0 min Ia (mm)= 9.40 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 0.85

Unit Hyd Qpeak (cms)= 3.040

PEAK FLOW (cms)= 0.859 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 14.556
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5089)

IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5089.0) ------>

Distance	Elevation	Manning	
0.00	283.61	0.0930	
12.80	283.54	0.0930	
26.10	283.37	0.0930	
32.61	283.02	0.0930	
52.71	281.44	0.0930	
67.48	281.01	0.0930	
83.85	280.06	0.0930	
102.23	279.31	0.0930	
113.08	279.11	0.0930	
117.61	279.05	0.0930 /0.0410	Main Channel
120.37	279.02	0.0410	Main Channel
123.67	277.63	0.0410	Main Channel
124.68	277.19	0.0410	Main Channel
129.65	278.99	0.0410 /0.0930	Main Channel
171.25	280.63	0.0930	
243.68	281.45	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	277.39	.318E+03	0.0	0.35	149.46
0.40	277.59	.127E+04	0.2	0.56	94.15
0.60	277.79	.286E+04	0.7	0.73	71.97
0.80	277.99	.510E+04	1.4	0.88	59.43
1.00	278.19	.798E+04	2.6	1.02	51.20
1.20	278.39	.115E+05	4.2	1.16	45.33
1.40	278.59	.157E+05	6.4	1.28	40.89
1.60	278.79	.205E+05	9.1	1.40	37.40
1.80	278.99	.260E+05	12.5	1.51	34.57
2.00	279.19	.368E+05	16.1	1.37	38.23
2.25	279.44	.637E+05	25.9	1.28	41.02
2.49	279.68	.101E+06	39.5	1.23	42.56
2.74	279.93	.147E+06	57.1	1.22	42.98
2.98	280.17	.203E+06	79.5	1.23	42.60
3.23	280.42	.267E+06	106.9	1.26	41.68
3.48	280.67	.340E+06	138.7	1.28	40.84
3.72	280.91	.428E+06	173.5	1.27	41.10

3.97	281.16	.537E+06	215.6	1.26	41.49
4.21	281.40	.668E+06	266.4	1.25	41.82

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0090)	67.74	0.86	6.00	14.56	0.65	0.76
OUTFLOW: ID= 1 (5089)	67.74	0.62	7.00	14.54	0.58	0.70

CALIB			
NASHYD (0089)	Area (ha)= 167.93	Curve Number (CN)= 67.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.40		

Unit Hyd Qpeak (cms)= 4.572

PEAK FLOW (cms)= 1.352 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 12.264
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.226

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2089)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0089):	167.93	1.352	6.75	12.26
+ ID2= 2 (5089):	67.74	0.623	7.00	14.54
ID = 3 (2089):	235.67	1.972	6.75	12.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5097)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5097.0) ------>

Distance	Elevation	Manning	
0.00	264.00	0.0930	
43.72	263.34	0.0930	
75.36	263.31	0.0930	
120.67	262.08	0.0930	
120.80	262.07	0.0930	
122.58	262.15	0.0930 /0.0410	Main Channel
122.81	262.14	0.0410	Main Channel
125.62	261.93	0.0410	Main Channel
127.06	261.90	0.0410	Main Channel
128.23	262.19	0.0410 /0.0930	Main Channel
129.33	262.51	0.0930	
202.64	264.26	0.0930	
234.87	264.54	0.0930	
274.19	264.72	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	261.98	.109E+03	0.0	0.27	51.95
0.17	262.07	.333E+03	0.2	0.41	33.66
0.25	262.15	.799E+03	0.4	0.44	31.23
0.37	262.27	.199E+04	1.3	0.53	25.99
0.48	262.38	.362E+04	2.6	0.60	23.06
0.60	262.50	.570E+04	4.5	0.66	21.17
0.71	262.61	.840E+04	6.9	0.69	20.19
0.83	262.73	.120E+05	10.2	0.71	19.65
0.94	262.84	.164E+05	14.3	0.72	19.19
1.06	262.96	.218E+05	19.4	0.74	18.70
1.17	263.07	.280E+05	25.6	0.76	18.19
1.29	263.19	.350E+05	33.1	0.79	17.66
1.41	263.31	.430E+05	41.8	0.81	17.14
1.52	263.42	.544E+05	47.8	0.73	18.94
1.64	263.54	.674E+05	61.5	0.76	18.26
1.75	263.65	.817E+05	77.4	0.79	17.59
1.87	263.77	.971E+05	95.5	0.82	16.95
1.98	263.88	.114E+06	116.0	0.85	16.35
2.10	264.00	.132E+06	139.0	0.88	15.78

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2089)	235.67	1.97	6.75	12.92	0.43	0.57
OUTFLOW: ID= 1 (5097)	235.67	1.90	7.25	12.92	0.42	0.56

CALIB			
NASHYD (0097)	Area (ha)= 49.25	Curve Number (CN)= 77.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.39		

Unit Hyd Qpeak (cms)= 1.350

PEAK FLOW (cms)= 0.547 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 16.619
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.306

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2097)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0097):	49.25	0.547	6.75	16.62
+ ID2= 2 (5097):	235.67	1.904	7.25	12.92
ID = 3 (2097):	284.92	2.422	7.25	13.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0104)	Area (ha)= 41.86	Curve Number (CN)= 71.0	

ID= 1 DT=15.0 min	Ia (mm)= 10.20	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 1.07				

Unit Hyd Qpeak (cms)= 1.491

PEAK FLOW (cms)= 0.422 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 13.192
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.243

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1102)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0104):	41.86	0.422	6.25	13.19
+ ID2= 2 (2097):	284.92	2.422	7.25	13.56
ID = 3 (1102):	326.78	2.796	7.00	13.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5102)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5102.0) ------>

Distance	Elevation	Manning	
0.00	261.12	0.0930	
11.14	260.51	0.0930	
18.45	260.84	0.0930	
41.57	260.07	0.0930	
52.25	260.01	0.0930	
73.74	260.12	0.0930	
117.88	258.92	0.0930	
139.95	258.90	0.0930	
184.09	258.61	0.0930	
194.98	258.41	0.0930	
203.59	258.36	0.0930	
209.59	258.28	0.0930 /0.0410	Main Channel
214.07	258.22	0.0410	Main Channel
217.86	258.29	0.0410 /0.0930	Main Channel
325.90	260.68	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	258.28	.441E+02	0.0	0.10	31.73
0.19	258.41	.434E+03	0.4	0.19	16.32
0.31	258.53	.126E+04	1.5	0.23	13.61
0.44	258.66	.240E+04	3.3	0.26	12.17
0.57	258.79	.409E+04	5.9	0.28	11.51
0.69	258.91	.640E+04	9.5	0.28	11.24
0.82	259.04	.958E+04	15.5	0.31	10.33
0.94	259.16	.130E+05	23.3	0.34	9.32
1.07	259.29	.167E+05	32.7	0.37	8.52
1.20	259.42	.207E+05	43.8	0.40	7.87
1.32	259.54	.248E+05	56.4	0.43	7.34

1.45	259.67	.293E+05	70.7	0.46	6.91
1.58	259.80	.340E+05	86.6	0.48	6.54
1.70	259.92	.389E+05	104.3	0.51	6.22
1.83	260.05	.441E+05	119.1	0.51	6.18
1.95	260.17	.503E+05	136.4	0.52	6.14
2.08	260.30	.567E+05	161.7	0.54	5.85
2.21	260.43	.634E+05	189.1	0.57	5.59
2.33	260.55	.704E+05	217.9	0.59	5.38

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1102)	326.78	2.80	7.00	13.51	0.40	0.25
OUTFLOW: ID= 1 (5102)	326.78	2.77	7.25	13.51	0.40	0.25

CALIB			
NASHYD (0102)	Area (ha)= 2.11	Curve Number (CN)= 72.0	
ID= 1 DT=15.0 min	Ia (mm)= 7.80	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.29		

Unit Hyd Qpeak (cms)= 0.279

PEAK FLOW (cms)= 0.047 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 14.483
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.266

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2102)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0102):	2.11	0.047	5.25	14.48
+ ID2= 2 (5102):	326.78	2.765	7.25	13.51
ID = 3 (2102):	328.89	2.776	7.25	13.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0085)	Area (ha)= 100.60	Curve Number (CN)= 72.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.50	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.58		

Unit Hyd Qpeak (cms)= 2.433

PEAK FLOW (cms)= 0.865 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 14.020
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.258

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
---------------------
| ADD HYD   (1103) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0085):   100.60   0.865     7.00    14.02
      + ID2= 2 (2102):   328.89   2.776     7.25    13.52
        ================================================
        ID = 3 (1103):   429.49   3.633     7.25    13.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
---------------------
| ROUTE CHN (5103) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
---------------------
              <------ DATA FOR SECTION (5103.0) ------>
             Distance      Elevation       Manning
                0.00         260.43        0.0930
               64.92         259.80        0.0930
              159.89         259.49        0.0930
              194.21         259.11        0.0930
              200.68         257.93        0.0930
              217.06         258.25        0.0930
              225.28         257.72    0.0930 /0.0410  Main Channel
              227.17         257.59        0.0410      Main Channel
              228.54         257.71    0.0410 /0.0930  Main Channel
              244.04         258.74        0.0930
              267.54         258.84        0.0930
              274.63         259.13        0.0930
              295.89         259.48        0.0930
              310.06         259.61        0.0930
              344.18         260.28        0.0930
              358.34         260.35        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.12   257.71    .574E+02       0.1        0.27      18.86
       0.26   257.85    .281E+03       0.4        0.46      11.20
       0.40   257.99    .715E+03       1.2        0.50      10.30
       0.54   258.13    .161E+04       2.5        0.48      10.65
       0.68   258.27    .302E+04       4.8        0.49      10.40
       0.81   258.40    .471E+04       8.5        0.56       9.23
       0.95   258.54    .651E+04      13.2        0.62       8.23
       1.09   258.68    .844E+04      18.9        0.69       7.46
       1.23   258.82    .107E+05      24.0        0.69       7.43
       1.37   258.96    .138E+05      32.7        0.73       7.05
       1.51   259.10    .172E+05      43.2        0.77       6.61
       1.65   259.24    .209E+05      50.6        0.74       6.90
       1.79   259.38    .256E+05      61.0        0.73       6.99
       1.93   259.52    .312E+05      72.8        0.72       7.14
       2.07   259.66    .387E+05      85.1        0.68       7.58
       2.20   259.79    .485E+05     106.4        0.67       7.59
       2.34   259.93    .598E+05     138.3        0.71       7.20
       2.48   260.07    .720E+05     175.6        0.75       6.83
       2.62   260.21    .851E+05     218.1        0.79       6.50

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
```



```
INFLOW : ID= 2 (1103)  429.49     3.63    7.25  13.63      0.60      0.49
OUTFLOW: ID= 1 (5103)  429.49     3.60    7.25  13.63      0.60      0.49

--------------------------------------------------------------------------------
---------------------
| CALIB             |
| NASHYD    (0103) |   Area    (ha)=  13.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.90   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   0.638

     PEAK FLOW       (cms)=   0.161 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  13.340
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.245

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
---------------------
| ADD HYD   (2103) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0103):    13.80   0.161     6.00    13.34
      + ID2= 2 (5103):   429.49   3.602     7.25    13.63
        ================================================
        ID = 3 (2103):   443.29   3.704     7.25    13.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
---------------------
| ADD HYD   (1105) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2103):   443.29   3.704     7.25    13.63
      + ID2= 2 (2107):  1027.64   6.703     8.25    13.88
        ================================================
        ID = 3 (1105):  1470.93  10.088     7.75    13.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
---------------------
| ROUTE CHN (5105) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
---------------------
              <------ DATA FOR SECTION (5105.0) ------>
             Distance      Elevation       Manning
                0.00         259.38        0.0930
               16.48         258.87        0.0930
               29.77         258.00        0.0930
               35.97         256.26        0.0930
               47.95         256.26        0.0930
               63.19         256.50        0.0930
               68.45         254.59    0.0930 /0.0410  Main Channel
               69.33         254.24        0.0410      Main Channel
               70.76         254.71    0.0410 /0.0930  Main Channel
```



```
               75.24         256.29        0.0930
               93.49         256.07        0.0930
              111.29         256.77        0.0930
              123.23         257.87        0.0930
              136.75         258.67        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.18   254.42    .100E+03       0.0        0.17     113.66
       0.35   254.59    .401E+03       0.1        0.27      71.60
       0.59   254.83    .115E+04       0.4        0.42      46.70
       0.83   255.07    .227E+04       1.0        0.51      38.69
       1.07   255.31    .378E+04       1.8        0.56      35.01
       1.31   255.55    .566E+04       2.9        0.60      32.70
       1.55   255.79    .792E+04       4.3        0.63      30.99
       1.79   256.03    .106E+05       5.9        0.66      29.62
       2.03   256.27    .163E+05       6.9        0.50      39.36
       2.27   256.51    .329E+05      11.3        0.41      48.37
       2.51   256.75    .535E+05      18.8        0.41      47.54
       2.75   256.99    .757E+05      28.9        0.45      43.75
       2.99   257.23    .989E+05      41.2        0.49      40.05
       3.23   257.47    .123E+06      55.6        0.53      36.92
       3.47   257.71    .148E+06      72.0        0.57      34.30
       3.71   257.95    .174E+06      90.3        0.61      32.19
       3.95   258.19    .202E+06     108.9        0.63      30.93
       4.19   258.43    .232E+06     129.4        0.66      29.87
       4.43   258.67    .264E+06     152.4        0.68      28.87

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1105) 1470.93    10.09    7.75  13.81      2.20      0.43
    OUTFLOW: ID= 1 (5105) 1470.93     9.20    8.75  13.81      2.16      0.45

--------------------------------------------------------------------------------
---------------------
| CALIB             |
| NASHYD    (0105) |   Area    (ha)=  54.33   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.60   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=   0.72

     Unit Hyd Qpeak  (cms)=   2.866

     PEAK FLOW       (cms)=   0.692 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  13.433
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.247

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
---------------------
| ADD HYD   (2105) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0105):    54.33   0.692     5.75    13.43
      + ID2= 2 (5105):  1470.93   9.205     8.75    13.81
        ================================================
        ID = 3 (2105):  1525.26   9.373     8.75    13.79
```



```
    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
---------------------
| CALIB             |
| NASHYD    (0072) |   Area    (ha)=  66.00   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.70   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=   1.00

     Unit Hyd Qpeak  (cms)=   2.508

     PEAK FLOW       (cms)=   0.680 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  12.999
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
---------------------
| CALIB             |
| NASHYD    (0062) |   Area    (ha)= 194.37   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.30   # of Linear Res.(N)= 3.00
---------------------   U.H. Tp(hrs)=   1.33

     Unit Hyd Qpeak  (cms)=   5.578

     PEAK FLOW       (cms)=   1.808 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  13.704
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.252

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
---------------------
| ADD HYD   (1086) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
---------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0062):   194.37   1.808     6.50    13.70
      + ID2= 2 (0072):    66.00   0.680     6.25    13.00
        ================================================
        ID = 3 (1086):   260.37   2.471     6.50    13.52

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
---------------------
| ROUTE CHN (5086) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
---------------------
              <------ DATA FOR SECTION (5086.0) ------>
             Distance      Elevation       Manning
                0.00         261.31        0.0930
                3.21         261.36        0.0930
               28.01         261.03        0.0930
               42.51         261.07        0.0930
               53.44         260.90        0.0930
               62.26         260.66        0.0930
```

107.79	260.30	0.0930	
123.86	260.33	0.0930	
139.15	260.06	0.0930	
156.49	259.39	0.0930	
173.83	258.81	0.0930 /0.0410	Main Channel
179.12	258.67	0.0410	Main Channel
180.66	258.74	0.0410 /0.0930	Main Channel
197.95	259.63	0.0930	
205.72	259.81	0.0930	
209.98	259.78	0.0930	
318.53	261.21	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.07	258.74	.375E+03	0.0	0.20	216.58
0.21	258.88	.320E+04	0.5	0.43	98.91
0.35	259.02	.847E+04	1.8	0.55	77.87
0.48	259.15	.161E+05	3.9	0.62	69.08
0.62	259.29	.262E+05	6.9	0.67	63.50
0.76	259.43	.387E+05	10.9	0.72	59.26
0.90	259.57	.534E+05	16.0	0.77	55.68
1.04	259.71	.705E+05	22.0	0.80	53.32
1.17	259.84	.917E+05	28.6	0.80	53.38
1.31	259.98	.119E+06	37.8	0.81	52.42
1.45	260.12	.151E+06	48.6	0.82	51.84
1.59	260.26	.190E+06	61.3	0.83	51.51
1.72	260.39	.239E+06	73.2	0.78	54.43
1.86	260.53	.301E+06	93.0	0.79	53.89
2.00	260.67	.372E+06	117.3	0.81	52.88
2.14	260.81	.451E+06	148.5	0.84	50.63
2.28	260.95	.535E+06	183.6	0.88	48.60
2.41	261.08	.628E+06	216.3	0.88	48.38
2.55	261.22	.732E+06	261.9	0.92	46.60

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1086)	260.37	2.47	6.50	13.52	0.39	0.57
OUTFLOW: ID= 1 (5086)	260.37	1.94	7.50	13.52	0.35	0.55

CALIB	
NASHYD (0086)	Area (ha)= 85.32 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.35

Unit Hyd Qpeak (cms)= 2.416

PEAK FLOW (cms)= 0.790 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 13.757
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.253

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2086)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0086):	85.32	0.790	6.75	13.76
+ ID2= 2 (5086):	260.37	1.939	7.50	13.52
ID = 3 (2086):	345.69	2.645	7.25	13.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0082)	Area (ha)= 127.96 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.59

Unit Hyd Qpeak (cms)= 3.070

PEAK FLOW (cms)= 1.090 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 13.968
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.257

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0070)	Area (ha)= 60.11 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.10 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.23

Unit Hyd Qpeak (cms)= 1.871

PEAK FLOW (cms)= 0.566 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 13.244
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.244

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1080)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0070):	60.11	0.566	6.50	13.24
+ ID2= 2 (0082):	127.96	1.090	7.00	13.97
ID = 3 (1080):	188.07	1.634	6.75	13.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5080)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5080.0) ------>

Distance	Elevation	Manning

0.00	265.31	0.0930	
3.12	265.35	0.0930	
51.72	263.31	0.0930	
63.25	263.22	0.0930	
83.29	262.44	0.0930	
98.72	261.99	0.0930 /0.0410	Main Channel
107.79	261.84	0.0410	Main Channel
112.42	261.99	0.0410 /0.0930	Main Channel
182.31	264.06	0.0930	
207.12	264.23	0.0930	
208.20	264.24	0.0930	
230.04	264.24	0.0930	
257.09	264.08	0.0930	
287.23	264.25	0.0930	
339.24	265.08	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	261.99	.747E+03	0.3	0.32	38.02
0.33	262.17	.328E+04	2.6	0.58	20.78
0.50	262.34	.737E+04	7.0	0.70	17.43
0.68	262.52	.130E+05	13.8	0.77	15.68
0.86	262.70	.200E+05	23.1	0.84	14.43
1.03	262.87	.283E+05	35.0	0.90	13.48
1.21	263.05	.380E+05	49.8	0.95	12.72
1.39	263.23	.491E+05	67.4	1.00	12.12
1.56	263.40	.624E+05	87.5	1.02	11.89
1.74	263.58	.773E+05	113.3	1.07	11.37
1.92	263.76	.935E+05	143.0	1.11	10.90
2.10	263.94	.111E+06	176.6	1.16	10.47
2.27	264.11	.130E+06	206.5	1.15	10.49
2.45	264.29	.158E+06	233.3	1.07	11.29
2.63	264.47	.193E+06	291.6	1.10	11.01
2.80	264.64	.229E+06	357.8	1.14	10.67
2.98	264.82	.268E+06	431.9	1.17	10.33
3.16	265.00	.308E+06	514.1	1.21	9.99
3.33	265.17	.350E+06	608.3	1.26	9.60

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1080)	188.07	1.63	6.75	13.74	0.25	0.43
OUTFLOW: ID= 1 (5080)	188.07	1.59	7.25	13.74	0.25	0.42

CALIB	
NASHYD (0080)	Area (ha)= 26.18 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 8.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.78

Unit Hyd Qpeak (cms)= 1.287

PEAK FLOW (cms)= 0.365 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 15.044
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.277

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2080)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0080):	26.18	0.365	5.75	15.04
+ ID2= 2 (5080):	188.07	1.586	7.25	13.74
ID = 3 (2080):	214.25	1.797	7.00	13.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1087)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2080):	214.25	1.797	7.00	13.90
+ ID2= 2 (2086):	345.69	2.645	7.25	13.74
ID = 3 (1087):	559.94	4.437	7.25	13.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5087)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5087.0) ------>

Distance	Elevation	Manning	
0.00	258.88	0.0930	
8.99	258.76	0.0930	
19.29	256.36	0.0930	
40.77	256.43	0.0930	
45.90	256.36	0.0930	
56.95	256.44	0.0930	
62.65	256.35	0.0930	
72.79	255.95	0.0930 /0.0410	Main Channel
73.78	255.91	0.0410	Main Channel
74.08	256.02	0.0410 /0.0930	Main Channel
84.33	259.59	0.0930	
121.64	260.15	0.0930	
126.24	260.09	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.04	255.95	.134E+02	0.0	0.13	77.23
0.26	256.17	.580E+03	0.3	0.33	30.32
0.48	256.39	.217E+04	1.1	0.31	32.40
0.70	256.61	.951E+04	6.0	0.38	26.63
0.92	256.83	.174E+05	15.0	0.53	19.29
1.15	257.06	.254E+05	27.3	0.65	15.51
1.37	257.28	.337E+05	42.6	0.77	13.18
1.59	257.50	.422E+05	60.7	0.88	11.60
1.81	257.72	.509E+05	81.4	0.97	10.43
2.03	257.94	.599E+05	104.6	1.06	9.54
2.25	258.16	.690E+05	130.3	1.15	8.82
2.47	258.38	.783E+05	158.5	1.23	8.24
2.69	258.60	.879E+05	189.0	1.31	7.75

2.91	258.82	.978E+05	213.5	1.33	7.63
3.13	259.04	.109E+06	244.8	1.37	7.41
3.36	259.27	.120E+06	286.5	1.45	6.98
3.58	259.49	.131E+06	330.9	1.54	6.61
3.80	259.71	.143E+06	372.2	1.59	6.40
4.02	259.93	.156E+06	418.6	1.63	6.22

	<---- hydrograph ---->				<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1087)	559.94	4.44	7.25	13.70	0.63	0.36
OUTFLOW: ID= 1 (5087)	559.94	4.27	7.75	13.70	0.63	0.35

CALIB			
NASHYD (0087)	Area (ha)=	11.14	Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.56	

Unit Hyd Qpeak (cms)= 0.761

PEAK FLOW (cms)= 0.152 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 12.395
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.228

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2087)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0087):	11.14	0.152	5.50	12.40
+ ID2= 2 (5087):	559.94	4.267	7.75	13.70
ID = 3 (2087):	571.08	4.313	7.75	13.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2087):	571.08	4.313	7.75	13.67
+ ID2= 2 (2105):	1525.26	9.373	8.75	13.79
ID = 3 (1084):	2096.34	13.243	8.50	13.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5084)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5084.0) ------>

Distance	Elevation	Manning	
0.00	259.35	0.0930	
3.22	259.33	0.0930	
19.62	255.67	0.0930	
53.75	255.23	0.0930	
140.86	255.25	0.0930	
146.73	253.99	0.0930 /0.0410	Main Channel
148.19	253.66	0.0410	Main Channel
148.47	253.71	0.0410	Main Channel
151.58	254.18	0.0410 /0.0930	Main Channel
159.61	255.34	0.0930	
161.63	255.50	0.0930	
175.11	259.05	0.0930	
185.75	258.95	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	253.83	.358E+02	0.0	0.30	13.95
0.33	253.99	.147E+03	0.3	0.48	8.74
0.62	254.28	.530E+03	1.6	0.78	5.37
0.91	254.57	.116E+04	4.5	0.96	4.33
1.21	254.87	.203E+04	8.7	1.07	3.90
1.50	255.16	.315E+04	14.5	1.15	3.63
1.79	255.45	.953E+04	25.6	0.67	6.20
2.08	255.74	.194E+05	52.8	0.68	6.14
2.37	256.03	.300E+05	93.7	0.78	5.33
2.66	256.32	.407E+05	145.5	0.89	4.67
2.96	256.62	.516E+05	207.0	1.00	4.16
3.25	256.91	.627E+05	277.8	1.11	3.76
3.54	257.20	.740E+05	357.4	1.21	3.45
3.83	257.49	.854E+05	445.5	1.31	3.19
4.12	257.78	.970E+05	541.8	1.40	2.98
4.41	258.07	.109E+06	646.1	1.49	2.81
4.71	258.37	.121E+06	758.3	1.57	2.65
5.00	258.66	.133E+06	878.1	1.65	2.52
5.29	258.95	.145E+06	1005.6	1.73	2.41

	<---- hydrograph ---->				<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1084)	2096.34	13.24	8.50	13.76	1.44	1.13
OUTFLOW: ID= 1 (5084)	2096.34	13.25	8.50	13.76	1.43	1.13

CALIB			
NASHYD (0084)	Area (ha)=	19.87	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	8.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.53	

Unit Hyd Qpeak (cms)= 1.435

PEAK FLOW (cms)= 0.345 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 15.062
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.277

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2084)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0084):	19.87	0.345	5.50	15.06
+ ID2= 2 (5084):	2096.34	13.250	8.50	13.76
ID = 3 (2084):	2116.21	13.313	8.50	13.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0083)	Area (ha)=	50.78	Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)=	9.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.05	

Unit Hyd Qpeak (cms)= 1.852

PEAK FLOW (cms)= 0.490 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 12.472
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.229

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1076)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0083):	50.78	0.490	6.25	12.47
+ ID2= 2 (2084):	2116.21	13.313	8.50	13.77
ID = 3 (1076):	2166.99	13.540	8.50	13.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5076)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5076.0) ------>

Distance	Elevation	Manning	
0.00	260.17	0.0930	
14.24	259.77	0.0930	
43.01	255.21	0.0930	
58.26	254.66	0.0930 /0.0410	Main Channel
63.42	253.10	0.0410	Main Channel
66.04	253.09	0.0410	Main Channel
70.21	254.56	0.0410 /0.0930	Main Channel
123.72	254.97	0.0930	
148.22	259.84	0.0930	
150.20	260.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.29	253.38	.521E+03	0.3	0.33	26.27
0.59	253.68	.132E+04	1.2	0.48	17.88
0.88	253.97	.240E+04	2.8	0.60	14.31
1.18	254.27	.374E+04	5.1	0.70	12.19
1.47	254.56	.536E+04	8.3	0.80	10.75
1.86	254.95	.134E+05	16.5	0.63	13.59
2.25	255.34	.293E+05	33.0	0.58	14.78
2.64	255.73	.464E+05	57.0	0.63	13.58
3.03	256.12	.644E+05	87.3	0.70	12.31
3.42	256.51	.833E+05	123.5	0.76	11.24
3.81	256.90	.103E+06	165.6	0.83	10.38
4.19	257.28	.124E+06	213.3	0.89	9.67
4.58	257.67	.145E+06	266.7	0.94	9.08
4.97	258.06	.168E+06	325.6	1.00	8.59
5.36	258.45	.191E+06	390.2	1.05	8.16
5.75	258.84	.215E+06	460.3	1.10	7.79
6.14	259.23	.240E+06	536.1	1.15	7.47
6.53	259.62	.266E+06	617.6	1.19	7.19
6.92	260.01	.294E+06	691.2	1.21	7.08

	<---- hydrograph ---->				<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1076)	2166.99	13.54	8.50	13.74	1.72	0.68
OUTFLOW: ID= 1 (5076)	2166.99	13.40	8.75	13.74	1.71	0.68

CALIB			
NASHYD (0076)	Area (ha)=	22.96	Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)=	10.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.44	

Unit Hyd Qpeak (cms)= 2.011

PEAK FLOW (cms)= 0.336 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 12.060
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.222

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2076)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0076):	22.96	0.336	5.25	12.06
+ ID2= 2 (5076):	2166.99	13.399	8.75	13.74
ID = 3 (2076):	2189.95	13.446	8.75	13.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0071)	Area (ha)=	79.26	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.35	

Unit Hyd Qpeak (cms)= 2.247

PEAK FLOW (cms)= 0.746 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 13.967
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.257

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1063)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0071):	79.26	0.746	6.75	13.97
	+ ID2= 2 (2076):	2189.95	13.446	8.75	13.72
	ID = 3 (1063):	2269.21	13.901	8.50	13.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5063)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5063.0) ------>

Distance	Elevation	Manning	
0.00	260.53	0.0930	
7.93	260.16	0.0930	
25.92	255.95	0.0930	
48.02	251.95	0.0930	
74.10	251.57	0.0930 /0.0410	Main Channel
75.60	250.50	0.0410	Main Channel
79.20	250.50	0.0410	Main Channel
81.24	251.63	0.0410 /0.0930	Main Channel
112.21	252.04	0.0930	
134.13	254.75	0.0930	
150.69	255.82	0.0930	
162.81	257.37	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	250.86	.284E+04	0.6	0.38	84.04
0.71	251.21	.647E+04	1.9	0.56	57.07
1.07	251.57	.109E+05	3.9	0.69	45.95
1.43	251.93	.310E+05	8.2	0.50	63.18
1.80	252.30	.758E+05	18.0	0.45	70.25
2.16	252.66	.125E+06	32.8	0.50	63.38
2.52	253.02	.177E+06	52.0	0.56	56.78
2.88	253.38	.233E+06	75.3	0.62	51.53
3.24	253.74	.292E+06	102.7	0.67	47.38
3.61	254.11	.355E+06	134.2	0.72	44.04
3.97	254.47	.421E+06	169.8	0.77	41.30
4.33	254.83	.490E+06	208.9	0.81	39.11
4.69	255.19	.565E+06	250.5	0.85	37.56
5.06	255.56	.644E+06	296.8	0.88	36.16
5.42	255.92	.729E+06	349.0	0.92	34.80
5.78	256.28	.817E+06	409.2	0.96	33.29

6.14	256.64	.909E+06	474.1	1.00	31.94
6.51	257.01	.100E+07	543.9	1.04	30.74
6.87	257.37	.110E+07	618.4	1.07	29.67

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1063)	2269.21	13.90	8.50	13.73	1.64	0.47
OUTFLOW: ID= 1 (5063)	2269.21	12.52	9.75	13.73	1.59	0.48

CALIB	
NASHYD (0063)	Area (ha)= 109.84 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 8.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.82

Unit Hyd Qpeak (cms)= 5.123

PEAK FLOW (cms)= 1.508 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 15.345
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.282

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2063)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0063):	109.84	1.508	5.75	15.34
	+ ID2= 2 (5063):	2269.21	12.519	9.75	13.73
	ID = 3 (2063):	2379.05	12.741	9.75	13.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0035)	Area (ha)= 49.86 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.90

Unit Hyd Qpeak (cms)= 2.121

PEAK FLOW (cms)= 0.578 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 13.753
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.253

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0018)	Area (ha)= 165.67 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 8.30 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 1.18

Unit Hyd Qpeak (cms)= 5.349

PEAK FLOW (cms)= 1.655 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 13.703
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.252

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1055)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0018):	165.67	1.655	6.50	13.70
	+ ID2= 2 (0035):	49.86	0.578	6.00	13.75
	ID = 3 (1055):	215.53	2.210	6.25	13.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5055)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5055.0) ------>

Distance	Elevation	Manning	
0.00	280.19	0.0930	
87.50	278.82	0.0930	
98.89	278.56	0.0930	
123.84	277.27	0.0930	
130.09	276.61	0.0930 /0.0410	Main Channel
131.71	276.44	0.0410	Main Channel
141.16	276.65	0.0410 /0.0930	Main Channel
152.62	277.02	0.0930	
168.18	278.51	0.0930	
229.80	279.24	0.0930	
279.45	279.08	0.0930	
352.04	279.93	0.0930	
414.67	279.67	0.0930	
506.68	280.29	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	276.61	.333E+04	0.3	0.36	194.87
0.36	276.80	.142E+05	2.2	0.66	106.21
0.55	276.99	.311E+05	6.0	0.82	86.49
0.74	277.18	.531E+05	11.7	0.93	75.45
0.92	277.36	.783E+05	19.2	1.04	67.84
1.11	277.55	.108E+06	28.6	1.12	62.81
1.30	277.74	.142E+06	40.0	1.19	59.08
1.49	277.93	.180E+06	53.5	1.26	56.15
1.68	278.12	.223E+06	69.2	1.31	53.73
1.87	278.31	.270E+06	87.2	1.36	51.68
2.05	278.49	.322E+06	107.7	1.41	49.89
2.24	278.68	.384E+06	123.7	1.36	51.76
2.43	278.87	.465E+06	145.3	1.32	53.33

2.62	279.06	.567E+06	172.7	1.29	54.76
2.81	279.25	.716E+06	195.8	1.16	60.92
3.00	279.44	.913E+06	246.9	1.14	61.62
3.18	279.62	.113E+07	307.9	1.15	61.33
3.37	279.81	.139E+07	362.7	1.10	63.96
3.56	280.00	.173E+07	441.2	1.08	65.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1055)	215.53	2.21	6.25	13.71	0.36	0.66
OUTFLOW: ID= 1 (5055)	215.53	1.28	7.75	13.71	0.27	0.47

CALIB	
NASHYD (0055)	Area (ha)= 149.76 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.53

Unit Hyd Qpeak (cms)= 3.748

PEAK FLOW (cms)= 1.231 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 13.194
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.243

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2055)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0055):	149.76	1.231	7.00	13.19
	+ ID2= 2 (5055):	215.53	1.284	7.75	13.71
	ID = 3 (2055):	365.29	2.461	7.25	13.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0054)	Area (ha)= 59.63 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.14

Unit Hyd Qpeak (cms)= 1.994

PEAK FLOW (cms)= 0.645 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 14.561
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1053)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0054):	59.63	0.645	6.50	14.56
	+ ID2= 2 (2055):	365.29	2.461	7.25	13.50
	ID = 3 (1053):	424.92	3.009	7.25	13.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5053)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5053.0) ------>

Distance	Elevation	Manning	
0.00	259.86	0.0930	
30.23	255.77	0.0930 /0.0410	Main Channel
32.12	255.61	0.0410	Main Channel
33.86	255.81	0.0410 /0.0930	Main Channel
75.21	261.86	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	255.77	.644E+02	0.1	0.19	21.35
0.38	255.99	.322E+03	0.5	0.37	10.94
0.59	256.20	.742E+03	1.4	0.45	9.00
0.81	256.42	.132E+04	2.7	0.51	8.07
1.02	256.63	.207E+04	4.6	0.55	7.47
1.24	256.85	.297E+04	7.1	0.58	7.01
1.45	257.06	.404E+04	10.1	0.62	6.64
1.67	257.28	.527E+04	13.9	0.65	6.33
1.88	257.49	.666E+04	18.3	0.67	6.06
2.10	257.71	.821E+04	23.5	0.70	5.82
2.31	257.92	.992E+04	29.5	0.73	5.61
2.53	258.14	.118E+05	36.3	0.76	5.41
2.74	258.35	.138E+05	44.1	0.78	5.23
2.96	258.57	.160E+05	52.7	0.81	5.07
3.17	258.78	.184E+05	62.3	0.83	4.92
3.39	259.00	.209E+05	72.9	0.86	4.78
3.60	259.21	.236E+05	84.6	0.88	4.65
3.82	259.43	.264E+05	97.3	0.90	4.53
4.03	259.64	.295E+05	111.1	0.93	4.42

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1053)	424.92	3.01	7.25	13.65	0.84	0.51
OUTFLOW: ID= 1 (5053)	424.92	3.00	7.25	13.65	0.84	0.51

CALIB			
NASHYD (0053)	Area (ha)=	5.96	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.35	

Unit Hyd Qpeak (cms)= 0.652

PEAK FLOW (cms)= 0.116 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 13.604
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.250

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2053)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0053):	5.96	0.116	5.25	13.60
	+ ID2= 2 (5053):	424.92	3.002	7.25	13.65
	ID = 3 (2053):	430.88	3.033	7.25	13.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0020)	Area (ha)=	80.57	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.12	

Unit Hyd Qpeak (cms)= 2.738

PEAK FLOW (cms)= 0.791 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 13.193
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.243

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0011)	Area (ha)=	91.04	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.42	

Unit Hyd Qpeak (cms)= 2.445

PEAK FLOW (cms)= 0.861 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 14.454
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.266

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1021)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0011):	91.04	0.861	6.75	14.45
	+ ID2= 2 (0020):	80.57	0.791	6.50	13.19

ID = 3 (1021):	171.61	1.637	6.50	13.86	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5021)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5021.0) ------>

Distance	Elevation	Manning	
0.00	276.23	0.0930	
23.73	276.03	0.0930	
36.85	275.23	0.0930	
61.59	270.42	0.0930	
76.89	269.69	0.0930	
79.38	269.35	0.0930 /0.0410	Main Channel
82.08	268.91	0.0410	Main Channel
83.34	269.30	0.0410 /0.0930	Main Channel
84.93	269.79	0.0930	
98.02	269.97	0.0930	
107.38	271.99	0.0930	
117.80	275.64	0.0930	
136.41	276.14	0.0930	
138.19	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	269.11	.350E+03	0.1	0.48	67.98
0.39	269.30	.140E+04	0.5	0.77	42.82
0.80	269.71	.602E+04	3.9	1.29	25.50
1.21	270.12	.223E+05	12.1	1.07	30.66
1.61	270.52	.510E+05	30.1	1.16	28.18
2.02	270.93	.842E+05	58.1	1.36	24.18
2.43	271.34	.121E+06	94.6	1.54	21.28
2.84	271.75	.160E+06	139.5	1.71	19.16
3.24	272.15	.203E+06	193.4	1.87	17.51
3.65	272.56	.249E+06	256.5	2.03	16.17
4.06	272.97	.297E+06	328.1	2.17	15.08
4.47	273.38	.348E+06	408.4	2.31	14.19
4.87	273.78	.401E+06	497.5	2.44	13.44
5.28	274.19	.457E+06	595.6	2.56	12.79
5.69	274.60	.516E+06	702.7	2.68	12.23
6.10	275.01	.577E+06	819.1	2.79	11.74
6.50	275.41	.641E+06	934.0	2.87	11.44
6.91	275.82	.712E+06	1009.8	2.79	11.76
7.32	276.23	.803E+06	1016.7	2.49	13.16

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1021)	171.61	1.64	6.50	13.86	0.52	0.88
OUTFLOW: ID= 1 (5021)	171.61	1.50	7.25	13.86	0.50	0.86

CALIB			
NASHYD (0021)	Area (ha)=	68.90	Curve Number (CN)= 78.0
ID= 1 DT=15.0 min	Ia (mm)=	7.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.75	

Unit Hyd Qpeak (cms)= 3.490

PEAK FLOW (cms)= 1.242 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 18.719
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.344

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2021)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0021):	68.90	1.242	5.75	18.72
	+ ID2= 2 (5021):	171.61	1.504	7.25	13.86
	ID = 3 (2021):	240.51	2.294	6.50	15.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0042)	Area (ha)=	109.13	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.32	

Unit Hyd Qpeak (cms)= 3.160

PEAK FLOW (cms)= 1.085 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 14.562
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1052)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0042):	109.13	1.085	6.50	14.56
	+ ID2= 2 (2021):	240.51	2.294	6.50	15.25
	ID = 3 (1052):	349.64	3.379	6.50	15.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5052)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5052.0) ------>

Distance	Elevation	Manning
0.00	266.73	0.0930
17.65	266.70	0.0930

30.84	260.87	0.0930 /0.0410	Main Channel
33.16	260.30	0.0410	Main Channel
33.54	260.21	0.0410	Main Channel
34.62	260.23	0.0410	Main Channel
40.02	260.43	0.0410 /0.0930	Main Channel
79.73	260.97	0.0930	
92.56	266.14	0.0930	
101.74	266.11	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	260.43	.103E+04	0.4	0.49	40.73
0.52	260.73	.781E+04	4.3	0.66	30.29
0.82	261.03	.227E+05	14.6	0.77	25.83
1.12	261.33	.405E+05	33.4	0.98	20.21
1.42	261.63	.589E+05	58.5	1.18	16.79
1.71	261.92	.778E+05	89.1	1.37	14.55
2.01	262.22	.972E+05	125.0	1.53	12.95
2.31	262.52	.117E+06	166.0	1.69	11.76
2.61	262.82	.137E+06	211.7	1.84	10.82
2.91	263.12	.158E+06	262.2	1.97	10.07
3.21	263.42	.180E+06	317.2	2.11	9.44
3.51	263.72	.202E+06	376.8	2.23	8.92
3.81	264.02	.224E+06	440.8	2.35	8.47
4.11	264.32	.247E+06	509.2	2.46	8.08
4.41	264.62	.270E+06	582.0	2.57	7.74
4.70	264.91	.294E+06	659.2	2.67	7.44
5.00	265.21	.319E+06	740.6	2.77	7.17
5.30	265.51	.344E+06	826.4	2.87	6.93
5.60	265.81	.369E+06	916.5	2.96	6.71

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1052)	349.64	3.38	6.50	15.04	0.45	0.61
OUTFLOW: ID= 1 (5052)	349.64	3.19	7.25	15.04	0.43	0.60

CALIB			
NASHYD (0052)	Area (ha)=	37.91	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.84	

Unit Hyd Qpeak (cms)= 1.718

PEAK FLOW (cms)= 0.487 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 14.665
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.270

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2052)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0052):	37.91	0.487	6.00	14.66

+ ID2= 2 (5052):	349.64	3.188	7.25	15.04
ID = 3 (2052):	387.55	3.530	7.00	15.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1050)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2052):	387.55	3.530	7.00	15.00
+ ID2= 2 (2053):	430.88	3.033	7.25	13.65
ID = 3 (1050):	818.43	6.531	7.25	14.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5050)		
IN= 2---> OUT= 1	Routing time step (min)=	15.00

<------ DATA FOR SECTION (5050.0) ------>

Distance	Elevation	Manning	
0.00	259.67	0.0930	
13.92	256.13	0.0930	
17.59	256.29	0.0930	
21.12	255.95	0.0930	
30.78	255.82	0.0930	
33.55	255.60	0.0930	
35.41	255.31	0.0930	
42.56	254.71	0.0930 /0.0410	Main Channel
44.43	254.55	0.0410	Main Channel
44.75	254.59	0.0410	Main Channel
49.70	255.17	0.0410 /0.0930	Main Channel
61.41	256.32	0.0930	
62.19	256.25	0.0930	
64.00	256.45	0.0930	
73.57	258.88	0.0930	
75.52	259.01	0.0930	
83.84	260.70	0.0930	
88.87	260.76	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	254.71	.591E+02	0.1	0.31	12.48
0.42	254.97	.414E+03	1.0	0.56	6.87
0.68	255.23	.109E+04	3.4	0.72	5.32
0.94	255.49	.209E+04	8.0	0.89	4.32
1.20	255.75	.336E+04	14.5	1.00	3.86
1.47	256.02	.523E+04	22.5	0.99	3.87
1.73	256.28	.775E+04	34.4	1.02	3.76
1.99	256.54	.108E+05	51.1	1.09	3.52
2.25	256.80	.140E+05	71.5	1.18	3.26
2.51	257.06	.173E+05	95.2	1.27	3.03
2.77	257.32	.208E+05	122.0	1.36	2.84
3.03	257.58	.243E+05	151.8	1.44	2.67
3.29	257.84	.280E+05	184.5	1.52	2.53
3.55	258.10	.318E+05	220.3	1.60	2.41
3.81	258.36	.358E+05	259.0	1.67	2.30

4.08	258.63	.398E+05	300.7	1.74	2.21
4.34	258.89	.440E+05	345.1	1.81	2.13
4.60	259.15	.484E+05	390.3	1.86	2.07
4.86	259.41	.530E+05	441.0	1.92	2.00

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1050)	818.43	6.53	7.25	14.29	0.86	0.83
OUTFLOW: ID= 1 (5050)	818.43	6.54	7.25	14.29	0.86	0.83

CALIB			
NASHYD (0050)	Area (ha)=	7.41	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.46	

Unit Hyd Qpeak (cms)= 0.615

PEAK FLOW (cms)= 0.123 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 13.789
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.254

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2050)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0050):	7.41	0.123	5.50	13.79
+ ID2= 2 (5050):	818.43	6.542	7.25	14.29
ID = 3 (2050):	825.84	6.584	7.25	14.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0007)	Area (ha)=	178.66	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.46	

Unit Hyd Qpeak (cms)= 4.684

PEAK FLOW (cms)= 1.509 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 13.194
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.243

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5009)		
IN= 2---> OUT= 1	Routing time step (min)=	15.00

<------ DATA FOR SECTION (5009.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
17.97	284.61	0.0930	
25.53	284.49	0.0930	
30.68	284.43	0.0930	
35.54	284.45	0.0930	
41.74	284.38	0.0930 /0.0410	Main Channel
43.34	284.37	0.0410	Main Channel
43.57	284.36	0.0410	Main Channel
43.90	284.36	0.0410	Main Channel
45.20	284.36	0.0410	Main Channel
47.00	284.36	0.0410 /0.0930	Main Channel
57.95	284.80	0.0930	
74.16	285.17	0.0930	
94.21	285.41	0.0930	
108.93	285.51	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	284.41	.601E+02	0.0	0.14	25.46
0.09	284.45	.195E+03	0.2	0.17	21.00
0.14	284.50	.428E+03	0.4	0.19	18.59
0.19	284.55	.706E+03	0.7	0.22	16.30
0.23	284.59	.103E+04	1.2	0.24	14.64
0.28	284.64	.138E+04	1.7	0.27	13.25
0.33	284.69	.177E+04	2.4	0.30	12.12
0.37	284.73	.217E+04	3.2	0.32	11.22
0.42	284.78	.261E+04	4.1	0.34	10.50
0.47	284.83	.307E+04	5.1	0.36	9.94
0.52	284.88	.356E+04	6.3	0.38	9.48
0.56	284.92	.409E+04	7.5	0.39	9.08
0.61	284.97	.465E+04	8.9	0.41	8.73
0.66	285.02	.524E+04	10.4	0.42	8.43
0.70	285.06	.587E+04	12.0	0.44	8.15
0.75	285.11	.653E+04	13.8	0.45	7.90
0.80	285.16	.723E+04	15.7	0.47	7.68
0.84	285.20	.796E+04	17.7	0.48	7.51
0.89	285.25	.875E+04	19.8	0.49	7.37

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0007)	178.66	1.51	6.75	13.19	0.26	0.26
OUTFLOW: ID= 1 (5009)	178.66	1.50	7.00	13.19	0.26	0.26

CALIB			
NASHYD (0009)	Area (ha)=	57.35	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	8.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.98	

Unit Hyd Qpeak (cms)= 2.228

PEAK FLOW (cms)= 0.712 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 15.349
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.282

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2009)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0009):	57.35	0.712	6.25	15.35
	+ ID2= 2 (5009):	178.66	1.500	7.00	13.19
	ID = 3 (2009):	236.01	2.110	6.75	13.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5012)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5012.0) ------>

Distance	Elevation	Manning	
0.00	286.59	0.0930	
7.35	286.54	0.0930	
182.68	282.59	0.0930 /0.0410	Main Channel
188.50	282.42	0.0410	Main Channel
196.35	282.37	0.0410	Main Channel
198.54	282.38	0.0410	Main Channel
198.86	282.39	0.0410	Main Channel
204.09	282.60	0.0410 /0.0930	Main Channel
220.42	283.20	0.0930	
227.76	283.19	0.0930	
249.45	283.60	0.0930	
276.70	284.52	0.0930	
280.20	284.62	0.0930	
338.90	285.99	0.0930	
430.49	286.70	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	282.59	.133E+05	1.7	0.54	133.55
0.43	282.80	.395E+05	7.7	0.85	85.15
0.64	283.01	.795E+05	18.1	0.99	73.15
0.85	283.22	.134E+06	32.8	1.06	68.25
1.06	283.43	.212E+06	53.6	1.10	65.80
1.27	283.64	.308E+06	81.1	1.14	63.31
1.48	283.85	.420E+06	116.0	1.20	60.37
1.69	284.06	.546E+06	158.0	1.26	57.61
1.90	284.27	.687E+06	207.6	1.31	55.13
2.11	284.48	.841E+06	265.1	1.37	52.91
2.33	284.70	.101E+07	329.9	1.42	51.07
2.54	284.91	.120E+07	402.8	1.46	49.51
2.75	285.12	.140E+07	485.2	1.51	48.06
2.96	285.33	.162E+07	577.5	1.55	46.71
3.17	285.54	.185E+07	680.1	1.59	45.45
3.38	285.75	.211E+07	793.5	1.63	44.27
3.59	285.96	.238E+07	918.1	1.68	43.16
3.80	286.17	.267E+07	1036.2	1.68	42.94
4.01	286.38	.300E+07	1169.3	1.69	42.70

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2009)	236.01	2.11	6.75	13.72	0.24	0.56
OUTFLOW: ID= 1 (5012)	236.01	1.37	8.50	13.71	0.18	0.54

CALIB			
NASHYD (0012)	Area (ha)=	183.34	Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)=	8.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.22	

Unit Hyd Qpeak (cms)= 5.735

PEAK FLOW (cms)= 2.128 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 16.065
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.295

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2012)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0012):	183.34	2.128	6.50	16.06
	+ ID2= 2 (5012):	236.01	1.372	8.50	13.71
	ID = 3 (2012):	419.35	3.013	7.00	14.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0032)	Area (ha)=	49.09	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.97	

Unit Hyd Qpeak (cms)= 1.937

PEAK FLOW (cms)= 0.580 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 14.559
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1040)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0032):	49.09	0.580	6.25	14.56
	+ ID2= 2 (2012):	419.35	3.013	7.00	14.74
	ID = 3 (1040):	468.44	3.499	6.75	14.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5040)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5040.0) ------>

Distance	Elevation	Manning	
0.00	263.73	0.0930	
3.80	263.50	0.0930	
15.09	260.45	0.0930	
19.73	260.13	0.0930	
24.77	259.11	0.0930	
29.24	257.72	0.0930	
39.41	256.76	0.0930	
45.12	255.96	0.0930 /0.0410	Main Channel
45.71	255.95	0.0410	Main Channel
46.66	255.94	0.0410	Main Channel
47.79	255.93	0.0410	Main Channel
48.07	255.95	0.0410	Main Channel
49.01	256.02	0.0410	Main Channel
49.66	256.06	0.0410 /0.0930	Main Channel
50.09	256.08	0.0930	
66.82	257.59	0.0930	
68.76	257.78	0.0930	
85.17	263.07	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.03	255.96	.201E+02	0.0	0.13	49.56
0.40	256.33	.103E+04	2.0	0.75	8.68
0.78	256.71	.305E+04	7.5	0.95	6.80
1.15	257.08	.613E+04	16.9	1.07	6.03
1.53	257.46	.104E+05	31.3	1.17	5.53
1.90	257.83	.158E+05	52.0	1.28	5.06
2.28	258.21	.218E+05	80.4	1.43	4.52
2.65	258.58	.281E+05	114.3	1.58	4.10
3.02	258.95	.348E+05	153.7	1.72	3.78
3.40	259.33	.419E+05	197.9	1.84	3.53
3.77	259.70	.493E+05	247.2	1.95	3.33
4.15	260.08	.573E+05	302.2	2.05	3.16
4.52	260.45	.658E+05	356.5	2.11	3.08
4.89	260.82	.750E+05	426.3	2.21	2.93
5.27	261.20	.846E+05	502.3	2.31	2.81
5.64	261.57	.945E+05	584.5	2.41	2.69
6.02	261.95	.105E+06	673.1	2.50	2.60
6.39	262.32	.116E+06	768.0	2.59	2.51
6.77	262.70	.127E+06	869.4	2.67	2.43

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1040)	468.44	3.50	6.75	14.72	0.51	0.79
OUTFLOW: ID= 1 (5040)	468.44	3.49	7.00	14.72	0.51	0.79

CALIB			
NASHYD (0040)	Area (ha)=	5.95	Curve Number (CN)= 74.0

ID= 1 DT=15.0 min	Ia (mm)=	8.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.28	

Unit Hyd Qpeak (cms)= 0.797

PEAK FLOW (cms)= 0.140 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 14.928
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.275

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2040)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0040):	5.95	0.140	5.25	14.93
	+ ID2= 2 (5040):	468.44	3.494	7.00	14.72
	ID = 3 (2040):	474.39	3.526	7.00	14.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1043)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2040):	474.39	3.526	7.00	14.73
	+ ID2= 2 (2050):	825.84	6.584	7.25	14.28
	ID = 3 (1043):	1300.23	10.076	7.00	14.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5043)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5043.0) ------>

Distance	Elevation	Manning	
0.00	258.27	0.0930	
9.62	255.23	0.0930	
22.15	254.22	0.0930	
41.61	253.70	0.0930 /0.0410	Main Channel
42.11	253.67	0.0410	Main Channel
44.98	252.56	0.0410	Main Channel
45.13	252.60	0.0410	Main Channel
47.49	253.41	0.0410 /0.0930	Main Channel
50.17	253.96	0.0930	
52.43	253.89	0.0930	
55.10	253.86	0.0930	
58.88	253.98	0.0930	
61.24	253.95	0.0930	
105.33	254.48	0.0930	
118.27	258.71	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	252.84	.132E+03	0.1	0.25	38.42
0.57	253.13	.519E+03	0.4	0.39	24.35
0.85	253.41	.116E+04	1.0	0.51	18.63
1.15	253.71	.219E+04	2.4	0.62	15.46
1.46	254.02	.541E+04	5.0	0.53	17.97
1.76	254.32	.150E+05	10.9	0.42	23.00
2.06	254.62	.295E+05	22.1	0.43	22.31
2.37	254.93	.454E+05	38.6	0.49	19.62
2.67	255.23	.622E+05	59.5	0.55	17.40
2.98	255.54	.795E+05	85.3	0.62	15.52
3.28	255.84	.971E+05	115.1	0.68	14.06
3.58	256.14	.115E+06	148.5	0.74	12.91
3.89	256.45	.133E+06	185.5	0.80	11.98
4.19	256.75	.152E+06	226.0	0.86	11.20
4.49	257.05	.171E+06	269.9	0.91	10.55
4.80	257.36	.190E+06	317.2	0.96	9.99
5.10	257.66	.210E+06	367.7	1.01	9.51
5.41	257.97	.230E+06	421.4	1.06	9.09
5.71	258.27	.250E+06	478.3	1.10	8.71

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1043)	1300.23	10.08	7.00	14.44	1.72	0.43
OUTFLOW:	ID= 1 (5043)	1300.23	9.64	7.75	14.44	1.70	0.44

CALIB					
NASHYD	(0043)	Area (ha)=	12.70	Curve Number (CN)=	73.0
ID= 1 DT=15.0 min		Ia (mm)=	9.20	# of Linear Res.(N)=	3.00
		U.H. Tp(hrs)=	0.41		

Unit Hyd Qpeak (cms)= 1.195

PEAK FLOW (cms)= 0.242 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 14.547
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2043)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0043):	12.70	0.242	5.25	14.55
	+ ID2= 2 (5043):	1300.23	9.635	7.75	14.44
	ID = 3 (2043):	1312.93	9.687	7.50	14.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD	(0014)	Area (ha)=	82.92	Curve Number (CN)=	75.0

ID= 1 DT=15.0 min	Ia (mm)= 8.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.27

Unit Hyd Qpeak (cms)= 2.502

PEAK FLOW (cms)= 0.943 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 16.065
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.295

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5013)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5013.0) ------>

Distance	Elevation	Manning	
0.00	275.77	0.0930	
14.35	275.60	0.0930	
43.06	272.29	0.0930	
99.28	270.53	0.0930	
104.12	270.24	0.0930	
107.91	270.08	0.0930	
113.53	269.94	0.0930 /0.0410	Main Channel
117.24	269.85	0.0410	Main Channel
117.42	269.85	0.0410	Main Channel
122.48	269.97	0.0410 /0.0930	Main Channel
149.76	270.95	0.0930	
171.23	275.18	0.0930	
223.54	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	269.94	.752E+03	0.1	0.29	124.05
0.40	270.25	.123E+05	4.2	0.71	49.57
0.70	270.55	.339E+05	14.4	0.90	39.14
1.01	270.86	.661E+05	31.5	1.01	34.91
1.32	271.17	.109E+06	58.4	1.14	31.11
1.62	271.47	.160E+06	95.2	1.27	27.97
1.93	271.78	.218E+06	141.7	1.38	25.60
2.24	272.09	.283E+06	198.6	1.49	23.75
2.54	272.39	.356E+06	268.4	1.60	22.08
2.85	272.70	.432E+06	352.8	1.74	20.41
3.16	273.01	.511E+06	447.7	1.86	19.02
3.47	273.32	.593E+06	553.0	1.98	17.87
3.77	273.62	.677E+06	668.6	2.10	16.89
4.08	273.93	.765E+06	794.4	2.21	16.05
4.39	274.24	.855E+06	930.4	2.31	15.31
4.69	274.54	.948E+06	1076.7	2.41	14.67
5.00	274.85	.104E+07	1233.2	2.51	14.10
5.31	275.16	.114E+07	1400.1	2.61	13.59
5.61	275.46	.125E+07	1528.9	2.61	13.58

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (0014)	82.92	0.94	6.50	16.06	0.15	0.33
OUTFLOW:	ID= 1 (5013)	82.92	0.63	8.00	16.06	0.13	0.31

CALIB					
NASHYD	(0013)	Area (ha)=	118.75	Curve Number (CN)=	72.0
ID= 1 DT=15.0 min		Ia (mm)=	9.70	# of Linear Res.(N)=	3.00
		U.H. Tp(hrs)=	1.20		

Unit Hyd Qpeak (cms)= 3.792

PEAK FLOW (cms)= 1.196 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 13.914
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2013)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0013):	118.75	1.196	6.50	13.91
	+ ID2= 2 (5013):	82.92	0.633	8.00	16.06
	ID = 3 (2013):	201.67	1.660	7.00	14.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD	(0002)	Area (ha)=	141.56	Curve Number (CN)=	72.0
ID= 1 DT=15.0 min		Ia (mm)=	9.90	# of Linear Res.(N)=	3.00
		U.H. Tp(hrs)=	1.27		

Unit Hyd Qpeak (cms)= 4.261

PEAK FLOW (cms)= 1.364 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 13.809
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.254

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD	(0003)	Area (ha)=	57.29	Curve Number (CN)=	72.0
ID= 1 DT=15.0 min		Ia (mm)=	9.90	# of Linear Res.(N)=	3.00
		U.H. Tp(hrs)=	0.86		

Unit Hyd Qpeak (cms)= 2.533

PEAK FLOW (cms)= 0.681 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 13.804
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.254

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1006)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0002):	141.56	1.364	6.50	13.81
	+ ID2= 2 (0003):	57.29	0.681	6.00	13.80
	ID = 3 (1006):	198.85	1.986	6.50	13.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5006)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5006.0) ------>

Distance	Elevation	Manning	
0.00	287.32	0.0930	
23.48	286.69	0.0930	
44.41	286.64	0.0930	
58.95	286.40	0.0930	
73.88	284.37	0.0930 /0.0410	Main Channel
84.88	284.02	0.0410	Main Channel
87.92	283.91	0.0410	Main Channel
95.02	284.40	0.0410 /0.0930	Main Channel
111.06	285.99	0.0930	
138.74	286.46	0.0930	
172.31	287.17	0.0930	
211.16	287.27	0.0930	
236.90	287.59	0.0930	
267.08	287.45	0.0930	
312.04	288.42	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	284.06	.461E+03	0.1	0.24	63.72
0.31	284.22	.190E+04	0.8	0.38	40.19
0.46	284.37	.434E+04	2.4	0.50	30.58
0.64	284.55	.816E+04	6.4	0.73	21.22
0.83	284.74	.125E+05	12.1	0.89	17.25
1.01	284.92	.175E+05	19.4	1.03	15.03
1.20	285.11	.229E+05	28.1	1.13	13.60
1.38	285.29	.290E+05	38.4	1.23	12.58
1.57	285.48	.355E+05	50.1	1.30	11.82
1.75	285.66	.427E+05	63.4	1.37	11.21
1.94	285.85	.503E+05	78.2	1.44	10.73
2.12	286.03	.586E+05	94.1	1.49	10.38
2.30	286.21	.684E+05	110.8	1.50	10.30
2.49	286.40	.804E+05	130.2	1.50	10.29
2.67	286.58	.952E+05	150.2	1.46	10.56
2.86	286.77	.115E+06	173.2	1.39	11.06
3.04	286.95	.139E+06	203.8	1.36	11.36
3.23	287.14	.166E+06	238.3	1.33	11.58
3.41	287.32	.198E+06	269.7	1.26	12.23

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1006)	198.85	1.99	6.50	13.81	0.42	0.47
OUTFLOW: ID= 1 (5006)	198.85	1.85	6.75	13.81	0.41	0.46

CALIB			
NASHYD (0006)	Area (ha)= 26.09	Curve Number (CN)= 70.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.30	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.65		

Unit Hyd Qpeak (cms)= 1.533

PEAK FLOW (cms)= 0.361 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 13.686
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.252

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2006)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0006):	26.09	0.361	5.50	13.69
+ ID2= 2 (5006):	198.85	1.847	6.75	13.81
ID = 3 (2006):	224.94	2.069	6.75	13.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0001)	Area (ha)= 255.18	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.71		

Unit Hyd Qpeak (cms)= 5.686

PEAK FLOW (cms)= 2.151 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 14.454
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.266

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1008)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0001):	255.18	2.151	7.25	14.45
+ ID2= 2 (2006):	224.94	2.069	6.75	13.79
ID = 3 (1008):	480.12	4.176	7.00	14.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5008)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5008.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
5.09	285.37	0.0930	
133.83	283.19	0.0930	
146.67	282.58	0.0930	
159.56	277.24	0.0930	
181.65	275.77	0.0930 /0.0410	Main Channel
184.90	275.43	0.0410	Main Channel
185.21	275.45	0.0410	Main Channel
187.80	275.63	0.0410	Main Channel
191.31	275.97	0.0410 /0.0930	Main Channel
209.70	278.15	0.0930	
221.15	281.88	0.0930	
261.53	283.57	0.0930	
304.31	284.15	0.0930	
337.36	284.93	0.0930	
377.51	285.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	275.77	.187E+04	0.8	0.58	40.13
0.85	276.28	.116E+05	8.7	1.05	22.11
1.35	276.78	.296E+05	26.7	1.25	18.51
1.86	277.29	.559E+05	56.0	1.39	16.65
2.36	277.79	.880E+05	99.4	1.57	14.74
2.87	278.30	.124E+06	155.5	1.74	13.27
3.37	278.80	.162E+06	224.4	1.92	12.03
3.88	279.31	.202E+06	304.6	2.09	11.06
4.38	279.81	.244E+06	395.9	2.25	10.28
4.89	280.32	.288E+06	498.0	2.40	9.64
5.39	280.82	.334E+06	611.1	2.54	9.11
5.90	281.33	.382E+06	735.0	2.67	8.66
6.40	281.83	.432E+06	869.8	2.79	8.28
6.91	282.34	.487E+06	982.8	2.80	8.25
7.41	282.84	.552E+06	1089.7	2.74	8.44
7.92	283.35	.633E+06	1183.0	2.59	8.91
8.42	283.85	.742E+06	1270.3	2.37	9.74
8.93	284.36	.897E+06	1446.3	2.24	10.33
9.43	284.86	.109E+07	1711.6	2.18	10.60

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1008)	480.12	4.18	7.00	14.14	0.56	0.71
OUTFLOW: ID= 1 (5008)	480.12	3.97	7.50	14.14	0.54	0.70

CALIB			
NASHYD (0008)	Area (ha)= 39.23	Curve Number (CN)= 70.0	
ID= 1 DT=15.0 min	Ia (mm)= 10.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

Unit Hyd Qpeak (cms)= 2.153

PEAK FLOW (cms)= 0.472 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 12.495
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.230

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2008)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0008):	39.23	0.472	5.75	12.49
+ ID2= 2 (5008):	480.12	3.973	7.50	14.14
ID = 3 (2008):	519.35	4.193	7.50	14.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0010)	Area (ha)= 32.74	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.20	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.85		

Unit Hyd Qpeak (cms)= 1.473

PEAK FLOW (cms)= 0.419 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 14.665
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.270

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1017)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0010):	32.74	0.419	6.00	14.66
+ ID2= 2 (2008):	519.35	4.193	7.50	14.02
ID = 3 (1017):	552.09	4.452	7.25	14.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5017)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5017.0) ------>

Distance	Elevation	Manning
0.00	284.04	0.0930
46.21	283.58	0.0930
60.07	282.83	0.0930

78.57	282.39	0.0930
85.85	282.05	0.0930
121.94	278.24	0.0930
123.09	278.18	0.0930
129.01	277.91	0.0930
139.25	277.70	0.0930
148.64	277.62	0.0930
150.40	277.60	0.0930 /0.0410 Main Channel
153.11	277.50	0.0410 Main Channel
156.99	277.64	0.0410 /0.0930 Main Channel
169.99	278.18	0.0930
199.99	281.62	0.0930
209.74	282.18	0.0930
218.36	282.39	0.0930
234.68	282.62	0.0930
330.59	282.90	0.0930
341.39	283.03	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	277.60	.885E+03	0.1	0.24	223.44
0.39	277.89	.204E+05	2.8	0.44	123.11
0.67	278.17	.572E+05	10.5	0.59	91.21
0.96	278.46	.103E+06	23.8	0.74	72.31
1.24	278.74	.154E+06	42.1	0.88	61.07
1.53	279.03	.210E+06	65.0	1.00	53.76
1.81	279.31	.270E+06	92.7	1.11	48.56
2.10	279.60	.336E+06	125.3	1.21	44.64
2.39	279.89	.406E+06	162.7	1.30	41.55
2.67	280.17	.480E+06	205.2	1.38	39.03
2.96	280.46	.560E+06	252.8	1.46	36.93
3.24	280.74	.645E+06	305.8	1.53	35.14
3.53	281.03	.734E+06	364.2	1.60	33.59
3.82	281.32	.828E+06	428.2	1.67	32.23
4.10	281.60	.927E+06	497.9	1.73	31.02
4.39	281.89	.103E+07	569.1	1.78	30.21
4.67	282.17	.114E+07	642.6	1.81	29.66
4.96	282.46	.127E+07	698.4	1.78	30.27
5.24	282.74	.143E+07	715.3	1.62	33.24

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1017)	552.09	4.45	7.25	14.06	0.45	0.46
OUTFLOW: ID= 1 (5017)	552.09	3.27	8.75	14.06	0.40	0.44

CALIB			
NASHYD (0017)	Area (ha)= 148.68	Curve Number (CN)= 69.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.50	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.11		

Unit Hyd Qpeak (cms)= 5.125

PEAK FLOW (cms)= 1.474 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 13.154
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.242

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2017)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0017):	148.68	1.474	6.25	13.15
	+ ID2= 2 (5017):	552.09	3.265	8.75	14.06
	ID = 3 (2017):	700.77	3.966	8.25	13.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1033)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2013):	201.67	1.660	7.00	14.80
	+ ID2= 2 (2017):	700.77	3.966	8.25	13.86
	ID = 3 (1033):	902.44	5.383	8.00	14.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5033)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5033.0) ------>

Distance	Elevation	Manning	
0.00	262.20	0.0930	
7.96	260.93	0.0930	
28.15	259.22	0.0930	
39.76	257.39	0.0930	
55.06	257.09	0.0930	
63.73	256.73	0.0930	
75.56	256.77	0.0930	
86.35	257.05	0.0930 /0.0410	Main Channel
88.50	256.67	0.0410	Main Channel
89.43	256.54	0.0410	Main Channel
90.89	256.33	0.0410	Main Channel
92.64	256.68	0.0410	Main Channel
94.27	257.00	0.0410 /0.0930	Main Channel
113.17	257.17	0.0930	
126.05	259.64	0.0930	
159.89	261.07	0.0930	
170.84	262.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	256.55	.142E+03	0.1	0.35	22.74
0.45	256.78	.731E+03	0.7	0.45	17.70
0.67	257.00	.357E+04	3.0	0.40	19.98
0.98	257.31	.121E+05	12.3	0.49	16.35
1.30	257.63	.234E+05	30.9	0.63	12.60
1.61	257.94	.352E+05	57.0	0.77	10.29
1.93	258.26	.476E+05	89.8	0.90	8.85

2.24	258.57	.606E+05	128.7	1.01	7.85
2.56	258.89	.741E+05	173.7	1.12	7.11
2.87	259.20	.882E+05	224.6	1.22	6.54
3.18	259.51	.103E+06	279.2	1.30	6.14
3.50	259.83	.119E+06	335.2	1.35	5.89
3.81	260.14	.136E+06	396.3	1.39	5.71
4.13	260.46	.155E+06	466.0	1.44	5.54
4.44	260.77	.175E+06	544.3	1.48	5.37
4.76	261.09	.198E+06	634.2	1.53	5.19
5.07	261.40	.221E+06	740.3	1.60	4.98
5.39	261.72	.245E+06	854.6	1.66	4.78
5.70	262.03	.270E+06	977.2	1.73	4.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1033)	902.44	5.38	8.00	14.07	0.75	0.42
OUTFLOW: ID= 1 (5033)	902.44	5.32	8.25	14.07	0.75	0.42

CALIB	
NASHYD (0033)	Area (ha)= 14.99 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.80 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.51

Unit Hyd Qpeak (cms)= 1.118

PEAK FLOW (cms)= 0.240 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 13.814
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.254

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2033)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0033):	14.99	0.240	5.50	13.81
	+ ID2= 2 (5033):	902.44	5.316	8.25	14.07
	ID = 3 (2033):	917.43	5.367	8.25	14.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0034)	Area (ha)= 66.29 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 8.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.32

Unit Hyd Qpeak (cms)= 1.917

PEAK FLOW (cms)= 0.698 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 15.352
TOTAL RAINFALL (mm)= 54.380

RUNOFF COEFFICIENT = 0.282

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1037)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0034):	66.29	0.698	6.50	15.35
	+ ID2= 2 (2033):	917.43	5.367	8.25	14.07
	ID = 3 (1037):	983.72	5.842	8.00	14.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5037)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5037.0) ------>

Distance	Elevation	Manning	
0.00	260.96	0.0930	
3.52	260.75	0.0930	
32.87	255.52	0.0930	
40.76	254.86	0.0930 /0.0410	Main Channel
42.91	253.65	0.0410	Main Channel
48.59	254.84	0.0410 /0.0930	Main Channel
80.76	254.83	0.0930	
96.56	255.53	0.0930	
112.29	261.81	0.0930	
119.25	261.97	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.95	.102E+03	0.1	0.40	14.86
0.60	254.25	.410E+03	0.7	0.63	9.36
0.89	254.54	.922E+03	2.2	0.82	7.14
1.19	254.84	.170E+04	4.6	0.97	6.10
1.60	255.25	.848E+04	16.3	0.68	8.67
2.01	255.66	.172E+05	38.2	0.78	7.50
2.41	256.06	.268E+05	70.6	0.93	6.32
2.82	256.47	.368E+05	111.6	1.07	5.50
3.23	256.88	.474E+05	160.7	1.20	4.91
3.64	257.29	.584E+05	217.8	1.32	4.47
4.05	257.70	.699E+05	282.6	1.43	4.12
4.45	258.10	.818E+05	355.1	1.53	3.84
4.86	258.51	.943E+05	435.2	1.63	3.61
5.27	258.92	.107E+06	522.9	1.72	3.42
5.68	259.33	.121E+06	618.3	1.81	3.25
6.09	259.74	.134E+06	721.4	1.90	3.11
6.49	260.14	.149E+06	832.2	1.98	2.98
6.90	260.55	.164E+06	950.8	2.05	2.87
7.31	260.96	.179E+06	1070.9	2.11	2.79

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1037)	983.72	5.84	8.00	14.15	1.23	0.92
OUTFLOW: ID= 1 (5037)	983.72	5.84	8.25	14.15	1.23	0.93

CALIB	
NASHYD (0037)	Area (ha)= 10.16 Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)= 8.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.36

Unit Hyd Qpeak (cms)= 1.090

PEAK FLOW (cms)= 0.231 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 15.900
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.292

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2037)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0037):	10.16	0.231	5.25	15.90
	+ ID2= 2 (5037):	983.72	5.838	8.25	14.15
	ID = 3 (2037):	993.88	5.873	8.25	14.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1049)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2037):	993.88	5.873	8.25	14.17
	+ ID2= 2 (2043):	1312.93	9.687	7.50	14.45
	ID = 3 (1049):	2306.81	15.404	7.75	14.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5049)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5049.0) ------>

Distance	Elevation	Manning	
0.00	263.74	0.0930	
50.53	263.28	0.0930	
63.03	262.47	0.0930	
87.97	255.04	0.0930	
98.77	253.73	0.0930 /0.0410	Main Channel
108.22	253.09	0.0410	Main Channel
111.56	253.07	0.0410	Main Channel
112.80	253.14	0.0410	Main Channel
114.25	253.67	0.0410 /0.0930	Main Channel
116.67	254.81	0.0930	
143.69	255.06	0.0930	

162.94	255.55	0.0930
197.87	263.69	0.0930
207.51	264.45	0.0930

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.37	.221E+04	0.5	0.27	69.99
0.60	253.67	.629E+04	2.2	0.40	47.02
1.19	254.26	.184E+05	11.1	0.68	27.66
1.78	254.85	.348E+05	25.8	0.84	22.46
2.38	255.45	.732E+05	49.7	0.77	24.52
2.97	256.04	.125E+06	87.5	0.79	23.92
3.56	256.63	.181E+06	136.9	0.86	22.04
4.15	257.22	.240E+06	197.0	0.93	20.28
4.75	257.82	.301E+06	267.3	1.01	18.79
5.34	258.41	.366E+06	347.6	1.08	17.55
5.93	259.00	.434E+06	437.8	1.15	16.52
6.52	259.59	.505E+06	537.8	1.21	15.64
7.12	260.19	.579E+06	647.6	1.27	14.89
7.71	260.78	.655E+06	767.3	1.33	14.24
8.30	261.37	.735E+06	896.9	1.38	13.66
8.89	261.96	.818E+06	1036.6	1.44	13.16
9.49	262.56	.904E+06	1183.2	1.48	12.74
10.08	263.15	.997E+06	1325.9	1.51	12.53
10.67	263.74	.111E+07	1426.8	1.46	12.94

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1049)	2306.81	15.40	7.75	14.33	1.37	0.72
OUTFLOW: ID= 1 (5049)	2306.81	15.08	8.25	14.33	1.35	0.72

CALIB			
NASHYD (0049)	Area (ha)=	30.46	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	9.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.60	

Unit Hyd Qpeak (cms)= 1.949

PEAK FLOW (cms)= 0.501 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 15.211
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.280

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2049)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0049):	30.46	0.501	5.50	15.21
+ ID2= 2 (5049):	2306.81	15.079	8.25	14.33
ID = 3 (2049):	2337.27	15.200	8.25	14.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1039)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2049):	2337.27	15.200	8.25	14.34
+ ID2= 2 (2063):	2379.05	12.741	9.75	13.81
ID = 3 (1039):	4716.32	26.780	8.75	14.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5039)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5039.0) ------>

Distance	Elevation	Manning	
0.00	260.00	0.0930	
105.82	257.72	0.0930	
137.40	257.00	0.0930	
163.69	256.37	0.0930	
237.19	256.95	0.0930	
283.24	256.00	0.0930	
335.42	256.00	0.0930	
341.91	256.25	0.0930	
370.46	254.68	0.0930	
405.46	252.00	0.0930	
421.66	251.26	0.0930 /0.0410	Main Channel
425.14	251.00	0.0410	Main Channel
430.43	250.00	0.0410	Main Channel
434.15	250.00	0.0410	Main Channel
436.43	250.89	0.0410 /0.0930	Main Channel
443.70	251.29	0.0930	
472.16	252.35	0.0930	
485.36	252.50	0.0930	
501.02	253.82	0.0930	
541.72	263.04	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	250.44	.417E+04	0.9	0.39	73.75
0.89	250.89	.110E+05	3.6	0.57	50.45
1.43	251.43	.282E+05	10.5	0.64	44.71
1.96	251.96	.672E+05	25.6	0.65	43.77
2.50	252.50	.129E+06	49.3	0.65	43.75
3.03	253.03	.215E+06	87.2	0.70	41.04
3.57	253.57	.313E+06	137.1	0.75	38.00
4.11	254.11	.422E+06	200.2	0.81	35.13
4.64	254.64	.541E+06	276.8	0.88	32.56
5.18	255.18	.669E+06	364.3	0.93	30.60
5.71	255.71	.808E+06	465.2	0.99	28.96
6.25	256.25	.985E+06	546.0	0.95	30.06
6.78	256.78	.124E+07	671.8	0.93	30.86
7.32	257.32	.159E+07	859.8	0.93	30.80
7.86	257.86	.196E+07	1093.1	0.96	29.92
8.39	258.39	.236E+07	1360.3	0.99	28.92
8.93	258.93	.278E+07	1662.5	1.02	27.90
9.46	259.46	.323E+07	2000.4	1.06	26.92

10.00	260.00	.370E+07	2374.8	1.10	25.99

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1039)	4716.32	26.78	8.75	14.07	1.99	0.65
OUTFLOW: ID= 1 (5039)	4716.32	25.51	9.50	14.07	1.96	0.65

CALIB			
NASHYD (0039)	Area (ha)=	81.93	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.75	

Unit Hyd Qpeak (cms)= 4.145

PEAK FLOW (cms)= 1.000 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 13.185
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.242

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2039)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0039):	81.93	1.000	5.75	13.18
+ ID2= 2 (5039):	4716.32	25.509	9.50	14.07
ID = 3 (2039):	4798.25	25.671	9.50	14.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0454)	Area (ha)=	15.15	
ID= 1 DT=15.0 min	Total Imp(%)=	55.00	Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	8.33	6.82	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.70	
Length (m)=	317.80	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	25.02	26.40	
over (min)	15.00	15.00	
Storage Coeff. (min)=	1.80 (ii)	9.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.09	
			TOTALS
PEAK FLOW (cms)=	0.45	0.49	0.945 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	35.70	43.30
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.66	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9119)				
Inlet Cap.=2.458				
#of Inlets= 1				
Total(cms)= 2.5	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	15.15	0.95	5.25	43.30
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	15.15	0.95	5.25	43.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6119)						
IN= 2---> OUT= 1						
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000		0.7140	0.1930	
	0.0220	0.0770		1.0810	0.2120	
	0.0300	0.1400		1.4980	0.2320	
	0.1630	0.1580		2.4580	0.2560	
	0.4020	0.1760		0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9119)	15.150	0.945	5.25	43.30
OUTFLOW: ID= 1 (6119)	15.150	0.924	5.25	43.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 97.77
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.2048

ADD HYD (4119)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9119 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6119):	15.15	0.924	5.25	43.24
+ ID2= 2 (9119):	0.00	0.000	0.00	0.00
ID = 3 (4119):	15.15	0.924	5.25	43.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (3039) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2039):  4798.25  25.671     9.50    14.06
      + ID2= 2 (4119):    15.15   0.924     5.25    43.24
        ================================================
        ID = 3 (3039):  4813.40  25.712     9.50    14.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0029)  |   Area    (ha)=  90.39   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   8.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.955

     PEAK FLOW       (cms)=   1.006 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  13.004
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.239

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1038) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0029):    90.39   1.006     6.00    13.00
      + ID2= 2 (3039):  4813.40  25.712     9.50    14.15
        ================================================
        ID = 3 (1038):  4903.79  25.910     9.50    14.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5038) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5038.0) ------>
              Distance      Elevation      Manning
                  0.00         264.96       0.0930
                 17.37         263.50       0.0930
                 57.10         253.15       0.0930
                 82.21         251.50       0.0930
                173.97         249.50       0.0930
                230.01         246.00       0.0930
                254.43         246.00       0.0930
                281.97         245.79       0.0930
                286.56         245.45       0.0930
                287.80         245.00    0.0930 /0.0410  Main Channel
                288.00         244.50       0.0410      Main Channel
                292.35         244.50       0.0410      Main Channel
                292.94         245.00    0.0410 /0.0930  Main Channel
                315.83         257.40       0.0930
                330.45         261.99       0.0930
```



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                <---------- TRAVEL TIME TABLE ---------->
 DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
  (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
 0.50    245.00    .228E+04        1.3         0.53      30.29
 1.39    245.89    .101E+05        8.0         0.77      20.93
 2.29    246.79    .679E+05       38.7         0.55      29.25
 3.18    247.68    .143E+06      101.6         0.69      23.38
 4.08    248.58    .231E+06      194.8         0.81      19.76
 4.97    249.47    .333E+06      319.4         0.92      17.38
 5.87    250.37    .460E+06      449.5         0.94      17.04
 6.76    251.26    .623E+06      634.5         0.98      16.36
 7.65    252.15    .817E+06      913.9         1.08      14.89
 8.55    253.05    .102E+07     1260.8         1.18      13.54
 9.44    253.94    .124E+07     1690.1         1.31      12.24
10.34    254.84    .146E+07     2176.8         1.43      11.20
11.23    255.73    .169E+07     2715.7         1.55      10.37
12.12    256.62    .192E+07     3305.4         1.66       9.68
13.02    257.52    .215E+07     3944.1         1.76       9.11
13.91    258.41    .239E+07     4628.0         1.86       8.62
14.81    259.31    .264E+07     5361.6         1.95       8.21
15.70    260.20    .289E+07     6144.6         2.04       7.84
16.60    261.10    .315E+07     6976.6         2.13       7.52

                          <---- hydrograph ---->   <-pipe / channel->
                     AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                     (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (1038) 4903.79    25.91    9.50  14.13      1.92      0.62
OUTFLOW: ID= 1 (5038) 4903.79    25.38   10.00  14.13      1.90      0.62

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-------------------
| CALIB             |
| NASHYD    (0038)  |   Area    (ha)=  18.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.42

     Unit Hyd Qpeak  (cms)=   1.701

     PEAK FLOW       (cms)=   0.350 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  14.566
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.268

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2038) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0038):    18.88   0.350     5.25    14.57
      + ID2= 2 (5038):  4903.79  25.378    10.00    14.13
        ================================================
        ID = 3 (2038):  4922.67  25.397    10.00    14.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
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| NASHYD    (0023)  |   Area    (ha)= 185.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   8.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.25

     Unit Hyd Qpeak  (cms)=   5.685

     PEAK FLOW       (cms)=   2.130 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  16.065
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1051) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0023):   185.77   2.130     6.50    16.06
      + ID2= 2 (2038):  4922.67  25.397    10.00    14.13
        ================================================
        ID = 3 (1051):  5108.44  26.004     9.75    14.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0449)  |   Area    (ha)=  59.38
|ID= 1 DT=15.0 min  |   Total Imp(%)=  46.00   Dir. Conn.(%)=  36.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.31        32.07
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.90
     Length            (m)=     629.18        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        22.24
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       2.40 (ii)   15.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.49         1.86          3.350 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25          5.25
     RUNOFF VOLUME    (mm)=      53.38        31.33         39.27
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.58          0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (9118)  |
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| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  59.38      3.35      5.25   39.27
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  59.38      3.35      5.25   39.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (6118) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  17.0000     0.4500
                          1.1800     0.3000   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9118)     59.380     3.350      5.25      39.27
     OUTFLOW: ID= 1 (6118)     59.380     3.280      5.00      39.27

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.92
               TIME SHIFT OF PEAK FLOW         (min)=-15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.3140

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-------------------
| ADD HYD   (4118) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9118 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6118):    59.38   3.280     5.00    39.27
      + ID2= 2 (9118):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4118):    59.38   3.280     5.00    39.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (3051) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1051):  5108.44  26.004     9.75    14.20
      + ID2= 2 (4118):    59.38   3.280     5.00    39.27
        ================================================
        ID = 3 (3051):  5167.82  26.181     9.75    14.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5051) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (5051.0) ------>

Distance	Elevation	Manning	
0.00	254.99	0.0930	
45.56	252.50	0.0930	
55.02	252.50	0.0930	
73.97	254.29	0.0930	
227.89	251.34	0.0930	
260.10	248.27	0.0930	
305.08	247.61	0.0930	
342.61	243.00	0.0930	
370.31	242.00	0.0930	
383.77	242.50	0.0930	
407.52	242.50	0.0930	
427.35	242.00	0.0930	
428.40	241.76	0.0930 /0.0410	Main Channel
429.92	241.00	0.0410	Main Channel
437.00	241.00	0.0410	Main Channel
437.12	241.50	0.0410 /0.0930	Main Channel
439.50	242.50	0.0930	
471.55	242.50	0.0930	
491.51	244.88	0.0930	
515.66	256.99	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	241.50	.856E+04	2.7	0.70	53.03
1.21	242.21	.290E+05	13.1	1.01	36.81
1.92	242.92	.174E+06	49.5	0.64	58.53
2.63	243.63	.393E+06	138.4	0.79	47.30
3.34	244.34	.630E+06	269.1	0.96	39.04
4.05	245.05	.886E+06	439.5	1.11	33.60
4.76	245.76	.116E+07	651.0	1.26	29.59
5.47	246.47	.144E+07	898.5	1.40	26.65
6.18	247.18	.173E+07	1181.0	1.53	24.40
6.89	247.89	.204E+07	1436.7	1.58	23.65
7.60	248.60	.241E+07	1738.7	1.62	23.08
8.31	249.31	.280E+07	2162.7	1.73	21.58
9.02	250.02	.321E+07	2629.6	1.84	20.32
9.73	250.73	.363E+07	3139.3	1.94	19.25
10.44	251.44	.406E+07	3663.4	2.02	18.48
11.15	252.15	.454E+07	4085.1	2.01	18.52
11.86	252.86	.509E+07	4492.2	1.98	18.89
12.57	253.57	.574E+07	5031.6	1.96	19.02
13.28	254.28	.648E+07	5692.0	1.97	18.99

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3051)		5167.82	26.18	9.75	14.49	1.46	0.84
OUTFLOW: ID= 1 (5051)		5167.82	25.19	10.75	14.49	1.44	0.85

CALIB			
NASHYD (0051)	Area (ha)=	73.29	Curve Number (CN)= 76.0
ID= 1 DT=15.0 min	Ia (mm)=	7.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.70	

Unit Hyd Qpeak (cms)= 3.971

PEAK FLOW (cms)= 1.236 (i)

TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 17.095
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.314

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2051)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0051):	73.29	1.236	5.75	17.10
	+ ID2= 2 (5051):	5167.82	25.186	10.75	14.49
	ID = 3 (2051):	5241.11	25.264	10.75	14.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0067)	Area (ha)=	23.75	
ID= 1 DT=15.0 min	Total Imp(%)=	23.00	Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.46	18.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	397.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.57
over (min)		15.00	30.00
Storage Coeff. (min)=		2.40 (ii)	12.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	0.35 0.69 1.036 (iii)
TIME TO PEAK	(hrs)=	5.00 5.25 5.25
RUNOFF VOLUME	(mm)=	53.38 22.68 29.12
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.42 0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2467)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0067):	23.75	1.036	5.25	29.12
	+ ID2= 2 (2051):	5241.11	25.264	10.75	14.52
	ID = 3 (2467):	5264.86	25.291	10.75	14.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0467)	Area (ha)=	22.32	
ID= 1 DT=15.0 min	Total Imp(%)=	47.00	Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.49	11.83
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	385.75	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.36
over (min)		15.00	15.00
Storage Coeff. (min)=		1.80 (ii)	11.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	0.60 0.68 1.283 (iii)
TIME TO PEAK	(hrs)=	4.75 5.25 5.25
RUNOFF VOLUME	(mm)=	53.38 30.89 39.66
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.57 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9268)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=0.026					
#of Inlets= 1					
Total(cms)= 0.0	TOTAL HYD.(ID= 1):	22.32	1.28	5.25	39.66
	MAJOR SYS.(ID= 2):	19.93	1.26	5.25	39.66
	MINOR SYS.(ID= 3):	2.39	0.03	2.50	39.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6268)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0260	0.3400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9268)	2.392	0.026	2.50	39.66
OUTFLOW: ID= 1 (6268)	2.392	0.006	12.50	38.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 24.20
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.0823

ADD HYD (4268)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6268):	2.39	0.006	12.50	38.28
	+ ID2= 2 (9268):	19.93	1.257	5.25	39.66
	ID = 3 (4268):	22.32	1.259	5.25	39.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1069)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2467):	5264.86	25.291	10.75	14.59
	+ ID2= 2 (4268):	22.32	1.259	5.25	39.51
	ID = 3 (1069):	5287.18	25.301	10.75	14.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5069)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5069.0) ------>

Distance	Elevation	Manning	
0.00	249.35	0.0930	
17.46	245.50	0.0930	
49.96	240.00	0.0930	
64.40	240.00	0.0930	
85.68	240.46	0.0930	
104.52	238.50	0.0930	
119.89	237.61	0.0930	
150.03	237.50	0.0930	
170.81	238.00	0.0930	
198.79	238.00	0.0930	
200.49	236.53	0.0930 /0.0410	Main Channel
201.16	235.70	0.0410	Main Channel
211.80	235.70	0.0410	Main Channel
212.04	236.00	0.0410 /0.0930	Main Channel
216.53	237.00	0.0930	
222.34	237.50	0.0930	
257.68	237.50	0.0930	
279.63	243.00	0.0930	
328.63	245.49	0.0930	
342.46	247.54	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	236.00	.100E+05	1.7	0.51	100.52
0.91	236.61	.337E+05	10.8	0.98	52.06

1.51	237.21	.641E+05	26.6	1.27	40.21
2.12	237.82	.173E+06	53.5	0.94	54.05
2.73	238.43	.434E+06	117.6	0.83	61.46
3.34	239.04	.732E+06	221.2	0.93	55.16
3.94	239.64	.105E+07	356.8	1.05	48.84
4.55	240.25	.139E+07	499.3	1.10	46.42
5.16	240.86	.180E+07	702.2	1.19	42.78
5.77	241.47	.223E+07	951.9	1.31	39.02
6.37	242.07	.267E+07	1235.3	1.42	35.97
6.98	242.68	.312E+07	1551.4	1.53	33.47
7.59	243.29	.358E+07	1880.6	1.61	31.70
8.20	243.90	.407E+07	2227.4	1.68	30.42
8.80	244.50	.458E+07	2614.2	1.75	29.22
9.41	245.11	.513E+07	3040.8	1.82	28.11
10.02	245.72	.570E+07	3522.2	1.89	26.99
10.63	246.33	.629E+07	4065.9	1.98	25.80
11.23	246.93	.690E+07	4645.2	2.06	24.74

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1069)	5287.18	25.30	10.75	14.69	1.47	1.24
OUTFLOW: ID= 1 (5069)	5287.18	24.98	11.00	14.69	1.45	1.23

CALIB	
STANDHYD (0069)	Area (ha)= 155.42
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	46.63	108.79
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	1017.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.99
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07
			TOTALS
PEAK FLOW	(cms)=	2.70	4.68 7.381 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	53.38	25.86 32.74
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.48 0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2069)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9158)	3.350	0.193	5.25	38.21
OUTFLOW: ID= 1 (6158)	3.350	0.079	5.50	38.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 41.15
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0520

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9158 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6158):	3.35	0.079	5.50	38.18
+ ID2= 2 (9158):	0.00	0.000	0.00	0.00
ID = 3 (****):	3.35	0.079	5.50	38.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3069)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2069):	5442.60	25.176	11.00	15.21
+ ID2= 2 (****):	3.35	0.079	5.50	38.18
ID = 3 (3069):	5445.95	25.185	11.00	15.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0078)	Area (ha)= 127.54
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 17.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.78	100.76
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	922.10	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.63
over (min)		15.00	30.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06
			TOTALS
PEAK FLOW	(cms)=	1.51	3.49 4.996 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	53.38	22.27 27.56
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.41 0.51

	ID1= 1 (0069):	ID2= 2 (5069):	ID = 3 (2069):	(ha)	(cms)	(hrs)	(mm)
	155.42	5287.18	5442.60	7.381	24.985	5.25	11.00	32.74	14.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0471)	Area (ha)= 3.35
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.27	2.08
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.40
Length	(m)=	149.44	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.45
over (min)		15.00	15.00
Storage Coeff. (min)=		0.60 (ii)	4.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.11
			TOTALS
PEAK FLOW	(cms)=	0.07	0.12 0.193 (iii)
TIME TO PEAK	(hrs)=	4.50	5.25 5.25
RUNOFF VOLUME	(mm)=	53.38	31.70 38.21
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.58 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9158)				
Inlet Cap.=1.825				
#of Inlets= 1				
Total(cms)= 1.8	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.35	0.19	5.25	38.21
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.35	0.19	5.25	38.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6158)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0950	0.1100
	0.0750	0.0340	1.8250	0.1650

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0475)	Area (ha)= 62.64
ID= 1 DT=15.0 min	Total Imp(%)= 54.00 Dir. Conn.(%)= 44.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.83	28.81
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	646.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	25.10
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07
			TOTALS
PEAK FLOW	(cms)=	1.92	1.89 3.809 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	53.38	35.15 43.17
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.65 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2475)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0078):	127.54	4.996	5.25	27.56
+ ID2= 2 (0475):	62.64	3.809	5.25	43.17
ID = 3 (2475):	190.18	8.805	5.25	32.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9078)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)= 14.6	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	190.18	8.80	5.25	32.70
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	190.18	8.80	5.25	32.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0015)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3069):	5445.95	25.185	11.00	15.22
+ ID2= 2 (9078):	190.18	8.805	5.25	32.70
ID = 3 (0015):	5636.13	25.416	11.00	15.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0066) | Area (ha)= 130.40
ID= 1 DT=15.0 min | Total Imp(%)= 48.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.59	67.81
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.60
Length	(m)=	932.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.93
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	3.53	3.85	7.381 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	31.18	39.84
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.57	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1101)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	5636.13	25.416	11.00	15.81
+ ID2= 2 (0066):	130.40	7.381	5.25	39.84

ID = 3 (1101): 5766.53 25.614 5.25 16.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5101)
IN= 1---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5101.0) ------>

Distance	Elevation	Manning	
0.00	241.94	0.0930	
8.16	239.50	0.0930	
22.34	239.00	0.0930	
28.16	235.50	0.0930	
31.19	235.00	0.0930	
45.37	235.00	0.0930	
66.87	235.30	0.0930	
92.82	235.00	0.0930	
128.48	235.00	0.0930	
131.88	234.50	0.0930	
133.09	234.00	0.0930 /0.0410	Main Channel
133.35	233.80	0.0410	Main Channel
143.76	233.80	0.0410	Main Channel
143.82	234.00	0.0410 /0.0930	Main Channel
146.15	235.00	0.0930	
163.07	235.45	0.0930	
172.90	235.85	0.0930	
179.77	238.00	0.0930	
182.39	238.10	0.0930	
202.70	242.63	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	234.00	.288E+04	0.8	0.38	59.38
0.62	234.42	.955E+04	5.5	0.78	29.17
1.04	234.84	.177E+05	13.2	1.02	22.25
1.45	235.25	.536E+05	26.9	0.68	33.23
1.87	235.67	.130E+06	60.9	0.64	35.54
2.29	236.09	.212E+06	113.1	0.73	31.26
2.71	236.51	.296E+06	180.8	0.83	27.30
3.13	236.93	.381E+06	262.0	0.94	24.24
3.54	237.34	.467E+06	355.8	1.04	21.89
3.96	237.76	.555E+06	461.5	1.13	20.04
4.38	238.18	.644E+06	575.5	1.22	18.64
4.80	238.60	.735E+06	703.6	1.30	17.41
5.21	239.01	.828E+06	841.5	1.38	16.39
5.63	239.43	.925E+06	958.9	1.41	16.08
6.05	239.85	.103E+07	1117.1	1.48	15.34
6.47	240.27	.113E+07	1291.9	1.55	14.63
6.89	240.69	.124E+07	1477.9	1.62	13.99
7.30	241.10	.135E+07	1675.0	1.69	13.43
7.72	241.52	.146E+07	1883.1	1.76	12.93

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1101)	5766.53	25.61	5.25	16.36	1.41	0.70
OUTFLOW: ID= 1 (5101)	5766.53	24.99	11.75	16.36	1.40	0.71

CALIB
STANDHYD (0101) | Area (ha)= 133.45
ID= 1 DT=15.0 min | Total Imp(%)= 47.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.72	70.73
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	943.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.36
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	3.62	3.84	7.458 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	30.89	39.66
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.57	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2101)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0101):	133.45	7.458	5.25	39.66
+ ID2= 2 (5101):	5766.53	24.991	11.75	16.36
ID = 3 (2101):	5899.98	26.516	5.25	16.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5095)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5095.0) ------>

Distance	Elevation	Manning	
0.00	236.91	0.0930	
17.88	233.09	0.0930	
29.64	231.89	0.0930	
36.51	231.50	0.0930	
36.72	231.50	0.0930	
39.68	230.95	0.0930	
42.58	230.50	0.0930 /0.0410	Main Channel
42.67	229.70	0.0410	Main Channel
42.81	229.70	0.0410	Main Channel
49.66	229.70	0.0410	Main Channel
49.91	230.50	0.0410 /0.0930	Main Channel

53.95	231.00	0.0930	
111.16	232.00	0.0930	
167.36	232.00	0.0930	
183.43	233.00	0.0930	
203.76	237.50	0.0930	
211.96	238.12	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	229.97	.137E+04	1.1	0.56	21.49
0.53	230.23	.275E+04	3.3	0.86	14.11
0.80	230.50	.416E+04	6.2	1.08	11.19
1.20	230.90	.714E+04	12.6	1.28	9.45
1.60	231.30	.134E+05	21.9	1.19	10.18
2.00	231.70	.270E+05	37.2	1.00	12.08
2.40	232.10	.530E+05	59.5	0.82	14.86
2.80	232.50	.957E+05	110.2	0.84	14.47
3.20	232.90	.141E+06	179.2	0.92	13.15
3.60	233.30	.190E+06	268.0	1.03	11.79
4.01	233.71	.239E+06	374.4	1.14	10.64
4.41	234.11	.290E+06	496.3	1.25	9.72
4.81	234.51	.341E+06	633.1	1.35	8.98
5.21	234.91	.394E+06	784.4	1.45	8.37
5.61	235.31	.447E+06	949.8	1.54	7.85
6.01	235.71	.502E+06	1129.0	1.63	7.41
6.41	236.11	.558E+06	1322.0	1.72	7.04
6.81	236.51	.615E+06	1528.3	1.81	6.71
7.21	236.91	.673E+06	1748.1	1.89	6.42

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2101)	5899.98	26.52	5.25	16.88	1.72	1.13
OUTFLOW: ID= 1 (5095)	5899.98	25.10	12.00	16.88	1.69	1.14

CALIB
STANDHYD (0095) | Area (ha)= 84.82
ID= 1 DT=15.0 min | Total Imp(%)= 46.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.02	45.80
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	751.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.94
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	15.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.24	2.62	4.859 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	31.96	40.10
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.59	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2095)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0095):	84.82	4.859	5.25	40.10
	+ ID2= 2 (5095):	5899.98	25.099	12.00	16.88
	ID = 3 (2095):	5984.80	28.877	5.25	17.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0688)	Area (ha)=	43.70	
ID= 1 DT=15.0 min	Total Imp(%)=	44.00	Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	19.23	24.47
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	539.75	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.17
over (min)	15.00	30.00
Storage Coeff. (min)=	2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW (cms)=	1.18	1.22	2.403 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	29.00	38.51
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.53	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2688)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

*** W A R N I N G : HYDROGRAPH 9078 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

	ID1= 1 (0688):	43.70	2.403	5.25	38.51

+ ID2= 2 (9078):	0.00	0.000	0.00	0.00
ID = 3 (2688):	43.70	2.403	5.25	38.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0476)	Area (ha)=	22.70	
ID= 1 DT=15.0 min	Total Imp(%)=	76.00	Dir. Conn.(%)= 76.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.25	5.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	389.02	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	20.08
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08

		TOTALS
PEAK FLOW (cms)=	1.20	0.29	1.493 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	33.62	48.64
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.62	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9331)					
Inlet Cap.=5.900					
#of Inlets= 1					
Total(cms)= 5.9		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	TOTAL HYD.(ID= 1):	22.70	1.49	5.25	48.64
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	22.70	1.49	5.25	48.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6331)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	1.2500	0.7550
	0.0400	0.4210	1.6700	0.8120
	0.0800	0.4760	2.3800	0.8680
	0.1700	0.5310	3.3600	0.9250

0.4100	0.5870	4.5400	0.9820
0.6500	0.6430	5.9000	1.0400
0.9500	0.6990	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9331)	22.700	1.493	5.25	48.64
OUTFLOW: ID= 1 (6331)	22.700	0.728	5.50	48.52

PEAK FLOW REDUCTION [Qout/Qin](%)= 48.77
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.6684

ADD HYD (****)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

*** W A R N I N G : HYDROGRAPH 9331 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

	ID1= 1 (6331):	22.70	0.728	5.50	48.52
	+ ID2= 2 (9331):	0.00	0.000	0.00	0.00
	ID = 3 (****):	22.70	0.728	5.50	48.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0689)	Area (ha)=	4.42	
ID= 1 DT=15.0 min	Total Imp(%)=	23.00	Dir. Conn.(%)= 23.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.02	3.40
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	171.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	12.93
over (min)	15.00	30.00
Storage Coeff. (min)=	1.20 (ii)	7.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.10

		TOTALS
PEAK FLOW (cms)=	0.07	0.12	0.191 (iii)
TIME TO PEAK (hrs)=	4.75	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	20.80	28.29
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.38	0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2689)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0689):	4.42	0.191	5.25	28.29
	+ ID2= 2 (****):	22.70	0.728	5.50	48.52
	ID = 3 (2689):	27.12	0.795	5.50	45.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1113)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2688):	43.70	2.403	5.25	38.51
	+ ID2= 2 (2689):	27.12	0.795	5.50	45.22
	ID = 3 (1113):	70.82	3.177	5.25	41.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5113)		
IN= 2---> OUT= 1	Routing time step (min)'= 15.00	

<------ DATA FOR SECTION (5113.0) ------>

Distance	Elevation	Manning	
0.00	244.57	0.0930	
317.65	242.05	0.0930	
348.79	241.03	0.0930	
378.18	238.00	0.0930	
381.25	236.49	0.0930 /0.0410	Main Channel
381.97	235.89	0.0410	Main Channel
384.32	236.39	0.0410 /0.0930	Main Channel
413.50	241.05	0.0930	
457.83	240.38	0.0930	
497.88	241.26	0.0930	
759.99	241.26	0.0930	
924.92	242.38	0.0930	
990.74	242.50	0.0930	
1030.87	242.13	0.0930	
1081.60	243.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	236.14	.126E+03	0.1	0.48	23.67
0.50	236.39	.504E+03	0.6	0.76	14.91
0.89	236.78	.171E+04	2.9	1.15	9.87
1.28	237.17	.379E+04	7.2	1.30	8.76
1.68	237.57	.674E+04	13.8	1.40	8.12
2.07	237.96	.106E+05	23.1	1.49	7.64
2.46	238.35	.156E+05	34.9	1.53	7.44
2.85	238.74	.223E+05	50.9	1.56	7.29
3.25	239.14	.307E+05	71.8	1.60	7.12
3.64	239.53	.407E+05	98.0	1.65	6.93
4.03	239.92	.525E+05	130.2	1.70	6.71
4.42	240.31	.659E+05	169.0	1.75	6.50

4.82	240.71	.850E+05	186.4	1.50	7.60
5.21	241.10	.117E+06	240.8	1.40	8.13
5.60	241.49	.203E+06	302.7	1.02	11.19
5.99	241.88	.336E+06	517.9	1.05	10.81
6.39	242.28	.490E+06	782.2	1.09	10.44
6.78	242.67	.691E+06	1137.8	1.13	10.12
7.17	243.06	.920E+06	1698.5	1.26	9.03

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1113)	70.82	3.18	5.25	41.08	0.92	1.16
OUTFLOW: ID= 1 (5113)	70.82	2.94	5.25	41.08	0.90	1.16

CALIB			
STANDHYD (0113)	Area (ha)= 12.71		
ID= 1 DT=15.0 min	Total Imp(%)= 52.00	Dir. Conn.(%)= 52.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.61	6.10
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	291.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.37
over (min)		15.00	15.00
Storage Coeff. (min)=		1.80 (ii)	9.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.09

		TOTALS
PEAK FLOW	(cms)=	0.46	0.27	0.730 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	26.66	40.55
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.49	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2113)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0113):	12.71	0.730	5.25	40.55	
+ ID2= 2 (5113):	70.82	2.936	5.25	41.08	
ID = 3 (2113):	83.53	3.666	5.25	41.00	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0120)	Area (ha)= 46.27	
ID= 1 DT=15.0 min	Total Imp(%)= 63.00	Dir. Conn.(%)= 63.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	29.15	17.12
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	555.40	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.77
over (min)		15.00	30.00
Storage Coeff. (min)=		2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.03	0.84	2.869 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	31.04	45.11
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.57	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1119)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0120):	46.27	2.869	5.25	45.11	
+ ID2= 2 (2113):	83.53	3.666	5.25	41.00	
ID = 3 (1119):	129.80	6.534	5.25	42.47	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5119)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5119.0) ------>

Distance	Elevation	Manning	
0.00	240.51	0.0930	
29.89	240.57	0.0930	
116.44	238.41	0.0930	
139.64	232.93	0.0930 /0.0410	Main Channel
141.61	232.28	0.0410	Main Channel
145.25	233.93	0.0410 /0.0930	Main Channel
173.42	238.12	0.0930	
173.87	238.19	0.0930	
270.90	240.57	0.0930	
279.44	240.59	0.0930	
297.64	240.11	0.0930	
300.84	240.11	0.0930	

309.34	240.24	0.0930	
309.90	240.23	0.0930	
315.37	240.29	0.0930	
322.46	240.34	0.0930	
324.59	240.37	0.0930	
337.93	240.53	0.0930	
338.14	240.54	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	232.60	.159E+03	0.1	0.35	27.10
0.65	232.93	.636E+03	0.6	0.56	17.07
1.10	233.38	.189E+04	2.6	0.80	12.00
1.55	233.83	.390E+04	6.3	0.93	10.35
2.00	234.28	.683E+04	12.6	1.06	9.01
2.45	234.73	.110E+05	21.8	1.14	8.43
2.90	235.18	.165E+05	34.0	1.19	8.08
3.35	235.63	.232E+05	49.7	1.23	7.79
3.80	236.08	.313E+05	69.2	1.27	7.53
4.25	236.53	.406E+05	92.9	1.32	7.28
4.71	236.99	.511E+05	121.0	1.36	7.05
5.16	237.44	.630E+05	153.9	1.40	6.83
5.61	237.89	.761E+05	191.8	1.45	6.62
6.06	238.34	.908E+05	229.8	1.46	6.58
6.51	238.79	.111E+06	254.0	1.31	7.30
6.96	239.24	.141E+06	302.2	1.23	7.78
7.41	239.69	.180E+06	372.7	1.19	8.06
7.86	240.14	.229E+06	460.2	1.16	8.30
8.31	240.59	.297E+06	525.8	1.02	9.42

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1119)	129.80	6.53	5.25	42.47	1.57	0.93
OUTFLOW: ID= 1 (5119)	129.80	6.18	5.25	42.47	1.54	0.92

DUHYD (9033)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)= 26.9	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	129.80	6.18	5.25	42.47
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	129.80	6.18	5.25	42.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6033)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	9.6100	1.9350
	0.1300	1.4400	12.0700	2.0240
	0.7800	1.5180	14.7200	2.1150
	1.9600	1.5970	17.5300	2.2070
	3.4900	1.6790	20.5100	2.3010

5.2900	1.7620	23.6400	2.3970
7.3400	1.8480	26.9100	2.4940

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9033)	129.800	6.180	5.25	42.47
OUTFLOW: ID= 1 (6033)	129.800	5.660	5.50	42.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 91.58
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.8017

ADD HYD (****)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G :	HYDROGRAPH 9033 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6033):	129.80	5.660	5.50	42.44	
+ ID2= 2 (9033):	0.00	0.000	0.00	0.00	
ID = 3 (****):	129.80	5.660	5.50	42.44	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0119)	Area (ha)= 7.24	
ID= 1 DT=15.0 min	Total Imp(%)= 21.00	Dir. Conn.(%)= 19.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.52	5.72
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.50
Length	(m)=	219.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.92
over (min)		15.00	15.00
Storage Coeff. (min)=		1.20 (ii)	6.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.10

		TOTALS
PEAK FLOW	(cms)=	0.10	0.22	0.314 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	21.90	27.88
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.40	0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2119)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0119):		7.24	0.314	5.25	27.88
+ ID2= 2 (****):		129.80	5.660	5.50	42.44
ID = 3 (2119):		137.04	5.766	5.50	41.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9529)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		137.04	5.77	5.50	41.67
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		137.04	5.77	5.50	41.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6529)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	6.0000	0.2720
		2.0000	0.0946	8.0000	0.3631
		4.0000	0.1999	10.0000	0.4677

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9529)	137.040	5.766	5.50	41.67
OUTFLOW: ID= 1 (6529)	137.040	5.546	5.50	41.67

PEAK FLOW REDUCTION [Qout/Qin](%)= 96.19
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.2655

ADD HYD (4529)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G :	HYDROGRAPH 9529 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6529):		137.04	5.546	5.50	41.67
+ ID2= 2 (9529):		0.00	0.000	0.00	0.00
ID = 3 (4529):		137.04	5.546	5.50	41.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0484)	Area (ha)=	10.31		
ID= 1 DT=15.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)=	42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.46	4.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.10
Length (m)=	262.17	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	24.85
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	8.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.09

		TOTALS
PEAK FLOW	(cms)=	0.30	0.33	0.631 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	34.15	42.23
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.63	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9129)					
Inlet Cap.=0.021					
#of Inlets= 1					
Total(cms)= 0.0		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		10.31	0.63	5.25	42.23
MAJOR SYS.(ID= 2):		8.67	0.61	5.25	42.23
MINOR SYS.(ID= 3):		1.64	0.02	2.50	42.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6129)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.0160	0.0567
		0.0090	0.0175	0.0190	0.0784
		0.0130	0.0364	0.0210	0.1015

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9129)	1.638	0.021	2.50	42.23
OUTFLOW: ID= 1 (6129)	1.638	0.013	12.25	41.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 60.20
TIME SHIFT OF PEAK FLOW (min)=585.00

MAXIMUM STORAGE USED (ha.m.)= 0.0348

ADD HYD (4129)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6129):		1.64	0.013	12.25	41.94
+ ID2= 2 (9129):		8.67	0.610	5.25	42.23
ID = 3 (4129):		10.31	0.619	5.25	42.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2484)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (4129):		10.31	0.619	5.25	42.18
+ ID2= 2 (4529):		137.04	5.546	5.50	41.67
ID = 3 (2484):		147.35	5.756	5.50	41.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0485)	Area (ha)=	44.69		
ID= 1 DT=15.0 min	Total Imp(%)=	50.00	Dir. Conn.(%)=	49.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	22.34	22.34
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.70
Length (m)=	545.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.04
over (min)	15.00	30.00
Storage Coeff. (min)=	3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	1.52	0.96	2.484 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	26.97	39.91
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.50	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2485)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0485):		44.69	2.484	5.25	39.91
+ ID2= 2 (2484):		147.35	5.756	5.50	41.71
ID = 3 (2485):		192.04	6.762	5.50	41.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1122)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2095):		5984.80	28.877	5.25	17.21
+ ID2= 2 (2485):		192.04	6.762	5.50	41.29
ID = 3 (1122):		6176.84	34.737	5.25	17.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5122)		
IN= 2---> OUT= 1	Routing time step (min)'=	15.00

<------ DATA FOR SECTION (5122.0) ------>

Distance	Elevation	Manning	
0.00	235.73	0.0930	
17.92	231.50	0.0930	
24.58	231.00	0.0930	
44.00	230.55	0.0930	
142.67	231.50	0.0930	
150.22	231.50	0.0930	
174.16	231.28	0.0930	
192.63	231.06	0.0930	
194.24	231.00	0.0930	
196.93	230.16	0.0930	
197.38	230.00	0.0930 /0.0410	Main Channel
197.43	229.98	0.0410	Main Channel
197.57	229.00	0.0410	Main Channel
205.27	229.00	0.0410	Main Channel
205.34	229.94	0.0410	Main Channel
205.54	230.00	0.0410 /0.0930	Main Channel
229.92	238.50	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	229.33	.126E+04	1.5	0.58	14.12
0.67	229.67	.254E+04	4.5	0.87	9.33
1.00	230.00	.383E+04	8.5	1.08	7.54
1.36	230.36	.544E+04	14.4	1.30	6.28
1.72	230.72	.843E+04	22.0	1.28	6.38
2.07	231.07	.197E+05	35.4	0.88	9.28
2.43	231.43	.424E+05	59.9	0.69	11.80
2.79	231.79	.757E+05	107.8	0.70	11.70
3.15	232.15	.110E+06	175.4	0.78	10.45
3.51	232.51	.145E+06	258.4	0.88	9.33
3.87	232.87	.180E+06	355.7	0.97	8.42

4.22	233.22	.215E+06	466.3	1.06	7.70
4.58	233.58	.251E+06	589.7	1.15	7.10
4.94	233.94	.288E+06	725.4	1.23	6.61
5.30	234.30	.325E+06	873.0	1.32	6.20
5.66	234.66	.362E+06	1032.1	1.40	5.85
6.01	235.01	.400E+06	1202.5	1.47	5.54
6.37	235.37	.438E+06	1384.0	1.55	5.28
6.73	235.73	.477E+06	1576.4	1.62	5.04

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs) (mm)	(m)	(m/s)
INFLOW : ID= 2 (1122)	6176.84	34.74	5.25 17.96	2.06	0.89
OUTFLOW: ID= 1 (5122)	6176.84	32.49	5.50 17.96	1.99	0.95

CALIB	
STANDHYD (0122)	Area (ha)= 30.63
ID= 1 DT=15.0 min	Total Imp(%)= 32.00 Dir. Conn.(%)= 26.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.80	20.83
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	451.88	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.39
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08
		TOTALS
PEAK FLOW (cms)=	0.55	0.96 1.513 (iii)
TIME TO PEAK (hrs)=	5.00	5.25 5.25
RUNOFF VOLUME (mm)=	53.38	26.10 33.19
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.48 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2122)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0122):	30.63	1.513	5.25	33.19	
+ ID2= 2 (5122):	6176.84	32.490	5.50	17.96	
ID = 3 (2122):	6207.47	33.136	5.50	18.04	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5112)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5112.0) ------>

Distance	Elevation	Manning	
0.00	235.91	0.0930	
5.76	235.56	0.0930	
118.08	233.00	0.0930	
121.46	233.00	0.0930	
158.56	231.55	0.0930	
190.22	229.04	0.0930	
190.34	229.04	0.0930	
212.62	228.00	0.0930	
225.02	227.50	0.0930	
226.84	227.00	0.0930 /0.0410	Main Channel
227.92	226.50	0.0410	Main Channel
232.46	226.50	0.0410	Main Channel
232.95	226.98	0.0410 /0.0930	Main Channel
237.55	228.00	0.0930	
247.07	228.50	0.0930	
255.73	228.80	0.0930	
268.28	229.64	0.0930	
274.49	231.50	0.0930	
283.66	232.45	0.0930	
298.53	235.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.24	226.74	.770E+03	0.5	0.47	23.34
0.48	226.98	.166E+04	1.8	0.70	15.51
0.95	227.45	.411E+04	6.4	1.02	10.61
1.42	227.92	.897E+04	14.3	1.04	10.49
1.90	228.40	.186E+05	27.2	0.95	11.44
2.37	228.87	.346E+05	48.1	0.91	11.99
2.84	229.34	.563E+05	80.7	0.93	11.62
3.31	229.81	.819E+05	125.6	1.00	10.87
3.78	230.28	.110E+06	183.3	1.08	10.03
4.25	230.75	.141E+06	252.3	1.17	9.31
4.73	231.23	.174E+06	333.0	1.25	8.70
5.20	231.70	.209E+06	420.3	1.31	8.30
5.67	232.17	.249E+06	512.6	1.34	8.10
6.14	232.64	.294E+06	623.0	1.38	7.87
6.61	233.11	.344E+06	742.9	1.41	7.72
7.08	233.58	.401E+06	880.3	1.43	7.60
7.56	234.06	.466E+06	1041.7	1.46	7.45
8.03	234.53	.538E+06	1228.2	1.49	7.30
8.50	235.00	.616E+06	1440.8	1.52	7.13

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs) (mm)	(m)	(m/s)
INFLOW : ID= 2 (2122)	6207.47	33.14	5.50 18.04	2.03	0.94
OUTFLOW: ID= 1 (5112)	6207.47	32.00	5.75 18.04	2.01	0.94

CALIB	
STANDHYD (0112)	Area (ha)= 91.24
ID= 1 DT=15.0 min	Total Imp(%)= 48.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.80	47.44
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.10
Length (m)=	779.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	23.09
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	16.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	2.41	2.83 5.239 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	53.38	32.51 40.44
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.60 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2112)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0112):	91.24	5.239	5.25	40.44	
+ ID2= 2 (5112):	6207.47	32.001	5.75	18.04	
ID = 3 (2112):	6298.71	33.904	5.75	18.36	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5091)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5091.0) ------>

Distance	Elevation	Manning	
0.00	233.68	0.0930	
57.19	231.45	0.0930	
70.84	229.38	0.0930	
75.11	228.00	0.0930	
76.32	227.82	0.0930	
78.35	227.50	0.0930 /0.0410	Main Channel
79.48	227.23	0.0410	Main Channel
80.40	227.00	0.0410	Main Channel
81.40	226.00	0.0410	Main Channel
87.08	226.00	0.0410	Main Channel
87.20	226.00	0.0410	Main Channel
87.27	226.50	0.0410	Main Channel
88.50	227.47	0.0410	Main Channel
88.62	227.50	0.0410	Main Channel
92.08	227.50	0.0410	Main Channel
93.44	227.80	0.0410	Main Channel

94.43	228.72	0.0410 /0.0930	Main Channel
111.61	232.98	0.0930	
115.31	233.50	0.0930	
134.67	234.81	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.37	226.38	.167E+04	1.4	0.61	20.11
0.75	226.75	.348E+04	4.3	0.91	13.58
1.12	227.12	.554E+04	8.3	1.10	11.19
1.50	227.50	.808E+04	13.4	1.22	10.07
1.91	227.91	.129E+05	21.9	1.25	9.82
2.32	228.32	.187E+05	36.9	1.46	8.45
2.74	228.74	.250E+05	55.3	1.63	7.54
3.15	229.15	.321E+05	78.4	1.81	6.83
3.56	229.56	.401E+05	104.9	1.94	6.37
3.97	229.97	.493E+05	135.2	2.03	6.08
4.38	230.38	.599E+05	169.9	2.10	5.88
4.80	230.80	.718E+05	209.2	2.15	5.72
5.21	231.21	.851E+05	253.2	2.20	5.60
5.62	231.62	.999E+05	299.6	2.22	5.56
6.03	232.03	.118E+06	350.3	2.20	5.61
6.44	232.44	.140E+06	409.8	2.17	5.69
6.86	232.86	.165E+06	478.0	2.14	5.76
7.27	233.27	.195E+06	554.6	2.11	5.85
7.68	233.68	.228E+06	639.5	2.07	5.95

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs) (mm)	(m)	(m/s)
INFLOW : ID= 2 (2112)	6298.71	33.90	5.75 18.36	2.24	1.41
OUTFLOW: ID= 1 (5091)	6298.71	33.69	5.75 18.36	2.23	1.40

CALIB	
STANDHYD (0091)	Area (ha)= 180.35
ID= 1 DT=15.0 min	Total Imp(%)= 47.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	84.76	95.59
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	1096.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	22.50
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	19.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06
		TOTALS
PEAK FLOW (cms)=	4.76	5.40 10.164 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	53.38	32.23 40.27
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.59 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2091)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0091):	180.35	10.164	5.25	40.27
	+ ID2= 2 (5091):	6298.71	33.689	5.75	18.36
	ID = 3 (2091):	6479.06	40.604	5.25	18.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9023)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)= 17.8		(ha)	(cms)	(hrs)	(mm)
	TOTAL HYD.(ID= 1):	6479.06	40.60	5.25	18.97
	MAJOR SYS.(ID= 2):	1415.05	22.77	5.25	18.97
	MINOR SYS.(ID= 3):	5064.01	17.84	4.50	18.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6023)		OUTFLOW	STORAGE		OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)		(cms)	(ha.m.)
DT= 15.0 min		0.0000	0.0000		6.0830	0.7376
		0.5140	0.0185		8.6630	1.7454
		1.9040	0.1110		17.8370	3.6437
		3.8440	0.3047		0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9023)	5064.007	17.837	4.50	18.97
OUTFLOW: ID= 1 (6023)	5064.007	17.837	13.25	18.97

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)=525.00
MAXIMUM STORAGE USED (ha.m.)= 3.6437

ADD HYD (****)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6023):	5064.01	17.837	13.25	18.97
	+ ID2= 2 (9023):	1415.05	22.767	5.25	18.97
	ID = 3 (****):	6479.06	37.709	5.25	18.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5530)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5530.0) ------>

Distance	Elevation	Manning	
0.00	232.00	0.0930	
4.96	232.00	0.0930	
7.83	231.50	0.0930	
17.85	231.00	0.0930	
42.32	226.50	0.0930	
90.46	226.50	0.0930	
96.74	225.00	0.0930 /0.0410	Main Channel
98.31	224.50	0.0410	Main Channel
108.69	224.50	0.0410	Main Channel
109.36	225.00	0.0410 /0.0930	Main Channel
114.19	225.50	0.0930	
117.90	227.00	0.0930	
121.45	227.50	0.0930	
134.20	227.50	0.0930	
149.51	228.94	0.0930	
154.36	229.23	0.0930	
155.62	229.30	0.0930	
155.63	232.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	224.75	.192E+04	2.5	0.92	12.70
0.50	225.00	.403E+04	8.1	1.41	8.28
0.91	225.41	.850E+04	24.2	1.99	5.86
1.32	225.82	.144E+05	48.1	2.35	4.97
1.74	226.24	.210E+05	79.6	2.66	4.40
2.15	226.65	.335E+05	118.2	2.48	4.72
2.56	227.06	.557E+05	182.5	2.30	5.09
2.97	227.47	.793E+05	264.6	2.34	5.00
3.38	227.88	.108E+06	362.6	2.36	4.96
3.79	228.29	.139E+06	488.9	2.47	4.73
4.21	228.71	.172E+06	634.9	2.60	4.50
4.62	229.12	.206E+06	799.2	2.72	4.30
5.03	229.53	.243E+06	987.9	2.85	4.10
5.44	229.94	.281E+06	1201.3	3.00	3.90
5.85	230.35	.320E+06	1433.6	3.15	3.72
6.26	230.76	.359E+06	1684.2	3.29	3.55
6.68	231.18	.399E+06	1936.0	3.41	3.43
7.09	231.59	.441E+06	2195.5	3.50	3.34
7.50	232.00	.484E+06	2505.8	3.63	3.22

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (****)	6479.06	37.71	5.25	18.97	1.14	2.18
OUTFLOW: ID= 1 (5530)	6479.06	37.59	5.50	18.97	1.14	2.18

CALIB		Area (ha)=	12.46
STANDHYD (0530)		Total Imp(%)=	33.00 Dir. Conn.(%)= 28.00
ID= 1 DT=15.0 min			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.11	8.35
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.00
Length (m)=	288.21	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.50
over (min)	15.00	15.00
Storage Coeff. (min)=	1.20 (ii)	7.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.10

		TOTALS
PEAK FLOW (cms)=	0.24	0.35	0.595 (iii)
TIME TO PEAK (hrs)=	4.75	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	23.38	31.78
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.43	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2530)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0530):	12.46	0.595	5.25	31.78
	+ ID2= 2 (5530):	6479.06	37.587	5.50	18.97
	ID = 3 (2530):	6491.52	37.799	5.50	19.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)=	71.32
STANDHYD (0114)		Total Imp(%)=	52.00 Dir. Conn.(%)= 43.00
ID= 1 DT=15.0 min			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	37.09	34.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	689.54	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	23.64
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	15.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW (cms)=	2.13	2.12	4.249 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	33.60	42.10

TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.62	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1529)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0114):	71.32	4.249	5.25	42.10
	+ ID2= 2 (2530):	6491.52	37.799	5.50	19.00
	ID = 3 (1529):	6562.84	40.965	5.25	19.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5529)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5529.0) ------>

Distance	Elevation	Manning	
0.00	229.04	0.0930	
7.45	221.83	0.0930 /0.0410	Main Channel
7.73	221.00	0.0410	Main Channel
11.19	221.00	0.0410	Main Channel
14.51	222.00	0.0410 /0.0930	Main Channel
15.34	222.00	0.0930	
16.50	222.50	0.0930	
29.47	222.35	0.0930	
55.40	222.50	0.0930	
76.32	222.50	0.0930	
144.32	223.00	0.0930	
157.97	223.80	0.0930	
163.43	224.00	0.0930	
184.95	224.50	0.0930	
193.87	225.00	0.0930	
197.46	225.00	0.0930	
203.83	225.27	0.0930	
208.01	225.56	0.0930	
214.39	225.78	0.0930	
214.40	229.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	221.41	.154E+04	0.8	0.48	30.55
0.83	221.83	.362E+04	2.9	0.69	21.07
1.25	222.25	.652E+04	6.7	0.90	16.23
1.67	222.67	.235E+05	14.4	0.54	27.14
2.10	223.10	.682E+05	36.2	0.46	31.45
2.52	223.52	.121E+06	75.3	0.54	26.85
2.94	223.94	.177E+06	127.4	0.63	23.21
3.36	224.36	.238E+06	188.5	0.69	21.08

3.78	224.78	.305E+06	266.7	0.77	19.08
4.20	225.20	.376E+06	356.2	0.83	17.60
4.63	225.63	.451E+06	463.5	0.90	16.22
5.05	226.05	.529E+06	588.5	0.98	14.97
5.47	226.47	.607E+06	732.6	1.06	13.81
5.89	226.89	.685E+06	889.1	1.14	12.85
6.31	227.31	.764E+06	1057.6	1.21	12.04
6.73	227.73	.843E+06	1237.6	1.29	11.35
7.16	228.16	.922E+06	1428.6	1.36	10.75
7.58	228.58	.100E+07	1630.4	1.43	10.23
8.00	229.00	.108E+07	1842.6	1.50	9.77

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1529)	6562.84	40.97	5.25	19.25	2.15	0.47
OUTFLOW: ID= 1 (5529)	6562.84	34.68	6.25	19.25	2.07	0.47

CALIB			
STANDHYD (0529)	Area (ha)=	41.93	
ID= 1 DT=15.0 min	Total Imp(%)=	33.00	Dir. Conn.(%)= 26.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	13.84	28.09
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.80
Length (m)=	528.71	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.79
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	12.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08
		TOTALS
PEAK FLOW (cms)=	0.76	1.32	2.075 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	26.33	33.36
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.48	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2529)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0529):	41.93	2.075	5.25	33.36
	+ ID2= 2 (5529):	6562.84	34.681	6.25	19.25
	ID = 3 (2529):	6604.77	35.336	6.25	19.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0488)	Area (ha)=	47.77	
ID= 1 DT=15.0 min	Total Imp(%)=	57.00	Dir. Conn.(%)= 51.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	27.23	20.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	564.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	22.39
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	1.69	1.21	2.906 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	33.00	43.39
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.61	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9164)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	47.77	2.91	5.25	43.39
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	47.77	2.91	5.25	43.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6164)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1280	0.6485
	0.0360	0.0650	0.2220	0.6870
	0.0470	0.1250	0.6040	0.7600
	0.0620	0.1800	1.1450	0.8300
	0.0750	0.2500	1.8080	0.9100
	0.0850	0.3100	2.5730	0.9800
	0.0950	0.3750	3.4270	1.0500
	0.1030	0.4330	4.3630	1.1200

	0.1110	0.4930	5.3730		1.1950
	0.1180	0.5630	0.0000		0.0000
	0.1250	0.6120	0.0000		0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9164)	47.770	2.906	5.25	43.39
OUTFLOW: ID= 1 (6164)	47.770	2.115	5.25	43.38

PEAK FLOW REDUCTION [Qout/Qin](%)= 72.78
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.9737

ADD HYD (4164)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9164 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
	ID1= 1 (6164):	47.77	2.115	5.25	43.38
	+ ID2= 2 (9164):	0.00	0.000	0.00	0.00
	ID = 3 (4164):	47.77	2.115	5.25	43.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1486)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2529):	6604.77	35.336	6.25	19.34
	+ ID2= 2 (4164):	47.77	2.115	5.25	43.38
	ID = 3 (1486):	6652.54	36.360	6.25	19.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5486)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5486.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0930	
11.94	222.00	0.0930	
16.06	221.50	0.0930	
41.45	220.50	0.0930	
88.07	220.00	0.0930	
99.13	219.50	0.0930	
102.39	219.00	0.0930 /0.0410	Main Channel
102.82	218.50	0.0410	Main Channel
108.08	218.50	0.0410	Main Channel
108.18	219.00	0.0410 /0.0930	Main Channel
109.15	219.20	0.0930	
110.60	219.50	0.0930	
116.50	221.36	0.0930	
127.30	226.50	0.0930	

144.83	227.58	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	218.75	.815E+03	0.8	0.62	16.38
0.50	219.00	.167E+04	2.6	0.93	10.82
0.85	219.35	.333E+04	6.6	1.20	8.38
1.21	219.71	.603E+04	12.7	1.27	7.93
1.56	220.06	.106E+05	21.3	1.22	8.29
1.91	220.41	.206E+05	34.9	1.02	9.84
2.26	220.76	.364E+05	59.4	0.99	10.22
2.62	221.12	.546E+05	93.6	1.04	9.71
2.97	221.47	.748E+05	137.0	1.11	9.10
3.32	221.82	.967E+05	193.1	1.21	8.34
3.68	222.18	.119E+06	259.4	1.32	7.66
4.03	222.53	.142E+06	335.2	1.42	7.08
4.38	222.88	.166E+06	419.5	1.53	6.59
4.74	223.24	.190E+06	512.1	1.63	6.18
5.09	223.59	.214E+06	612.7	1.73	5.83
5.44	223.94	.239E+06	721.2	1.82	5.53
5.79	224.29	.264E+06	837.5	1.92	5.26
6.15	224.65	.290E+06	961.5	2.00	5.03
6.50	225.00	.317E+06	1093.1	2.09	4.83

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1486)	6652.54	36.36	6.25	19.51	1.93	1.02
OUTFLOW: ID= 1 (5486)	6652.54	35.82	6.50	19.51	1.92	1.02

CALIB			
STANDHYD (0486)	Area (ha)=	35.14	
ID= 1 DT=15.0 min	Total Imp(%)=	47.00	Dir. Conn.(%)= 41.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.52	18.62
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	484.01	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.77
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08
		TOTALS
PEAK FLOW (cms)=	1.00	0.98	1.982 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	29.33	39.19
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.54	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2486)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0486):		35.14	1.982	5.25	39.19
+ ID2= 2 (5486):		6652.54	35.823	6.50	19.51
ID = 3 (2486):		6687.68	36.189	6.50	19.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0533)	Area	(ha)=	61.35
ID= 1 DT=15.0 min	Total Imp(%)=	49.00	Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.06	31.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	639.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	23.19
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07
			TOTALS
PEAK FLOW	(cms)=	1.66	1.90 3.565 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25 5.25
RUNOFF VOLUME	(mm)=	53.38	32.56 40.68
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.60 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1165)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0533):		61.35	3.565	5.25	40.68
+ ID2= 2 (2486):		6687.68	36.189	6.50	19.61
ID = 3 (1165):		6749.03	37.246	6.25	19.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5165)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5165.0) ------>

Distance	Elevation	Manning	
0.00	217.93	0.0930	
93.89	215.00	0.0930	
100.20	213.00	0.0930	
110.33	212.37	0.0930	
119.07	212.00	0.0930	
119.29	212.00	0.0930	
131.29	211.51	0.0930	
131.54	211.50	0.0930 /0.0410	Main Channel
133.06	211.27	0.0410	Main Channel
133.84	211.00	0.0410	Main Channel
145.04	211.00	0.0410	Main Channel
145.53	211.37	0.0410 /0.0930	Main Channel
148.07	212.50	0.0930	
159.61	213.50	0.0930	
179.18	214.00	0.0930	
235.23	213.00	0.0930	
247.26	213.00	0.0930	
261.80	214.00	0.0930	
277.22	218.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	211.18	.179E+04	0.9	0.44	31.48
0.37	211.37	.372E+04	3.0	0.68	20.65
0.76	211.76	.900E+04	10.9	1.01	13.79
1.14	212.14	.175E+05	24.0	1.14	12.17
1.53	212.53	.292E+05	42.8	1.23	11.37
1.91	212.91	.440E+05	67.9	1.29	10.81
2.30	213.30	.675E+05	101.8	1.26	11.05
2.69	213.69	.103E+06	148.9	1.21	11.48
3.07	214.07	.151E+06	213.5	1.18	11.80
3.46	214.46	.205E+06	302.0	1.23	11.31
3.84	214.84	.260E+06	407.0	1.31	10.63
4.23	215.23	.316E+06	516.4	1.37	10.19
4.61	215.61	.376E+06	638.6	1.42	9.81
5.00	216.00	.441E+06	780.7	1.48	9.41
5.39	216.39	.510E+06	941.7	1.54	9.03
5.77	216.77	.584E+06	1121.6	1.61	8.67
6.16	217.16	.662E+06	1320.5	1.67	8.35
6.54	217.54	.744E+06	1538.7	1.73	8.06
6.93	217.93	.832E+06	1776.7	1.79	7.80

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1165)		6749.03	37.25	6.25	19.80	1.41	1.20
OUTFLOW: ID= 1 (5165)		6749.03	36.91	6.50	19.80	1.41	1.20

CALIB			
STANDHYD (0165)	Area	(ha)=	101.91
ID= 1 DT=15.0 min	Total Imp(%)=	50.00	Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.96	50.96

Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	824.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.60
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	17.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07
			TOTALS
PEAK FLOW	(cms)=	2.97	2.81 5.789 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	53.38	31.01 40.41
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.57 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2165)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0165):		101.91	5.789	5.25	40.41
+ ID2= 2 (5165):		6749.03	36.905	6.50	19.80
ID = 3 (2165):		6850.94	38.117	6.25	20.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5383)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5383.0) ------>

Distance	Elevation	Manning	
0.00	217.40	0.0930	
9.80	217.00	0.0930	
16.80	215.50	0.0930	
48.20	214.50	0.0930	
66.70	214.50	0.0930	
92.00	211.00	0.0930	
96.20	210.50	0.0930 /0.0410	Main Channel
97.00	210.10	0.0410	Main Channel
107.00	210.10	0.0410	Main Channel
107.50	210.50	0.0410 /0.0930	Main Channel
112.00	211.00	0.0930	
120.50	212.50	0.0930	
131.90	213.00	0.0930	
199.00	213.00	0.0930	
201.70	212.50	0.0930	
214.00	212.00	0.0930	
229.70	212.00	0.0930	
243.80	215.00	0.0930	

270.00	215.00	0.0930
310.90	216.00	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	210.30	.188E+04	1.1	0.53	28.54
0.40	210.50	.388E+04	3.5	0.82	18.44
0.72	210.82	.804E+04	10.0	1.14	13.34
1.05	211.15	.138E+05	19.8	1.30	11.64
1.37	211.47	.209E+05	32.8	1.43	10.61
1.69	211.79	.292E+05	49.2	1.54	9.89
2.02	212.12	.406E+05	67.1	1.51	10.07
2.34	212.44	.584E+05	93.8	1.46	10.37
2.66	212.76	.801E+05	127.3	1.45	10.49
2.99	213.09	.111E+06	158.3	1.30	11.68
3.31	213.41	.158E+06	222.8	1.28	11.83
3.64	213.74	.206E+06	301.4	1.33	11.41
3.96	214.06	.256E+06	393.0	1.40	10.84
4.28	214.38	.306E+06	497.1	1.48	10.26
4.61	214.71	.362E+06	595.1	1.50	10.13
4.93	215.03	.423E+06	682.5	1.47	10.34
5.25	215.35	.497E+06	819.4	1.50	10.12
5.58	215.68	.578E+06	979.1	1.54	9.84
5.90	216.00	.663E+06	1160.9	1.59	9.52

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2165)		6850.94	38.12	6.25	20.11	1.48	1.46
OUTFLOW: ID= 1 (5383)		6850.94	38.01	6.50	20.11	1.47	1.46

CALIB			
STANDHYD (0383)	Area	(ha)=	61.08
ID= 1 DT=15.0 min	Total Imp(%)=	40.00	Dir. Conn.(%)= 31.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.43	36.65
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	638.12	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.08
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07
			TOTALS
PEAK FLOW	(cms)=	1.32	1.92 3.237 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25 5.25
RUNOFF VOLUME	(mm)=	53.38	28.83 36.44
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.53 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2383)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0383):		61.08	3.237	5.25	36.44
	+ ID2= 2 (5383):		6850.94	38.005	6.50	20.11
	ID = 3 (2383):		6912.02	38.657	6.50	20.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0177)	Area (ha)= 144.80	Total Imp(%)= 52.00	Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.30	69.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	982.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	23.64
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	4.29	2.06	5.509 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	53.38	33.60	42.10
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.62	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1720)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0177):		144.80	5.509	5.25	42.10
	+ ID2= 2 (2383):		6912.02	38.657	6.50	20.25
	ID = 3 (1720):		7056.82	41.477	6.25	20.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DIVERT HYD (1800)	IN= 1 # OUT= 5

Outflow / Inflow Relationships

Flow 1 (cms)	+ Flow 2 (cms)	+ Flow 3 (cms)	+ Flow 4 (cms)	+ Flow 5 (cms)	= Total (cms)
0.00	0.00	0.00	0.00	0.00	0.00
0.00	******	0.00	0.00	0.00	******

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	7056.82	41.48	6.25	20.70
ID= 2 (2) :	0.01	0.00	6.25	20.70
ID= 3 (2) :	7056.81	41.48	6.25	20.70
ID= 4 (2) :	0.00	0.00	0.00	0.00
ID= 5 (2) :	0.00	0.00	0.00	0.00
ID= 6 (2) :	0.00	0.00	0.00	0.00

ROUTE CHN (5800)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5800.0) ------>

Distance	Elevation	Manning	
0.00	214.42	0.0700	
79.28	213.89	0.0700	
120.12	213.16	0.0700	
155.24	211.47	0.0700 /0.0700	Main Channel
158.88	211.30	0.0700	Main Channel
162.95	211.27	0.0700	Main Channel
173.48	211.26	0.0700	Main Channel
221.99	210.58	0.0700	Main Channel
245.42	210.53	0.0700	Main Channel
264.64	210.60	0.0700	Main Channel
283.77	210.98	0.0700	Main Channel
294.38	211.50	0.0700 /0.0700	Main Channel
314.27	212.46	0.0700	
375.00	214.31	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	210.72	.117E+05	1.6	0.20	122.43
0.38	210.91	.314E+05	6.6	0.32	78.97
0.56	211.09	.573E+05	15.6	0.41	61.03
0.75	211.28	.884E+05	27.4	0.46	53.77
0.94	211.47	.126E+06	47.3	0.56	44.53
1.14	211.67	.170E+06	76.4	0.68	37.02
1.35	211.88	.216E+06	111.7	0.78	32.20
1.55	212.08	.264E+06	152.9	0.87	28.81
1.75	212.28	.315E+06	200.1	0.95	26.27
1.95	212.48	.369E+06	253.3	1.03	24.29
2.16	212.69	.426E+06	312.4	1.10	22.72
2.36	212.89	.486E+06	377.9	1.17	21.42
2.56	213.09	.549E+06	450.2	1.23	20.33
2.77	213.30	.616E+06	527.6	1.28	19.47
2.97	213.50	.689E+06	612.3	1.33	18.75
3.17	213.70	.767E+06	705.3	1.38	18.12
3.37	213.90	.850E+06	806.4	1.42	17.57
3.58	214.11	.942E+06	911.2	1.45	17.23

3.78	214.31	.105E+07	1029.3	1.48	16.93	

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	(mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	0.01	0.00	6.25	20.70	0.00	0.20
OUTFLOW: ID= 1 (5800)	0.01	0.00	8.00	20.70	0.00	0.20

ROUTE CHN (5720)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5720.0) ------>

Distance	Elevation	Manning	
0.00	217.21	0.1110	
21.44	216.00	0.1110	
44.42	215.50	0.1110	
50.34	215.00	0.1110	
62.51	209.50	0.1110	
65.10	209.15	0.1110	
66.24	209.00	0.1110 /0.0490	Main Channel
66.50	208.60	0.0490	Main Channel
68.40	208.60	0.0490	Main Channel
68.93	209.00	0.0490 /0.1110	Main Channel
69.89	209.12	0.1110	
72.86	209.50	0.1110	
80.96	213.52	0.1110	
83.23	214.31	0.1110	
86.07	215.00	0.1110	
87.25	215.10	0.1110	
97.04	215.50	0.1110	
101.19	215.50	0.1110	
112.34	215.74	0.1110	
112.52	215.74	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	208.80	.325E+03	0.2	0.46	28.04
0.40	209.00	.710E+03	0.6	0.67	19.10
0.80	209.40	.247E+04	2.5	0.79	16.41
1.19	209.79	.573E+04	6.3	0.86	15.03
1.59	210.19	.954E+04	12.0	0.98	13.20
1.99	210.59	.139E+05	19.5	1.09	11.85
2.38	210.98	.187E+05	28.7	1.19	10.85
2.78	211.38	.241E+05	39.8	1.28	10.08
3.18	211.78	.299E+05	52.7	1.36	9.46
3.57	212.17	.363E+05	67.6	1.44	8.95
3.97	212.57	.432E+05	84.5	1.51	8.52
4.36	212.96	.506E+05	103.6	1.58	8.14
4.76	213.36	.585E+05	124.8	1.65	7.82
5.16	213.76	.670E+05	147.8	1.71	7.55
5.55	214.15	.761E+05	173.1	1.76	7.32
5.95	214.55	.858E+05	200.2	1.81	7.14
6.35	214.95	.962E+05	229.9	1.85	6.98
6.74	215.34	.109E+06	242.9	1.73	7.45
7.14	215.74	.127E+06	242.9	1.48	8.73

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	(mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)

INFLOW : ID= 2 (1800)	7056.81	41.48	6.25	20.70	2.83	1.29
OUTFLOW: ID= 1 (5720)	7056.81	41.42	6.50	20.70	2.83	1.29

ADD HYD (2800)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (5720):		7056.81	41.423	6.50	20.70
	+ ID2= 2 (5800):		0.01	0.000	8.00	20.70
	ID = 3 (2800):		7056.82	41.423	6.50	20.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0720)	Area (ha)= 50.88	Total Imp(%)= 36.00	Dir. Conn.(%)= 32.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	18.32	32.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	582.41	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.33
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	1.13	0.90	1.901 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	53.38	26.64	35.20
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.49	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2720)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0720):		50.88	1.901	5.25	35.20
	+ ID2= 2 (2800):		7056.82	41.423	6.50	20.70
	ID = 3 (2720):		7107.70	42.249	6.50	20.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0393)	Area (ha)= 98.98		
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 51.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	56.42	42.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	812.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	22.39
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	67.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

				TOTALS
PEAK FLOW	(cms)=	3.50	1.29	4.274 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	53.38	33.00	43.39
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.61	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1394)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0393):	98.98	4.274	5.25	43.39	
+ ID2= 2 (2720):	7107.70	42.249	6.50	20.81	
ID = 3 (1394):	7206.68	44.083	6.50	21.12	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5394)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5394.0) ------>

Distance	Elevation	Manning	
0.00	213.16	0.1110	
20.83	211.00	0.1110	
60.38	209.34	0.1110	
86.89	209.00	0.1110	
94.15	208.62	0.1110	
151.69	206.40	0.1110	
157.26	206.00	0.1110	
161.49	205.39	0.1110	
163.96	204.98	0.1110 /0.0490	Main Channel
166.91	204.50	0.0490	Main Channel

174.77	204.50	0.0490	Main Channel	
177.78	204.96	0.0490	Main Channel	
178.68	205.00	0.0490	Main Channel	
178.78	204.99	0.0490 /0.1110	Main Channel	
180.81	206.00	0.1110		
203.93	206.50	0.1110		
209.84	206.50	0.1110		
222.90	207.00	0.1110		
250.93	210.92	0.1110		
250.94	213.16	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	204.74	.209E+04	0.7	0.33	47.42
0.48	204.98	.486E+04	2.5	0.48	32.36
0.96	205.46	.123E+05	10.4	0.78	19.84
1.44	205.94	.216E+05	22.7	0.97	15.86
1.92	206.42	.372E+05	39.8	0.99	15.55
2.40	206.90	.676E+05	65.8	0.90	17.13
2.89	207.39	.108E+06	104.1	0.89	17.35
3.37	207.87	.156E+06	154.4	0.92	16.88
3.85	208.35	.211E+06	217.1	0.95	16.23
4.33	208.83	.273E+06	293.4	0.99	15.54
4.81	209.31	.344E+06	374.8	1.01	15.30
5.29	209.79	.427E+06	483.1	1.05	14.73
5.77	210.27	.517E+06	608.5	1.09	14.15
6.25	210.75	.613E+06	750.5	1.14	13.61
6.74	211.24	.715E+06	918.2	1.19	12.98
7.22	211.72	.820E+06	1109.3	1.26	12.32
7.70	212.20	.927E+06	1316.7	1.32	11.73
8.18	212.68	.104E+07	1539.9	1.38	11.21
8.66	213.16	.115E+07	1778.7	1.44	10.74

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1394)	7206.68	44.08	6.50	21.12	2.00	0.98
OUTFLOW: ID= 1 (5394)	7206.68	43.34	6.75	21.12	1.98	0.98

CALIB			
STANDHYD (0394)	Area (ha)= 38.01		
ID= 1 DT=15.0 min	Total Imp(%)= 31.00	Dir. Conn.(%)= 25.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.78	26.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	503.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.82
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

				TOTALS
PEAK FLOW	(cms)=	0.66	0.72	1.279 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	53.38	25.20	32.25

TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.46	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2394)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0394):	38.01	1.279	5.25	32.25	
+ ID2= 2 (5394):	7206.68	43.337	6.75	21.12	
ID = 3 (2394):	7244.69	43.869	6.75	21.17	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5221)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5221.0) ------>

Distance	Elevation	Manning	
0.00	209.40	0.1110	
6.90	205.50	0.1110	
12.79	205.00	0.1110	
50.72	205.00	0.1110	
54.17	204.40	0.1110	
58.47	204.00	0.1110	
68.03	203.71	0.1110	
77.31	203.69	0.1110	
81.46	203.50	0.1110	
86.45	203.56	0.1110	
89.27	202.50	0.1110	
89.61	202.33	0.1110 /0.0490	Main Channel
90.01	201.80	0.0490	Main Channel
100.15	201.80	0.0490	Main Channel
100.63	202.43	0.0490 /0.1110	Main Channel
104.18	204.27	0.1110	
115.16	204.94	0.1110	
119.53	204.93	0.1110	
121.87	205.00	0.1110	
148.39	209.73	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	202.07	.229E+04	1.1	0.40	34.80
0.53	202.33	.467E+04	3.5	0.62	22.52
0.95	202.75	.875E+04	9.3	0.89	15.59
1.36	203.16	.135E+05	17.6	1.09	12.75
1.78	203.58	.191E+05	27.9	1.22	11.42
2.19	203.99	.314E+05	42.1	1.12	12.44
2.61	204.41	.481E+05	61.9	1.08	12.96
3.03	204.83	.679E+05	87.5	1.08	12.95

3.44	205.24	.999E+05	113.6	0.95	14.66
3.86	205.66	.140E+06	161.3	0.96	14.52
4.27	206.07	.182E+06	219.4	1.01	13.86
4.69	206.49	.225E+06	286.6	1.06	13.11
5.10	206.90	.269E+06	362.5	1.13	12.39
5.52	207.32	.315E+06	446.9	1.19	11.73
5.94	207.74	.361E+06	539.4	1.25	11.15
6.35	208.15	.408E+06	640.0	1.31	10.62
6.77	208.57	.456E+06	748.5	1.37	10.16
7.18	208.98	.506E+06	864.8	1.43	9.74
7.60	209.40	.556E+06	988.9	1.49	9.37

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2394)	7244.69	43.87	6.75	21.17	2.23	1.12
OUTFLOW: ID= 1 (5221)	7244.69	43.46	7.00	21.17	2.22	1.12

CALIB			
STANDHYD (0221)	Area (ha)= 129.39		
ID= 1 DT=15.0 min	Total Imp(%)= 48.00	Dir. Conn.(%)= 39.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.11	67.28
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	928.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	23.26
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	75.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

				TOTALS
PEAK FLOW	(cms)=	3.49	2.03	4.700 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	53.38	33.42	41.21
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.61	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2221)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0221):	129.39	4.700	5.25	41.21	
+ ID2= 2 (5221):	7244.69	43.462	7.00	21.17	
ID = 3 (2221):	7374.08	45.615	7.00	21.53	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5233)
IN= 2---> OUT= 1

Routing time step (min)= 15.00

<------ DATA FOR SECTION (5233.0) ------>

Distance	Elevation	Manning	
0.00	211.05	0.1110	
13.16	206.00	0.1110	
38.98	205.50	0.1110	
46.73	205.50	0.1110	
58.41	203.00	0.1110	
69.39	202.53	0.1110	
79.51	202.50	0.1110	
95.91	202.01	0.1110 /0.0490	Main Channel
96.32	201.98	0.0490	Main Channel
100.74	201.58	0.0490	Main Channel
109.40	201.58	0.0490	Main Channel
111.17	202.00	0.0490 /0.1110	Main Channel
111.89	202.15	0.1110	
117.63	203.50	0.1110	
119.63	204.24	0.1110	
122.33	205.00	0.1110	
127.31	205.55	0.1110	
140.44	206.50	0.1110	
170.27	211.50	0.1110	
180.32	212.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	202.00	.395E+04	2.6	0.51	25.73
0.90	202.48	.130E+05	12.1	0.74	17.85
1.37	202.95	.313E+05	30.7	0.78	17.01
1.85	203.43	.535E+05	59.9	0.89	14.88
2.33	203.91	.772E+05	98.3	1.01	13.09
2.80	204.38	.102E+06	145.0	1.12	11.76
3.28	204.86	.129E+06	199.5	1.23	10.76
3.75	205.33	.157E+06	261.1	1.32	10.02
4.23	205.81	.191E+06	306.9	1.27	10.40
4.71	206.29	.237E+06	388.6	1.30	10.16
5.18	206.76	.285E+06	493.3	1.37	9.63
5.66	207.24	.335E+06	612.1	1.45	9.13
6.14	207.72	.387E+06	742.9	1.52	8.68
6.61	208.19	.440E+06	885.6	1.60	8.29
7.09	208.67	.495E+06	1040.0	1.67	7.94
7.56	209.14	.552E+06	1206.2	1.73	7.62
8.04	209.62	.609E+06	1384.0	1.80	7.34
8.52	210.10	.669E+06	1573.4	1.87	7.09
8.99	210.57	.730E+06	1774.6	1.93	6.86

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2221)	7374.08	45.61	7.00	21.53	1.62	0.83
OUTFLOW: ID= 1 (5233)	7374.08	45.25	7.25	21.53	1.61	0.83

CALIB

STANDHYD (0233) | ID= 1 DT=15.0 min	Area (ha)= 60.17	Total Imp(%)= 44.00	Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.47	33.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.10
Length	(m)=	633.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr) over (min)	=	25.02 15.00	22.94 30.00
Storage Coeff. (min)	=	9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)	=	15.00	60.00
Unit Hyd. peak (cms)	=	0.09	0.02

				TOTALS
PEAK FLOW	(cms)=	1.46	1.20	2.376 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	53.38	33.27	40.31
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.61	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2233)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0233):	60.17	2.376	5.25	40.31
+ ID2= 2 (5233):	7374.08	45.254	7.25	21.53
ID = 3 (2233):	7434.25	46.120	7.25	21.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5242)
IN= 2---> OUT= 1

Routing time step (min)= 15.00

<------ DATA FOR SECTION (5242.0) ------>

Distance	Elevation	Manning	
0.00	206.25	0.1110	
7.53	204.51	0.1110	
40.12	201.31	0.1110	
59.19	200.00	0.1110	
69.28	199.50	0.1110	
73.36	199.03	0.1110 /0.0490	Main Channel
74.00	198.50	0.0490	Main Channel
83.49	198.50	0.0490	Main Channel
84.08	199.00	0.0490 /0.1110	Main Channel
84.49	199.26	0.1110	
86.60	200.30	0.1110	
87.15	200.50	0.1110	
94.96	201.00	0.1110	

98.93	201.50	0.1110	
111.89	204.46	0.1110	
115.16	205.00	0.1110	
122.69	207.55	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	198.75	.233E+04	1.0	0.40	39.67
0.50	199.00	.480E+04	3.1	0.62	25.72
0.93	199.43	.995E+04	9.2	0.88	17.97
1.35	199.85	.176E+05	18.3	0.99	16.00
1.78	200.28	.289E+05	31.3	1.03	15.39
2.21	200.71	.434E+05	48.2	1.06	15.01
2.63	201.13	.628E+05	70.2	1.07	14.90
3.06	201.56	.862E+05	98.6	1.09	14.58
3.49	201.99	.113E+06	133.3	1.13	14.06
3.91	202.41	.141E+06	174.0	1.17	13.53
4.34	202.84	.173E+06	220.8	1.22	13.03
4.76	203.26	.206E+06	273.9	1.26	12.57
5.19	203.69	.243E+06	333.4	1.31	12.14
5.62	204.12	.282E+06	399.8	1.35	11.74
6.04	204.54	.323E+06	473.2	1.39	11.38
6.47	204.97	.367E+06	557.1	1.45	10.97
6.90	205.40	.412E+06	650.2	1.50	10.56
7.32	205.82	.458E+06	750.3	1.56	10.18
7.75	206.25	.506E+06	857.3	1.61	9.83

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2233)	7434.25	46.12	7.25	21.68	2.15	1.05
OUTFLOW: ID= 1 (5242)	7434.25	45.75	7.25	21.68	2.15	1.05

CALIB

STANDHYD (0242) | ID= 1 DT=15.0 min	Area (ha)= 144.68	Total Imp(%)= 52.00	Dir. Conn.(%)= 44.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	75.23	69.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	982.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr) over (min)	=	25.02 15.00	23.77 30.00
Storage Coeff. (min)	=	12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak (min)	=	15.00	75.00
Unit Hyd. peak (cms)	=	0.08	0.02

				TOTALS
PEAK FLOW	(cms)=	4.40	2.18	5.725 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	53.38	34.55	42.83
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.64	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2242)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0242):	144.68	5.725	5.25	42.83
+ ID2= 2 (5242):	7434.25	45.748	7.25	21.68
ID = 3 (2242):	7578.93	47.983	7.25	22.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5551)
IN= 2---> OUT= 1

Routing time step (min)= 15.00

<------ DATA FOR SECTION (5551.0) ------>

Distance	Elevation	Manning	
0.00	206.24	0.1110	
25.71	201.81	0.1110	
46.60	199.50	0.1110	
67.80	199.50	0.1110	
74.10	198.50	0.1110	
97.90	197.50	0.1110	
132.90	197.50	0.1110	
138.60	197.00	0.1110	
146.80	196.50	0.1110 /0.0490	Main Channel
150.90	196.00	0.0490	Main Channel
160.46	196.00	0.0490	Main Channel
161.39	196.31	0.0490	Main Channel
161.98	196.50	0.0490 /0.1110	Main Channel
163.24	196.92	0.1110	
163.50	197.00	0.1110	
165.25	197.50	0.1110	
193.50	204.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	196.25	.400E+04	1.8	0.65	37.22
0.50	196.50	.903E+04	6.1	0.98	24.86
0.94	196.94	.216E+05	21.1	1.43	17.03
1.38	197.38	.392E+05	44.8	1.67	14.58
1.82	197.82	.785E+05	80.3	1.49	16.31
2.26	198.26	.132E+06	136.7	1.52	16.07
2.71	198.71	.193E+06	212.4	1.61	15.11
3.15	199.15	.257E+06	307.3	1.75	13.94
3.59	199.59	.327E+06	395.1	1.76	13.80
4.03	200.03	.412E+06	531.2	1.88	12.93
4.47	200.47	.500E+06	686.6	2.00	12.15
4.91	200.91	.593E+06	861.3	2.12	11.47
5.35	201.35	.689E+06	1054.9	2.24	10.88
5.79	201.79	.789E+06	1267.4	2.35	10.37
6.24	202.24	.892E+06	1504.2	2.46	9.88
6.68	202.68	.998E+06	1760.2	2.57	9.45
7.12	203.12	.111E+07	2034.9	2.68	9.07

```
   7.56   203.56    .122E+07    2328.5          2.79       8.73
   8.00   204.00    .133E+07    2640.8          2.89       8.42

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (2242) 7578.93    47.98    7.25  22.08      1.42      1.65
OUTFLOW: ID= 1 (5551) 7578.93    47.56    7.50  22.08      1.41      1.66


--------------------------------------------------------------------------------
--------------------
| CALIB                |
| NASHYD    (0551) |   Area    (ha)=  27.37   Curve Number   (CN)= 79.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.31

     Unit Hyd Qpeak  (cms)=   3.405

     PEAK FLOW       (cms)=   0.812 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  19.331
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.355

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2551) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0551):    27.37   0.812     5.25    19.33
       + ID2= 2 (5551):  7578.93  47.556     7.50    22.08
         ================================================
         ID = 3 (2551):  7606.30  47.701     7.50    22.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB                |
| STANDHYD  (0554) |   Area    (ha)=  16.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  39.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      8.06         8.06
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.30
     Length            (m)=    327.92        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        25.17
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.60 (ii)   37.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.44         0.38         0.785 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=     53.38        35.18         42.27
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
```



```
     RUNOFF COEFFICIENT   =       0.98         0.65          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9099) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  16.13      0.78      5.25   42.27
     ================================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  16.13      0.78      5.25   42.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6099) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1500     2.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9099)     16.130     0.785      5.25      42.27
     OUTFLOW: ID= 1 (6099)     16.130     0.044      9.50      42.07

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.59
                TIME SHIFT OF PEAK FLOW         (min)=255.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5851

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4099) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9099 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6099):    16.13   0.044     9.50    42.07
       + ID2= 2 (9099):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4099):    16.13   0.044     9.50    42.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```



```
         ID1= 1 (2551):  7606.30  47.701     7.50    22.07
       + ID2= 2 (4099):    16.13   0.044     9.50    42.07
         ================================================
         ID = 3 (1230):  7622.43  47.742     7.50    22.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5230) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5230.0) ------>
               Distance      Elevation       Manning
                   0.00         206.83        0.1110
                   4.14         206.00        0.1110
                  22.63         198.67        0.1110
                  36.40         196.50        0.1110
                 112.13         195.70        0.1110
                 118.23         195.50        0.1110
                 122.94         195.00        0.1110
                 123.65         194.50    0.1110 /0.0490  Main Channel
                 123.86         194.36        0.0490      Main Channel
                 135.37         194.41        0.0490      Main Channel
                 135.47         194.41        0.0490      Main Channel
                 135.58         194.50    0.0490 /0.1110  Main Channel
                 136.38         195.21        0.1110
                 163.77         196.50        0.1110
                 176.41         197.50        0.1110
                 187.00         199.50        0.1110
                 197.29         200.50        0.1110
                 222.22         205.14        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.14   194.50    .102E+04       0.3          0.22      57.77
      0.70   195.06    .639E+04       5.8          0.69      18.34
      1.26   195.62    .149E+05      16.6          0.84      14.95
      1.82   196.18    .395E+05      36.4          0.70      18.12
      2.38   196.74    .894E+05      77.0          0.65      19.35
      2.94   197.30    .147E+06     141.7          0.73      17.35
      3.50   197.86    .210E+06     227.1          0.82      15.39
      4.06   198.42    .275E+06     331.5          0.91      13.82
      4.62   198.98    .343E+06     455.0          1.00      12.55
      5.18   199.54    .412E+06     596.4          1.09      11.52
      5.74   200.10    .485E+06     751.0          1.17      10.75
      6.30   200.66    .560E+06     924.2          1.25      10.09
      6.86   201.22    .637E+06    1117.9          1.33       9.50
      7.42   201.78    .716E+06    1327.9          1.40       8.99
      7.98   202.34    .797E+06    1554.0          1.47       8.55
      8.54   202.90    .880E+06    1796.2          1.54       8.17
      9.10   203.46    .965E+06    2054.2          1.61       7.83
      9.66   204.02    .105E+07    2328.1          1.67       7.53
     10.22   204.58    .114E+07    2617.9          1.74       7.26

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1230) 7622.43    47.74    7.50  22.11      1.98      0.68
OUTFLOW: ID= 1 (5230) 7622.43    47.08    7.75  22.11      1.96      0.68
```



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--------------------------------------------------------------------------------
--------------------
| CALIB                |
| STANDHYD  (0230) |   Area    (ha)=  73.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  22.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     20.69        53.20
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.40
     Length            (m)=    701.85        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        19.02
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.60 (ii)   54.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.13         1.49         2.224 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     53.38        28.91         34.30
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
     RUNOFF COEFFICIENT   =      0.98         0.53          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  86.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0230):    73.89   2.224     5.25    34.30
       + ID2= 2 (5230):  7622.43  47.082     7.75    22.11
         ================================================
         ID = 3 (2230):  7696.32  47.850     7.75    22.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB                |
| STANDHYD  (0561) |   Area    (ha)=  20.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  50.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     11.46         9.38
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         1.80
     Length            (m)=    372.74        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        22.32
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      8.40 (ii)   49.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
```

```
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.72         0.35         1.030 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      53.38        33.85         43.61
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.62          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9561) |
| Inlet Cap.=0.850 |
| #of Inlets=    1 |
| Total(cms)=  0.9 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  20.84      1.03      5.25   43.61
     ==================================================
     MAJOR SYS.(ID= 2):   0.58      0.18      5.25   43.61
     MINOR SYS.(ID= 3):  20.26      0.85      4.75   43.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2230):  7696.32  47.850     7.75    22.23
        + ID2= 2 (9561):    20.26   0.850     4.75    43.61
          ================================================
          ID = 3 (****):  7716.58  48.035     7.75    22.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5389) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5389.0) ------>
               Distance      Elevation       Manning
                   0.00         199.34        0.1110
                   3.25         198.31        0.1110
                   8.26         194.50        0.1110
                  12.49         192.78        0.1110
                  35.23         192.57        0.1110
                  45.14         192.86        0.1110
                  56.75         192.19        0.1110
                  64.87         192.00        0.1110
                  86.92         192.00        0.1110
                  87.41         191.50        0.1110
                  87.93         191.00        0.1110
                  88.41         190.96    0.1110 /0.0490  Main Channel
                  89.77         190.00        0.0490      Main Channel
```



```
                  93.81         190.00        0.0490      Main Channel
                  95.69         190.80        0.0490      Main Channel
                  96.61         191.00    0.0490 /0.1110  Main Channel
                  98.47         191.50        0.1110
                 113.20         193.50        0.1110
                 129.63         197.50        0.1110
                 129.73         197.53        0.1110

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)     (cms)        (m/s)      (min)
       0.32   190.32    .222E+04       0.9          0.58      42.60
       0.64   190.64    .502E+04       2.9          0.87      28.76
       0.96   190.96    .843E+04       5.9          1.05      23.65
       1.37   191.37    .142E+05      12.9          1.35      18.41
       1.78   191.78    .214E+05      22.3          1.55      16.04
       2.19   192.19    .382E+05      35.0          1.37      18.18
       2.60   192.60    .702E+05      55.8          1.19      20.95
       3.01   193.01    .124E+06      87.2          1.05      23.68
       3.42   193.42    .185E+06     135.4          1.09      22.78
       3.83   193.83    .248E+06     195.9          1.18      21.14
       4.24   194.24    .313E+06     267.3          1.27      19.55
       4.66   194.66    .380E+06     349.2          1.37      18.15
       5.07   195.07    .448E+06     441.3          1.47      16.93
       5.48   195.48    .518E+06     542.9          1.57      15.90
       5.89   195.89    .589E+06     653.9          1.66      15.00
       6.30   196.30    .661E+06     773.9          1.75      14.23
       6.71   196.71    .734E+06     902.9          1.84      13.56
       7.12   197.12    .809E+06    1040.7          1.92      12.96
       7.53   197.53    .886E+06    1187.4          2.00      12.43

                                      <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (****) 7716.58    48.04    7.75  22.29      2.45      1.25
     OUTFLOW: ID= 1 (5389) 7716.58    47.22    8.25  22.29      2.43      1.26


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0389) |   Area    (ha)=  77.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.52         58.64
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.50
     Length            (m)=     717.22         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         15.30
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.00 (ii)    52.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.29          1.36         2.426 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75          5.25
     RUNOFF VOLUME    (mm)=      53.38         24.79         31.65
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.98          0.46          0.58
```



```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2389) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0389):    77.16   2.426     5.25    31.65
        + ID2= 2 (5389):  7716.58  47.216     8.25    22.29
          ================================================
          ID = 3 (2389):  7793.74  47.748     8.25    22.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5680) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5680.0) ------>
               Distance      Elevation       Manning
                   0.00         192.05        0.1110
                   4.42         191.50        0.1110
                  19.11         187.00        0.1110
                  24.86         186.33        0.1110
                  30.83         186.31        0.1110
                  36.85         186.50        0.1110
                  56.81         186.50        0.1110
                  63.15         186.00        0.1110
                  73.63         186.00        0.1110
                  74.48         185.90    0.1110 /0.0490  Main Channel
                  75.36         184.90        0.0490      Main Channel
                  82.36         184.90        0.0490      Main Channel
                  83.09         185.85    0.0490 /0.1110  Main Channel
                  83.24         185.85        0.1110
                  96.38         186.50        0.1110
                 112.87         191.86        0.1110

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)      (cu.m.)     (cms)        (m/s)      (min)
       0.32   185.22    .230E+04       1.5          0.64      26.12
       0.63   185.53    .476E+04       4.6          0.97      17.18
       0.95   185.85    .739E+04       9.1          1.22      13.61
       1.33   186.23    .150E+05      17.5          1.16      14.35
       1.70   186.60    .339E+05      31.6          0.93      17.88
       2.08   186.98    .626E+05      58.2          0.93      17.92
       2.45   187.35    .925E+05      94.4          1.02      16.33
       2.83   187.73    .123E+06     139.1          1.13      14.79
       3.20   188.10    .155E+06     191.4          1.23      13.51
       3.58   188.48    .188E+06     251.2          1.34      12.47
       3.96   188.86    .221E+06     318.1          1.44      11.60
       4.33   189.23    .256E+06     392.0          1.53      10.88
       4.71   189.61    .291E+06     472.7          1.62      10.27
       5.08   189.98    .328E+06     560.2          1.71       9.74
       5.46   190.36    .365E+06     654.4          1.79       9.29
```



```
       5.83   190.73    .403E+06     755.2          1.87       8.89
       6.21   191.11    .442E+06     862.6          1.95       8.53
       6.58   191.48    .482E+06     976.5          2.03       8.22
       6.96   191.86    .523E+06    1088.5          2.08       8.00

                                      <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2389) 7793.74    47.75    8.25  22.38      1.93      0.93
     OUTFLOW: ID= 1 (5680) 7793.74    47.31    8.50  22.38      1.92      0.93


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0680) |   Area    (ha)=  29.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  19.00   Dir. Conn.(%)=  19.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.64         24.06
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          8.80
     Length            (m)=     444.97         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         15.30
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    34.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.39          0.69         1.068 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=      53.38         24.79         30.22
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.98          0.46          0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
               YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2680) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0680):    29.70   1.068     5.25    30.22
        + ID2= 2 (5680):  7793.74  47.315     8.50    22.38
          ================================================
          ID = 3 (2680):  7823.44  47.447     8.50    22.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
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| STANDHYD (0215) | Area (ha)= 168.73
|ID= 1 DT=15.0 min | Total Imp(%)= 58.00 Dir. Conn.(%)= 52.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.86	70.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.80
Length (m)=	1060.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	23.83
over (min)	15.00	30.00
Storage Coeff. (min)=	15.60 (ii)	91.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW (cms)=	6.02	1.98	7.005 (iii)
TIME TO PEAK (hrs)=	5.25	6.50	5.25
RUNOFF VOLUME (mm)=	53.38	35.53	44.81
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.65	0.82

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ROUTE CHN (5563) |
| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5563.0) ------>

Distance	Elevation	Manning	
0.00	191.36	0.1110
14.77	191.00	0.1110
25.44	190.67	0.1110
80.93	190.90	0.1110
145.10	190.42	0.1110
212.09	190.83	0.1110
285.12	189.56	0.1110
295.52	188.71	0.1110
307.38	188.32	0.1110
307.51	188.31	0.1110
312.32	188.04	0.1110 /0.0490	Main Channel
317.15	187.12	0.0490	Main Channel
321.73	188.01	0.0490 /0.1110	Main Channel
327.33	189.06	0.1110
328.00	189.07	0.1110
347.82	189.58	0.1110
348.77	189.58	0.1110
359.57	189.55	0.1110
452.50	191.17	0.1110
496.50	191.28	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	187.30	.208E+03	0.1	0.42	50.17
0.36	187.48	.832E+03	0.4	0.67	31.60
0.53	187.65	.187E+04	1.3	0.87	24.12

0.71	187.83	.333E+04	2.8	1.06	19.91
0.89	188.01	.520E+04	5.1	1.23	17.16
1.12	188.24	.862E+04	10.3	1.51	13.96
1.36	188.48	.138E+05	17.5	1.60	13.14
1.59	188.71	.214E+05	27.2	1.61	13.11
1.82	188.94	.309E+05	40.1	1.64	12.84
2.06	189.18	.419E+05	55.2	1.67	12.64
2.29	189.41	.561E+05	74.0	1.66	12.65
2.52	189.64	.755E+05	94.5	1.58	13.32
2.76	189.88	.104E+06	122.0	1.47	14.28
2.99	190.11	.141E+06	158.7	1.42	14.85
3.23	190.35	.186E+06	205.5	1.39	15.10
3.46	190.58	.244E+06	249.0	1.29	16.31
3.69	190.81	.332E+06	310.8	1.18	17.80
3.93	191.05	.455E+06	425.1	1.18	17.82
4.16	191.28	.588E+06	551.2	1.18	17.79

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0215)	168.73	7.01	5.25	44.81	0.98	1.32
OUTFLOW: ID= 1 (5563)	168.73	6.55	5.25	44.81	0.96	1.29

| CALIB |
| STANDHYD (0563) | Area (ha)= 27.61
|ID= 1 DT=15.0 min | Total Imp(%)= 37.00 Dir. Conn.(%)= 37.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.22	17.39
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.90
Length (m)=	429.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.94
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.71	0.49	1.142 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	53.38	27.67	37.18
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.51	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (2563) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0563):	27.61	1.142	5.25	37.18
+ ID2= 2 (5563):	168.73	6.553	5.25	44.81
ID = 3 (2563):	196.34	7.695	5.25	43.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB |
| STANDHYD (0565) | Area (ha)= 11.31
|ID= 1 DT=15.0 min | Total Imp(%)= 54.00 Dir. Conn.(%)= 54.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.11	5.20
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	274.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.42	0.18	0.588 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	53.38	32.29	43.68
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.59	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| DUHYD (9290) |
| Inlet Cap.=***** |
| #of Inlets= 1 |
| Total(cms)=***** |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	11.31	0.59	5.25	43.68
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	11.31	0.59	5.25	43.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (6290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min |

	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		0.6680	0.3357
	0.0690	0.0792		0.9860	0.4276
	0.2090	0.1615		1.3660	0.5226

0.4090	0.2471	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9290)	11.310	0.588	5.25	43.68
OUTFLOW: ID= 1 (6290)	11.310	0.293	5.75	43.65

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.82
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.1977

| ADD HYD (4290) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 9290 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6290):	11.31	0.293	5.75	43.65
+ ID2= 2 (9290):	0.00	0.000	0.00	0.00
ID = 3 (4290):	11.31	0.293	5.75	43.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (3563) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2563):	196.34	7.695	5.25	43.74
+ ID2= 2 (4290):	11.31	0.293	5.75	43.65
ID = 3 (3563):	207.65	7.941	5.25	43.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (3680) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2680):	7823.44	47.447	8.50	22.41
+ ID2= 2 (3563):	207.65	7.941	5.25	43.73
ID = 3 (3680):	8031.09	49.575	8.25	22.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB |
| STANDHYD (****) | Area (ha)= 0.60
|ID= 1 DT=15.0 min | Total Imp(%)= 31.00 Dir. Conn.(%)= 31.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.41
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	13.50

```
     Length           (m)=      63.25        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        17.53
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01         0.028 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      53.38        28.73         36.34
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.53          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   1.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         1.10
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        13.50
     Length            (m)=     103.28        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        17.53
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.04         0.074 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      53.38        28.73         36.36
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.53          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  19.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
```



```
     Surface Area     (ha)=       6.14        13.67
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        13.50
     Length            (m)=     363.41        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        17.53
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.43         0.49         0.920 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      53.38        28.73         36.37
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.53          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    19.81   0.920     5.25    36.37
      + ID2= 2 (****):     1.60   0.074     5.25    36.36
        ================================================
        ID = 3 (0405):    21.41   0.994     5.25    36.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0404) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0405):    21.41   0.994     5.25    36.37
      + ID2= 2 (****):     0.60   0.028     5.25    36.34
        ================================================
        ID = 3 (0404):    22.01   1.022     5.25    36.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9473) |
| Inlet Cap.=0.059 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
    TOTAL HYD.(ID= 1):  22.01      1.02      5.25    36.37
    ================================================
    MAJOR SYS.(ID= 2):  16.85      0.96      5.25    36.37
    MINOR SYS.(ID= 3):   5.16      0.06      2.50    36.37
```



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    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6473) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0590     0.2565

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9473)    5.162     0.059      2.50      36.37
    OUTFLOW: ID= 1 (6473)    5.162     0.027     12.25      36.16

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.43
                TIME SHIFT OF PEAK FLOW         (min)=585.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1191

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (4473) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (9473):     5.16   0.027    12.25    36.16
      + ID2= 2 (9473):    16.85   0.963     5.25    36.37
        ================================================
        ID = 3 (4473):    22.01   0.976     5.25    36.32

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1227) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3680):  8031.09  49.575     8.25    22.96
      + ID2= 2 (4473):    22.01   0.976     5.25    36.32
        ================================================
        ID = 3 (1227):  8053.10  49.665     8.25    23.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5227) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5227.0) ------>
             Distance      Elevation       Manning
                0.00         183.10        0.1110
                2.58         183.12        0.1110
               12.20         179.50        0.1110
               18.00         179.50        0.1110
               24.51         179.00        0.1110
               31.60         179.00        0.1110
               36.79         179.37        0.1110
               53.69         179.00    0.1110 /0.0490  Main Channel
               55.00         178.00        0.0490      Main Channel
               68.00         178.00        0.0490      Main Channel
```



```
               69.17         179.00    0.0490 /0.1110  Main Channel
               81.13         179.50        0.1110
              103.11         179.50        0.1110
              130.08         180.00        0.1110
              146.16         180.75        0.1110
              171.96         185.35        0.1110

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.25   178.25    .765E+04       2.3         0.70      54.53
      0.50   178.50    .157E+05       7.4         1.09      35.12
      0.75   178.75    .240E+05      14.6         1.40      27.35
      1.00   179.00    .327E+05      23.7         1.67      23.01
      1.27   179.27    .552E+05      37.9         1.58      24.27
      1.55   179.55    .952E+05      58.0         1.40      27.36
      1.82   179.82    .159E+06      89.5         1.29      29.60
      2.09   180.09    .232E+06     131.2         1.30      29.46
      2.37   180.37    .310E+06     183.3         1.36      28.21
      2.64   180.64    .393E+06     244.7         1.43      26.77
      2.91   180.91    .479E+06     316.3         1.52      25.24
      3.19   181.19    .567E+06     397.7         1.61      23.76
      3.46   181.46    .656E+06     487.5         1.71      22.43
      3.73   181.73    .747E+06     585.4         1.80      21.26
      4.01   182.01    .839E+06     691.2         1.89      20.23
      4.28   182.28    .933E+06     804.7         1.98      19.32
      4.55   182.55    .103E+07     925.7         2.07      18.50
      4.83   182.83    .112E+07    1054.1         2.16      17.77
      5.10   183.10    .122E+07    1189.9         2.24      17.11

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1227) 8053.10    49.66    8.25  23.00      1.43      1.47
    OUTFLOW: ID= 1 (5227) 8053.10    48.59    8.75  23.00      1.41      1.48

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  91.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.38        62.44
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.60
     Length            (m)=     782.39        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.82
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.20 (ii)   60.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.04         1.37         2.994 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      53.38        25.70         34.56
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.47          0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area (ha)= 4.30			
ID= 1 DT=15.0 min	Total Imp(%)= 32.00	Dir. Conn.(%)= 32.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	1.38	2.92		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	4.60		
Length (m)=	169.31	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	25.02	15.82		
over (min)	15.00	30.00		
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)		
Unit Hyd. Tpeak (min)=	15.00	60.00		
Unit Hyd. peak (cms)=	0.09	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.10	0.06	0.140 (iii)	
TIME TO PEAK (hrs)=	5.25	6.00	5.25	
RUNOFF VOLUME (mm)=	53.38	25.70	34.55	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.47	0.64	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area (ha)= 12.48			
ID= 1 DT=15.0 min	Total Imp(%)= 32.00	Dir. Conn.(%)= 32.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	3.99	8.49		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	4.60		
Length (m)=	288.44	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	25.02	15.82		
over (min)	15.00	30.00		
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)		
Unit Hyd. Tpeak (min)=	15.00	60.00		
Unit Hyd. peak (cms)=	0.09	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.28	0.19	0.407 (iii)	
TIME TO PEAK (hrs)=	5.25	6.00	5.25	
RUNOFF VOLUME (mm)=	53.38	25.70	34.55	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	

RUNOFF COEFFICIENT =	0.98	0.47	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0359)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	12.48	0.407	5.25	34.55
+ ID2= 2 (****):	4.30	0.140	5.25	34.55
ID = 3 (0359):	16.78	0.547	5.25	34.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0358)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0359):	16.78	0.547	5.25	34.55
+ ID2= 2 (****):	91.82	2.994	5.25	34.56
ID = 3 (0358):	108.60	3.542	5.25	34.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2227)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0358):	108.60	3.542	5.25	34.56
+ ID2= 2 (5227):	8053.10	48.588	8.75	23.00
ID = 3 (2227):	8161.70	49.193	8.75	23.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0197)	Area (ha)= 124.38			
ID= 1 DT=15.0 min	Total Imp(%)= 67.00	Dir. Conn.(%)= 62.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	83.33	41.05		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	2.50		
Length (m)=	910.60	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	25.02	24.75		

over (min)	15.00	30.00		
Storage Coeff. (min)=	13.20 (ii)	76.20 (ii)		
Unit Hyd. Tpeak (min)=	15.00	75.00		
Unit Hyd. peak (cms)=	0.08	0.01		
			TOTALS	
PEAK FLOW (cms)=	5.32	1.35	6.155 (iii)	
TIME TO PEAK (hrs)=	5.25	6.00	5.25	
RUNOFF VOLUME (mm)=	53.38	36.97	47.15	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.68	0.87	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (0183)	Area (ha)= 74.89			
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	63.66	11.23		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	2.30		
Length (m)=	706.59	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	25.02	22.79		
over (min)	15.00	30.00		
Storage Coeff. (min)=	11.40 (ii)	67.20 (ii)		
Unit Hyd. Tpeak (min)=	15.00	60.00		
Unit Hyd. peak (cms)=	0.08	0.02		
			TOTALS	
PEAK FLOW (cms)=	4.41	0.38	4.702 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	53.38	39.81	51.34	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.73	0.94	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1191)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0183):	74.89	4.702	5.25	51.34
+ ID2= 2 (0197):	124.38	6.155	5.25	47.15
ID = 3 (1191):	199.27	10.857	5.25	48.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5191)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5191.0) ------>

Distance	Elevation	Manning	
0.00	206.09	0.1110	
41.11	202.34	0.1110	
69.44	202.09	0.1110	
120.54	202.43	0.1110	
159.64	202.06	0.1110	
176.80	201.18	0.1110	
193.03	197.88	0.1110	
193.97	197.91	0.1110 /0.0490	Main Channel
202.84	197.45	0.0490	Main Channel
207.88	196.02	0.0490 /0.1110	Main Channel
219.68	198.15	0.1110	
226.18	199.27	0.1110	
252.21	200.52	0.1110	
288.65	200.95	0.1110	
324.33	200.78	0.1110	
336.83	201.55	0.1110	
350.63	201.56	0.1110	
407.58	202.86	0.1110	
457.84	201.67	0.1110	
478.94	202.83	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	196.38	.805E+03	0.2	0.26	88.04
0.72	196.74	.322E+04	1.0	0.42	55.46
1.08	197.10	.724E+04	2.9	0.54	42.32
1.43	197.45	.129E+05	6.1	0.66	35.09
1.79	197.81	.215E+05	10.3	0.66	34.83
2.15	198.17	.344E+05	20.5	0.83	27.92
2.51	198.53	.493E+05	35.2	0.99	23.31
2.87	198.89	.661E+05	53.8	1.13	20.47
3.23	199.25	.848E+05	76.3	1.24	18.53
3.58	199.60	.107E+06	99.7	1.29	17.82
3.94	199.96	.133E+06	128.8	1.34	17.20
4.30	200.32	.164E+06	163.8	1.38	16.67
4.66	200.68	.201E+06	198.9	1.37	16.81
5.02	201.04	.260E+06	234.3	1.24	18.51
5.38	201.40	.337E+06	305.3	1.25	18.42
5.73	201.75	.425E+06	376.5	1.22	18.83
6.09	202.11	.535E+06	456.7	1.18	19.53
6.45	202.47	.701E+06	555.9	1.10	21.03
6.81	202.83	.909E+06	714.3	1.09	21.22

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1191)	199.27	10.86	5.25	48.72	1.81	0.67
OUTFLOW: ID= 1 (5191)	199.27	8.74	5.25	48.72	1.66	0.66

CALIB	

```
| STANDHYD  (0191) |   Area    (ha)= 162.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  82.00   Dir. Conn.(%)=  81.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      133.55         29.32
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          3.00
     Length            (m)=     1042.02         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       25.02         23.58
                over (min)        15.00         30.00
     Storage Coeff.  (min)=       13.20 (ii)    78.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         75.00
     Unit Hyd. peak  (cms)=        0.08          0.01
                                                             *TOTALS*
     PEAK FLOW       (cms)=        9.11          0.92          9.683 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=       53.38         38.81          50.61
     TOTAL RAINFALL   (mm)=       54.38         54.38          54.38
     RUNOFF COEFFICIENT   =        0.98          0.71           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2191) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0191):   162.87   9.683     5.25    50.61
        + ID2= 2 (5191):   199.27   8.735     5.25    48.72
          ==================================================
          ID = 3 (2191):   362.14  18.418     5.25    49.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5214) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5214.0) ------>
               Distance      Elevation       Manning
                   0.00        190.50         0.1110
                   2.09        189.13         0.1110
                  13.57        187.20         0.1110
                  23.54        186.97    0.1110 /0.0490  Main Channel
                  26.84        186.32         0.0490     Main Channel
                  27.21        186.25         0.0490     Main Channel
                  31.31        187.11    0.0490 /0.1110  Main Channel
                  35.60        187.49         0.1110
                  46.65        189.04         0.1110
                  49.91        188.81         0.1110
                  63.03        189.57         0.1110
                  78.54        190.45         0.1110
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     <--------------------- TRAVEL TIME TABLE --------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)      (cu.m.)     (cms)        (m/s)      (min)
      0.18   186.43    .305E+03       0.1          0.37      85.15
      0.36   186.61    .121E+04       0.4          0.59      53.70
      0.54   186.79    .272E+04       1.1          0.77      41.01
      0.72   186.97    .484E+04       2.4          0.93      33.86
      0.95   187.20    .104E+05       5.6          1.01      31.17
      1.18   187.43    .196E+05      11.1          1.07      29.32
      1.42   187.67    .303E+05      18.7          1.17      27.02
      1.65   187.90    .424E+05      28.2          1.26      25.01
      1.88   188.13    .558E+05      39.8          1.35      23.38
      2.11   188.36    .705E+05      53.3          1.43      22.05
      2.34   188.59    .866E+05      68.9          1.50      20.94
      2.58   188.83    .104E+06      86.4          1.57      20.06
      2.81   189.06    .125E+06     104.5          1.58      19.87
      3.04   189.29    .148E+06     128.2          1.63      19.28
      3.27   189.52    .174E+06     155.0          1.68      18.70
      3.50   189.75    .201E+06     184.8          1.73      18.17
      3.74   189.99    .231E+06     217.7          1.78      17.68
      3.97   190.22    .262E+06     253.8          1.83      17.24
      4.20   190.45    .296E+06     293.1          1.87      16.82

                                     <---- hydrograph ---->  <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.  MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
     INFLOW : ID= 2 (2191)  362.14    18.42    5.25  49.57      1.41      1.16
     OUTFLOW: ID= 1 (5214)  362.14    15.43    5.50  49.57      1.32      1.12


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--------------------
| CALIB            |
| STANDHYD  (0214) |   Area    (ha)=  38.36
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       19.18         19.18
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.80
     Length            (m)=      505.70         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       25.02         18.77
                over (min)        15.00         30.00
     Storage Coeff.  (min)=        7.20 (ii)    43.80 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.10          0.03
                                                             *TOTALS*
     PEAK FLOW       (cms)=        1.33          0.61          1.874 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=       53.38         31.04          42.21
     TOTAL RAINFALL   (mm)=       54.38         54.38          54.38
     RUNOFF COEFFICIENT   =        0.98          0.57           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (2214) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0214):    38.36   1.874     5.25    42.21
        + ID2= 2 (5214):   362.14  15.427     5.50    49.57
          ==================================================
          ID = 3 (2214):   400.50  16.812     5.25    48.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0134) |   Area    (ha)=  24.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       17.95          6.31
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.30
     Length            (m)=      402.16         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       25.02         21.43
                over (min)        15.00         30.00
     Storage Coeff.  (min)=        8.40 (ii)    48.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.09          0.02
                                                             *TOTALS*
     PEAK FLOW       (cms)=        1.25          0.23          1.455 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=       53.38         36.52          49.00
     TOTAL RAINFALL   (mm)=       54.38         54.38          54.38
     RUNOFF COEFFICIENT   =        0.98          0.67           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9313) |
| Inlet Cap.=8.700 |
| #of Inlets=    1 |
| Total(cms)=  8.7 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.26      1.46      5.25   49.00
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  24.26      1.46      5.25   49.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (6313) |
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```
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1050      0.6800
                          0.1030     0.5950   |   8.7000      0.9200

                                AREA      QPEAK      TPEAK        R.V.
                                (ha)      (cms)      (hrs)        (mm)
     INFLOW : ID= 2 (9313)     24.260      1.455       5.25       49.00
     OUTFLOW: ID= 1 (6313)     24.260      0.752       5.75       48.94

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.66
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7059

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4313) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9313 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6313):    24.26   0.752     5.75    48.94
        + ID2= 2 (9313):     0.00   0.000     0.00     0.00
          ==================================================
          ID = 3 (4313):    24.26   0.752     5.75    48.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (3214) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2214):   400.50  16.812     5.25    48.87
        + ID2= 2 (4313):    24.26   0.752     5.75    48.94
          ==================================================
          ID = 3 (3214):   424.76  16.915     5.25    48.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0189) |   Area    (ha)= 116.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       85.86         30.17
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.20
     Length            (m)=      879.51         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       25.02         21.43
                over (min)        15.00         30.00
     Storage Coeff.  (min)=       10.80 (ii)    63.60 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.09          0.02
                                                             *TOTALS*
```

PEAK FLOW	(cms)=	5.95	0.95	6.670 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	53.38	36.52	49.00
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.67	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5200)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5200.0) ------>

Distance	Elevation	Manning	
0.00	193.37	0.1110	
17.44	193.51	0.1110	
50.09	193.00	0.1110	
90.09	192.83	0.1110	
121.68	192.17	0.1110	
128.93	192.61	0.1110	
141.32	191.78	0.1110	
147.98	191.88	0.1110	
197.61	189.48	0.1110 /0.0490	Main Channel
204.01	189.06	0.0490	Main Channel
205.40	188.96	0.0490	Main Channel
211.29	189.53	0.0490 /0.1110	Main Channel
222.97	191.23	0.1110	
226.70	191.10	0.1110	
263.00	191.03	0.1110	
355.09	192.45	0.1110	
382.19	192.49	0.1110	
383.02	192.49	0.1110	
396.28	192.31	0.1110	
520.20	195.65	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	189.13	.489E+03	0.1	0.39	56.62
0.35	189.31	.199E+04	0.9	0.62	35.61
0.52	189.48	.451E+04	2.8	0.82	27.13
0.76	189.72	.990E+04	8.6	1.15	19.26
1.01	189.97	.175E+05	17.5	1.33	16.62
1.25	190.21	.272E+05	29.7	1.45	15.26
1.49	190.45	.391E+05	45.3	1.54	14.36
1.74	190.70	.531E+05	64.6	1.62	13.70
1.98	190.94	.693E+05	87.8	1.68	13.16
2.22	191.18	.945E+05	112.8	1.59	13.96
2.47	191.43	.133E+06	151.5	1.51	14.68
2.71	191.67	.179E+06	199.9	1.48	14.95
2.95	191.91	.233E+06	253.7	1.45	15.28
3.19	192.15	.294E+06	326.4	1.47	15.02
3.44	192.40	.365E+06	396.3	1.44	15.34
3.68	192.64	.457E+06	480.9	1.40	15.85
3.92	192.88	.561E+06	600.7	1.42	15.57
4.17	193.13	.680E+06	737.3	1.44	15.37

4.41	193.37	.808E+06	909.7	1.50	14.81		

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0189)	116.03	6.67	5.25	49.00	0.68	1.01
OUTFLOW: ID= 1 (5200)	116.03	6.16	5.25	48.99	0.66	0.98

CALIB	STANDHYD (0200)	ID= 1 DT=15.0 min	Area (ha)= 47.53	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.50	9.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	562.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	22.12
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.67	0.32	2.919 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	53.38	38.11	50.48
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.70	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2200)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0200):	47.53	2.919	5.25	50.48
	+ ID2= 2 (5200):	116.03	6.158	5.25	48.99
	ID = 3 (2200):	163.56	9.076	5.25	49.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1650)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2200):	163.56	9.076	5.25	49.43
	+ ID2= 2 (3214):	424.76	16.915	5.25	48.87

ID = 3 (1650):	588.32	25.991	5.25	49.02	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5650)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5650.0) ------>

Distance	Elevation	Manning	
0.00	186.99	0.1110	
0.62	186.98	0.1110	
54.47	185.71	0.1110	
69.34	182.09	0.1110 /0.0490	Main Channel
71.18	181.64	0.0490	Main Channel
73.43	182.23	0.0490 /0.1110	Main Channel
82.69	184.73	0.1110	
87.60	185.04	0.1110	
110.20	184.66	0.1110	
129.32	184.73	0.1110	
164.79	185.85	0.1110	
170.26	185.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	181.79	.249E+02	0.0	0.18	26.45
0.30	181.94	.997E+02	0.1	0.28	16.66
0.45	182.09	.224E+03	0.3	0.37	12.71
0.69	182.33	.521E+03	1.0	0.53	8.87
0.92	182.56	.939E+03	2.1	0.63	7.37
1.16	182.80	.148E+04	3.7	0.70	6.65
1.39	183.03	.214E+04	5.7	0.75	6.21
1.63	183.27	.292E+04	8.3	0.79	5.90
1.86	183.50	.383E+04	11.3	0.83	5.65
2.10	183.74	.486E+04	14.9	0.86	5.44
2.34	183.98	.600E+04	19.0	0.89	5.26
2.57	184.21	.727E+04	23.7	0.92	5.10
2.81	184.45	.866E+04	29.1	0.94	4.96
3.04	184.68	.102E+05	33.4	0.92	5.09
3.28	184.92	.138E+05	39.5	0.80	5.82
3.51	185.15	.190E+05	50.2	0.74	6.31
3.75	185.39	.250E+05	64.4	0.72	6.46
3.98	185.62	.315E+05	81.4	0.72	6.45
4.22	185.86	.387E+05	96.4	0.70	6.69

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1650)	588.32	25.99	5.25	49.02	2.67	0.93
OUTFLOW: ID= 1 (5650)	588.32	25.03	5.25	49.02	2.62	0.92

CALIB	STANDHYD (0650)	ID= 1 DT=15.0 min	Area (ha)= 10.55	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.59	4.96

Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	265.20	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.14
over (min)		15.00	30.00
Storage Coeff. (min)=		5.40 (ii)	33.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	0.39	0.17	0.563 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	29.85	42.32
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.55	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2650)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0650):	10.55	0.563	5.25	42.32
	+ ID2= 2 (5650):	588.32	25.033	5.25	49.02
	ID = 3 (2650):	598.87	25.597	5.25	48.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0187)	ID= 1 DT=15.0 min	Area (ha)= 103.50	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	83.83	19.66
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	830.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	22.12
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	5.79	0.58	6.148 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	53.38	38.11	50.48
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.70	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2187)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0187):		103.50	6.148	5.25	50.48
+ ID2= 2 (2650):		598.87	25.597	5.25	48.91
ID = 3 (2187):		702.37	31.744	5.25	49.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0212)	Area (ha)=	14.09	
ID= 1 DT=15.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.38	10.71
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.60
Length	(m)=	306.49	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.37
over (min)		15.00	30.00
Storage Coeff. (min)=		5.40 (ii)	31.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.24 0.34 0.574 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	53.38 26.66 33.07
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.49 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9474)					
Inlet Cap.=0.031					
#of Inlets= 1					
Total(cms)= 0.0		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		14.09	0.57	5.25	33.07

MAJOR SYS.(ID= 2):	10.98	0.54	5.25	33.07
MINOR SYS.(ID= 3):	3.11	0.03	3.50	33.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6474)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0310	0.1340

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9474)	3.108	0.031	3.50	33.07
OUTFLOW: ID= 1 (6474)	3.108	0.015	12.25	32.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 48.80
TIME SHIFT OF PEAK FLOW (min)=525.00
MAXIMUM STORAGE USED (ha.m.)= 0.0655

ADD HYD (4474)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6474):		3.11	0.015	12.25	32.72
+ ID2= 2 (9474):		10.98	0.543	5.25	33.07
ID = 3 (4474):		14.09	0.550	5.25	32.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1210)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2187):		702.37	31.744	5.25	49.14
+ ID2= 2 (4474):		14.09	0.550	5.25	32.99
ID = 3 (1210):		716.46	32.295	5.25	48.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5210)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5210.0) ------>

Distance	Elevation	Manning	
0.00	186.99	0.1110	
0.62	186.98	0.1110	
54.47	185.71	0.1110	
69.34	182.09	0.1110 /0.0490	Main Channel
71.18	181.64	0.0490	Main Channel
73.43	182.23	0.0490 /0.1110	Main Channel
82.69	184.73	0.1110	
87.60	185.04	0.1110	

110.20	184.66	0.1110		
129.32	184.73	0.1110		
164.79	185.85	0.1110		
170.26	185.86	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	181.79	.140E+03	0.0	0.24	111.40
0.30	181.94	.561E+03	0.1	0.37	70.18
0.45	182.09	.126E+04	0.4	0.49	53.56
0.69	182.33	.293E+04	1.3	0.70	37.38
0.92	182.56	.528E+04	2.8	0.85	31.04
1.16	182.80	.832E+04	4.9	0.94	28.03
1.39	183.03	.120E+05	7.7	1.00	26.17
1.63	183.27	.164E+05	11.0	1.06	24.84
1.86	183.50	.215E+05	15.1	1.10	23.79
2.10	183.74	.273E+05	19.8	1.15	22.92
2.34	183.98	.338E+05	25.4	1.19	22.17
2.57	184.21	.409E+05	31.7	1.22	21.50
2.81	184.45	.487E+05	38.8	1.26	20.91
3.04	184.68	.573E+05	44.5	1.22	21.46
3.28	184.92	.774E+05	52.7	1.07	24.50
3.51	185.15	.107E+06	67.1	0.99	26.57
3.75	185.39	.140E+06	86.0	0.97	27.21
3.98	185.62	.177E+06	108.6	0.97	27.17
4.22	185.86	.218E+06	128.7	0.93	28.18

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1210)	716.46	32.29	5.25	48.82	2.59	1.22
OUTFLOW: ID= 1 (5210)	716.46	28.53	5.50	48.82	2.45	1.20

CALIB			
STANDHYD (****)	Area (ha)=	20.85	
ID= 1 DT=15.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.38	16.47
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	372.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.30
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.30 0.36 0.564 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	53.38 24.79 30.79
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.46 0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	1.40	
ID= 1 DT=15.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.29	1.11
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	96.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.30
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.02 0.02 0.038 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	53.38 24.79 30.77
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.46 0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0352)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):		20.85	0.564	5.25	30.79
+ ID2= 2 (****):		1.40	0.038	5.25	30.77
ID = 3 (0352):		22.25	0.602	5.25	30.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	32.86	
ID= 1 DT=15.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.90	25.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	468.05	40.00
Mannings n	=	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      25.02        15.30
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.00 (ii)   53.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.48         0.57          0.889 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     53.38        24.79         30.79
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
     RUNOFF COEFFICIENT   =      0.98         0.46          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0351) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0352):    22.25   0.602     5.25    30.79
       + ID2= 2 (****):    32.86   0.889     5.25    30.79
         ================================================
         ID = 3 (0351):    55.11   1.490     5.25    30.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0351):    55.11   1.490     5.25    30.79
       + ID2= 2 (5210):   716.46  28.532     5.50    48.82
         ================================================
         ID = 3 (2210):   771.57  29.733     5.50    47.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1431) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2210):   771.57  29.733     5.50    47.53
       + ID2= 2 (2227):  8161.70  49.193     8.75    23.15
         ================================================
         ID = 3 (1431):  8933.27  57.129     8.25    25.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5431) |
```



```
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5431.0) ------>
             Distance      Elevation       Manning
                 0.00        176.00        0.1110
                18.09        175.90        0.1110
                27.45        175.50        0.1110
                47.50        172.50        0.1110
                67.08        171.89        0.1110
               142.45        171.74        0.1110
               221.81        171.00        0.1110
               241.52        171.00        0.1110
               242.37        170.64    0.1110 /0.0490  Main Channel
               242.71        170.00        0.0490      Main Channel
               253.79        170.00        0.0490      Main Channel
               256.58        170.50    0.0490 /0.1110  Main Channel
               257.61        170.61        0.1110
               261.77        171.00        0.1110
               278.03        171.50        0.1110
               301.37        172.00        0.1110
               309.55        174.50        0.1110
               324.51        174.87        0.1110
               351.19        174.68        0.1110
               357.20        176.00        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   170.25    .704E+03       2.0          0.68       5.79
      0.58   170.58    .150E+04       6.6          1.04       3.81
      0.82   170.82    .273E+04      16.4          1.43       2.78
      1.15   171.15    .528E+04      30.8          1.38       2.86
      1.47   171.47    .117E+05      55.8          1.14       3.49
      1.79   171.79    .218E+05      93.3          1.02       3.90
      2.12   172.12    .393E+05     161.6          0.98       4.05
      2.44   172.44    .584E+05     263.6          1.07       3.69
      2.76   172.76    .781E+05     393.2          1.20       3.31
      3.09   173.09    .981E+05     546.6          1.33       2.99
      3.41   173.41    .118E+06     721.6          1.45       2.73
      3.74   173.74    .139E+06     917.2          1.57       2.52
      4.06   174.06    .160E+06    1132.4          1.69       2.35
      4.38   174.38    .181E+06    1366.6          1.80       2.20
      4.71   174.71    .202E+06    1590.5          1.87       2.12
      5.03   175.03    .226E+06    1819.4          1.91       2.07
      5.35   175.35    .251E+06    2124.7          2.01       1.97
      5.68   175.68    .276E+06    2436.9          2.10       1.89
      6.00   176.00    .302E+06    2681.4          2.11       1.88

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1431) 8933.27    57.13    8.25  25.26      1.48      1.13
     OUTFLOW: ID= 1 (5431) 8933.27    57.10    8.25  25.26      1.48      1.13

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0431) |   Area    (ha)=   8.28
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  22.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.82         6.46
```



```
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.70
     Length            (m)=     234.95        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        13.83
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      5.40 (ii)   30.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.13         0.17          0.297 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=     53.38        22.29         29.13
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
     RUNOFF COEFFICIENT   =      0.98         0.41          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2431) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0431):     8.28   0.297     5.25    29.13
       + ID2= 2 (5431):  8933.27  57.095     8.25    25.26
         ================================================
         ID = 3 (2431):  8941.55  57.137     8.25    25.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5213) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5213.0) ------>
              Distance      Elevation       Manning
                  0.00        171.99        0.1110
                 10.86        169.00        0.1110
                 21.10        168.00        0.1110
                 30.39        165.73        0.1110
                 64.57        165.00        0.1110
                 65.32        164.91        0.1110
                 68.94        164.50        0.1110
                 71.70        164.50    0.1110 /0.0490  Main Channel
                 71.83        163.50        0.0490      Main Channel
                 75.93        163.50        0.0490      Main Channel
                 76.19        164.48    0.0490 /0.1110  Main Channel
                 76.80        164.50        0.1110
                 78.99        165.50        0.1110
                107.09        166.50        0.1110
                126.24        171.00        0.1110
                133.28        171.50        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
```



```
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.33   163.83    .319E+04       0.9          0.63      62.42
      0.65   164.15    .647E+04       2.5          0.92      42.47
      0.98   164.48    .986E+04       4.7          1.13      34.66
      1.42   164.92    .201E+05       9.6          1.13      34.67
      1.86   165.36    .410E+05      17.2          0.98      39.67
      2.30   165.80    .862E+05      31.4          0.85      45.81
      2.73   166.24    .152E+06      57.6          0.89      44.08
      3.17   166.67    .232E+06      95.3          0.96      40.57
      3.61   167.11    .317E+06     144.7          1.07      36.56
      4.05   167.55    .407E+06     204.0          1.18      33.22
      4.49   167.99    .500E+06     272.8          1.28      30.53
      4.93   168.43    .598E+06     346.1          1.36      28.78
      5.37   168.87    .702E+06     429.2          1.43      27.27
      5.81   169.31    .813E+06     527.3          1.52      25.69
      6.24   169.74    .927E+06     637.5          1.61      24.23
      6.68   170.18    .104E+07     757.3          1.70      22.98
      7.12   170.62    .117E+07     886.9          1.78      21.91
      7.56   171.06    .129E+07    1023.7          1.86      21.01
      8.00   171.50    .142E+07    1156.8          1.91      20.48

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2431) 8941.55    57.14    8.25  25.26      2.73      0.89
     OUTFLOW: ID= 1 (5213) 8941.55    56.28    8.75  25.26      2.71      0.88

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0213) |   Area    (ha)= 101.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.85        50.85
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.80
     Length            (m)=     823.37        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        16.94
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.80 (ii)   63.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.53         1.18          4.356 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     53.38        27.67         40.52
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
     RUNOFF COEFFICIENT   =      0.98         0.51          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2213) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)    (mm)
        ID1= 1 (0213):   101.69   4.356    5.25    40.52
      + ID2= 2 (5213):  8941.55  56.277    8.75    25.26
        ================================================
        ID = 3 (2213):  9043.24  56.811    8.75    25.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0559) |   Area    (ha)=  35.17
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.23         17.94
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.80
     Length            (m)=     484.22         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         25.06
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.40 (ii)   50.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.93          0.75          1.595 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      53.38         35.13          42.06
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.98          0.65           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| ADD HYD   (2561) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)    (mm)
        ID1= 1 (0559):    35.17   1.595    5.25    42.06
      + ID2= 2 (9561):     0.58   0.180    5.25    43.61
        ================================================
        ID = 3 (2561):    35.75   1.775    5.25    42.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| DUHYD     (9105) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
```



```
| Total(cms)=***** |      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  35.75      1.77      5.25   42.09
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  35.75      1.77      5.25   42.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (6105) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   0.6400     0.3000
                           0.0990     0.0030   |   0.8600     0.4700
                           0.2100     0.0050   |   1.3200     0.7100
                           0.3400     0.0100   |   1.9000     0.9500
                           0.4600     0.0330   |   2.5600     1.2000
                           0.5600     0.1330   |   3.2000     1.4500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9105)     35.749     1.775      5.25      42.09
     OUTFLOW: ID= 1 (6105)     35.749     0.772      6.25      42.09

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.49
               TIME SHIFT OF PEAK FLOW         (min)= 60.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.4047

-------------------------------------------------------------------------------
--------------------
| ADD HYD   (4105) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)    (mm)
*** W A R N I N G :  HYDROGRAPH 9105 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6105):    35.75   0.772     6.25    42.09
      + ID2= 2 (9105):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4105):    35.75   0.772     6.25    42.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   3.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.73          2.31
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=     142.36         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         15.82
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       3.60 (ii)   22.20 (ii)
```



```
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.05          0.09          0.138 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38         25.70          32.34
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.98          0.47           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| DUHYD     (9470) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.04      0.14      5.25   32.34
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.04      0.14      5.25   32.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (6470) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   0.0190     0.1800
                           0.0110     0.0490   |   0.4930     0.2300
                           0.0160     0.1130   |   2.4340     0.3150

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9470)      3.040     0.138      5.25      32.34
     OUTFLOW: ID= 1 (6470)      3.040     0.013      8.25      31.98

               PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.40
               TIME SHIFT OF PEAK FLOW         (min)=180.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.0742

-------------------------------------------------------------------------------
--------------------
| ADD HYD   (4470) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)    (mm)
*** W A R N I N G :  HYDROGRAPH 9470 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6470):     3.04   0.013     8.25    31.98
      + ID2= 2 (9470):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4470):     3.04   0.013     8.25    31.98
```



```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| ADD HYD   (2568) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)    (mm)
        ID1= 1 (4105):    35.75   0.772     6.25    42.09
      + ID2= 2 (4470):     3.04   0.013     8.25    31.98
        ================================================
        ID = 3 (2568):    38.79   0.784     6.25    41.30

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   3.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.85          1.92
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.90
     Length            (m)=     158.53         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         19.41
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       4.20 (ii)   25.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.13          0.08          0.209 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38         32.29          42.62
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.98          0.59           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| DUHYD     (9471) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.77      0.21      5.25   42.62
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.77      0.21      5.25   42.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (6471) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0110      0.1460
                          0.0050     0.0110   |   0.1620      0.1660
                          0.0090     0.0690   |   0.9650      0.2080

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9471)      3.770      0.209      5.25      42.62
     OUTFLOW: ID= 1 (6471)      3.770      0.011      9.25      42.48

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.11
                    TIME SHIFT OF PEAK FLOW         (min)=240.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1341
```

```
--------------------
| ADD HYD   (4471) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9471 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6471):     3.77   0.011     9.25    42.48
       + ID2= 2 (9471):     0.00   0.000     0.00     0.00
         ==========================================
         ID = 3 (4471):     3.77   0.011     9.25    42.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (2605) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2568):    38.79   0.784     6.25    41.30
       + ID2= 2 (4471):     3.77   0.011     9.25    42.48
         ==========================================
         ID = 3 (2605):    42.56   0.794     6.25    41.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 128.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.83         70.68
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.60
     Length            (m)=     925.56         40.00
     Mannings n             =    0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         17.53
               over (min)        15.00         30.00
```



```
     Max.Eff.Inten.(mm/hr)=      25.02         17.53
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     13.80 (ii)    81.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         75.00
     Unit Hyd. peak  (cms)=      0.08          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.74          0.28          0.900 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.25           5.25
     RUNOFF VOLUME    (mm)=     53.38         28.73          39.82
     TOTAL RAINFALL   (mm)=     54.38         54.38          54.38
     RUNOFF COEFFICIENT   =      0.98          0.53           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (0390) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    24.00   0.900     5.25    39.82
       + ID2= 2 (****):     3.04   0.114     5.25    39.81
         ==========================================
         ID = 3 (0390):    27.04   1.014     5.25    39.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (0391) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0390):    27.04   1.014     5.25    39.82
       + ID2= 2 (****):   128.50   4.817     5.25    39.82
         ==========================================
         ID = 3 (0391):   155.54   5.830     5.25    39.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (2603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0391):   155.54   5.830     5.25    39.82
       + ID2= 2 (2605):    42.56   0.794     6.25    41.40
         ==========================================
         ID = 3 (2603):   198.10   6.474     5.25    40.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| DUHYD     (9961) |
```



```
     Storage Coeff.  (min)=     13.80 (ii)    81.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         75.00
     Unit Hyd. peak  (cms)=      0.08          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.99          1.50          4.817 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.25           5.25
     RUNOFF VOLUME    (mm)=     53.38         28.73          39.82
     TOTAL RAINFALL   (mm)=     54.38         54.38          54.38
     RUNOFF COEFFICIENT   =      0.98          0.53           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   3.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.37          1.67
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.60
     Length            (m)=     142.36         40.00
     Mannings n             =    0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         17.53
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     13.80 (ii)    81.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         75.00
     Unit Hyd. peak  (cms)=      0.08          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.09          0.04          0.114 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.25           5.25
     RUNOFF VOLUME    (mm)=     53.38         28.73          39.81
     TOTAL RAINFALL   (mm)=     54.38         54.38          54.38
     RUNOFF COEFFICIENT   =      0.98          0.53           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  24.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      10.80         13.20
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.60
     Length            (m)=     400.00         40.00
     Mannings n             =    0.013         0.250
```



```
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 198.10      6.47      5.25   40.16
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 198.10      6.47      5.25   40.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (6961) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.7000      4.8500
                          1.6000     3.9500   |   6.2000      5.1400
                          3.4000     4.2400   |   7.2000      5.6300
                          4.2000     4.4000   |  23.4500      7.4400

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9961)     198.099      6.474      5.25      40.16
     OUTFLOW: ID= 1 (6961)     198.099      2.601      7.50      40.16

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.17
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  4.1158
```

```
--------------------
| ADD HYD   (4961) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9961 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6961):    198.10   2.601     7.50    40.16
       + ID2= 2 (9961):     0.00   0.000     0.00     0.00
         ==========================================
         ID = 3 (4961):   198.10   2.601     7.50    40.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5602) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5602.0) ------>
             Distance      Elevation       Manning
                 0.00         188.36        0.1110
                46.99         187.30        0.1110
               162.32         186.72        0.1110
               234.98         185.20        0.1110
               249.46         183.65    0.1110 /0.0490  Main Channel
               254.33         182.64        0.0490      Main Channel
               258.04         183.49        0.0490      Main Channel
               258.31         183.51        0.0490      Main Channel
               262.53         182.77        0.0490      Main Channel
```

262.63	182.75	0.0490	Main Channel	
267.86	183.52	0.0490 /0.1110	Main Channel	
270.83	183.61	0.1110		
286.95	183.40	0.1110		
289.09	183.46	0.1110		
298.71	185.52	0.1110		
325.92	186.31	0.1110		
406.09	185.45	0.1110		
529.18	187.66	0.1110		
556.31	187.61	0.1110		
804.52	190.22	0.1110		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	182.93	.360E+03	0.3	0.50	19.84
0.59	183.23	.179E+04	2.5	0.84	11.80
0.88	183.52	.478E+04	8.3	1.03	9.61
1.18	183.82	.119E+05	23.5	1.18	8.45
1.49	184.13	.200E+05	46.9	1.40	7.12
1.79	184.43	.289E+05	77.4	1.60	6.23
2.09	184.73	.386E+05	114.7	1.77	5.61
2.39	185.03	.490E+05	158.8	1.93	5.15
2.70	185.34	.604E+05	208.1	2.05	4.84
3.00	185.64	.761E+05	241.2	1.89	5.26
3.30	185.94	.103E+06	300.5	1.73	5.74
3.60	186.24	.143E+06	390.6	1.63	6.12
3.90	186.54	.194E+06	522.2	1.61	6.19
4.21	186.85	.251E+06	675.9	1.61	6.19
4.51	187.15	.321E+06	859.4	1.60	6.22
4.81	187.45	.403E+06	1099.0	1.63	6.11
5.11	187.75	.494E+06	1347.8	1.63	6.11
5.42	188.06	.596E+06	1679.2	1.68	5.92
5.72	188.36	.706E+06	2056.8	1.74	5.72

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (4961)	198.10	2.60	7.50	40.16	0.59	0.84
OUTFLOW: ID= 1 (5602)	198.10	2.64	7.50	40.16	0.59	0.85

CALIB	
STANDHYD (0602)	Area (ha)= 42.99
ID= 1 DT=15.0 min	Total Imp(%)= 67.00 Dir. Conn.(%)= 67.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	28.80	14.19
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	535.35	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	20.08
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	2.00	0.44 2.335 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25

RUNOFF VOLUME (mm)=	53.38	33.62	46.86	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.62	0.86	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2602)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0602):	42.99	2.335	5.25	46.86
+ ID2= 2 (5602):	198.10	2.636	7.50	40.16
ID = 3 (2602):	241.09	3.105	5.25	41.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5271)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5271.0) ------>

Distance	Elevation	Manning	
0.00	187.00	0.1110	
3.39	183.79	0.1110	
10.53	183.00	0.1110	
21.75	182.99	0.1110	
23.53	182.68	0.1110 /0.0490	Main Channel
33.07	181.08	0.0490	Main Channel
41.98	183.10	0.0490 /0.1110	Main Channel
44.71	183.70	0.1110	
62.12	184.09	0.1110	
77.77	183.81	0.1110	
120.17	183.78	0.1110	
169.07	183.98	0.1110	
228.74	185.84	0.1110	
358.41	186.79	0.1110	
420.15	186.79	0.1110	
448.98	187.02	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	181.35	.272E+03	0.1	0.36	33.75
0.53	181.61	.169E+04	0.9	0.58	21.26
0.80	181.88	.245E+04	2.5	0.76	16.23
1.07	182.15	.436E+04	5.4	0.92	13.39
1.33	182.41	.681E+04	9.8	1.07	11.54
1.60	182.68	.980E+04	16.0	1.20	10.22
1.93	183.01	.144E+05	27.6	1.41	8.73
2.26	183.34	.226E+05	44.8	1.46	8.42
2.60	183.68	.319E+05	67.2	1.55	7.92
2.93	184.01	.558E+05	97.7	1.29	9.52
3.26	184.34	.978E+05	149.0	1.12	10.95

3.59	184.67	.143E+06	217.6	1.12	10.94
3.93	185.01	.190E+06	301.7	1.17	10.52
4.26	185.34	.241E+06	400.7	1.23	10.02
4.59	185.67	.294E+06	514.3	1.29	9.53
4.92	186.00	.351E+06	627.2	1.32	9.32
5.26	186.34	.418E+06	746.8	1.32	9.32
5.59	186.67	.496E+06	891.5	1.33	9.27
5.92	187.00	.594E+06	1023.1	1.27	9.68

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2602)	241.09	3.11	5.25	41.35	0.85	0.79
OUTFLOW: ID= 1 (5271)	241.09	2.97	7.75	41.35	0.84	0.78

CALIB	
STANDHYD (0271)	Area (ha)= 17.58
ID= 1 DT=15.0 min	Total Imp(%)= 40.00 Dir. Conn.(%)= 40.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	7.03	10.55
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	342.34	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.53
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.49	0.35 0.837 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	53.38	28.73 38.59
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.53 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2271)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0271):	17.58	0.837	5.25	38.59
+ ID2= 2 (5271):	241.09	2.969	7.75	41.35
ID = 3 (2271):	258.67	3.696	5.25	41.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 198.33
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 57.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	113.05	85.28
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	1149.87	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	20.75
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	7.79	2.22 9.111 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	35.02 45.49
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.64 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 35.00
ID= 1 DT=15.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	29.75	5.25
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	483.05	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	20.75
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	2.05	0.14 2.132 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	35.02 50.63
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.64 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	35.00	2.13	5.25	50.63
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	35.00	2.13	5.25	50.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	1.2800	1.3790
DT= 15.0 min	0.3900	0.0010	1.3400	1.7290
	0.8700	0.1580	1.4700	2.5690
	1.0600	0.4640	5.1200	2.6000
	1.2300	1.0530	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	35.000	2.132	5.25	50.63
OUTFLOW: ID= 1 (****)	35.000	1.055	5.50	50.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.50
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.4624

ADD HYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	35.00	1.055	5.50	50.63
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	35.00	1.055	5.50	50.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 17.10
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	14.54	2.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10

Length (m)=	337.64	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	25.02	20.75	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
			TOTALS
PEAK FLOW (cms)=	1.00	0.07	1.042 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	53.38	35.02	50.62
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.64	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	17.10	1.04	5.25	50.62
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	17.10	1.04	5.25	50.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	0.6300	0.6750
DT= 15.0 min	0.1900	0.0610	0.6600	0.8460
	0.4200	0.0770	0.7200	1.2570
	0.5200	0.2270	2.5000	1.3000
	0.6000	0.5150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.100	1.042	5.25	50.62
OUTFLOW: ID= 1 (****)	17.100	0.526	5.50	50.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 50.51
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.2511

ADD HYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				

ADD HYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	17.10	0.526	5.50	50.62
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	17.10	0.526	5.50	50.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (****):	35.00	1.055	5.50	50.63
+ ID2= 2 (****):	17.10	0.526	5.50	50.62
ID = 3 (****):	52.10	1.581	5.50	50.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 16.10
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	13.69	2.41
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	327.62	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	20.75
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	0.94	0.06 0.981 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	35.02 50.62
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.64 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

TOTAL HYD.(ID= 1):	16.10	0.98	5.25	50.62
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	16.10	0.98	5.25	50.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	0.5900	0.6350
DT= 15.0 min	0.1800	0.0610	0.6200	0.7960
	0.4000	0.0730	0.6800	1.1820
	0.4900	0.2140	2.3600	1.2000
	0.5600	0.4850	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	16.100	0.981	5.25	50.62
OUTFLOW: ID= 1 (****)	16.100	0.495	5.50	50.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 50.51
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.2369

ADD HYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	16.10	0.495	5.50	50.62
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	16.10	0.495	5.50	50.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (****):	52.10	1.581	5.50	50.63
+ ID2= 2 (****):	16.10	0.495	5.50	50.62
ID = 3 (****):	68.20	2.077	5.50	50.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 37.00
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.45	5.55
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	496.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.75
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	2.17	0.14	2.254 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	53.38	35.02	50.63
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.64	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		37.00	2.25	5.25	50.63
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		37.00	2.25	5.25	50.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	1.3600	1.4580
	0.4100	0.0010	1.4200	1.8280
	0.9200	0.1670	1.5600	2.7160
	1.1200	0.4910	5.4000	2.8000
	1.3000	1.1140	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (****)	37.000	2.254	5.25	50.63
OUTFLOW: ID= 1 (****)	37.000	1.115	5.50	50.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.48
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.4891

ADD HYD (****)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):	37.00	1.115	5.50	50.63
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	37.00	1.115	5.50	50.63

*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):	68.20	2.077	5.50	50.62
+ ID2= 2 (****):	37.00	1.115	5.50	50.63
ID = 3 (****):	105.20	3.192	5.50	50.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (****)	Area (ha)= 17.40			
ID= 1 DT=15.0 min	Total Imp(%)= 85.00		Dir. Conn.(%)= 85.00	
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	14.79	2.61		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	5.10		
Length (m)=	340.59	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	25.02	20.75		
over (min)	15.00	30.00		
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)		
Unit Hyd. Tpeak (min)=	15.00	75.00		
Unit Hyd. peak (cms)=	0.08	0.01		
			TOTALS	
PEAK FLOW (cms)=	1.02	0.07	1.060 (iii)	
TIME TO PEAK (hrs)=	5.25	6.25	5.25	
RUNOFF VOLUME (mm)=	53.38	35.03	50.62	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.64	0.93	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		17.40	1.06	5.25	50.62
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		17.40	1.06	5.25	50.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.6300	0.6750
	0.1900	0.0610	0.6600	0.8460
	0.4200	0.0770	0.7200	1.2570
	0.5200	0.2270	2.5500	1.3000
	0.6000	0.5150	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (****)	17.400	1.060	5.25	50.62
OUTFLOW: ID= 1 (****)	17.400	0.528	5.50	50.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.80
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.2577

ADD HYD (****)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):	17.40	0.528	5.50	50.62
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	17.40	0.528	5.50	50.62

*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0218)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):	105.20	3.192	5.50	50.63
+ ID2= 2 (****):	17.40	0.528	5.50	50.62
ID = 3 (0218):	122.60	3.719	5.50	50.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0218):	122.60	3.719	5.50	50.62
+ ID2= 2 (****):	198.33	9.111	5.25	45.49
ID = 3 (****):	320.93	12.735	5.25	47.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9962)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	320.93	12.73	5.25	47.45
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	320.93	12.73	5.25	47.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6962)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	8.8300	5.8290
	0.7800	0.0930	14.9900	7.2690
	3.3000	1.1140	22.7900	8.7080
	4.6600	3.2000	28.8000	10.2730
	5.2100	4.5150	31.2000	11.8370

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9962)	320.930	12.735	5.25	47.45
OUTFLOW: ID= 1 (6962)	320.930	6.467	7.00	47.45

PEAK FLOW REDUCTION [Qout/Qin](%)= 50.78
TIME SHIFT OF PEAK FLOW (min)=105.00
MAXIMUM STORAGE USED (ha.m.)= 4.9745

ADD HYD (4962)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6962):	320.93	6.467	7.00	47.45
+ ID2= 2 (9962):	0.00	0.000	0.00	0.00
ID = 3 (4962):	320.93	6.467	7.00	47.45

*** W A R N I N G : HYDROGRAPH 9962 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1273) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2271):   258.67   3.696     5.25    41.17
        + ID2= 2 (4962):   320.93   6.467     7.00    47.45
          ===============================================
          ID = 3 (1273):   579.60   9.333     7.50    44.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5273) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5273.0) ------>
               Distance      Elevation       Manning
                   0.00        179.99        0.1110
                  18.34        178.57        0.1110
                  55.29        178.07        0.1110
                 114.00        177.92        0.1110
                 155.06        177.41        0.1110
                 161.65        174.89    0.1110 /0.0490  Main Channel
                 164.66        174.75        0.0490      Main Channel
                 167.51        174.61    0.0490 /0.1110  Main Channel
                 169.36        174.72        0.1110
                 179.42        177.94        0.1110
                 271.83        179.31        0.1110
                 298.09        178.85        0.1110
                 325.92        179.14        0.1110
                 444.55        179.57        0.1110
                 496.32        180.68        0.1110
                 506.76        181.27        0.1110
                 526.42        185.07        0.1110

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.28   174.89    .871E+03       0.7          0.51       21.75
       0.57   175.18    .260E+04       3.9          1.01       11.13
       0.85   175.46    .463E+04       9.2          1.34        8.38
       1.13   175.74    .697E+04      16.5          1.59        7.05
       1.42   176.03    .963E+04      25.7          1.79        6.25
       1.70   176.31    .126E+05      36.8          1.96        5.70
       1.98   176.59    .159E+05      49.9          2.11        5.30
       2.27   176.88    .194E+05      65.0          2.24        4.99
       2.55   177.16    .233E+05      82.1          2.36        4.74
       2.83   177.44    .275E+05      99.6          2.43        4.61
       3.11   177.72    .346E+05     118.3          2.29        4.88
       3.40   178.01    .471E+05     137.4          1.96        5.71
       3.68   178.29    .741E+05     173.1          1.57        7.13
       3.96   178.57    .109E+06     235.8          1.45        7.71
       4.25   178.86    .150E+06     326.1          1.46        7.67
       4.53   179.14    .200E+06     429.3          1.44        7.75
       4.81   179.42    .266E+06     565.0          1.43        7.85
       5.10   179.71    .348E+06     760.3          1.47        7.63
       5.38   179.99    .435E+06    1005.3          1.55        7.21

                                  <---- hydrograph ---->   <-pipe / channel->
```



```
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1273)  579.60     9.33    7.50  44.65      0.85      1.34
     OUTFLOW: ID= 1 (5273)  579.60     9.31    7.50  44.65      0.85      1.34


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0273) |   Area    (ha)=  25.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  65.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.68         8.98
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.70
     Length            (m)=     413.60        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        20.75
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                            *TOTALS*
     PEAK FLOW       (cms)=       1.16         0.34           1.471 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50            5.25
     RUNOFF VOLUME    (mm)=      53.38        35.02           46.95
     TOTAL RAINFALL   (mm)=      54.38        54.38           54.38
     RUNOFF COEFFICIENT   =       0.98         0.64            0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2273) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0273):    25.66   1.471     5.25    46.95
        + ID2= 2 (5273):   579.60   9.314     7.50    44.65
          ===============================================
          ID = 3 (2273):   605.26   9.580     5.25    44.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0272) |   Area    (ha)=  42.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  78.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      32.83         9.26
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.70
     Length            (m)=     529.72        40.00
```



```
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        22.12
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.80 (ii)   62.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                            *TOTALS*
     PEAK FLOW       (cms)=       2.28         0.31           2.513 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75            5.25
     RUNOFF VOLUME    (mm)=      53.38        38.11           50.02
     TOTAL RAINFALL   (mm)=      54.38        54.38           54.38
     RUNOFF COEFFICIENT   =       0.98         0.70            0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0272):    42.09   2.513     5.25    50.02
        + ID2= 2 (2273):   605.26   9.580     5.25    44.74
          ===============================================
          ID = 3 (2272):   647.35  12.093     5.25    45.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5260) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5260.0) ------>
               Distance      Elevation       Manning
                   0.00        175.32        0.1110
                  51.36        174.58        0.1110
                  87.35        174.75        0.1110
                 122.73        174.10        0.1110
                 131.56        174.13        0.1110
                 202.82        173.44        0.1110
                 276.03        173.59        0.1110
                 349.20        172.56        0.1110
                 376.00        173.21        0.1110
                 384.10        170.08    0.1110 /0.0490  Main Channel
                 390.86        169.74        0.0490      Main Channel
                 394.42        170.00    0.0490 /0.1110  Main Channel
                 398.31        170.30        0.1110
                 402.54        173.35        0.1110
                 447.19        173.02        0.1110
                 550.72        173.46        0.1110
                 592.93        173.28        0.1110
                 680.14        173.52        0.1110
                 753.95        175.23        0.1110
                 784.10        175.41        0.1110
```



```
      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.26   170.00    .960E+03       0.4          0.39       36.34
       0.54   170.28    .382E+04       3.3          0.72       19.54
       0.82   170.56    .743E+04       8.5          0.97       14.53
       1.10   170.84    .113E+05      15.8          1.18       11.94
       1.38   171.12    .155E+05      24.9          1.36       10.36
       1.66   171.40    .199E+05      35.7          1.52        9.28
       1.94   171.68    .245E+05      48.1          1.66        8.49
       2.22   171.96    .295E+05      62.2          1.79        7.89
       2.50   172.24    .346E+05      77.9          1.90        7.41
       2.78   172.52    .401E+05      95.2          2.01        7.02
       3.06   172.80    .486E+05     111.1          1.93        7.29
       3.34   173.08    .652E+05     125.2          1.62        8.68
       3.62   173.36    .108E+06     156.2          1.23       11.50
       3.90   173.64    .206E+06     216.9          0.89       15.81
       4.18   173.92    .330E+06     333.6          0.86       16.48
       4.46   174.20    .464E+06     483.8          0.88       15.99
       4.74   174.48    .608E+06     675.3          0.94       15.00
       5.02   174.76    .761E+06     877.5          0.97       14.46
       5.30   175.04    .930E+06    1142.6          1.04       13.56

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2272)  647.35    12.09    5.25  45.09      0.96      1.06
     OUTFLOW: ID= 1 (5260)  647.35    11.33    5.25  45.09      0.93      1.04


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0260) |   Area    (ha)=  60.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      45.70        15.23
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.60
     Length            (m)=     637.39        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        21.43
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      10.20 (ii)   60.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                            *TOTALS*
     PEAK FLOW       (cms)=       3.17         0.49           3.544 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75            5.25
     RUNOFF VOLUME    (mm)=      53.38        36.52           49.16
     TOTAL RAINFALL   (mm)=      54.38        54.38           54.38
     RUNOFF COEFFICIENT   =       0.98         0.67            0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0260):    60.94   3.544     5.25    49.16
      + ID2= 2 (5260):   647.35  11.326     5.25    45.09
        ================================================
        ID = 3 (2260):   708.29  14.870     5.25    45.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (0643) |   Area    (ha)=   7.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  48.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.44         3.72
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        11.00
     Length            (m)=     218.48        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        19.41
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.60 (ii)   21.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.18          0.418 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38        32.29          42.41
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.59           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| DUHYD     (9472) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):   7.16      0.42      5.25   42.41
    ================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3):   7.16      0.42      5.25   42.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| RESERVOIR (6472) |
```



```
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.3490      0.9110
                          0.0190     0.1220   |  0.4450      0.9620
                          0.0270     0.2490   |  1.0700      1.0670
                          0.1280     0.5180   |  2.6100      1.2280
                          0.2430     0.7100   |  4.0000      1.3380

                                AREA     QPEAK     TPEAK        R.V.
                                (ha)     (cms)     (hrs)        (mm)
    INFLOW : ID= 2 (9472)      7.160     0.418      5.25       42.41
    OUTFLOW: ID= 1 (6472)      7.160     0.027      8.50       42.19

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.45
                TIME SHIFT OF PEAK FLOW          (min)=195.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2485

--------------------
| ADD HYD   (4472) |
|   1 +  2 =  4    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9472 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6472):     7.16   0.027     8.50    42.19
      + ID2= 2 (9472):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4472):     7.16   0.027     8.50    42.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  76.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.33        58.05
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.70
     Length            (m)=     713.58        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.30
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.27         1.13          1.895 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25           5.25
     RUNOFF VOLUME    (mm)=      53.38        24.79          31.65
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.46           0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
```



```
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   2.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.54         1.70
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.70
     Length            (m)=     122.20        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.30
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.03          0.056 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25           5.25
     RUNOFF VOLUME    (mm)=      53.38        24.79          31.63
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.46           0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  84.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.37        64.52
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.70
     Length            (m)=     752.29        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.30
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.41         1.26          2.106 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25           5.25
     RUNOFF VOLUME    (mm)=      53.38        24.79          31.65
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.46           0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```



```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (0380) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    84.89   2.106     5.25    31.65
      + ID2= 2 (****):     2.24   0.056     5.25    31.63
        ================================================
        ID = 3 (0380):    87.13   2.162     5.25    31.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (0381) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):    87.13   2.162     5.25    31.65
      + ID2= 2 (****):    76.38   1.895     5.25    31.65
        ================================================
        ID = 3 (0381):   163.51   4.057     5.25    31.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (2251) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0381):   163.51   4.057     5.25    31.65
      + ID2= 2 (4472):     7.16   0.027     8.50    42.19
        ================================================
        ID = 3 (2251):   170.67   4.078     5.25    32.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (0709) |   Area    (ha)=   7.69
|ID= 1 DT=15.0 min |   Total Imp(%)=   4.00   Dir. Conn.(%)=   4.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         7.38
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.30
     Length            (m)=     226.42        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        12.56
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   33.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
```

```
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW      (cms)=       0.02         0.18          0.200 (iii)
     TIME TO PEAK   (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME   (mm)=      53.38        21.53          22.80
     TOTAL RAINFALL  (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT  =       0.98         0.40           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| DUHYD     (9219) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   7.69      0.20      5.25   22.80
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   7.69      0.20      5.25   22.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (6219) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5000     0.0350

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9219)     7.690     0.200      5.25      22.80
     OUTFLOW: ID= 1 (6219)     7.690     0.189      5.50      22.80

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.58
                    TIME SHIFT OF PEAK FLOW          (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0133

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (4219) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9219 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6219):     7.69   0.189     5.50    22.80
       + ID2= 2 (9219):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4219):     7.69   0.189     5.50    22.80
```



```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  40.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.44         25.67
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.10
     Length            (m)=     517.11         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         16.94
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.80 (ii)    63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=        1.00          0.60          1.420 (iii)
     TIME TO PEAK   (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME   (mm)=       53.38         27.67          36.92
     TOTAL RAINFALL  (mm)=       54.38         54.38          54.38
     RUNOFF COEFFICIENT  =        0.98          0.51           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   1.17
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42          0.75
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.10
     Length            (m)=      88.32         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         16.94
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.80 (ii)    63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=        0.03          0.02          0.041 (iii)
     TIME TO PEAK   (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME   (mm)=       53.38         27.67          36.89
     TOTAL RAINFALL  (mm)=       54.38         54.38          54.38
     RUNOFF COEFFICIENT  =        0.98          0.51           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```



```
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (0371) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    40.11   1.420     5.25    36.92
       + ID2= 2 (****):     1.17   0.041     5.25    36.89
         ================================================
         ID = 3 (0371):    41.28   1.462     5.25    36.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  70.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.32         45.01
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.10
     Length            (m)=     684.74         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         16.94
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.80 (ii)    63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=        1.76          1.05          2.491 (iii)
     TIME TO PEAK   (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME   (mm)=       53.38         27.67          36.93
     TOTAL RAINFALL  (mm)=       54.38         54.38          54.38
     RUNOFF COEFFICIENT  =        0.98          0.51           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (0377) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0371):    41.28   1.462     5.25    36.92
       + ID2= 2 (****):    70.33   2.491     5.25    36.93
         ================================================
         ID = 3 (0377):   111.61   3.952     5.25    36.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



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-------------------------------------------------------------------------------

--------------------
| ADD HYD   (2248) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0377):   111.61   3.952     5.25    36.92
       + ID2= 2 (4219):     7.69   0.189     5.50    22.80
         ================================================
         ID = 3 (2248):   119.30   4.118     5.25    36.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2248):   119.30   4.118     5.25    36.01
       + ID2= 2 (2251):   170.67   4.078     5.25    32.09
         ================================================
         ID = 3 (1252):   289.97   8.197     5.25    33.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0252) |   Area    (ha)=  58.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  76.00   Dir. Conn.(%)=  76.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.19         13.96
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          1.60
     Length            (m)=     622.63         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         21.43
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    69.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=        3.06          0.41          3.312 (iii)
     TIME TO PEAK   (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME   (mm)=       53.38         36.52          49.33
     TOTAL RAINFALL  (mm)=       54.38         54.38          54.38
     RUNOFF COEFFICIENT  =        0.98          0.67           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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```
| ADD HYD   (2252) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0252):    58.15   3.312     5.25    49.33
      + ID2= 2 (1252):   289.97   8.197     5.25    33.70
        ==========================================
        ID = 3 (2252):   348.12  11.509     5.25    36.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (1261) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2252):   348.12  11.509     5.25    36.31
      + ID2= 2 (2260):   708.29  14.870     5.25    45.44
        ==========================================
        ID = 3 (1261):  1056.41  26.379     5.25    42.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB             |
| STANDHYD  (0261)  |   Area    (ha)=  53.92
|ID= 1 DT=15.0 min  |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     45.83         8.09
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.10
     Length            (m)=    599.56        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        22.79
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.80 (ii)   62.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      3.18         0.28      3.398 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75       5.25
     RUNOFF VOLUME    (mm)=     53.38        39.82      51.34
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.73       0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  95.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (1256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0261):    53.92   3.398     5.25    51.34
```



```
      + ID2= 2 (1261):  1056.41  26.379     5.25    42.43
        ==========================================
        ID = 3 (1256):  1110.33  29.777     5.25    42.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (5256.0) ------>
             Distance      Elevation       Manning
                0.00         169.02        0.1110
               20.27         168.76        0.1110
               52.65         169.09        0.1110
               62.64         168.83        0.1110
               71.51         165.89        0.1110
               80.77         164.57        0.1110
               89.62         164.27    0.1110 /0.0490  Main Channel
               90.94         164.26        0.0490      Main Channel
               95.82         164.32        0.0490      Main Channel
              100.45         164.36    0.0490 /0.1110  Main Channel
              108.74         168.86        0.1110
              132.94         169.64        0.1110
              157.62         169.90        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)        (m/s)       (min)
       0.01   164.27    .329E+01         0.0         0.07       75.11
       0.26   164.52    .997E+03         2.1         0.66        7.75
       0.51   164.77    .258E+04         8.6         1.02        5.02
       0.76   165.02    .435E+04        18.4         1.31        3.93
       1.01   165.27    .629E+04        31.4         1.54        3.34
       1.26   165.52    .840E+04        47.4         1.74        2.95
       1.51   165.77    .107E+05        66.3         1.91        2.68
       1.76   166.02    .131E+05        88.5         2.08        2.47
       2.01   166.27    .157E+05       113.9         2.24        2.29
       2.26   166.52    .183E+05       142.1         2.39        2.15
       2.51   166.77    .210E+05       173.0         2.54        2.02
       2.76   167.02    .238E+05       206.6         2.67        1.92
       3.01   167.27    .268E+05       242.9         2.80        1.84
       3.26   167.52    .298E+05       281.9         2.92        1.76
       3.51   167.77    .329E+05       323.6         3.03        1.69
       3.76   168.02    .361E+05       367.9         3.14        1.63
       4.01   168.27    .393E+05       414.8         3.25        1.58
       4.26   168.52    .427E+05       464.5         3.35        1.53
       4.51   168.77    .462E+05       509.4         3.40        1.51

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)  (mm)      (m)       (m/s)
INFLOW : ID= 2 (1256) 1110.33    29.78    5.25  42.86      0.98      1.50
OUTFLOW: ID= 1 (5256) 1110.33    29.47    5.25  42.86      0.97      1.50
```

```
| CALIB             |
| STANDHYD  (0256)  |   Area    (ha)=  20.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  77.00   Dir. Conn.(%)=  77.00
-------------------
```



```
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     15.94         4.76
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.80
     Length            (m)=    371.48        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        22.12
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.20 (ii)   43.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.11         0.19      1.283 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50       5.25
     RUNOFF VOLUME    (mm)=     53.38        38.11      49.87
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.70       0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (2256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0256):    20.70   1.283     5.25    49.87
      + ID2= 2 (5256):  1110.33  29.475     5.25    42.86
        ==========================================
        ID = 3 (2256):  1131.03  30.758     5.25    42.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)= 116.17
|ID= 1 DT=15.0 min  |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     85.97        30.20
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         1.60
     Length            (m)=    880.04        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        21.43
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.40 (ii)   85.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        90.00
     Unit Hyd. peak  (cms)=      0.07         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=      5.92         0.79      6.316 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25       5.25
     RUNOFF VOLUME    (mm)=     53.38        36.52      49.00
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
```



```
     RUNOFF COEFFICIENT   =      0.98         0.67       0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=   0.11
|ID= 1 DT=15.0 min  |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.08         0.03
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         1.60
     Length            (m)=     27.08        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        21.43
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.40 (ii)   85.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        90.00
     Unit Hyd. peak  (cms)=      0.07         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.01         0.00      0.006 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25       5.25
     RUNOFF VOLUME    (mm)=     53.38        36.52      48.66
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.67       0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (0367) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):   116.17   6.316     5.25    49.00
      + ID2= 2 (****):     0.11   0.006     5.25    48.66
        ==========================================
        ID = 3 (0367):   116.28   6.322     5.25    49.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (1247) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0367):   116.28   6.322     5.25    49.00
```

```
      + ID2= 2 (2256):  1131.03  30.758     5.25    42.99
        ================================================
        ID = 3 (1247):  1247.31  37.080     5.25    43.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ROUTE CHN (5247)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5247.0) ------>

Distance	Elevation	Manning	
0.00	164.49	0.1110	
96.53	159.50	0.1110	
96.60	159.50	0.1110	
98.32	159.15	0.1110	
99.07	159.00	0.1110 /0.0490	Main Channel
101.36	158.57	0.0490	Main Channel
101.75	158.00	0.0490	Main Channel
102.83	158.00	0.0490	Main Channel
104.82	158.00	0.0490	Main Channel
105.65	158.66	0.0490	Main Channel
107.41	159.00	0.0490 /0.1110	Main Channel
109.23	159.35	0.1110	
110.01	159.50	0.1110	
111.19	159.56	0.1110	
111.57	159.58	0.1110	
121.33	160.00	0.1110	
148.53	160.00	0.1110	
158.08	161.00	0.1110	
169.93	164.43	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	158.33	.750E+03	0.9	0.78	14.16
0.67	158.67	.166E+04	2.7	1.09	10.15
1.00	159.00	.311E+04	5.5	1.18	9.36
1.34	159.34	.538E+04	12.3	1.52	7.28
1.68	159.68	.874E+04	21.6	1.64	6.76
2.02	160.02	.154E+05	34.0	1.46	7.54
2.36	160.36	.305E+05	57.4	1.25	8.85
2.70	160.70	.478E+05	90.5	1.26	8.79
3.04	161.04	.673E+05	133.4	1.31	8.40
3.38	161.38	.887E+05	186.9	1.40	7.91
3.71	161.71	.112E+06	250.3	1.48	7.45
4.05	162.05	.137E+06	323.8	1.57	7.04
4.39	162.39	.163E+06	407.4	1.65	6.68
4.73	162.73	.192E+06	501.6	1.73	6.37
5.07	163.07	.222E+06	606.4	1.81	6.10
5.41	163.41	.254E+06	722.2	1.89	5.86
5.75	163.75	.287E+06	849.3	1.96	5.64
6.09	164.09	.323E+06	987.9	2.03	5.45
6.43	164.43	.360E+06	1138.4	2.10	5.27

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1247)	1247.31	37.08	5.25	43.55	2.06	1.43
OUTFLOW: ID= 1 (5247)	1247.31	35.00	5.25	43.55	2.04	1.45

CALIB
STANDHYD (0247)
ID= 1 DT=15.0 min

Area (ha)= 38.02
Total Imp(%)= 64.00 Dir. Conn.(%)= 64.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.33	13.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.50
Length	(m)=	503.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.08
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	45.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.69	0.47	2.111 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	33.62	46.26
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.62	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2247)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0247):	38.02	2.111	5.25	46.26
+ ID2= 2 (5247):	1247.31	35.001	5.25	43.55
ID = 3 (2247):	1285.33	37.112	5.25	43.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1226)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2213):	9043.24	56.811	8.75	25.43
+ ID2= 2 (2247):	1285.33	37.112	5.25	43.63
ID = 3 (1226):	10328.57	72.306	7.25	27.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5226)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5226.0) ------>

Distance	Elevation	Manning	
0.00	167.48	0.1110	
4.33	163.54	0.1110	
26.47	158.00	0.1110	
57.29	157.00	0.1110	
63.27	155.78	0.1110	
63.95	155.50	0.1110 /0.0490	Main Channel
64.81	155.10	0.0490	Main Channel
74.07	155.10	0.0490	Main Channel
75.37	155.50	0.0490 /0.1110	Main Channel
81.00	157.00	0.1110	
137.94	159.50	0.1110	
171.75	168.01	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	155.50	.560E+04	3.0	0.72	31.36
1.03	156.13	.172E+05	16.4	1.29	17.55
1.66	156.76	.334E+05	38.9	1.58	14.28
2.29	157.39	.588E+05	70.0	1.61	14.02
2.92	158.02	.111E+06	119.9	1.46	15.48
3.55	158.65	.185E+06	198.8	1.45	15.52
4.18	159.28	.273E+06	304.3	1.51	14.97
4.81	159.91	.374E+06	443.6	1.61	14.04
5.44	160.54	.479E+06	613.0	1.73	13.02
6.07	161.17	.588E+06	808.3	1.86	12.13
6.71	161.81	.702E+06	1028.8	1.98	11.38
7.34	162.44	.820E+06	1274.3	2.10	10.73
7.97	163.07	.943E+06	1544.4	2.22	10.18
8.60	163.70	.107E+07	1841.5	2.33	9.68
9.23	164.33	.120E+07	2170.2	2.45	9.21
9.86	164.96	.133E+07	2522.8	2.57	8.80
10.49	165.59	.147E+07	2898.9	2.68	8.44
11.12	166.22	.161E+07	3298.4	2.78	8.11
11.75	166.85	.175E+07	3721.0	2.89	7.82

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1226)	*******	72.31	7.25	27.70	2.32	1.60
OUTFLOW: ID= 1 (5226)	*******	72.05	7.50	27.70	2.31	1.60

CALIB
STANDHYD (0226)
ID= 1 DT=15.0 min

Area (ha)= 128.50
Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.25	64.25
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.40
Length	(m)=	925.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	17.53
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00

		TOTALS
Unit Hyd. peak	(cms)=	0.09	0.02	
PEAK FLOW	(cms)=	4.45	1.54	5.544 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	53.38	28.73	41.06
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.53	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2226)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0226):	128.50	5.544	5.25	41.06
+ ID2= 2 (5226):	10328.57	72.051	7.50	27.70
ID = 3 (2226):	10457.07	73.444	7.25	27.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5237)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5237.0) ------>

Distance	Elevation	Manning	
0.00	158.00	0.1110	
14.00	155.00	0.1110	
15.00	154.50	0.1110	
45.00	154.00	0.1110	
65.00	153.50	0.1110	
97.00	153.50	0.1110	
101.00	154.00	0.1110	
102.00	154.00	0.1110	
105.00	153.50	0.1110	
120.00	153.00	0.1110	
121.00	152.50	0.1110 /0.0490	Main Channel
122.00	151.40	0.0490	Main Channel
134.00	151.40	0.0490	Main Channel
135.00	152.50	0.0490 /0.1110	Main Channel
144.00	153.50	0.1110	
146.00	154.00	0.1110	
160.00	164.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	151.67	.218E+04	1.7	0.51	21.12
0.55	151.95	.446E+04	5.4	0.79	13.63
0.83	152.22	.682E+04	10.7	1.01	10.64
1.10	152.50	.927E+04	17.2	1.20	8.97
1.47	152.87	.131E+05	28.8	1.43	7.56
1.83	153.23	.183E+05	43.3	1.53	7.05

2.20	153.60	.290E+05	61.9	1.39	7.79
2.57	153.97	.497E+05	90.9	1.18	9.12
2.93	154.33	.759E+05	130.0	1.11	9.73
3.30	154.70	.107E+06	183.2	1.11	9.71
3.67	155.07	.138E+06	249.6	1.17	9.23
4.03	155.43	.170E+06	325.8	1.24	8.71
4.40	155.80	.203E+06	411.6	1.31	8.22
4.77	156.17	.236E+06	506.6	1.39	7.77
5.13	156.53	.270E+06	610.4	1.47	7.36
5.50	156.90	.304E+06	722.7	1.54	7.01
5.87	157.27	.339E+06	843.4	1.61	6.69
6.23	157.63	.374E+06	972.3	1.69	6.41
6.60	158.00	.410E+06	1109.3	1.76	6.15

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2226) *******		73.44	7.25	27.86	2.35	1.30
OUTFLOW: ID= 1 (5237) *******		73.33	7.50	27.86	2.35	1.30

CALIB	
STANDHYD (0237)	Area (ha)= 15.48
ID= 1 DT=15.0 min	Total Imp(%)= 25.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	11.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.30
Length	(m)=	321.25	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		25.02	14.79	
over (min)		15.00	30.00	
Storage Coeff. (min)=		5.40 (ii)	32.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.11	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.27	0.33	0.590 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	23.91	31.28
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.44	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2237)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0237):	15.48	0.590	5.25	31.28
	+ ID2= 2 (5237):	10457.07	73.327	7.50	27.86
		==========			

ID = 3 (2237): 10472.55 73.445 7.25 27.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0447)	Area (ha)= 106.74 Curve Number (CN)= 79.0
ID= 1 DT=15.0 min	Ia (mm)= 6.80 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.58

Unit Hyd Qpeak (cms)= 6.969

PEAK FLOW (cms)= 2.355 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 19.627
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.361

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5024)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5024.0) ------>

Distance	Elevation	Manning	
0.00	247.19	0.1000	
52.21	246.15	0.1000	
62.95	246.38	0.1000	
94.83	245.47	0.1000	
131.08	245.92	0.1000	
263.16	244.86	0.1000	
320.30	244.93	0.1000	
355.96	243.82	0.1000	
398.49	243.50	0.1000	
420.89	243.19	0.1000 /0.0440	Main Channel
421.43	243.14	0.0440	Main Channel
424.25	243.19	0.0440 /0.1000	Main Channel
502.84	245.16	0.1000	
552.79	245.54	0.1000	
669.65	247.85	0.1000	
770.08	247.29	0.1000	
869.85	249.34	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	243.19	.204E+03	0.0	0.13	310.61
0.26	243.40	.796E+04	0.8	0.25	159.47
0.47	243.61	.287E+05	3.6	0.31	131.52
0.68	243.82	.673E+05	9.9	0.36	112.91
0.89	244.03	.119E+06	21.9	0.45	90.72
1.10	244.24	.178E+06	38.5	0.52	77.32
1.31	244.45	.246E+06	59.9	0.59	68.34
1.52	244.66	.321E+06	86.4	0.65	61.83
1.73	244.87	.403E+06	112.5	0.68	59.76
1.94	245.08	.527E+06	138.2	0.64	63.51
2.16	245.30	.673E+06	183.9	0.66	60.98
2.37	245.51	.846E+06	238.8	0.69	59.06
2.58	245.72	.105E+07	306.9	0.71	57.14
2.79	245.93	.129E+07	393.3	0.74	54.65

3.00	246.14	.155E+07	515.2	0.81	50.02
3.21	246.35	.182E+07	640.6	0.86	47.28
3.42	246.56	.210E+07	791.7	0.91	44.30
3.63	246.77	.240E+07	960.6	0.97	41.68
3.84	246.98	.271E+07	1145.3	1.03	39.46

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0447)	106.74	2.35	5.50	19.63	0.37	0.28
OUTFLOW: ID= 1 (5024)	106.74	1.00	7.00	19.61	0.27	0.26

CALIB	
NASHYD (0024)	Area (ha)= 140.14 Curve Number (CN)= 76.0
ID= 1 DT=15.0 min	Ia (mm)= 8.10 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.56

Unit Hyd Qpeak (cms)= 9.610

PEAK FLOW (cms)= 2.691 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 16.890
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.311

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2024)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0024):	140.14	2.691	5.50	16.89
	+ ID2= 2 (5024):	106.74	1.003	7.00	19.61
		==========			
	ID = 3 (2024):	246.88	3.120	5.50	18.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5045)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5045.0) ------>

Distance	Elevation	Manning	
0.00	245.32	0.1000	
48.84	244.35	0.1000	
66.83	244.49	0.1000	
77.60	244.28	0.1000	
92.37	244.53	0.1000	
148.98	243.76	0.1000	
202.60	243.77	0.1000	
250.13	244.20	0.1000	
292.80	243.79	0.1000	
323.01	243.86	0.1000	
373.16	242.22	0.1000 /0.0440	Main Channel
377.19	242.15	0.0440	Main Channel
382.31	242.13	0.0440	Main Channel

387.43	242.26	0.0440 /0.1000	Main Channel	
438.88	244.46	0.1000		
489.19	244.67	0.1000		
537.88	243.99	0.1000		
580.30	244.40	0.1000		
602.74	244.26	0.1000		
764.27	245.55	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	242.22	.178E+03	0.3	0.43	9.82
0.25	242.38	.901E+03	3.2	0.90	4.65
0.42	242.55	.199E+04	9.0	1.14	3.67
0.58	242.71	.343E+04	17.7	1.29	3.24
0.74	242.87	.524E+04	29.4	1.41	2.97
0.91	243.04	.741E+04	44.5	1.51	2.78
1.07	243.20	.994E+04	63.0	1.59	2.63
1.23	243.36	.128E+05	85.3	1.67	2.51
1.40	243.53	.161E+05	111.5	1.74	2.40
1.56	243.69	.197E+05	141.8	1.81	2.31
1.72	243.85	.252E+05	158.6	1.58	2.65
1.88	244.01	.348E+05	205.5	1.48	2.82
2.05	244.18	.472E+05	259.7	1.38	3.03
2.21	244.34	.626E+05	336.4	1.35	3.10
2.37	244.50	.822E+05	430.4	1.31	3.18
2.54	244.67	.106E+06	568.2	1.34	3.11
2.70	244.83	.132E+06	747.9	1.42	2.94
2.86	244.99	.159E+06	953.9	1.50	2.78
3.03	245.16	.188E+06	1185.5	1.59	2.64

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2024)	246.88	3.12	5.50	18.07	0.25	0.86
OUTFLOW: ID= 1 (5045)	246.88	3.26	5.50	18.07	0.25	0.90

CALIB	
NASHYD (0045)	Area (ha)= 69.60 Curve Number (CN)= 78.0
ID= 1 DT=15.0 min	Ia (mm)= 7.10 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59

Unit Hyd Qpeak (cms)= 4.483

PEAK FLOW (cms)= 1.451 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 18.760
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.345

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2045)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0045):	69.60	1.451	5.50	18.76
	+ ID2= 2 (5045):	246.88	3.263	5.50	18.07

ID = 3 (2045):	316.48	4.714	5.50	18.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0016)	Area (ha)= 208.86	Curve Number (CN)= 79.0	
ID= 1 DT=15.0 min	Ia (mm)= 6.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.80		

Unit Hyd Qpeak (cms)= 9.972

PEAK FLOW (cms)= 3.873 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 19.788
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.364

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1048)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	208.86	3.873	5.75	19.79
+ ID2= 2 (2045):	316.48	4.714	5.50	18.22
ID = 3 (1048):	525.34	8.409	5.75	18.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5048)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5048.0) ------>

Distance	Elevation	Manning	
0.00	243.03	0.1000	
359.76	240.13	0.1000	
503.08	241.12	0.1000	
509.36	239.75	0.1000	
547.35	239.09	0.1000	
550.14	239.02	0.1000	
571.65	237.24	0.1000 /0.0440	Main Channel
573.01	237.04	0.0440	Main Channel
575.59	237.59	0.0440 /0.1000	Main Channel
588.26	239.41	0.1000	
637.64	239.34	0.1000	
713.38	240.34	0.1000	
773.29	240.09	0.1000	
817.41	241.38	0.1000	
880.91	240.96	0.1000	
1218.10	243.31	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	237.24	.152E+03	0.0	0.15	75.62

0.50	237.54	.113E+04	0.4	0.23	46.91
0.81	237.85	.318E+04	1.4	0.30	36.85
1.11	238.15	.640E+04	3.3	0.34	32.68
1.42	238.46	.108E+05	6.0	0.37	29.97
1.72	238.76	.163E+05	9.8	0.39	27.86
2.03	239.07	.231E+05	14.5	0.41	26.52
2.33	239.37	.328E+05	18.1	0.36	30.17
2.64	239.68	.585E+05	28.4	0.32	34.30
2.94	239.98	.918E+05	46.9	0.34	32.63
3.25	240.29	.136E+06	61.5	0.30	36.76
3.55	240.59	.208E+06	94.6	0.30	36.68
3.86	240.90	.300E+06	146.5	0.32	34.13
4.16	241.20	.416E+06	204.2	0.32	33.93
4.47	241.51	.561E+06	293.7	0.35	31.81
4.77	241.81	.724E+06	413.2	0.38	29.19
5.08	242.12	.903E+06	556.1	0.41	27.06
5.38	242.42	.110E+07	723.7	0.43	25.30
5.69	242.73	.131E+07	917.4	0.46	23.82

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1048)	525.34	8.41	5.75	18.84	1.61	0.38
OUTFLOW: ID= 1 (5048)	525.34	7.07	6.00	18.84	1.51	0.37

CALIB		
STANDHYD (0048)	Area (ha)= 61.81	
ID= 1 DT=15.0 min	Total Imp(%)= 29.00	Dir. Conn.(%)= 23.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.92	43.89
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	641.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.76
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	0.99	1.02	1.699 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	53.38	25.17	31.66
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.46	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2048)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0048):	61.81	1.699	5.25	31.66
+ ID2= 2 (5048):	525.34	7.070	6.00	18.84
ID = 3 (2048):	587.15	8.376	6.00	20.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5046)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5046.0) ------>

Distance	Elevation	Manning	
0.00	242.13	0.1000	
21.95	242.56	0.1000	
73.65	242.53	0.1000	
129.75	241.36	0.1000	
150.90	241.54	0.1000	
175.31	240.19	0.1000	
191.36	239.80	0.1000	
206.39	238.06	0.1000	
242.75	238.88	0.1000	
260.87	237.01	0.1000 /0.0440	Main Channel
262.52	236.94	0.0440	Main Channel
262.96	236.99	0.0440 /0.1000	Main Channel
316.06	239.46	0.1000	
411.45	238.61	0.1000	
755.24	241.81	0.1000	
768.93	242.79	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	236.99	.275E+02	0.0	0.13	85.24
0.32	237.26	.115E+04	0.6	0.36	31.89
0.59	237.53	.383E+04	2.5	0.44	25.54
0.86	237.80	.806E+04	6.2	0.52	21.83
1.13	238.07	.138E+05	11.9	0.58	19.41
1.40	238.34	.226E+05	19.8	0.59	19.09
1.67	238.61	.356E+05	32.4	0.62	18.28
1.94	238.88	.583E+05	45.2	0.53	21.51
2.21	239.15	.948E+05	78.6	0.56	20.10
2.48	239.42	.144E+06	129.6	0.61	18.49
2.76	239.70	.203E+06	205.8	0.69	16.41
3.03	239.97	.268E+06	297.8	0.76	14.98
3.30	240.24	.340E+06	408.5	0.82	13.86
3.57	240.51	.419E+06	544.6	0.88	12.81
3.84	240.78	.504E+06	702.1	0.95	11.96
4.11	241.05	.595E+06	882.1	1.01	11.25
4.38	241.32	.693E+06	1085.3	1.07	10.64
4.65	241.59	.800E+06	1271.2	1.08	10.48
4.92	241.86	.916E+06	1530.3	1.14	9.98

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2048)	587.15	8.38	6.00	20.19	0.97	0.54
OUTFLOW: ID= 1 (5046)	587.15	7.97	6.50	20.19	0.95	0.54

CALIB		
STANDHYD (0046)	Area (ha)= 117.70	
ID= 1 DT=15.0 min	Total Imp(%)= 37.00	Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.55	74.15
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	885.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.95
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	2.44	1.63	3.337 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	53.38	26.42	34.51
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.49	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2046)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0046):	117.70	3.337	5.25	34.51
+ ID2= 2 (5046):	587.15	7.972	6.50	20.19
ID = 3 (2046):	704.85	10.274	6.25	22.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0058)	Area (ha)= 66.21	
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	33.10	33.10
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	664.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	23.81
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	66.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00

```
Unit Hyd. peak  (cms)=       0.08         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=       1.79         1.11         2.602 (iii)
TIME TO PEAK    (hrs)=       5.25         6.00          5.25
RUNOFF VOLUME    (mm)=      53.38        32.85         40.86
TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
RUNOFF COEFFICIENT   =       0.98         0.60          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1065) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0058):    66.21   2.602     5.25    40.86
       + ID2= 2 (2046):   704.85  10.274     6.25    22.58
         ================================================
         ID = 3 (1065):   771.06  11.801     6.25    24.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5065) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5065.0) ------>
             Distance      Elevation      Manning
                 0.00         239.31       0.1000
                 5.58         239.49       0.1000
                15.91         238.39       0.1000
                40.00         238.08       0.1000
                49.46         237.62       0.1000
                60.68         238.23       0.1000
                78.72         234.07       0.1000
                80.23         233.37    0.1000 /0.0440  Main Channel
                81.64         232.65       0.0440      Main Channel
                82.98         233.25    0.0440 /0.1000  Main Channel
                90.42         235.93       0.1000
                96.97         235.80       0.1000
               141.98         236.43       0.1000
               154.34         236.80       0.1000
               162.27         236.56       0.1000
               167.80         237.32       0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
      0.30   232.95    .996E+02        0.1         0.73       12.12
      0.60   233.25    .399E+03        0.9         1.15        7.63
      0.97   233.62    .106E+04        3.4         1.71        5.16
      1.33   233.98    .207E+04        7.8         1.98        4.44
      1.70   234.35    .347E+04       14.0         2.13        4.14
      2.07   234.72    .538E+04       22.5         2.21        3.98
      2.44   235.09    .780E+04       33.7         2.28        3.86
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      2.80   235.45    .107E+05       47.7         2.35        3.74
      3.17   235.82    .142E+05       63.0         2.35        3.75
      3.54   236.19    .220E+05       81.7         1.97        4.48
      3.90   236.55    .352E+05      120.0         1.80        4.89
      4.27   236.92    .528E+05      176.3         1.76        4.99
      4.64   237.29    .723E+05      258.3         1.89        4.67
      5.00   237.65    .925E+05      357.0         2.04        4.32
      5.37   238.02    .115E+06      459.2         2.12        4.16
      5.74   238.39    .141E+06      584.5         2.19        4.02
      6.11   238.76    .171E+06      760.2         2.35        3.74
      6.47   239.12    .201E+06      958.4         2.52        3.50
      6.84   239.49    .233E+06     1168.1         2.65        3.32

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)  (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (1065)  771.06   11.80    6.25  24.15      1.57      2.08
OUTFLOW: ID= 1 (5065)  771.06   11.76    6.25  24.15      1.57      2.07

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0065) |   Area    (ha)=  10.36
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       5.91         4.45
Dep. Storage     (mm)=       1.00         4.00
Average Slope     (%)=       1.00         7.40
Length            (m)=     262.81        40.00
Mannings n           =      0.013        0.250

Max.Eff.Inten.(mm/hr)=      25.02        20.52
               over (min)       15.00        15.00
Storage Coeff.  (min)=       4.20 (ii)   25.80 (ii)
Unit Hyd. Tpeak (min)=      15.00        30.00
Unit Hyd. peak  (cms)=       0.11         0.04
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.38         0.20          0.578 (iii)
TIME TO PEAK    (hrs)=       5.25         5.25          5.25
RUNOFF VOLUME    (mm)=      53.38        31.22         42.96
TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
RUNOFF COEFFICIENT   =       0.98         0.57          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2065) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0065):    10.36   0.578     5.25    42.96
       + ID2= 2 (5065):   771.06  11.765     6.25    24.15
         ================================================
         ID = 3 (2065):   781.42  11.969     6.25    24.40
```



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    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0734) |   Area    (ha)=  28.31   Curve Number   (CN)= 80.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.30

    Unit Hyd Qpeak  (cms)=   3.653

    PEAK FLOW       (cms)=   0.807 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  18.078
    TOTAL RAINFALL   (mm)=  54.380
    RUNOFF COEFFICIENT   =   0.332

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0545) |   Area    (ha)=   6.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  42.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       3.42         3.03
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         4.80
    Length            (m)=     207.36        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      25.02        25.54
                   over (min)       15.00        15.00
    Storage Coeff.  (min)=       4.20 (ii)   25.80 (ii)
    Unit Hyd. Tpeak (min)=      15.00        30.00
    Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.19         0.17          0.360 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.25          5.25
    RUNOFF VOLUME    (mm)=      53.38        35.34         42.91
    TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
    RUNOFF COEFFICIENT   =       0.98         0.65          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9130) |
| Inlet Cap.=0.009 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):   6.45      0.36      5.25   42.91
    ================================================
    MAJOR SYS.(ID= 2):   5.67      0.35      5.25   42.91
```



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    MINOR SYS.(ID= 3):   0.78      0.01      2.50   42.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6130) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0090     0.0800

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9130)     0.780     0.009     2.50       42.91
    OUTFLOW: ID= 1 (6130)     0.780     0.003    12.75       40.03

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.58
               TIME SHIFT OF PEAK FLOW         (min)=615.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.0269

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--------------------
| ADD HYD   (4130) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6130):     0.78   0.003    12.75    40.03
       + ID2= 2 (9130):     5.67   0.351     5.25    42.91
         ================================================
         ID = 3 (4130):     6.45   0.352     5.25    42.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2734) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0734):    28.31   0.807     5.25    18.08
       + ID2= 2 (4130):     6.45   0.352     5.25    42.56
         ================================================
         ID = 3 (2734):    34.76   1.160     5.25    22.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0741) |   Area    (ha)=   3.39
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  44.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       1.59         1.80
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         6.50
    Length            (m)=     150.33        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      25.02        11.68
                   over (min)       15.00        30.00
    Storage Coeff.  (min)=       3.60 (ii)   19.20 (ii)
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Unit Hyd. Tpeak (min)=      15.00        15.00
Unit Hyd. peak  (cms)=       0.11         0.06
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.10         0.05          0.154 (iii)
TIME TO PEAK    (hrs)=       5.25         5.25          5.25
RUNOFF VOLUME    (mm)=      53.38        17.77         33.43
TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
RUNOFF COEFFICIENT   =       0.98         0.33          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2741) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0741):     3.39   0.154     5.25    33.43
       + ID2= 2 (2734):    34.76   1.160     5.25    22.62
         ================================================
         ID = 3 (2741):    38.15   1.314     5.25    23.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0041) |   Area    (ha)= 263.00   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.52

     Unit Hyd Qpeak  (cms)=  19.468

     PEAK FLOW       (cms)=   4.694 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  15.301
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2041) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0041):   263.00   4.694     5.50    15.30
       + ID2= 2 (2741):    38.15   1.314     5.25    23.58
         ================================================
         ID = 3 (2041):   301.15   5.718     5.25    16.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| DUHYD     (9001) |
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| Inlet Cap.=0.000 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 301.15      5.72      5.25   16.35
     ================================================
     MAJOR SYS.(ID= 2): 301.15      5.72      5.25   16.35
     MINOR SYS.(ID= 3):   0.00      0.00      0.00    0.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0064) |   Area    (ha)=  67.94   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   7.071

     PEAK FLOW       (cms)=   1.522 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  15.924
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0064):    67.94   1.522     5.25    15.92
       + ID2= 2 (9001):   301.15   5.718     5.25    16.35
         ================================================
         ID = 3 (1068):   369.09   7.240     5.25    16.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5068) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5068.0) ------>
             Distance      Elevation       Manning
                 0.00         243.69        0.1000
                 1.05         244.22        0.1000
                19.37         243.89        0.1000
                41.05         239.31        0.1000
                42.39         239.06        0.1000
                54.90         238.66        0.1000
               104.87         239.47        0.1000
               187.22         239.06        0.1000
               198.63         238.28        0.1000
               214.93         233.81    0.1000 /0.0440  Main Channel
               224.74         232.68        0.0440      Main Channel
               234.23         233.89    0.0440 /0.1000  Main Channel
               244.57         237.42        0.1000
               253.16         237.28        0.1000
               264.49         238.25        0.1000
```



```
               303.31         239.05        0.1000
               336.23         238.84        0.1000
               370.20         238.82        0.1000
               618.04         242.11        0.1000

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.57   233.24    .503E+04       2.0          0.75      42.17
      1.13   233.81    .201E+05      12.6          1.20      26.56
      1.74   234.42    .447E+05      43.5          1.86      17.13
      2.35   235.03    .741E+05      90.1          2.32      13.71
      2.97   235.65    .108E+06     151.2          2.67      11.92
      3.58   236.26    .147E+06     226.7          2.95      10.80
      4.19   236.87    .190E+06     316.7          3.18      10.02
      4.80   237.48    .241E+06     415.4          3.29       9.67
      5.42   238.10    .310E+06     540.6          3.33       9.55
      6.03   238.71    .399E+06     666.7          3.19       9.97
      6.64   239.32    .651E+06     821.2          2.41      13.21
      7.25   239.93    .110E+07    1176.4          2.04      15.63
      7.87   240.55    .162E+07    1669.2          1.97      16.15
      8.48   241.16    .219E+07    2289.5          2.00      15.94
      9.09   241.77    .282E+07    3040.5          2.06      15.45
      9.70   242.38    .350E+07    3971.5          2.17      14.69
     10.32   243.00    .419E+07    5093.0          2.32      13.72
     10.93   243.61    .489E+07    6341.8          2.48      12.85
     11.54   244.22    .560E+07    7596.9          2.59      12.28

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                         (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1068)  369.09     7.24    5.25  16.27      0.84      0.92
     OUTFLOW: ID= 1 (5068)  369.09     5.35    5.75  16.27      0.74      0.85


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0068) |   Area    (ha)=  67.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  22.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.29        51.58
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.70
     Length            (m)=     672.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        14.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   56.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                  *TOTALS*
     PEAK FLOW       (cms)=       1.04         1.04          1.762 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      53.38        22.68         29.44
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.42          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```



```
             CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0068):    67.87   1.762     5.25    29.44
       + ID2= 2 (5068):   369.09   5.352     5.75    16.27
         ================================================
         ID = 3 (2068):   436.96   6.709     5.75    18.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0075) |   Area    (ha)=  90.63
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  54.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      53.47        37.16
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.00
     Length            (m)=     777.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        19.99
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   66.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                  *TOTALS*
     PEAK FLOW       (cms)=       3.39         1.02          4.115 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      53.38        29.45         42.37
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.54          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1074) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0075):    90.63   4.115     5.25    42.37
       + ID2= 2 (2068):   436.96   6.709     5.75    18.32
         ================================================
         ID = 3 (1074):   527.59   9.378     5.25    22.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5074) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5074.0) ------>
                Distance      Elevation       Manning
                   0.00         237.79         0.1000
                 113.79         235.41         0.1000
                 164.89         228.84    0.1000 /0.0440  Main Channel
                 166.86         228.66         0.0440      Main Channel
                 168.93         229.03    0.0440 /0.1000  Main Channel
                 184.89         232.46         0.1000
                 190.40         232.85         0.1000
                 196.98         234.94         0.1000
                 215.36         235.65         0.1000
                 232.15         237.32         0.1000
                 254.34         236.11         0.1000
                 290.72         237.19         0.1000
                 335.58         237.37         0.1000
                 355.30         236.87         0.1000
                 416.53         238.54         0.1000
                 454.71         237.66         0.1000
                 532.81         237.74         0.1000
                 585.25         238.79         0.1000
                 633.15         238.27         0.1000
                 651.47         238.62         0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.18   228.84    .883E+02        0.1         0.42      13.12
       0.70   229.36    .119E+04        3.7         1.03       5.33
       1.23   229.89    .342E+04       13.1         1.26       4.34
       1.75   230.41    .677E+04       29.3         1.43       3.85
       2.27   230.93    .112E+05       53.3         1.56       3.51
       2.80   231.46    .168E+05       86.4         1.69       3.25
       3.32   231.98    .236E+05      129.4         1.81       3.04
       3.85   232.51    .314E+05      182.7         1.92       2.87
       4.37   233.03    .408E+05      246.6         1.99       2.76
       4.89   233.55    .514E+05      329.5         2.11       2.60
       5.42   234.08    .630E+05      426.4         2.23       2.46
       5.94   234.60    .756E+05      537.9         2.34       2.34
       6.46   235.12    .893E+05      650.4         2.40       2.29
       6.99   235.65    .106E+06      732.6         2.28       2.41
       7.51   236.17    .128E+06      845.2         2.17       2.53
       8.04   236.70    .158E+06      973.3         2.02       2.71
       8.56   237.22    .200E+06     1148.0         1.89       2.90
       9.08   237.74    .263E+06     1390.2         1.74       3.15
       9.61   238.27    .349E+06     1932.2         1.82       3.01

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1074)  527.59     9.38    5.25  22.45      1.02      1.16
     OUTFLOW: ID= 1 (5074)  527.59     9.16    5.50  22.45      1.01      1.15


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--------------------
| CALIB              |
| STANDHYD  (0074) |   Area    (ha)=  22.67
```



```
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  40.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        11.34         11.34
     Dep. Storage     (mm)=         1.00          4.00
     Average Slope     (%)=         1.00          3.50
     Length            (m)=       388.76         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        25.02         22.62
               over (min)          15.00         30.00
     Storage Coeff.  (min)=         7.20 (ii)    41.40 (ii)
     Unit Hyd. Tpeak (min)=        15.00         45.00
     Unit Hyd. peak  (cms)=         0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.63          0.45          1.032 (iii)
     TIME TO PEAK    (hrs)=         5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=        53.38         31.52          40.26
     TOTAL RAINFALL   (mm)=        54.38         54.38          54.38
     RUNOFF COEFFICIENT   =         0.98          0.58           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2074) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0074):    22.67    1.032     5.25    40.26
        + ID2= 2 (5074):   527.59    9.157     5.50    22.45
          ================================================
          ID = 3 (2074):   550.26    9.842     5.50    23.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1073) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2065):   781.42   11.969     6.25    24.40
        + ID2= 2 (2074):   550.26    9.842     5.50    23.18
          ================================================
          ID = 3 (1073):  1331.68   20.789     6.00    23.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0073) |   Area    (ha)=  52.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  44.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        27.29         25.20
```



```
     Dep. Storage     (mm)=         1.00          4.00
     Average Slope     (%)=         1.00          3.50
     Length            (m)=       591.55         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        25.02         20.50
               over (min)          15.00         30.00
     Storage Coeff.  (min)=         9.00 (ii)    53.40 (ii)
     Unit Hyd. Tpeak (min)=        15.00         60.00
     Unit Hyd. peak  (cms)=         0.09          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=         1.60          0.77          2.174 (iii)
     TIME TO PEAK    (hrs)=         5.25          5.75           5.25
     RUNOFF VOLUME    (mm)=        53.38         29.05          39.75
     TOTAL RAINFALL   (mm)=        54.38         54.38          54.38
     RUNOFF COEFFICIENT   =         0.98          0.53           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2073) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0073):    52.49    2.174     5.25    39.75
        + ID2= 2 (1073):  1331.68   20.789     6.00    23.90
          ================================================
          ID = 3 (2073):  1384.17   22.017     6.00    24.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9013) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):1384.17     22.02      6.00   24.50
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):1384.17     22.02      6.00   24.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6013) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.8550     10.8920
                          0.0000     0.0000   |   4.2540     12.9360
                          0.0400     0.8560   |   4.6190     15.0330
                          0.1500     1.7950   |   4.9570     17.1840
                          0.5660     2.8160   |   5.2730     19.3870
```



```
                          0.7780     3.9200   |   5.6900     20.1320
                          0.9440     5.1060   |   9.2940     23.1620
                          1.1480     6.9760   |  13.1840     25.4880
                          1.3740     7.6130   |  17.8240     27.8720
                          3.1710     8.9050   |   0.0000      0.0000
                          3.5640     9.5610   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9013)   1384.170     22.017     6.00      24.50
     OUTFLOW: ID= 1 (6013)   1384.170      6.896     9.00      24.49

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.32
               TIME SHIFT OF PEAK FLOW         (min)=180.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 21.1588

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4013) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9013 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6013):  1384.17   6.896     9.00    24.49
        + ID2= 2 (9013):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4013):  1384.17   6.896     9.00    24.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5081) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5081.0) ------>
                Distance      Elevation       Manning
                   0.00         225.82         0.1000
                   5.97         224.62         0.1000
                  29.57         222.64         0.1000
                  40.42         222.57         0.1000
                  76.56         222.70         0.1000
                  80.13         222.70         0.1000
                  86.10         222.50         0.1000
                  92.53         222.61         0.1000
                  98.56         222.41         0.1000
                  98.87         222.40         0.1000
                 105.10         222.00    0.1000 /0.0440  Main Channel
                 110.31         221.50         0.0440      Main Channel
                 112.61         221.67         0.0440      Main Channel
                 114.64         221.50         0.0440      Main Channel
                 114.83         221.49         0.0440      Main Channel
                 116.29         222.00    0.0440 /0.1000  Main Channel
                 119.94         222.25         0.1000
                 167.66         226.18         0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.17   221.66    .987E+03        0.2         0.35      87.86
       0.34   221.83    .345E+04        1.2         0.65      47.66
```

0.51	222.00	.662E+04	3.1	0.86	35.87
0.75	222.24	.132E+05	8.0	1.12	27.52
0.99	222.48	.229E+05	15.2	1.23	25.11
1.23	222.72	.475E+05	25.7	1.00	30.83
1.46	222.95	.917E+05	46.2	0.94	33.04
1.70	223.19	.138E+06	74.5	1.00	30.96
1.94	223.43	.188E+06	109.8	1.08	28.50
2.18	223.67	.240E+06	151.7	1.17	26.33
2.42	223.91	.294E+06	200.1	1.26	24.49
2.66	224.15	.351E+06	254.8	1.35	22.95
2.90	224.39	.410E+06	316.0	1.43	21.64
3.14	224.63	.472E+06	383.6	1.51	20.52
3.37	224.86	.537E+06	460.0	1.59	19.44
3.61	225.10	.603E+06	542.8	1.67	18.50
3.85	225.34	.670E+06	632.0	1.75	17.68
4.09	225.58	.740E+06	727.6	1.82	16.95
4.33	225.82	.811E+06	829.6	1.90	16.30

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (4013)	1384.17	6.90	9.00	24.49	0.70	1.05
OUTFLOW: ID= 1 (5081)	1384.17	6.81	9.50	24.49	0.69	1.05

CALIB			
STANDHYD (0081)	Area	(ha)= 131.60	
ID= 1 DT=15.0 min	Total Imp(%)=	44.00	Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.90	73.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	936.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.16
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	69.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	3.28	2.06	4.491 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	53.38	30.79	38.92
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.57	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2081)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0081):	131.60	4.491	5.25	38.92
+ ID2= 2 (5081):	1384.17	6.814	9.50	24.49
ID = 3 (2081):	1515.77	7.518	9.25	25.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5446)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5446.0) ------>

Distance	Elevation	Manning	
0.00	217.81	0.1000	
11.08	216.00	0.1000	
36.54	215.00	0.1000	
55.05	214.88	0.1000	
57.65	214.50	0.1000	
65.88	212.00	0.1000 /0.0440	Main Channel
65.89	212.00	0.0440	Main Channel
68.31	211.78	0.0440	Main Channel
71.62	211.62	0.0440	Main Channel
74.08	211.60	0.0440	Main Channel
82.25	211.66	0.0440	Main Channel
86.11	212.00	0.0440	Main Channel
86.23	212.02	0.0440 /0.1000	Main Channel
94.33	213.50	0.1000	
134.71	215.48	0.1000	
170.10	216.00	0.1000	
190.26	216.67	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	211.80	.388E+04	1.2	0.50	56.18
0.40	212.00	.994E+04	4.7	0.79	35.45
0.67	212.27	.199E+05	14.2	1.20	23.33
0.95	212.55	.309E+05	27.8	1.52	18.54
1.22	212.82	.431E+05	45.1	1.77	15.91
1.50	213.10	.564E+05	66.1	1.98	14.22
1.77	213.37	.708E+05	90.5	2.16	13.03
2.05	213.65	.865E+05	118.0	2.30	12.23
2.32	213.92	.105E+06	149.2	2.39	11.75
2.60	214.20	.127E+06	184.8	2.46	11.43
2.87	214.47	.151E+06	224.9	2.51	11.22
3.15	214.75	.179E+06	269.4	2.53	11.09
3.42	215.02	.213E+06	313.7	2.48	11.31
3.70	215.30	.257E+06	372.2	2.44	11.52
3.97	215.57	.308E+06	435.1	2.38	11.79
4.25	215.85	.369E+06	503.4	2.30	12.21
4.52	216.12	.441E+06	588.7	2.25	12.48
4.80	216.40	.519E+06	690.4	2.24	12.53
5.07	216.67	.602E+06	802.7	2.25	12.49

	<---- hydrograph ---->				<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2081)	1515.77	7.52	9.25	25.75	0.48	0.88
OUTFLOW: ID= 1 (5446)	1515.77	7.40	9.50	25.75	0.48	0.88

CALIB			
STANDHYD (0446)	Area	(ha)= 124.88	
ID= 1 DT=15.0 min	Total Imp(%)=	35.00	Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.71	81.17
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	912.43	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.44
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	2.42	2.01	3.830 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	53.38	27.29	34.60
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.50	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2446)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0446):	124.88	3.830	5.25	34.60
+ ID2= 2 (5446):	1515.77	7.398	9.50	25.75
ID = 3 (2446):	1640.65	8.034	7.25	26.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5110)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5110.0) ------>

Distance	Elevation	Manning	
0.00	210.19	0.1000	
21.36	209.50	0.1000	
46.49	206.88	0.1000	
52.44	205.50	0.1000 /0.0440	Main Channel
56.57	203.68	0.0440	Main Channel
58.67	203.50	0.0440	Main Channel
62.44	203.66	0.0440	Main Channel
67.42	205.50	0.0440 /0.1000	Main Channel
71.31	206.50	0.1000	
89.08	207.50	0.1000	

149.36	207.99	0.1000
149.52	208.00	0.1000
155.13	208.50	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.75	.141E+04	0.6	0.64	36.91
0.50	204.00	.384E+04	3.0	1.10	21.46
0.75	204.25	.672E+04	6.8	1.43	16.47
1.00	204.50	.100E+05	12.1	1.71	13.82
1.25	204.75	.138E+05	19.0	1.94	12.13
1.50	205.00	.180E+05	27.5	2.16	10.93
1.75	205.25	.226E+05	37.7	2.36	10.01
2.00	205.50	.277E+05	49.8	2.54	9.28
2.27	205.77	.339E+05	68.3	2.85	8.28
2.55	206.05	.410E+05	89.4	3.09	7.64
2.82	206.32	.489E+05	113.3	3.27	7.20
3.09	206.59	.578E+05	139.7	3.42	6.90
3.36	206.86	.687E+05	169.1	3.48	6.77
3.64	207.14	.822E+05	201.9	3.48	6.78
3.91	207.41	.985E+05	239.1	3.44	6.86
4.18	207.68	.120E+06	277.9	3.27	7.20
4.45	207.95	.155E+06	326.8	2.98	7.91
4.73	208.23	.200E+06	392.5	2.78	8.48
5.00	208.50	.247E+06	469.4	2.69	8.75

	<---- hydrograph ---->				<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2446)	1640.65	8.03	7.25	26.42	0.81	1.49
OUTFLOW: ID= 1 (5110)	1640.65	8.00	7.25	26.42	0.80	1.48

CALIB			
STANDHYD (0110)	Area	(ha)= 86.93	
ID= 1 DT=15.0 min	Total Imp(%)=	36.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.29	55.64
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	761.27	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	19.90
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.81	1.53	2.903 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	53.38	30.12	37.10
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.55	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2110)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0110):		86.93	2.903	5.25	37.10
+ ID2= 2 (5110):		1640.65	8.005	7.25	26.42
ID = 3 (2110):		1727.58	9.378	6.50	26.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5721)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5721.0) ------>

Distance	Elevation	Manning	
0.00	199.53	0.1000	
12.53	199.00	0.1000	
12.61	199.00	0.1000	
22.51	197.82	0.1000 /0.0440	Main Channel
24.05	197.50	0.0440	Main Channel
30.35	196.57	0.0440	Main Channel
32.97	196.00	0.0440	Main Channel
34.58	195.50	0.0440	Main Channel
38.37	195.83	0.0440	Main Channel
39.72	196.22	0.0440	Main Channel
45.13	197.31	0.0440	Main Channel
49.32	197.68	0.0440 /0.1000	Main Channel
62.29	198.50	0.1000	
76.95	199.00	0.1000	
82.76	199.28	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	195.70	.369E+03	0.1	0.46	46.56
0.40	195.90	.145E+04	0.9	0.77	27.85
0.59	196.09	.297E+04	2.4	1.05	20.39
0.79	196.29	.489E+04	4.8	1.25	17.02
0.99	196.49	.727E+04	8.1	1.43	14.94
1.19	196.69	.102E+05	12.5	1.57	13.56
1.39	196.89	.136E+05	18.2	1.71	12.49
1.59	197.09	.177E+05	25.5	1.84	11.56
1.78	197.28	.223E+05	34.5	1.98	10.77
1.98	197.48	.277E+05	44.4	2.05	10.38
2.18	197.68	.339E+05	57.1	2.15	9.90
2.38	197.88	.411E+05	76.1	2.37	9.00
2.58	198.08	.495E+05	99.1	2.56	8.33
2.78	198.28	.592E+05	125.0	2.70	7.89
2.98	198.48	.701E+05	153.9	2.81	7.59
3.18	198.68	.825E+05	185.7	2.88	7.40
3.38	198.88	.968E+05	221.1	2.92	7.30
3.58	199.08	.113E+06	260.2	2.94	7.24
3.78	199.28	.132E+06	303.3	2.95	7.23

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2110)	1727.58	9.38	6.50	26.96	1.05	1.47
OUTFLOW: ID= 1 (5721)	1727.58	9.36	6.75	26.96	1.05	1.46

CALIB		
STANDHYD (0721)	Area (ha)=	44.92
ID= 1 DT=15.0 min	Total Imp(%)=	38.00 Dir. Conn.(%)= 31.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.07	27.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	547.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.04
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.97 0.90 1.639 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	53.38 31.49 38.27
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.58 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2721)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0721):		44.92	1.639	5.25	38.27
+ ID2= 2 (5721):		1727.58	9.358	6.75	26.96
ID = 3 (2721):		1772.50	10.304	5.75	27.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
NASHYD (0699)	Area (ha)=	49.10 Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)=	7.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.37

Unit Hyd Qpeak (cms)= 5.138

PEAK FLOW (cms)= 1.229 (i)

TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 17.616
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.324

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (0540)	Area (ha)=	11.06
ID= 1 DT=15.0 min	Total Imp(%)=	55.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	4.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	271.54	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	25.23
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.35 0.23 0.558 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	53.38 35.20 43.38
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.65 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9214)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=0.031					
#of Inlets= 1					
Total(cms)= 0.0		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		11.06	0.56	5.25	43.38
MAJOR SYS.(ID= 2):		8.71	0.53	5.25	43.38
MINOR SYS.(ID= 3):		2.35	0.03	2.50	43.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6214)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0280	0.3760
	0.0230	0.2300	0.0290	0.4150
	0.0240	0.2640	0.0300	0.4560

0.0260	0.3000	0.0310	0.4990	
0.0270	0.3370	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9214)	2.355	0.031	2.50	43.38
OUTFLOW: ID= 1 (6214)	2.355	0.008	12.50	42.30

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.50
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.0822

ADD HYD (4214)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6214):		2.35	0.008	12.50	42.30
+ ID2= 2 (9214):		8.71	0.527	5.25	43.38
ID = 3 (4214):		11.06	0.530	5.25	43.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0539)	Area (ha)=	12.31
ID= 1 DT=15.0 min	Total Imp(%)=	53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.52	5.79
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.20
Length	(m)=	286.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.14
over (min)		15.00	15.00
Storage Coeff. (min)=		4.80 (ii)	27.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.45 0.22 0.671 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	53.38 29.85 42.32
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.55 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9381)	
Inlet Cap.=1.587	
#of Inlets= 1	

Total(cms)= 1.6	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	12.31	0.67	5.25	42.32
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	12.31	0.67	5.25	42.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6381)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	0.0140	0.4484
DT= 15.0 min	0.0100	0.1881	0.1560	0.5370
	0.0110	0.2208	0.7460	0.6320
	0.0120	0.2905	1.5870	0.7334
	0.0130	0.3662	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9381)	12.310	0.671	5.25	42.32
OUTFLOW: ID= 1 (6381)	12.310	0.039	9.00	41.93

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.74
TIME SHIFT OF PEAK FLOW (min)=225.00
MAXIMUM STORAGE USED (ha.m.)= 0.4637

ADD HYD (4381)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				

*** W A R N I N G : HYDROGRAPH 9381 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6381):	12.31	0.039	9.00	41.93
+ ID2= 2 (9381):	0.00	0.000	0.00	0.00
ID = 3 (4381):	12.31	0.039	9.00	41.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1699)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (4214):	11.06	0.530	5.25	43.15
+ ID2= 2 (4381):	12.31	0.039	9.00	41.93
ID = 3 (1699):	23.37	0.542	5.25	42.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2699)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0699):	49.10	1.229	5.25	17.62
+ ID2= 2 (1699):	23.37	0.542	5.25	42.51
ID = 3 (2699):	72.47	1.770	5.25	25.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)= 43.13
STANDHYD (0535)	Total Imp(%)= 58.00 Dir. Conn.(%)= 49.00
ID= 1 DT=15.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	25.02	18.11
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.60
Length	(m)=	536.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=	over (min)	25.02	22.33
	over (min)	15.00	30.00
Storage Coeff.	(min)=	7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.47	0.71	2.097 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	30.65	41.79
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.56	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9282)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=5.313				
#of Inlets= 1				
Total(cms)= 5.3				
TOTAL HYD.(ID= 1):	43.13	2.10	5.25	41.79
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	43.13	2.10	5.25	41.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6282)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	0.0900	0.5455
DT= 15.0 min				

0.0350	0.1299	0.6640	0.6004
0.0540	0.2338	1.8780	0.6553
0.0680	0.3377	3.4510	0.7101
0.0800	0.4416	5.3130	0.7650

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9282)	43.130	2.097	5.25	41.79
OUTFLOW: ID= 1 (6282)	43.130	1.991	5.25	41.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 94.99
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.6640

ADD HYD (4282)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				

*** W A R N I N G : HYDROGRAPH 9282 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6282):	43.13	1.991	5.25	41.77
+ ID2= 2 (9282):	0.00	0.000	0.00	0.00
ID = 3 (4282):	43.13	1.991	5.25	41.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)= 35.37
STANDHYD (0541)	Total Imp(%)= 52.00 Dir. Conn.(%)= 41.00
ID= 1 DT=15.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.39	16.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	11.30
Length	(m)=	485.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=	over (min)	25.02	24.72
	over (min)	15.00	15.00
Storage Coeff.	(min)=	5.40 (ii)	33.00 (ii)
Unit Hyd. Tpeak	(min)=	15.00	30.00
Unit Hyd. peak	(cms)=	0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	1.01	0.85	1.857 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	34.09	42.00
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.63	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9281)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=7.470				
#of Inlets= 1				
Total(cms)= 7.5				
TOTAL HYD.(ID= 1):	35.37	1.86	5.25	42.00
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	35.37	1.86	5.25	42.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6281)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	0.2800	0.5448
DT= 15.0 min	0.0200	0.8450	0.7000	0.6092
	0.0300	0.2238	2.1800	0.6713
	0.0400	0.3704	4.5300	0.7352
	0.0500	0.4902	7.4700	0.8009

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9281)	35.370	1.857	5.25	42.00
OUTFLOW: ID= 1 (6281)	35.370	4.196	5.75	41.67

PEAK FLOW REDUCTION [Qout/Qin](%)=225.88
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.9093

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.
**** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.

ADD HYD (4281)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				

*** W A R N I N G : HYDROGRAPH 9281 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6281):	35.37	4.196	5.75	41.67
+ ID2= 2 (9281):	0.00	0.000	0.00	0.00
ID = 3 (4281):	35.37	4.196	5.75	41.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2535)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (4281):	35.37	4.196	5.75	41.67
+ ID2= 2 (4282):	43.13	1.991	5.25	41.77

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          ID = 3 (2535):    78.50   5.384     5.75    41.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2541) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2535):    78.50   5.384     5.75    41.72
        + ID2= 2 (2699):    72.47   1.770     5.25    25.64
          ================================================
          ID = 3 (2541):   150.97   6.480     5.75    34.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1130) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2541):   150.97   6.480     5.75    34.00
        + ID2= 2 (9001):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (1130):   150.97   6.480     5.75    34.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0532) |   Area    (ha)=   8.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      2.35         6.34
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.30
     Length            (m)=    240.69        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        16.18
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      5.40 (ii)   31.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.13         0.20       0.321 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50       5.25
     RUNOFF VOLUME    (mm)=     53.38        24.29      30.40
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.45       0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (2532) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0532):     8.69   0.321     5.25    30.40
        + ID2= 2 (1130):   150.97   6.480     5.75    34.00
          ================================================
          ID = 3 (2532):   159.66   6.672     5.75    33.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| DUHYD     (9000) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 159.66      6.67      5.75   33.81
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 159.66      6.67      5.75   33.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6000) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.5300     11.9290
                          0.6800     2.1800   |   1.8100     17.4390
                          1.1800     6.8490   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9000)    159.660      6.672      5.75      33.81
     OUTFLOW: ID= 1 (6000)    159.660      0.714      8.00      33.80

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.71
               TIME SHIFT OF PEAK FLOW       (min)=135.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.5024

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4000) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9000 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6000):   159.66   0.714     8.00    33.80
        + ID2= 2 (9000):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4000):   159.66   0.714     8.00    33.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0542) |   Area    (ha)=   5.19   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

     Unit Hyd Qpeak  (cms)=   1.153

     PEAK FLOW       (cms)=   0.141 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  15.641
     TOTAL RAINFALL   (mm)=  54.380
     RUNOFF COEFFICIENT   =   0.288

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2542) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0542):     5.19   0.141     5.25    15.64
        + ID2= 2 (4000):   159.66   0.714     8.00    33.80
          ================================================
          ID = 3 (2542):   164.85   0.731     7.50    33.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0130) |   Area    (ha)=  99.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     46.97        52.97
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.50
     Length            (m)=    816.25        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        21.85
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.20 (ii)   59.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.63         1.68       3.872 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75       5.25
     RUNOFF VOLUME    (mm)=     53.38        31.14      39.59
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.57       0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2130) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0130):    99.94   3.872     5.25    39.59
        + ID2= 2 (2542):   164.85   0.731     7.50    33.23
          ================================================
          ID = 3 (2130):   264.79   4.220     5.25    35.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5550) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5550.0) ------>
             Distance      Elevation       Manning
                0.00         209.58        0.1000
                3.56         209.62        0.1000
               42.74         208.52        0.1000
               77.30         208.87        0.1000
              107.41         207.79        0.1000
              124.03         207.40    0.1000 /0.0440  Main Channel
              150.79         206.87        0.0440      Main Channel
              152.45         206.85        0.0440      Main Channel
              162.04         206.90        0.0440      Main Channel
              164.71         206.92        0.0440      Main Channel
              184.43         207.42        0.0440      Main Channel
              186.09         207.46    0.0440 /0.1000  Main Channel
              213.15         208.26        0.1000
              241.57         209.72        0.1000
              256.40         208.62        0.1000
              290.72         210.48        0.1000
              292.65         210.48        0.1000
              306.25         210.74        0.1000
              413.63         210.84        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.14    206.99    .251E+04        0.8          0.39       55.21
       0.28    207.13    .762E+04        3.6          0.61       35.24
       0.41    207.26    .149E+05        9.0          0.78       27.54
       0.55    207.40    .244E+05       17.6          0.93       23.15
       0.70    207.55    .368E+05       32.8          1.15       18.69
       0.84    207.69    .512E+05       52.9          1.34       16.15
       0.99    207.84    .677E+05       77.2          1.48       14.61
       1.13    207.98    .860E+05      106.0          1.60       13.53
       1.28    208.13    .106E+06      139.0          1.70       12.71
       1.42    208.27    .128E+06      176.2          1.79       12.07
       1.57    208.42    .151E+06      218.0          1.87       11.52
       1.71    208.56    .175E+06      262.8          1.94       11.12
       1.86    208.71    .204E+06      310.0          1.97       10.97
       2.00    208.85    .239E+06      363.7          1.97       10.94
       2.15    209.00    .278E+06      426.8          1.99       10.85
       2.29    209.14    .319E+06      496.3          2.01       10.72
       2.44    209.29    .363E+06      571.9          2.04       10.58
       2.58    209.43    .409E+06      653.6          2.07       10.44
       2.73    209.58    .458E+06      741.6          2.10       10.29

                                     <---- hydrograph ---->   <-pipe / channel->
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2130)	264.79	4.22	5.25	35.63	0.29	0.63
OUTFLOW: ID= 1 (5550)	264.79	3.30	5.50	35.63	0.26	0.58

CALIB			
STANDHYD (0550)	Area (ha)= 48.26		
ID= 1 DT=15.0 min	Total Imp(%)= 34.00	Dir. Conn.(%)= 30.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.41	31.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	567.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.29
over (min)	15.00	30.00
Storage Coeff. (min)=	7.80 (ii)	47.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.02
		TOTALS
PEAK FLOW (cms)=	1.01	0.88 1.762 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	53.38	26.62 34.65
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.49 0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2550)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0550):	48.26	1.762	5.25	34.65	
+ ID2= 2 (5550):	264.79	3.302	5.50	35.63	
ID = 3 (2550):	313.05	4.836	5.25	35.48	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5144)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5144.0) ------>

Distance	Elevation	Manning
0.00	208.27	0.1000
28.32	207.87	0.1000
28.56	207.85	0.1000
31.58	206.89	0.1000

40.26	204.20	0.1000 /0.0440 Main Channel
43.45	203.21	0.0440 Main Channel
48.11	205.04	0.0440 /0.1000 Main Channel
55.33	207.89	0.1000
67.35	208.20	0.1000
92.04	207.79	0.1000
193.51	208.52	0.1000
218.35	209.53	0.1000
291.67	210.56	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.46	.100E+03	0.0	0.24	39.00
0.50	203.71	.402E+03	0.3	0.39	24.57
0.74	203.95	.904E+03	0.8	0.51	18.75
0.99	204.20	.161E+04	1.7	0.61	15.48
1.26	204.47	.261E+04	3.5	0.75	12.60
1.53	204.74	.385E+04	5.8	0.85	11.12
1.80	205.01	.534E+04	8.7	0.93	10.18
2.08	205.29	.706E+04	12.9	1.04	9.13
2.35	205.56	.903E+04	17.9	1.12	8.43
2.62	205.83	.112E+05	23.6	1.19	7.94
2.89	206.10	.137E+05	30.2	1.25	7.56
3.16	206.37	.164E+05	37.5	1.30	7.27
3.43	206.64	.193E+05	45.8	1.35	7.03
3.70	206.91	.225E+05	54.8	1.39	6.83
3.97	207.18	.259E+05	64.8	1.42	6.66
4.25	207.46	.295E+05	75.7	1.46	6.51
4.52	207.73	.334E+05	87.5	1.49	6.37
4.79	208.00	.405E+05	93.1	1.31	7.25
5.06	208.27	.594E+05	108.4	1.04	9.14

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2550)	313.05	4.84	5.25	35.48	1.42	0.81
OUTFLOW: ID= 1 (5144)	313.05	4.64	5.50	35.48	1.40	0.80

CALIB			
STANDHYD (0144)	Area (ha)= 57.15		
ID= 1 DT=15.0 min	Total Imp(%)= 78.00	Dir. Conn.(%)= 77.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	44.58	12.57
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	617.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	22.64
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	58.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	3.05	0.44 3.388 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	53.38	37.12 49.64
TOTAL RAINFALL (mm)=	54.38	54.38 54.38

RUNOFF COEFFICIENT =	0.98	0.68	0.91	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2144)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0144):	57.15	3.388	5.25	49.64	
+ ID2= 2 (5144):	313.05	4.638	5.50	35.48	
ID = 3 (2144):	370.20	7.686	5.25	37.66	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0133)	Area (ha)= 124.55		
ID= 1 DT=15.0 min	Total Imp(%)= 52.00	Dir. Conn.(%)= 42.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	64.77	59.78
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	911.23	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	24.18
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	3.61	1.85 4.720 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	33.85 42.05
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.62 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0157)	Area (ha)= 123.16		
ID= 1 DT=15.0 min	Total Imp(%)= 55.00	Dir. Conn.(%)= 46.00	

	IMPERVIOUS	PERVIOUS (i)

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	67.74	55.42
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.90
Length (m)=	906.13	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	23.96
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	82.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	3.91	1.66 4.883 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	33.75 42.78
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.62 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2157)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0133):	124.55	4.720	5.25	42.05	
+ ID2= 2 (0157):	123.16	4.883	5.25	42.78	
ID = 3 (2157):	247.71	9.604	5.25	42.41	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0156)	Area (ha)= 110.69		
ID= 1 DT=15.0 min	Total Imp(%)= 64.00	Dir. Conn.(%)= 56.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	70.84	39.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.80
Length (m)=	859.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	25.92
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	4.27	1.33 5.082 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	36.45 45.93
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.67 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2156)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0156):	110.69	5.082	5.25	45.93
		+ ID2= 2 (2157):	247.71	9.604	5.25	42.41
		ID = 3 (2156):	358.40	14.686	5.25	43.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5166) | IN= 2---> OUT= 1 |

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5166.0) ------>

Distance	Elevation	Manning	
0.00	217.55	0.1000	
11.14	217.28	0.1000	
32.85	217.25	0.1000	
39.83	217.02	0.1000	
53.80	215.11	0.1000	
167.72	214.15	0.1000	
197.58	214.84	0.1000	
250.68	213.38	0.1000 /0.0440	Main Channel
255.86	213.24	0.0440	Main Channel
258.84	213.31	0.0440	Main Channel
259.52	213.31	0.0440	Main Channel
265.88	213.29	0.0440	Main Channel
268.98	213.36	0.0440 /0.1000	Main Channel
364.18	213.80	0.1000	
385.22	213.65	0.1000	
407.72	214.38	0.1000	
418.33	214.17	0.1000	
471.33	215.45	0.1000	
543.86	215.79	0.1000	
581.28	217.51	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	213.36	.284E+03	0.2	0.18	24.77
0.34	213.58	.297E+04	3.3	0.30	15.16
0.56	213.80	.944E+04	11.3	0.33	13.96
0.78	214.02	.190E+05	28.3	0.40	11.22
0.99	214.23	.297E+05	51.0	0.47	9.71
1.21	214.45	.438E+05	81.1	0.50	9.01
1.43	214.67	.613E+05	123.3	0.55	8.28
1.65	214.89	.818E+05	176.9	0.59	7.71
1.87	215.11	.105E+06	243.4	0.63	7.17
2.09	215.33	.129E+06	325.5	0.69	6.61

2.30	215.54	.154E+06	409.3	0.72	6.28
2.52	215.76	.182E+06	496.1	0.74	6.11
2.74	215.98	.211E+06	620.0	0.80	5.68
2.96	216.20	.241E+06	759.1	0.86	5.30
3.18	216.42	.272E+06	910.1	0.91	4.97
3.40	216.64	.302E+06	1072.7	0.97	4.70
3.61	216.85	.333E+06	1246.5	1.02	4.46
3.83	217.07	.365E+06	1429.4	1.07	4.25
4.05	217.29	.397E+06	1584.2	1.09	4.18

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2156)	358.40	14.69	5.25	43.50	0.60	0.34
OUTFLOW: ID= 1 (5166)	358.40	13.62	5.25	43.50	0.59	0.33

CALIB	STANDHYD (0166) | ID= 1 DT=15.0 min	Area (ha)= 11.81	Total Imp(%)= 83.00	Dir. Conn.(%)= 83.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.80	2.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	280.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.43
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.68	0.08	0.756 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	36.52	50.51
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.67	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2166)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0166):	11.81	0.756	5.25	50.51
		+ ID2= 2 (5166):	358.40	13.615	5.25	43.50
		ID = 3 (2166):	370.21	14.371	5.25	43.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5160) | IN= 2---> OUT= 1 |

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5160.0) ------>

Distance	Elevation	Manning	
0.00	220.97	0.1000	
17.68	215.64	0.1000	
29.90	215.85	0.1000	
34.23	215.87	0.1000	
296.26	212.66	0.1000	
299.34	211.63	0.1000 /0.0440	Main Channel
304.29	210.00	0.0440	Main Channel
306.02	209.43	0.0440	Main Channel
310.37	211.42	0.0440 /0.1000	Main Channel
313.87	213.06	0.1000	
653.61	215.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	209.71	.349E+02	0.1	0.37	7.47
0.57	210.00	.139E+03	0.5	0.59	4.70
0.85	210.28	.314E+03	1.5	0.77	3.59
1.14	210.57	.558E+03	3.1	0.93	2.96
1.42	210.85	.872E+03	5.7	1.08	2.55
1.71	211.14	.126E+04	9.3	1.22	2.26
1.99	211.42	.171E+04	14.0	1.35	2.04
2.30	211.73	.229E+04	21.6	1.56	1.77
2.62	212.05	.295E+04	31.5	1.76	1.56
2.93	212.36	.370E+04	43.1	1.92	1.43
3.24	212.67	.453E+04	56.3	2.05	1.34
3.56	212.99	.614E+04	71.7	1.93	1.43
3.87	213.30	.985E+04	92.0	1.54	1.79
4.18	213.61	.174E+05	125.0	1.19	2.32
4.50	213.93	.289E+05	175.6	1.00	2.75
4.81	214.24	.443E+05	248.2	0.93	2.98
5.12	214.55	.637E+05	346.9	0.90	3.06
5.44	214.87	.870E+05	475.7	0.90	3.05
5.75	215.18	.114E+06	638.0	0.92	2.98

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2166)	370.21	14.37	5.25	43.72	2.01	1.36
OUTFLOW: ID= 1 (5160)	370.21	14.20	5.25	43.72	2.00	1.36

CALIB	STANDHYD (0160) | ID= 1 DT=15.0 min	Area (ha)= 41.13	Total Imp(%)= 62.00	Dir. Conn.(%)= 62.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	25.50	15.63
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.70
Length	(m)=	523.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	19.41

over (min)	15.00	30.00	
Storage Coeff. (min)=	7.20 (ii)	42.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	

		TOTALS
PEAK FLOW	(cms)=	1.77	0.53	2.242 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	32.29	45.37
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.59	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2160)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0160):	41.13	2.242	5.25	45.37
		+ ID2= 2 (5160):	370.21	14.204	5.25	43.72
		ID = 3 (2160):	411.34	16.445	5.25	43.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5164) | IN= 2---> OUT= 1 |

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5164.0) ------>

Distance	Elevation	Manning	
0.00	212.78	0.1000	
18.70	212.77	0.1000	
200.84	210.24	0.1000	
234.88	210.16	0.1000	
258.11	210.46	0.1000	
258.43	210.47	0.1000	
263.50	208.74	0.1000 /0.0440	Main Channel
269.32	206.81	0.0440	Main Channel
277.54	208.63	0.0440 /0.1000	Main Channel
291.76	210.46	0.1000	
323.24	210.56	0.1000	
387.30	209.40	0.1000	
387.95	209.38	0.1000	
408.71	210.26	0.1000	
538.36	212.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	207.07	.240E+03	0.1	0.34	45.94
0.52	207.33	.959E+03	0.6	0.54	28.94
0.78	207.59	.216E+04	1.6	0.71	22.08
1.04	207.85	.384E+04	3.5	0.86	18.23
1.30	208.11	.600E+04	6.4	1.00	15.71

1.56	208.37	.863E+04	10.3	1.13	13.91
1.82	208.63	.118E+05	15.6	1.25	12.55
2.12	208.93	.160E+05	24.8	1.46	10.76
2.41	209.22	.212E+05	36.3	1.62	9.71
2.71	209.52	.278E+05	49.7	1.68	9.33
3.00	209.81	.409E+05	66.9	1.54	10.19
3.30	210.11	.613E+05	89.7	1.38	11.40
3.60	210.41	.993E+05	119.8	1.14	13.82
3.89	210.70	.165E+06	166.6	0.95	16.52
4.19	211.00	.246E+06	238.9	0.91	17.18
4.48	211.29	.339E+06	330.8	0.92	17.08
4.78	211.59	.443E+06	443.5	0.94	16.66
5.07	211.88	.559E+06	578.0	0.97	16.12
5.37	212.18	.686E+06	735.6	1.01	15.55

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2160)	411.34	16.45	5.25	43.89	1.85	1.27
OUTFLOW: ID= 1 (5164)	411.34	15.37	5.50	43.89	1.81	1.24

CALIB			
STANDHYD (0164)	Area (ha)= 45.17		
ID= 1 DT=15.0 min	Total Imp(%)= 69.00	Dir. Conn.(%)= 69.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	31.17	14.00	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	4.20	
Length (m)=	548.76	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	25.02	20.75	
over (min)	15.00	30.00	
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	2.17	0.49	2.603 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	53.38	35.02	47.69
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.64	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2164)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0164):	45.17	2.603	5.25	47.69
+ ID2= 2 (5164):	411.34	15.374	5.50	43.89

243.51	206.03	0.0440	Main Channel
248.17	207.75	0.0440 /0.1000	Main Channel
253.75	209.16	0.1000	
368.44	208.65	0.1000	
396.47	209.34	0.1000	
401.21	210.91	0.1000	
408.62	210.88	0.1000	
414.76	209.90	0.1000	
416.35	209.56	0.1000	
419.98	210.43	0.1000	
428.66	212.47	0.1000	
428.84	212.42	0.1000	
434.05	211.02	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	206.27	.421E+02	0.1	0.36	12.23
0.47	206.50	.169E+03	0.4	0.57	7.71
0.71	206.74	.379E+03	1.1	0.75	5.88
0.95	206.98	.674E+03	2.3	0.91	4.85
1.19	207.22	.105E+04	4.2	1.06	4.18
1.42	207.45	.152E+04	6.8	1.19	3.71
1.66	207.69	.309E+04	11.0	0.94	4.70
1.94	207.97	.738E+04	21.4	0.77	5.74
2.21	208.24	.141E+05	39.7	0.74	5.94
2.49	208.52	.228E+05	66.4	0.77	5.72
2.77	208.80	.341E+05	102.4	0.80	5.55
3.05	209.08	.521E+05	154.2	0.79	5.63
3.32	209.35	.762E+05	230.1	0.80	5.52
3.60	209.63	.103E+06	330.8	0.85	5.17
3.88	209.91	.131E+06	461.9	0.94	4.72
4.16	210.19	.159E+06	620.4	1.03	4.28
4.43	210.46	.188E+06	798.9	1.12	3.93
4.71	210.74	.218E+06	996.5	1.21	3.64
4.99	211.02	.248E+06	1205.6	1.29	3.42

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1159)	488.26	19.69	5.25	44.35	1.89	0.80
OUTFLOW: ID= 1 (5159)	488.26	18.55	5.25	44.35	1.86	0.81

CALIB			
STANDHYD (0159)	Area (ha)= 10.94		
ID= 1 DT=15.0 min	Total Imp(%)= 77.00	Dir. Conn.(%)= 77.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	8.42	2.52	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.10	
Length (m)=	270.06	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	25.02	22.12	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.00 (ii)	34.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS

ID = 3 (2164):	456.51	17.945	5.25	44.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0154)	Area (ha)= 31.75		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	19.37	12.38	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	4.90	
Length (m)=	460.07	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	25.02	20.08	
over (min)	15.00	30.00	
Storage Coeff. (min)=	7.20 (ii)	41.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	1.35	0.44	1.743 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	53.38	33.62	45.67
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.62	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1159)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	31.75	1.743	5.25	45.67
+ ID2= 2 (2164):	456.51	17.945	5.25	44.26
ID = 3 (1159):	488.26	19.688	5.25	44.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5159)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5159.0) ------>

Distance	Elevation	Manning	
0.00	214.26	0.1000	
15.15	209.75	0.1000	
214.62	207.44	0.1000	
237.60	208.06	0.1000	
238.63	207.69	0.1000 /0.0440	Main Channel

PEAK FLOW	(cms)=	0.59	0.11		0.700 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25		5.25
RUNOFF VOLUME	(mm)=	53.38	38.11		49.87
TOTAL RAINFALL	(mm)=	54.38	54.38		54.38
RUNOFF COEFFICIENT	=	0.98	0.70		0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2159)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0159):	10.94	0.700	5.25	49.87
+ ID2= 2 (5159):	488.26	18.546	5.25	44.35
ID = 3 (2159):	499.20	19.246	5.25	44.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1151)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2144):	370.20	7.686	5.25	37.66
+ ID2= 2 (2159):	499.20	19.246	5.25	44.48
ID = 3 (1151):	869.40	26.933	5.25	41.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5151)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5151.0) ------>

Distance	Elevation	Manning	
0.00	212.00	0.1000	
50.00	204.31	0.1000	
134.63	203.45	0.1000	
205.73	202.20	0.1000	
253.61	202.65	0.1000	
253.97	202.65	0.1000	
254.84	202.67	0.1000	
258.44	201.10	0.1000 /0.0160	Main Channel
264.70	199.68	0.0160	Main Channel
267.15	200.66	0.0160 /0.1000	Main Channel
273.37	202.49	0.1000	
291.37	202.23	0.1000	
375.68	203.79	0.1000	
411.05	210.16	0.1000	
440.50	211.13	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	200.17	.139E+04	1.8	2.11	13.18
0.98	200.66	.554E+04	11.1	3.36	8.30
1.60	201.28	.149E+05	43.4	4.85	5.74
2.21	201.89	.283E+05	101.2	5.98	4.65
2.83	202.51	.660E+05	179.5	4.54	6.13
3.44	203.12	.221E+06	329.9	2.50	11.15
4.06	203.74	.451E+06	567.3	2.10	13.24
4.68	204.36	.760E+06	929.7	2.04	13.63
5.29	204.97	.110E+07	1451.7	2.20	12.66
5.91	205.59	.145E+07	2082.2	2.39	11.63
6.52	206.20	.181E+07	2813.7	2.60	10.73
7.14	206.82	.218E+07	3641.2	2.80	9.96
7.75	207.43	.255E+07	4561.1	2.99	9.32
8.37	208.05	.293E+07	5570.6	3.18	8.77
8.99	208.67	.332E+07	6667.7	3.36	8.29
9.60	209.28	.371E+07	7850.6	3.53	7.89
10.22	209.90	.412E+07	9118.1	3.70	7.53
10.83	210.51	.453E+07	10363.7	3.82	7.29
11.45	211.13	.497E+07	11638.8	3.91	7.11

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1151)	869.40	26.93	5.25	41.58	1.28	3.95
OUTFLOW: ID= 1 (5151)	869.40	26.34	5.50	41.58	1.27	3.93

CALIB	
STANDHYD (0151)	Area (ha)= 74.96
ID= 1 DT=15.0 min	Total Imp(%)= 72.00 Dir. Conn.(%)= 72.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	53.97	20.99
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	706.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.75
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.74 0.62 4.207 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	53.38 35.02 48.24
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.64 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2151)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0151):	74.96	4.207	5.25	48.24
	+ ID2= 2 (5151):	869.40	26.343	5.50	41.58
	ID = 3 (2151):	944.36	29.645	5.25	42.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0093)	Area (ha)= 175.48
ID= 1 DT=15.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	89.49	85.99
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	1081.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	22.86
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	5.09 2.50 6.556 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	53.38 32.41 41.22
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.60 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5549)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5549.0) ------>

Distance	Elevation	Manning	
0.00	227.98	0.1000	
41.86	226.96	0.1000	
67.38	227.16	0.1000	
115.79	225.66	0.1000	
158.71	225.52	0.1000	
214.74	223.93	0.1000	
246.25	223.89	0.1000	
247.96	223.81	0.1000	
263.08	220.73	0.1000 /0.0160	Main Channel
265.84	219.85	0.0160	Main Channel

269.95	220.94	0.0160 /0.1000	Main Channel	
278.51	223.27	0.1000		
327.48	223.31	0.1000		
332.73	223.20	0.1000		
383.18	224.76	0.1000		
395.33	224.82	0.1000		
445.70	224.10	0.1000		
465.54	224.23	0.1000		
609.26	227.27	0.1000		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	220.14	.215E+03	0.4	1.20	10.10
0.59	220.44	.862E+03	2.3	1.90	6.36
0.88	220.73	.194E+04	6.7	2.49	4.86
1.29	221.14	.426E+04	19.9	3.38	3.57
1.70	221.55	.763E+04	40.6	3.86	3.13
2.11	221.96	.120E+05	67.6	4.07	2.97
2.51	222.36	.175E+05	100.9	4.18	2.89
2.92	222.77	.240E+05	140.3	4.24	2.85
3.33	223.18	.315E+05	186.1	4.28	2.82
3.74	223.59	.537E+05	239.9	3.24	3.73
4.15	224.00	.867E+05	307.4	2.57	4.70
4.56	224.41	.141E+06	403.2	2.08	5.81
4.97	224.82	.218E+06	536.2	1.78	6.79
5.38	225.23	.315E+06	732.9	1.69	7.17
5.78	225.63	.423E+06	952.6	1.63	7.41
6.19	226.04	.551E+06	1248.0	1.64	7.36
6.60	226.45	.689E+06	1596.8	1.68	7.19
7.01	226.86	.836E+06	1995.8	1.73	6.98
7.42	227.27	.998E+06	2405.0	1.75	6.91

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (0093)	175.48	6.56	5.25	41.22	0.87	2.47
OUTFLOW: ID= 1 (5549)	175.48	6.45	5.25	41.22	0.86	2.45

CALIB	
STANDHYD (0549)	Area (ha)= 32.18
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 40.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.09	16.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	463.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	23.96
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	45.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.02

		TOTALS
PEAK FLOW	(cms)=	0.89 0.66 1.486 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	53.38 33.75 41.60
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38

RUNOFF COEFFICIENT	=	0.98	0.62	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2549)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0549):	32.18	1.486	5.25	41.60
	+ ID2= 2 (5549):	175.48	6.448	5.25	41.22
	ID = 3 (2549):	207.66	7.934	5.25	41.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0531)	Area (ha)= 79.42
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 29.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.80	51.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.20
Length	(m)=	727.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	19.25
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	57.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.60 1.44 2.650 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	53.38 29.04 36.10
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.53 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1123)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0531):	79.42	2.650	5.25	36.10

```
       + ID2= 2 (2549):   207.66   7.934     5.25    41.28
         ================================================
         ID = 3 (1123):   287.08  10.584     5.25    39.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5123) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5123.0) ------>
              Distance      Elevation       Manning
                  0.00         221.63        0.1000
                 49.32         221.56        0.1000
                108.94         221.01        0.1000
                120.64         220.69        0.1000
                151.95         218.35        0.1000
                162.10         216.92        0.1000
                166.38         215.80    0.1000 /0.0160  Main Channel
                169.01         215.15        0.0160      Main Channel
                172.24         215.79    0.0160 /0.1000  Main Channel
                191.35         219.36        0.1000
                202.67         220.68        0.1000
                243.44         220.80        0.1000
                288.84         220.47        0.1000
                300.34         220.10        0.1000
                334.49         221.22        0.1000
                348.80         221.25        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.32   215.47    .344E+03       0.9          2.00       6.15
      0.64   215.79    .138E+04       5.9          3.18       3.87
      0.96   216.11    .311E+04      19.0          4.52       2.72
      1.28   216.43    .554E+04      38.2          5.09       2.42
      1.60   216.75    .867E+04      63.0          5.37       2.29
      1.92   217.07    .125E+05      93.3          5.51       2.24
      2.25   217.40    .173E+05     129.4          5.53       2.23
      2.57   217.72    .230E+05     171.5          5.50       2.24
      2.89   218.04    .297E+05     219.7          5.47       2.25
      3.21   218.36    .373E+05     274.3          5.43       2.27
      3.53   218.68    .461E+05     334.3          5.35       2.30
      3.85   219.00    .564E+05     402.0          5.27       2.34
      4.17   219.32    .681E+05     477.6          5.18       2.38
      4.49   219.64    .813E+05     560.0          5.09       2.42
      4.82   219.97    .961E+05     651.4          5.01       2.46
      5.14   220.29    .113E+06     734.6          4.78       2.57
      5.46   220.61    .138E+06     824.5          4.43       2.78
      5.78   220.93    .180E+06     935.3          3.84       3.20
      6.10   221.25    .235E+06    1080.9          3.40       3.62

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (1123)  287.08   10.58    5.25  39.84      0.75      3.55
    OUTFLOW: ID= 1 (5123)  287.08   10.36    5.25  39.84      0.75      3.53


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| CALIB            |
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| STANDHYD  (0123) |   Area    (ha)=  21.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  42.00   Dir. Conn.(%)=  33.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.09        12.56
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     379.91        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        21.47
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   40.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.50         0.47          0.919 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      53.38        30.95         38.35
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.57          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2123) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0123):    21.65   0.919     5.25    38.35
       + ID2= 2 (5123):   287.08  10.358     5.25    39.84
         ================================================
         ID = 3 (2123):   308.73  11.277     5.25    39.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5445) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5445.0) ------>
              Distance      Elevation       Manning
                  0.00         217.15        0.1000
                 23.77         216.85        0.1000
                 57.10         215.44        0.1000
                113.41         215.01        0.1000
                116.54         215.05        0.1000
                139.11         215.26        0.1000
                185.92         215.20        0.1000
                230.25         214.45        0.1000
                235.73         214.29        0.1000
                267.98         213.04    0.1000 /0.0160  Main Channel
                269.89         212.75        0.0160      Main Channel
                271.26         212.92    0.0160 /0.1000  Main Channel
                292.87         215.83        0.1000
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                310.23         215.75        0.1000
                315.65         215.41        0.1000
                331.32         215.86        0.1000
                358.01         217.44        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.17   212.92    .531E+02       0.3          1.32       3.16
      0.39   213.14    .305E+03       2.6          2.17       1.93
      0.62   213.37    .935E+03       7.7          2.06       2.03
      0.84   213.59    .198E+04      15.6          1.97       2.12
      1.06   213.81    .343E+04      26.6          1.94       2.15
      1.28   214.03    .530E+04      41.0          1.94       2.16
      1.51   214.26    .758E+04      59.2          1.96       2.14
      1.73   214.48    .103E+05      80.7          1.96       2.13
      1.95   214.70    .138E+05     105.6          1.93       2.17
      2.17   214.92    .180E+05     136.9          1.90       2.20
      2.40   215.15    .237E+05     164.7          1.75       2.39
      2.62   215.37    .341E+05     206.2          1.52       2.75
      2.84   215.59    .473E+05     280.9          1.49       2.81
      3.06   215.81    .617E+05     372.5          1.51       2.76
      3.29   216.04    .777E+05     494.0          1.60       2.62
      3.51   216.26    .942E+05     634.4          1.69       2.48
      3.73   216.48    .111E+06     791.6          1.79       2.34
      3.95   216.70    .129E+06     965.2          1.88       2.22
      4.18   216.93    .147E+06    1146.8          1.96       2.13

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (2123)  308.73   11.28    5.25  39.74      0.72      2.02
    OUTFLOW: ID= 1 (5445)  308.73   11.07    5.25  39.74      0.71      2.02


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0445) |   Area    (ha)=  47.14
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  42.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.98        22.16
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     560.59        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        26.23
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   51.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.37         0.98          2.249 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      53.38        36.58         43.63
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.67          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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```
             CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2445) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0445):    47.14   2.249     5.25    43.63
       + ID2= 2 (5445):   308.73  11.065     5.25    39.74
         ================================================
         ID = 3 (2445):   355.87  13.314     5.25    40.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5121) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5121.0) ------>
              Distance      Elevation       Manning
                  0.00         209.51        0.1000
                 18.50         208.32        0.1000
                 51.25         205.70        0.1000
                100.36         204.89        0.1000
                124.00         203.76        0.1000
                172.44         203.13        0.1000
                180.24         202.88        0.1000
                186.88         202.01    0.1000 /0.0440  Main Channel
                194.59         201.00        0.0440      Main Channel
                200.49         202.11    0.0440 /0.1000  Main Channel
                208.49         203.60        0.1000
                211.23         203.87        0.1000
                250.29         205.16        0.1000
                290.65         205.13        0.1000
                356.36         205.76        0.1000
                385.25         205.85        0.1000
                434.54         206.45        0.1000
                484.26         205.90        0.1000
                505.84         206.94        0.1000
                561.50         207.35        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   201.25    .658E+03       0.2          0.57      46.37
      0.50   201.50    .263E+04       1.5          0.91      29.21
      0.76   201.76    .592E+04       4.4          1.19      22.29
      1.01   202.01    .105E+05       9.5          1.44      18.40
      1.37   202.37    .193E+05      23.3          1.93      13.76
      1.72   202.72    .306E+05      43.1          2.25      11.83
      2.08   203.08    .453E+05      68.5          2.41      11.03
      2.43   203.43    .703E+05     101.3          2.30      11.58
      2.79   203.79    .112E+06     147.5          2.10      12.65
      3.15   204.15    .166E+06     211.7          2.04      13.05
      3.50   204.50    .230E+06     293.6          2.04      13.04
      3.86   204.86    .304E+06     394.5          2.07      12.85
      4.21   205.21    .397E+06     489.6          1.97      13.52
      4.57   205.57    .538E+06     637.4          1.89      14.06
```

4.93	205.93	.714E+06	835.4	1.87	14.24
5.28	206.28	.931E+06	1091.8	1.87	14.21
5.64	206.64	.118E+07	1428.0	1.92	13.83
5.99	206.99	.145E+07	1832.3	2.02	13.18
6.35	207.35	.174E+07	2254.3	2.07	12.83

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2445)	355.87	13.31	5.25	40.25	1.11	1.55
OUTFLOW: ID= 1 (5121)	355.87	12.38	5.50	40.25	1.08	1.52

CALIB	
STANDHYD (0121)	Area (ha)= 133.85
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 49.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	73.62	60.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	944.63	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	22.90
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	73.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	4.53	1.81 5.623 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	34.13 43.56
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.63 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2121)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0121):	133.85	5.623	5.25	43.56
+ ID2= 2 (5121):	355.87	12.382	5.50	40.25
ID = 3 (2121):	489.72	17.610	5.25	41.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5136)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<---------- DATA FOR SECTION (5136.0) ---------->

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.816E+02	0.0	0.27	52.78
0.20	195.20	.326E+03	0.2	0.42	33.25
0.29	195.29	.734E+03	0.5	0.56	25.37
0.39	195.39	.130E+04	1.0	0.68	20.88
0.49	195.49	.203E+04	1.9	0.79	17.97
0.61	195.61	.310E+04	3.6	0.99	14.22
0.74	195.74	.428E+04	5.9	1.16	12.15
0.86	195.86	.557E+04	8.6	1.31	10.82
0.98	195.98	.698E+04	12.0	1.46	9.68
1.11	196.11	.865E+04	16.0	1.57	9.01
1.23	196.23	.108E+05	20.6	1.62	8.74
1.35	196.35	.134E+05	25.9	1.64	8.63
1.48	196.48	.166E+05	32.0	1.64	8.61
1.60	196.60	.202E+05	38.9	1.64	8.63
1.73	196.73	.245E+05	46.4	1.61	8.80
1.85	196.85	.299E+05	55.2	1.57	9.02
1.97	196.97	.362E+05	65.3	1.53	9.25
2.10	197.10	.436E+05	76.7	1.49	9.48
2.22	197.22	.521E+05	89.7	1.46	9.68

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2121)	489.72	17.61	5.25	41.16	1.15	1.58
OUTFLOW: ID= 1 (5136)	489.72	16.95	5.50	41.16	1.13	1.58

CALIB	
STANDHYD (0136)	Area (ha)= 79.16
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	41.16	38.00
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	726.45	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	25.02	24.32	
over (min)	15.00	30.00	
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	2.36	1.27	3.135 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	53.38	34.80	42.79
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.64	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2136)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0136):	79.16	3.135	5.25	42.79
+ ID2= 2 (5136):	489.72	16.951	5.50	41.16
ID = 3 (2136):	568.88	19.694	5.25	41.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1149)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2136):	568.88	19.694	5.25	41.39
+ ID2= 2 (2151):	944.36	29.645	5.25	42.10
ID = 3 (1149):	1513.24	49.339	5.25	41.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5149)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<---------- DATA FOR SECTION (5149.0) ---------->

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel

87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.366E+02	0.0	0.27	23.37
0.20	195.20	.146E+03	0.2	0.43	14.72
0.29	195.29	.329E+03	0.5	0.56	11.24
0.39	195.39	.585E+03	1.1	0.68	9.25
0.49	195.49	.911E+03	1.9	0.80	7.96
0.61	195.61	.139E+04	3.7	1.01	6.30
0.74	195.74	.192E+04	5.9	1.18	5.38
0.86	195.86	.250E+04	8.7	1.32	4.79
0.98	195.98	.313E+04	12.2	1.48	4.29
1.11	196.11	.388E+04	16.2	1.59	3.99
1.23	196.23	.485E+04	20.9	1.64	3.87
1.35	196.35	.603E+04	26.3	1.66	3.82
1.48	196.48	.742E+04	32.4	1.66	3.81
1.60	196.60	.904E+04	39.4	1.66	3.82
1.73	196.73	.110E+05	47.0	1.63	3.90
1.85	196.85	.134E+05	55.9	1.59	3.99
1.97	196.97	.163E+05	66.1	1.55	4.10
2.10	197.10	.196E+05	77.7	1.51	4.20
2.22	197.22	.234E+05	90.9	1.48	4.29

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1149)	1513.24	49.34	5.25	41.83	1.76	1.62
OUTFLOW: ID= 1 (5149)	1513.24	48.74	5.50	41.83	1.75	1.62

CALIB	
STANDHYD (0149)	Area (ha)= 3.06
ID= 1 DT=15.0 min	Total Imp(%)= 34.00 Dir. Conn.(%)= 29.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.04	2.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.80
Length (m)=	142.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	18.23
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06
		TOTALS
PEAK FLOW (cms)=	0.06	0.09 0.154 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	53.38	27.80 35.21
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.51 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2149)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0149):	3.06	0.154	5.25	35.21
	+ ID2= 2 (5149):	1513.24	48.740	5.50	41.83
	ID = 3 (2149):	1516.30	48.815	5.50	41.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1150)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2149):	1516.30	48.815	5.50	41.82
	+ ID2= 2 (2721):	1772.50	10.304	5.75	27.24
	ID = 3 (1150):	3288.80	59.019	5.50	33.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5150)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5150.0) ------>

Distance	Elevation	Manning	
0.00	193.23	0.1000	
0.00	194.50	0.1000	
210.65	190.50	0.1000	
223.18	188.00	0.1000 /0.0440	Main Channel
226.63	187.00	0.0440	Main Channel
230.00	186.50	0.0440	Main Channel
233.00	186.50	0.0440	Main Channel
237.18	187.00	0.0440	Main Channel
241.05	188.00	0.0440 /0.1000	Main Channel
252.73	190.50	0.1000	
267.79	191.00	0.1000	
282.60	194.00	0.1000	
291.93	194.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	186.80	.773E+03	0.9	0.58	14.02
0.60	187.10	.219E+04	4.0	0.89	9.18
0.90	187.40	.401E+04	9.6	1.18	6.93
1.20	187.70	.615E+04	17.8	1.41	5.78
1.50	188.00	.862E+04	28.5	1.62	5.04
1.87	188.37	.122E+05	48.8	1.96	4.17

2.25	188.75	.165E+05	73.9	2.20	3.71
2.62	189.12	.214E+05	104.0	2.38	3.43
2.99	189.49	.270E+05	139.0	2.52	3.24
3.37	189.87	.332E+05	179.2	2.64	3.09
3.74	190.24	.401E+05	224.6	2.74	2.98
4.11	190.61	.479E+05	271.1	2.77	2.95
4.49	190.99	.602E+05	323.8	2.63	3.10
4.86	191.36	.773E+05	394.7	2.50	3.26
5.24	191.74	.984E+05	479.5	2.39	3.42
5.61	192.11	.123E+06	579.5	2.30	3.55
5.98	192.48	.152E+06	696.2	2.24	3.65
6.36	192.86	.185E+06	830.9	2.20	3.71
6.73	193.23	.222E+06	985.0	2.17	3.75

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1150)	3288.80	59.02	5.50	33.96	2.03	2.05
OUTFLOW: ID= 1 (5150)	3288.80	59.44	5.50	33.96	2.03	2.05

CALIB	
STANDHYD (0150)	Area (ha)= 55.43
ID= 1 DT=15.0 min	Total Imp(%)= 73.00 Dir. Conn.(%)= 73.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.46	14.97
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	607.89	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.75
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	57.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.81	0.47 3.165 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	53.38	35.02 48.42
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.64 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2150)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0150):	55.43	3.165	5.25	48.42
	+ ID2= 2 (5150):	3288.80	59.444	5.50	33.96

ID = 3 (2150):	3344.23	61.094	5.50	34.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5175)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5175.0) ------>

Distance	Elevation	Manning	
0.00	190.19	0.1000	
183.72	188.50	0.1000	
199.34	185.08	0.1000	
204.64	184.92	0.1000	
226.50	184.89	0.1000	
232.59	184.66	0.1000	
236.19	184.34	0.1000	
237.52	184.12	0.1000 /0.0440	Main Channel
237.54	182.90	0.0440	Main Channel
242.00	182.90	0.0440	Main Channel
242.55	184.03	0.0440 /0.1000	Main Channel
249.56	184.50	0.1000	
284.14	185.34	0.1000	
284.72	187.50	0.1000	
288.13	188.00	0.1000	
319.42	187.98	0.1000	
319.74	187.98	0.1000	
332.36	187.82	0.1000	
357.39	187.66	0.1000	
357.40	190.19	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	183.28	.193E+04	1.5	0.87	21.55
0.75	183.65	.393E+04	4.5	1.27	14.71
1.13	184.03	.602E+04	8.3	1.56	12.03
1.52	184.41	.975E+04	14.2	1.63	11.46
1.90	184.80	.190E+05	23.1	1.36	13.72
2.29	185.19	.457E+05	41.1	1.01	18.50
2.67	185.57	.824E+05	76.1	1.04	18.03
3.06	185.96	.120E+06	124.9	1.17	16.07
3.44	186.34	.159E+06	184.9	1.30	14.36
3.83	186.73	.199E+06	255.1	1.44	13.00
4.21	187.11	.239E+06	335.0	1.57	11.92
4.60	187.50	.281E+06	424.1	1.70	11.04
4.98	187.88	.328E+06	465.5	1.60	11.73
5.37	188.27	.397E+06	553.5	1.56	11.97
5.75	188.65	.474E+06	659.3	1.56	11.98
6.14	189.04	.565E+06	767.5	1.53	12.27
6.52	189.42	.674E+06	931.4	1.55	12.07
6.91	189.81	.802E+06	1138.5	1.60	11.74
7.29	190.19	.947E+06	1387.0	1.64	11.38

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2150)	3344.23	61.09	5.50	34.20	2.50	1.03
OUTFLOW: ID= 1 (5175)	3344.23	56.09	5.75	34.20	2.45	1.02

CALIB	
STANDHYD (0175)	Area (ha)= 60.91
ID= 1 DT=15.0 min	Total Imp(%)= 69.00 Dir. Conn.(%)= 69.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	42.03	18.88
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	637.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.92	0.55 3.327 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	53.38	32.29 46.84
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.59 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2175)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0175):	60.91	3.327	5.25	46.84
	+ ID2= 2 (5175):	3344.23	56.087	5.75	34.20
	ID = 3 (2175):	3405.14	57.553	5.75	34.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0128)	Area (ha)= 191.08
ID= 1 DT=15.0 min	Total Imp(%)= 56.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	107.00	84.08
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	1128.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	24.26
over (min)		15.00	30.00
Storage Coeff. (min)=		15.60 (ii)	93.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

```
                                                         *TOTALS*
     PEAK FLOW       (cms)=       6.42         2.38          7.611 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.50           5.25
     RUNOFF VOLUME    (mm)=      53.38        35.73          44.38
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.66           0.82


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2128) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0128):   191.08   7.611     5.25    44.38
        + ID2= 2 (2175):  3405.14  57.553     5.75    34.43
          ==================================================
          ID = 3 (2128):  3596.22  62.011     5.75    34.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  24.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      10.85        13.27
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         8.60
     Length            (m)=     401.00        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        18.14
                over (min)       15.00        15.00
     Storage Coeff.  (min)=       5.40 (ii)   31.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                         *TOTALS*
     PEAK FLOW       (cms)=       0.75         0.47          1.229 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38        29.85          40.44
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.55           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9476) |
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| Inlet Cap.=0.030 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.12      1.23      5.25   40.44
     ===================================================
     MAJOR SYS.(ID= 2):  21.34      1.20      5.25   40.44
     MINOR SYS.(ID= 3):   2.78      0.03      2.50   40.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6476) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0300      0.1280

                                AREA      QPEAK      TPEAK       R.V.
                                (ha)      (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (9476)      2.776      0.030       2.50       40.44
     OUTFLOW: ID= 1 (6476)      2.776      0.017      12.50       40.06

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.19
                  TIME SHIFT OF PEAK FLOW         (min)=600.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0733

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--------------------
| ADD HYD   (4476) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6476):     2.78   0.017    12.50    40.06
        + ID2= 2 (9476):    21.34   1.199     5.25    40.44
          ==================================================
          ID = 3 (4476):    24.12   1.205     5.25    40.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1171) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2128):  3596.22  62.011     5.75    34.96
        + ID2= 2 (4476):    24.12   1.205     5.25    40.40
          ==================================================
          ID = 3 (1171):  3620.34  62.574     5.75    34.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5171) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5171.0) ------>
               Distance      Elevation       Manning
                   0.00         182.62        0.1000
                  70.19         179.50        0.1000
```



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                 139.11        179.00    0.1000 /0.0440  Main Channel
                 140.08        178.61        0.0440      Main Channel
                 140.35        177.50        0.0440      Main Channel
                 146.00        177.50        0.0440      Main Channel
                 146.96        178.83        0.0440      Main Channel
                 148.70        178.92        0.0440      Main Channel
                 148.90        179.00    0.0440 /0.1000  Main Channel
                 169.23        179.25        0.1000
                 181.85        182.00        0.1000
                 283.06        182.00        0.1000
                 330.41        180.56        0.1000
                 373.02        181.50        0.1000
                 398.28        181.61        0.1000
                 428.84        182.54        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.25   177.75    .105E+04       0.9          0.61       19.95
       0.50   178.00    .214E+04       2.7          0.92       13.14
       0.75   178.25    .328E+04       5.2          1.16       10.44
       1.00   178.50    .446E+04       8.3          1.36        8.93
       1.25   178.75    .570E+04      11.7          1.50        8.08
       1.50   179.00    .723E+04      14.6          1.46        8.27
       1.77   179.27    .151E+05      23.2          1.12       10.82
       2.04   179.54    .322E+05      39.5          0.89       13.61
       2.32   179.82    .530E+05      65.3          0.90       13.52
       2.59   180.09    .753E+05      98.9          0.95       12.69
       2.86   180.36    .990E+05     139.6          1.03       11.81
       3.13   180.63    .124E+06     184.2          1.08       11.25
       3.41   180.91    .154E+06     232.9          1.10       11.03
       3.68   181.18    .190E+06     294.7          1.13       10.73
       3.95   181.45    .231E+06     368.9          1.16       10.44
       4.22   181.72    .280E+06     452.1          1.17       10.33
       4.50   182.00    .336E+06     559.3          1.21       10.02
       4.77   182.27    .416E+06     668.9          1.17       10.36
       5.04   182.54    .499E+06     833.8          1.21        9.97

                                      <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.    MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1171) 3620.34    62.57    5.75  34.99      2.29      0.89
     OUTFLOW: ID= 1 (5171) 3620.34    60.86    6.00  34.99      2.27      0.89


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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.53
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.50
     Length            (m)=      65.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        14.79
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
```



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                                                         *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.022 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      53.38        23.91          29.18
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.44           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  11.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.99         9.05
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.50
     Length            (m)=     271.29        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        14.79
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                         *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.25          0.379 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      53.38        23.91          29.22
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.44           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0339) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    11.04   0.379     5.25    29.22
        + ID2= 2 (****):     0.65   0.022     5.25    29.18
          ==================================================
          ID = 3 (0339):    11.69   0.401     5.25    29.21
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 5.40		
ID= 1 DT=15.0 min	Total Imp(%)= 18.00	Dir. Conn.(%)= 18.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.97	4.43
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.50
Length	(m)=	189.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	14.79
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	35.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.07	0.12	0.185 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	23.91	29.21
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.44	0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0342)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0339):		11.69	0.401	5.25	29.21
+ ID2= 2 (****):		5.40	0.185	5.25	29.21
ID = 3 (0342):		17.09	0.587	5.25	29.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2171)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0342):		17.09	0.587	5.25	29.21
+ ID2= 2 (5171):		3620.34	60.855	6.00	34.99
ID = 3 (2171):		3637.43	61.181	6.00	34.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9475)					
Inlet Cap.=0.060					
#of Inlets= 1					
Total(cms)= 0.1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):		24.81	1.28	5.25	41.54
MAJOR SYS.(ID= 2):		20.03	1.22	5.25	41.54
MINOR SYS.(ID= 3):		4.78	0.06	2.50	41.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6475)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	0.0600	0.2570

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9475)	4.784	0.060	2.50	41.54
OUTFLOW: ID= 1 (6475)	4.784	0.030	12.25	41.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.17
TIME SHIFT OF PEAK FLOW (min)=585.00
MAXIMUM STORAGE USED (ha.m.)= 0.1266

ADD HYD (4475)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6475):		4.78	0.030	12.25	41.32
+ ID2= 2 (9475):		20.03	1.221	5.25	41.54
ID = 3 (4475):		24.81	1.234	5.25	41.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.70		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.43	0.27
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	68.31	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.77
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	0.03	0.01	0.034 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	53.38	31.04	44.62
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.57	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.32		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.20	0.12
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	46.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.77
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)

Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	0.01	0.00	0.015 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	53.38	31.04	44.54
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.57	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 100.13		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	61.08	39.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	817.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.77
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	4.23	0.97	4.799 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	53.38	31.04	44.67
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.57	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0400)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):		100.13	4.799	5.25	44.67
+ ID2= 2 (****):		0.32	0.015	5.25	44.54
ID = 3 (0400):		100.45	4.814	5.25	44.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ADD HYD   (0401) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0400):   100.45   4.814     5.25    44.67
      + ID2= 2 (****):     0.70   0.034     5.25    44.62
        ================================================
        ID = 3 (0401):   101.15   4.847     5.25    44.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (2655) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0401):   101.15   4.847     5.25    44.67
      + ID2= 2 (4475):    24.81   1.234     5.25    41.50
        ================================================
        ID = 3 (2655):   125.96   6.081     5.25    44.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (1179) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2171):  3637.43  61.181     6.00    34.97
      + ID2= 2 (2655):   125.96   6.081     5.25    44.04
        ================================================
        ID = 3 (1179):  3763.39  63.932     6.00    35.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5179) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5179.0) ------>
            Distance      Elevation       Manning
               0.00         180.00        0.1000
              19.81         179.88        0.1000
              80.23         175.31        0.1000
              87.64         175.00        0.1000
              94.94         174.57        0.1000
              96.72         174.50    0.1000 /0.0440  Main Channel
              98.15         174.00        0.0440      Main Channel
             106.22         174.15        0.0440      Main Channel
             107.82         174.50    0.0440 /0.1000  Main Channel
             109.71         175.00        0.1000
             183.40         175.01        0.1000
             204.12         175.50        0.1000
             218.61         176.50        0.1000
             246.72         177.50        0.1000
             258.61         177.66        0.1000
             277.61         177.68        0.1000
             284.71         177.58        0.1000
```



```
             296.45         177.54        0.1000
             401.58         180.45        0.1000

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)      (cu.m.)       (cms)        (m/s)      (min)
        0.25   174.25     .162E+04        0.6          0.40       44.60
        0.50   174.50     .432E+04        2.7          0.67       26.29
        0.82   174.82     .947E+04        8.1          0.91       19.51
        1.15   175.15     .285E+05       17.9          0.67       26.63
        1.47   175.47     .682E+05       40.2          0.63       28.27
        1.79   175.79     .113E+06       74.8          0.70       25.16
        2.12   176.12     .161E+06      119.9          0.79       22.34
        2.44   176.44     .212E+06      175.1          0.88       20.14
        2.76   176.76     .266E+06      237.8          0.95       18.64
        3.09   177.09     .325E+06      310.2          1.01       17.47
        3.41   177.41     .389E+06      393.0          1.07       16.49
        3.74   177.74     .463E+06      442.2          1.01       17.46
        4.06   178.06     .554E+06      559.8          1.07       16.48
        4.38   178.38     .650E+06      692.2          1.13       15.64
        4.71   178.71     .751E+06      839.8          1.19       14.91
        5.03   179.03     .858E+06     1002.8          1.24       14.26
        5.35   179.35     .971E+06     1181.8          1.29       13.69
        5.68   179.68     .109E+07     1377.0          1.34       13.18
        6.00   180.00     .121E+07     1555.4          1.36       13.00

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1179) 3763.39    63.93    6.00  35.27      1.69      0.68
    OUTFLOW: ID= 1 (5179) 3763.39    59.99    6.25  35.27      1.66      0.67


--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.25
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=        0.38          0.87
    Dep. Storage     (mm)=        1.00          4.00
    Average Slope     (%)=        1.00          3.70
    Length            (m)=       91.29         40.00
    Mannings n           =       0.013         0.250

    Max.Eff.Inten.(mm/hr)=       25.02         15.30
              over (min)         15.00         30.00
    Storage Coeff.  (min)=        8.40 (ii)    48.00 (ii)
    Unit Hyd. Tpeak (min)=       15.00         45.00
    Unit Hyd. peak  (cms)=        0.09          0.02
                                                          *TOTALS*
    PEAK FLOW       (cms)=        0.03          0.02          0.044 (iii)
    TIME TO PEAK    (hrs)=        5.25          5.75          5.25
    RUNOFF VOLUME    (mm)=       53.38         24.79         33.34
    TOTAL RAINFALL   (mm)=       54.38         54.38         54.38
    RUNOFF COEFFICIENT   =        0.98          0.46          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```



```
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.98
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=        0.29          0.69
    Dep. Storage     (mm)=        1.00          4.00
    Average Slope     (%)=        1.00          3.70
    Length            (m)=       80.83         40.00
    Mannings n           =       0.013         0.250

    Max.Eff.Inten.(mm/hr)=       25.02         15.30
              over (min)         15.00         30.00
    Storage Coeff.  (min)=        8.40 (ii)    48.00 (ii)
    Unit Hyd. Tpeak (min)=       15.00         45.00
    Unit Hyd. peak  (cms)=        0.09          0.02
                                                          *TOTALS*
    PEAK FLOW       (cms)=        0.02          0.02          0.034 (iii)
    TIME TO PEAK    (hrs)=        5.25          5.75          5.25
    RUNOFF VOLUME    (mm)=       53.38         24.79         33.33
    TOTAL RAINFALL   (mm)=       54.38         54.38         54.38
    RUNOFF COEFFICIENT   =        0.98          0.46          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (0347) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):     1.25   0.044     5.25    33.34
      + ID2= 2 (****):     0.98   0.034     5.25    33.33
        ================================================
        ID = 3 (0347):     2.23   0.078     5.25    33.34

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  37.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       11.40         26.59
    Dep. Storage     (mm)=        1.00          4.00
    Average Slope     (%)=        1.00          3.70
    Length            (m)=      503.26         40.00
    Mannings n           =       0.013         0.250

    Max.Eff.Inten.(mm/hr)=       25.02         15.30
```



```
              over (min)         15.00         30.00
    Storage Coeff.  (min)=        8.40 (ii)    48.00 (ii)
    Unit Hyd. Tpeak (min)=       15.00         45.00
    Unit Hyd. peak  (cms)=        0.09          0.02
                                                          *TOTALS*
    PEAK FLOW       (cms)=        0.79          0.64          1.334 (iii)
    TIME TO PEAK    (hrs)=        5.25          5.75          5.25
    RUNOFF VOLUME    (mm)=       53.38         24.79         33.36
    TOTAL RAINFALL   (mm)=       54.38         54.38         54.38
    RUNOFF COEFFICIENT   =        0.98          0.46          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (0345) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0347):     2.23   0.078     5.25    33.34
      + ID2= 2 (****):    37.99   1.334     5.25    33.36
        ================================================
        ID = 3 (0345):    40.22   1.412     5.25    33.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (2179) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0345):    40.22   1.412     5.25    33.36
      + ID2= 2 (5179):  3763.39  59.988     6.25    35.27
        ================================================
        ID = 3 (2179):  3803.61  60.758     6.25    35.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5429) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5429.0) ------>
            Distance      Elevation       Manning
               0.00         173.91        0.1110
               0.00         176.00        0.1110
               9.53         173.50        0.1110
              25.59         171.50        0.1110
              90.97         171.00        0.1110
              96.91         170.58        0.1110
              97.41         170.50        0.1110
              98.56         170.14    0.1110 /0.0490  Main Channel
              99.04         169.50        0.0490      Main Channel
             103.00         169.50        0.0490      Main Channel
             103.89         170.28    0.0490 /0.1110  Main Channel
```

105.84	170.39	0.1110
106.34	170.41	0.1110
106.80	170.50	0.1110
128.20	170.89	0.1110
130.65	171.00	0.1110
148.78	175.86	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	169.82	.693E+03	1.0	0.72	11.79
0.64	170.14	.148E+04	3.1	1.07	7.94
0.98	170.48	.268E+04	6.9	1.31	6.45
1.33	170.83	.614E+04	13.2	1.09	7.74
1.67	171.17	.138E+05	25.1	0.92	9.19
2.02	171.52	.289E+05	47.4	0.83	10.16
2.36	171.86	.480E+05	85.7	0.91	9.34
2.71	172.21	.678E+05	135.8	1.02	8.32
3.05	172.55	.884E+05	196.7	1.13	7.49
3.40	172.90	.110E+06	267.9	1.24	6.82
3.74	173.24	.132E+06	348.8	1.35	6.29
4.09	173.59	.154E+06	440.0	1.45	5.84
4.43	173.93	.177E+06	542.4	1.55	5.45
4.78	174.28	.201E+06	653.2	1.65	5.13
5.12	174.62	.225E+06	772.9	1.74	4.85
5.47	174.97	.250E+06	901.1	1.83	4.62
5.81	175.31	.275E+06	1037.8	1.92	4.41
6.16	175.66	.300E+06	1183.0	2.00	4.23
6.50	176.00	.326E+06	1339.1	2.09	4.06

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2179)	3803.61	60.76	6.25	35.25	2.14	0.86
OUTFLOW: ID= 1 (5429)	3803.61	60.50	6.50	35.25	2.14	0.86

CALIB	
STANDHYD (0429)	Area (ha)= 13.90
ID= 1 DT=15.0 min	Total Imp(%)= 54.00 Dir. Conn.(%)= 54.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	7.51	6.39
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	304.41	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	18.14
over (min)	15.00	30.00
Storage Coeff. (min)=	5.40 (ii)	32.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.52	0.23	0.749 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	29.85	42.56
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.55	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2429)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0429):	13.90	0.749	5.25	42.56
+ ID2= 2 (5429):	3803.61	60.498	6.50	35.25
ID = 3 (2429):	3817.51	60.693	6.50	35.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 91.84
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 57.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	52.35	39.49
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	782.47	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	3.62	1.00	4.213 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	53.38	32.29	44.31
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.59	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 1.44
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 57.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.82	0.62
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70

Length (m)=	97.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	0.06	0.02	0.066 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	53.38	32.29	44.28
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.59	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 6.59
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 57.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.76	2.83
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	209.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	0.26	0.07	0.302 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	53.38	32.29	44.31
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.59	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0408)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (****):	6.59	0.302	5.25	44.31

ADD HYD (0408)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (****):	1.44	0.066	5.25	44.28
ID = 3 (0408):	8.03	0.368	5.25	44.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0409)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0408):	8.03	0.368	5.25	44.30
+ ID2= 2 (****):	91.84	4.213	5.25	44.31
ID = 3 (0409):	99.87	4.582	5.25	44.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1443)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0409):	99.87	4.582	5.25	44.31
+ ID2= 2 (2429):	3817.51	60.693	6.50	35.28
ID = 3 (1443):	3917.38	62.454	6.50	35.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5443)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5443.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1110	
17.61	172.50	0.1110	
27.53	170.50	0.1110	
72.93	169.50	0.1110	
74.99	169.29	0.1110	
75.21	169.27	0.1110	
79.81	168.50	0.1110 /0.0490	Main Channel
79.88	168.48	0.0490	Main Channel
80.70	168.00	0.0490	Main Channel
82.05	167.90	0.0490	Main Channel
83.55	167.90	0.0490	Main Channel
85.02	168.50	0.0490 /0.1110	Main Channel
86.14	168.83	0.1110	
86.71	168.98	0.1110	
119.24	170.00	0.1110	
133.40	171.00	0.1110	
147.56	173.96	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	168.10	.106E+03	0.5	0.95	3.31
0.40	168.30	.254E+03	2.0	1.46	2.15
0.60	168.50	.434E+03	4.2	1.84	1.71

0.91	168.81	.828E+03	10.5	2.40	1.31
1.23	169.13	.145E+04	19.6	2.54	1.24
1.54	169.44	.271E+04	33.2	2.31	1.36
1.85	169.75	.495E+04	53.2	2.03	1.55
2.16	170.06	.859E+04	85.8	1.89	1.67
2.48	170.38	.134E+05	134.7	1.89	1.66
2.79	170.69	.192E+05	203.3	2.00	1.58
3.10	171.00	.255E+05	290.7	2.16	1.46
3.41	171.31	.319E+05	397.9	2.35	1.34
3.73	171.63	.386E+05	520.4	2.55	1.24
4.04	171.94	.455E+05	657.6	2.73	1.15
4.35	172.25	.525E+05	809.1	2.91	1.08
4.66	172.56	.597E+05	971.5	3.07	1.02
4.98	172.88	.672E+05	1136.3	3.19	0.99
5.29	173.19	.752E+05	1316.7	3.31	0.95
5.60	173.50	.836E+05	1513.2	3.42	0.92

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1443)	3917.38	62.45	6.50	35.51	1.94	1.99
OUTFLOW: ID= 1 (5443)	3917.38	62.53	6.50	35.51	1.94	1.99

CALIB
STANDHYD (****) | Area (ha)= 58.41
ID= 1 DT=15.0 min | Total Imp(%)= 59.00 Dir. Conn.(%)= 59.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	34.46	23.95
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	624.02	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	2.39	0.65 2.859 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	53.38	32.29 44.73
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.59 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.93
ID= 1 DT=15.0 min | Total Imp(%)= 59.00 Dir. Conn.(%)= 59.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.38
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	78.74	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	0.04	0.01 0.046 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	53.38	32.29 44.69
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.59 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 11.27
ID= 1 DT=15.0 min | Total Imp(%)= 59.00 Dir. Conn.(%)= 59.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.65	4.62
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	274.10	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	0.46	0.13 0.552 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	53.38	32.29 44.73
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.59 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0386)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	11.27	0.552	5.25	44.73
+ ID2= 2 (****):	0.93	0.046	5.25	44.69
ID = 3 (0386):	12.20	0.597	5.25	44.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0385)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0386):	12.20	0.597	5.25	44.73
+ ID2= 2 (****):	58.41	2.859	5.25	44.73
ID = 3 (0385):	70.61	3.456	5.25	44.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2443)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0385):	70.61	3.456	5.25	44.73
+ ID2= 2 (5443):	3917.38	62.528	6.50	35.51
ID = 3 (2443):	3987.99	63.732	6.50	35.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5181)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5181.0) ------>

Distance	Elevation	Manning	
0.00	171.99	0.1110	
16.11	168.50	0.1110	
29.63	167.81	0.1110	
33.91	167.00	0.1110 /0.0490	Main Channel
34.47	166.92	0.0490	Main Channel
35.37	166.79	0.0490	Main Channel
35.56	166.82	0.0490	Main Channel
36.36	167.00	0.0490 /0.1110	Main Channel
41.32	168.00	0.1110	
66.08	168.05	0.1110	
107.13	169.00	0.1110	
117.25	169.50	0.1110	
126.27	171.00	0.1110	
127.87	171.44	0.1110	
128.10	171.50	0.1110	
132.70	172.29	0.1110	
134.72	172.50	0.1110	
136.24	172.85	0.1110	
136.87	173.00	0.1110	
136.98	173.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	167.00	.227E+03	0.1	0.31	46.72
0.47	167.26	.109E+04	0.7	0.55	26.16
0.74	167.53	.256E+04	1.9	0.65	22.33
1.00	167.79	.465E+04	3.8	0.71	20.28
1.26	168.05	.824E+04	5.8	0.61	23.67
1.52	168.31	.195E+05	11.8	0.53	27.45
1.79	168.58	.344E+05	21.9	0.55	26.25
2.05	168.84	.524E+05	36.5	0.60	23.97
2.31	169.10	.732E+05	56.1	0.66	21.75
2.57	169.36	.957E+05	81.2	0.73	19.66
2.84	169.63	.120E+06	111.6	0.81	17.87
3.10	169.89	.144E+06	147.4	0.88	16.31
3.36	170.15	.170E+06	187.6	0.96	15.06
3.62	170.41	.196E+06	232.1	1.03	14.04
3.89	170.68	.222E+06	280.8	1.09	13.18
4.15	170.94	.249E+06	333.6	1.16	12.45
4.41	171.20	.277E+06	391.3	1.22	11.80
4.67	171.46	.305E+06	453.4	1.28	11.22
4.94	171.73	.334E+06	518.3	1.34	10.75

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2443)	3987.99	63.73	6.50	35.67	2.39	0.68
OUTFLOW: ID= 1 (5181)	3987.99	61.85	6.75	35.67	2.37	0.68

CALIB
STANDHYD (0181) | Area (ha)= 136.82
ID= 1 DT=15.0 min | Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.14	39.68
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	955.06	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	20.08
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	82.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	6.70	0.96 7.168 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	33.62 47.65
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.62 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2181)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0181):		136.82	7.168	5.25	47.65
+ ID2= 2 (5181):		3987.99	61.849	6.75	35.67
ID = 3 (2181):		4124.81	63.881	6.75	36.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5204)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5204.0) ------>

Distance	Elevation	Manning	
0.00	172.00	0.1110	
11.08	169.71	0.1110	
48.53	169.00	0.1110	
90.99	164.50	0.1110	
111.26	164.00	0.1110	
133.15	164.00	0.1110	
142.64	163.50	0.1110	
145.01	162.66	0.1110	
145.24	162.50	0.1110 /0.0490	Main Channel
146.03	161.80	0.0490	Main Channel
152.91	161.80	0.0490	Main Channel
153.42	162.68	0.0490 /0.1110	Main Channel
153.67	162.73	0.1110	
154.07	163.00	0.1110	
155.88	163.50	0.1110	
178.24	164.14	0.1110	
184.53	164.50	0.1110	
207.67	165.50	0.1110	
224.19	166.50	0.1110	
245.67	169.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	162.15	.121E+04	2.5	1.00	8.01
0.70	162.50	.253E+04	8.0	1.52	5.29
1.11	162.91	.426E+04	18.0	2.03	3.96
1.52	163.32	.641E+04	31.6	2.38	3.38
1.94	163.74	.971E+04	48.9	2.43	3.31
2.35	164.15	.187E+05	74.3	1.91	4.20
2.76	164.56	.356E+05	120.7	1.64	4.92
3.17	164.97	.559E+05	188.5	1.63	4.94
3.58	165.38	.789E+05	276.4	1.69	4.76
3.99	165.79	.104E+06	386.3	1.79	4.50
4.41	166.21	.132E+06	517.4	1.89	4.25
4.82	166.62	.162E+06	671.3	2.00	4.02
5.23	167.03	.193E+06	850.6	2.13	3.78
5.64	167.44	.226E+06	1051.0	2.25	3.58
6.05	167.85	.260E+06	1272.3	2.36	3.40
6.46	168.26	.295E+06	1514.8	2.48	3.25
6.88	168.68	.332E+06	1778.5	2.59	3.11
7.29	169.09	.370E+06	2042.5	2.66	3.02

7.70	169.50	.412E+06	2268.8	2.66	3.03

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2181)	4124.81	63.88	6.75	36.07	2.18	2.10
OUTFLOW: ID= 1 (5204)	4124.81	63.46	7.00	36.07	2.17	2.10

CALIB	
STANDHYD (0204)	Area (ha)= 12.60
ID= 1 DT=15.0 min	Total Imp(%)= 25.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.15	9.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.10
Length	(m)=	289.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.83
over (min)		15.00	30.00
Storage Coeff. (min)=		4.80 (ii)	28.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.22 0.26 0.474 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	53.38 22.29 30.06
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.41 0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2204)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0204):		12.60	0.474	5.25	30.06
+ ID2= 2 (5204):		4124.81	63.464	7.00	36.07
ID = 3 (2204):		4137.41	63.582	7.00	36.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0742)	Area (ha)= 13.26
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.97	7.29

Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	297.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.37
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.41 0.23 0.636 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	53.38 26.66 38.68
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.49 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9607)					
Inlet Cap.=0.144					
#of Inlets= 1					
Total(cms)= 0.1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):		13.26	0.64	5.25	38.68
MAJOR SYS.(ID= 2):		5.54	0.49	5.25	38.68
MINOR SYS.(ID= 3):		7.72	0.14	3.50	38.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6607)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1440	0.6200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9607)	7.718	0.144	3.50	38.68
OUTFLOW: ID= 1 (6607)	7.718	0.048	8.75	38.54

PEAK FLOW REDUCTION [Qout/Qin](%)= 33.09
TIME SHIFT OF PEAK FLOW (min)=315.00
MAXIMUM STORAGE USED (ha.m.)= 0.2052

ADD HYD (4607)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6607):		7.72	0.048	8.75	38.54

+ ID2= 2 (9607):	5.54	0.492	5.25	38.68
ID = 3 (4607):	13.26	0.516	5.25	38.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2742)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2204):		4137.41	63.582	7.00	36.05
+ ID2= 2 (4607):		13.26	0.516	5.25	38.60
ID = 3 (2742):		4150.67	63.625	7.00	36.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0636)	Area (ha)= 167.13
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	75.21	91.92
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.40
Length	(m)=	1055.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.96
over (min)		15.00	45.00
Storage Coeff. (min)=		16.80 (ii)	99.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	5.13 1.39 5.640 (iii)
TIME TO PEAK	(hrs)=	5.25 6.75 5.25
RUNOFF VOLUME	(mm)=	53.38 23.91 37.17
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.44 0.68

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9605)					
Inlet Cap.=0.240					
#of Inlets= 1					
Total(cms)= 0.2		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):		167.13	5.64	5.25	37.17
MAJOR SYS.(ID= 2):		139.65	5.40	5.25	37.17
MINOR SYS.(ID= 3):		27.48	0.24	2.50	37.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6605)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 15.0 min		0.0000	0.0000	0.2400	1.9400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9605)	27.483	0.240	2.50	37.17
OUTFLOW: ID= 1 (6605)	27.483	0.092	14.25	37.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 38.25
TIME SHIFT OF PEAK FLOW (min)=705.00
MAXIMUM STORAGE USED (ha.m.)= 0.7422

ADD HYD (4605)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6605):	27.48	0.092	14.25	37.10
	+ ID2= 2 (9605):	139.65	5.400	5.25	37.17
	ID = 3 (4605):	167.13	5.429	5.25	37.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0641)	Area (ha)=	7.45
ID= 1 DT=15.0 min	Total Imp(%)=	23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.71	5.74
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.00
Length	(m)=	222.86	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.83
over (min)		15.00	30.00
Storage Coeff. (min)=		4.80 (ii)	26.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.12 0.16 0.278 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	53.38 22.29 29.44
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.41 0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2641)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0641):	7.45	0.278	5.25	29.44
	+ ID2= 2 (4605):	167.13	5.429	5.25	37.16
	ID = 3 (2641):	174.58	5.707	5.25	36.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1206)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2641):	174.58	5.707	5.25	36.83
	+ ID2= 2 (2742):	4150.67	63.625	7.00	36.06
	ID = 3 (1206):	4325.25	65.723	6.75	36.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5206)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5206.0) ------>

Distance	Elevation	Manning	
0.00	168.00	0.1110	
93.40	167.00	0.1110	
125.20	166.00	0.1110	
131.90	165.50	0.1110	
147.90	162.50	0.1110	
154.70	162.00	0.1110	
156.80	162.00	0.1110	
159.70	162.50	0.1110	
181.80	162.50	0.1110	
197.10	161.50	0.1110	
254.30	160.00	0.1110	
256.80	159.00	0.1110 /0.0490	Main Channel
257.00	158.60	0.0490	Main Channel
266.00	158.60	0.0490	Main Channel
266.30	159.00	0.0490 /0.1110	Main Channel
270.90	160.00	0.1110	
308.40	162.00	0.1110	
338.30	168.50	0.1110	
351.00	169.00	0.1110	
400.10	169.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	159.00	.108E+04	3.3	0.88	5.51
0.87	159.47	.263E+04	12.5	1.39	3.49
1.35	159.95	.464E+04	26.9	1.70	2.87
1.82	160.42	.840E+04	46.9	1.63	2.98

2.29	160.89	.159E+05	79.2	1.46	3.34
2.77	161.37	.271E+05	128.0	1.38	3.53
3.24	161.84	.416E+05	199.3	1.40	3.48
3.72	162.32	.587E+05	291.2	1.45	3.36
4.19	162.79	.800E+05	403.7	1.47	3.30
4.66	163.26	.103E+06	565.2	1.60	3.04
5.14	163.74	.127E+06	752.2	1.73	2.82
5.61	164.21	.152E+06	963.8	1.86	2.62
6.08	164.68	.177E+06	1199.2	1.98	2.46
6.56	165.16	.203E+06	1457.9	2.10	2.32
7.03	165.63	.229E+06	1734.7	2.21	2.20
7.51	166.11	.257E+06	2012.4	2.29	2.13
7.98	166.58	.286E+06	2284.4	2.33	2.09
8.45	167.05	.318E+06	2571.2	2.36	2.06
8.93	167.53	.355E+06	2790.7	2.29	2.12

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1206)	4325.25	65.72	6.75	36.09	2.10	1.52
OUTFLOW: ID= 1 (5206)	4325.25	65.79	7.00	36.09	2.09	1.53

CALIB		
STANDHYD (0206)	Area (ha)=	4.99
ID= 1 DT=15.0 min	Total Imp(%)=	14.00 Dir. Conn.(%)= 14.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	4.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.50
Length	(m)=	182.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.37
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.05 0.14 0.185 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	53.38 21.53 25.99
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.40 0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2206)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3					

		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0206):	4.99	0.185	5.25	25.99
	+ ID2= 2 (5206):	4325.25	65.791	7.00	36.09
	ID = 3 (2206):	4330.24	65.830	7.00	36.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0638)	Area (ha)=	51.20
ID= 1 DT=15.0 min	Total Imp(%)=	84.00 Dir. Conn.(%)= 84.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.01	8.19
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80
Length	(m)=	584.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	22.79
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.98 0.28 3.200 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	53.38 39.82 51.21
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.98 0.73 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1635)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0638):	51.20	3.200	5.25	51.21
	+ ID2= 2 (2206):	4330.24	65.830	7.00	36.08
	ID = 3 (1635):	4381.44	66.476	7.00	36.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0642)	Area (ha)=	81.09
ID= 1 DT=15.0 min	Total Imp(%)=	58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	47.03	34.06
Dep. Storage	(mm)=	1.00	4.00

Average Slope	(%)=	1.00	2.50
Length	(m)=	735.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.77
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	3.26	0.88 3.887 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	53.38	31.04 44.00
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.57 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9609)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)= 14.1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	81.09	3.89	5.25	44.00
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	81.09	3.89	5.25	44.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6609)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3680	1.3972
0.1520	0.0433	2.7440	1.7980
0.2370	0.2233	9.7830	2.5193
0.2980	0.5550	12.8700	3.3070
0.3490	1.1433	14.0910	3.8116

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9609)	81.090	3.887	5.25	44.00
OUTFLOW: ID= 1 (6609)	81.090	1.826	6.00	44.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.99
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 1.6441

ADD HYD (4609)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9609 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0001 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6609):	81.09	1.826	6.00	44.00
+ ID2= 2 (9609):	0.00	0.000	0.00	0.00
ID = 3 (4609):	81.09	1.826	6.00	44.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2642)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1635):	4381.44	66.476	7.00	36.25
+ ID2= 2 (4609):	81.09	1.826	6.00	44.00
ID = 3 (2642):	4462.53	67.851	7.00	36.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5635)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5635.0) ------>

Distance	Elevation	Manning	
0.00	162.99	0.1110	
23.31	157.07	0.1110	
32.56	156.00	0.1110	
59.26	155.00	0.1110	
62.94	154.00	0.1110	
63.09	153.97	0.1110	
63.13	153.97	0.1110	
63.76	153.82	0.1110 /0.0490	Main Channel
63.87	153.50	0.0490	Main Channel
66.42	153.50	0.0490	Main Channel
67.30	153.81	0.0490 /0.1110	Main Channel
68.02	153.82	0.1110	
68.09	153.82	0.1110	
71.13	155.00	0.1110	
91.29	155.00	0.1110	
108.35	155.11	0.1110	
126.23	155.50	0.1110	
133.49	156.00	0.1110	
156.41	161.00	0.1110	
158.20	161.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	153.81	.112E+04	0.7	0.77	25.85
0.71	154.21	.384E+04	3.7	1.13	17.50
1.12	154.62	.780E+04	8.8	1.34	14.81
1.52	155.02	.136E+05	14.9	1.30	15.22
1.93	155.43	.423E+05	32.3	0.91	21.79
2.33	155.83	.835E+05	67.6	0.96	20.59
2.74	156.24	.132E+06	122.0	1.10	18.03

3.14	156.64	.183E+06	193.8 1.26 15.76
3.55	157.05	.237E+06	280.8 1.41 14.09
3.95	157.45	.294E+06	384.2 1.56 12.73
4.36	157.86	.351E+06	501.9 1.70 11.67
4.76	158.26	.411E+06	633.4 1.83 10.81
5.17	158.67	.472E+06	778.3 1.96 10.11
5.57	159.07	.535E+06	936.5 2.08 9.52
5.98	159.48	.599E+06	1107.8 2.20 9.02
6.38	159.88	.666E+06	1292.3 2.31 8.58
6.79	160.29	.733E+06	1489.8 2.42 8.20
7.19	160.69	.803E+06	1700.4 2.52 7.87
7.60	161.10	.874E+06	1924.8 2.62 7.57

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2642)		4462.53	67.85	7.00	36.40	2.34	0.96
OUTFLOW: ID= 1 (5635)		4462.53	66.53	7.25	36.40	2.32	0.96

CALIB
STANDHYD (0635)
ID= 1 DT=15.0 min

Area (ha)= 73.01
Total Imp(%)= 39.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.47	44.54
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	697.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.30
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	63.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.97	0.92 2.610 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	53.38	24.79 35.94
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.46 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2635)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0635):	73.01	2.610	5.25	35.94
+ ID2= 2 (5635):	4462.53	66.532	7.25	36.40
ID = 3 (2635):	4535.54	67.421	7.25	36.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0186)
ID= 1 DT=15.0 min

Area (ha)= 388.73
Total Imp(%)= 44.00 Dir. Conn.(%)= 44.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	171.04	217.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	1609.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.30
over (min)		30.00	45.00
Storage Coeff. (min)=		19.20 (ii)	112.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.06	0.01
			TOTALS
PEAK FLOW	(cms)=	11.55	3.21 12.710 (iii)
TIME TO PEAK	(hrs)=	5.25	6.75 5.25
RUNOFF VOLUME	(mm)=	53.38	24.79 37.37
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.46 0.69

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9611)
Inlet Cap.=1.944
#of Inlets= 1
Total(cms)= 1.9

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	388.73	12.71	5.25	37.37
MAJOR SYS.(ID= 2):	214.42	10.77	5.25	37.37
MINOR SYS.(ID= 3):	174.31	1.94	3.50	37.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6611)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.9440	8.4000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9611)	174.306	1.944	3.50	37.37
OUTFLOW: ID= 1 (6611)	174.306	0.926	11.75	37.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 47.64

TIME SHIFT OF PEAK FLOW (min)=495.00
MAXIMUM STORAGE USED (ha.m.)= 4.0028

ADD HYD (4611)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6611):	174.31	0.926	11.75	37.36
	+ ID2= 2 (9611):	214.42	10.766	5.25	37.37
	ID = 3 (4611):	388.73	11.135	5.25	37.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1637)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2635):	4535.54	67.421	7.25	36.39
	+ ID2= 2 (4611):	388.73	11.135	5.25	37.36
	ID = 3 (1637):	4924.27	70.982	7.25	36.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5637)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5637.0) ------>

Distance	Elevation	Manning	
0.00	159.54	0.1110	
26.71	153.00	0.1110	
28.32	152.50	0.1110	
28.88	152.18	0.1110	
29.32	152.00	0.1110	
29.68	151.83	0.1110	
31.21	151.87	0.1110 /0.0490	Main Channel
31.97	151.50	0.0490	Main Channel
36.66	151.50	0.0490	Main Channel
36.81	151.73	0.0490	Main Channel
37.62	151.95	0.0490 /0.1110	Main Channel
37.67	151.96	0.1110	
37.83	152.00	0.1110	
38.03	152.07	0.1110	
39.32	152.50	0.1110	
39.70	152.62	0.1110	
40.47	152.84	0.1110	
41.06	153.00	0.1110	
66.35	154.00	0.1110	
91.54	159.93	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	151.87	.213E+04	1.2	0.59	30.61
0.77	152.27	.599E+04	4.8	0.87	20.60
1.18	152.68	.107E+05	10.8	1.08	16.65

1.58	153.08	.167E+05	18.7	1.20	14.91
1.98	153.48	.266E+05	29.4	1.19	15.07
2.39	153.89	.416E+05	44.4	1.15	15.58
2.79	154.29	.607E+05	65.7	1.16	15.41
3.20	154.70	.815E+05	92.5	1.22	14.69
3.60	155.10	.104E+06	124.2	1.29	13.93
4.00	155.50	.128E+06	160.9	1.36	13.21
4.41	155.91	.153E+06	202.4	1.43	12.57
4.81	156.31	.179E+06	249.0	1.49	12.00
5.21	156.71	.207E+06	300.6	1.56	11.50
5.62	157.12	.237E+06	357.3	1.62	11.05
6.02	157.52	.268E+06	419.3	1.68	10.65
6.43	157.93	.300E+06	486.5	1.74	10.29
6.83	158.33	.334E+06	559.2	1.80	9.97
7.23	158.73	.370E+06	637.5	1.86	9.67
7.64	159.14	.407E+06	721.3	1.91	9.40

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1637)		4924.27	70.98	7.25	36.47	2.87	1.18
OUTFLOW: ID= 1 (5637)		4924.27	69.94	7.50	36.47	2.85	1.17

CALIB	
STANDHYD (0637)	Area (ha)= 30.59
ID= 1 DT=15.0 min	Total Imp(%)= 16.00 Dir. Conn.(%)= 16.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.89	25.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.50
Length	(m)=	451.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.37
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	36.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	0.34	0.63 0.943 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	53.38	21.53 26.62
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.40 0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2637)

1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6637):	30.59	0.943	5.25	26.62
	+ ID2= 2 (5637):	4924.27	69.935	7.50	36.47
	ID = 3 (2637):	4954.86	70.161	7.50	36.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1717)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2237):	10472.55	73.445	7.25	27.87
	+ ID2= 2 (2637):	4954.86	70.161	7.50	36.40
	ID = 3 (1717):	15427.41	143.605	7.50	30.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5717)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5717.0) ------>

Distance	Elevation	Manning	
0.00	159.92	0.1110	
16.17	156.24	0.1110	
31.63	155.13	0.1110	
53.62	154.50	0.1110	
65.20	152.50	0.1110	
91.81	150.00	0.1110	
110.61	150.00	0.1110	
111.90	149.13	0.1110 /0.0490	Main Channel
112.55	148.60	0.0490	Main Channel
125.01	148.60	0.0490	Main Channel
125.79	149.17	0.0490 /0.1110	Main Channel
127.48	149.50	0.1110	
210.24	149.92	0.1110	
212.41	150.00	0.1110	
224.55	150.00	0.1110	
334.54	151.50	0.1110	
364.54	157.50	0.1110	
384.84	164.02	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	149.13	.527E+04	4.4	0.63	19.84
1.10	149.70	.148E+05	16.1	0.82	15.33
1.67	150.27	.628E+05	47.3	0.57	22.13
2.23	150.83	.140E+06	112.6	0.61	20.66
2.80	151.40	.237E+06	212.9	0.68	18.54
3.37	151.97	.349E+06	364.8	0.79	15.94
3.94	152.54	.465E+06	556.7	0.90	13.92
4.51	153.11	.584E+06	785.4	1.02	12.40
5.07	153.67	.706E+06	1047.1	1.12	11.24
5.64	154.24	.831E+06	1340.6	1.22	10.33
6.21	154.81	.959E+06	1648.4	1.30	9.70
6.78	155.38	.110E+07	1991.0	1.37	9.17

7.34	155.94	.124E+07	2379.5	1.45	8.67
7.91	156.51	.138E+07	2806.9	1.53	8.22
8.48	157.08	.153E+07	3272.6	1.61	7.81
9.05	157.65	.168E+07	3771.6	1.69	7.45
9.62	158.22	.184E+07	4307.0	1.77	7.11
10.18	158.78	.199E+07	4873.0	1.85	6.82
10.75	159.35	.215E+07	5469.0	1.92	6.55

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1717)		*******	143.60	7.50	30.61	2.41	0.63
OUTFLOW: ID= 1 (5717)		*******	142.03	7.75	30.61	2.40	0.63

CALIB	
STANDHYD (0717)	Area (ha)= 33.60
ID= 1 DT=15.0 min	Total Imp(%)= 17.00 Dir. Conn.(%)= 17.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.71	27.89
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.70
Length	(m)=	473.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	12.93
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	36.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	0.40	0.65 1.022 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	53.38	20.80 26.34
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.38 0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2717)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0717):	33.60	1.022	5.25	26.34
	+ ID2= 2 (5717):	15427.41	142.030	7.75	30.61
	ID = 3 (2717):	15461.01	142.237	7.75	30.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0257) |   Area    (ha)=  75.57
|ID= 1 DT=15.0 min |   Total Imp(%)=  83.00   Dir. Conn.(%)=  83.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      62.72        12.85
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.50
     Length            (m)=     709.79        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        22.12
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.20 (ii)   76.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.33         0.38          4.565 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      53.38        38.11         50.78
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.70          0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2257) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0257):    75.57   4.565     5.25    50.78
       + ID2= 2 (2717): 15461.01 142.237     7.75    30.60
         ================================================
         ID = 3 (2257): 15536.58 142.866     7.75    30.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5240.0) ------>
              Distance      Elevation       Manning
                 0.00         156.50        0.1110
                20.51         149.00        0.1110
                31.95         149.00        0.1110
                39.82         148.00        0.1110
                48.42         148.00        0.1110
                51.87         147.50        0.1110
                73.08         147.00        0.1110
                76.22         146.00    0.1110 /0.0490  Main Channel
                77.04         145.00        0.0490      Main Channel
                87.93         145.00        0.0490      Main Channel
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                88.30         146.00    0.0490 /0.1110  Main Channel
                89.26         146.52        0.1110
                90.21         147.00        0.1110
               114.82         147.00        0.1110
               123.73         146.85        0.1110
               126.70         147.00        0.1110
               143.61         152.00        0.1110
               155.99         159.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   145.50    .727E+04       5.6          1.01      21.49
       1.00   146.00    .149E+05      17.6          1.53      14.15
       1.62   146.62    .259E+05      40.8          2.05      10.57
       2.24   147.24    .531E+05      74.9          1.83      11.81
       2.85   147.85    .113E+06     140.3          1.61      13.45
       3.47   148.47    .186E+06     235.4          1.65      13.14
       4.09   149.09    .266E+06     354.8          1.73      12.51
       4.71   149.71    .359E+06     517.8          1.87      11.55
       5.32   150.32    .455E+06     710.3          2.03      10.67
       5.94   150.94    .553E+06     930.7          2.19       9.91
       6.56   151.56    .655E+06    1178.2          2.34       9.26
       7.18   152.18    .760E+06    1453.5          2.49       8.71
       7.79   152.79    .867E+06    1758.1          2.64       8.22
       8.41   153.41    .976E+06    2087.9          2.78       7.79
       9.03   154.03    .109E+07    2442.5          2.92       7.42
       9.65   154.65    .120E+07    2821.5          3.05       7.10
      10.26   155.26    .132E+07    3224.5          3.18       6.81
      10.88   155.88    .144E+07    3651.5          3.30       6.55
      11.50   156.50    .156E+07    4102.3          3.42       6.32

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2257) *******   142.87    7.75  30.70      2.87      1.61
     OUTFLOW: ID= 1 (5240) *******   141.98    8.00  30.70      2.86      1.61

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0240) |   Area    (ha)=  49.43
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  35.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.30        32.13
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         8.70
     Length            (m)=     574.05        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        14.30
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.60 (ii)   39.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.20         0.77          1.868 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      53.38        23.08         33.69
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.42          0.62
```



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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2240) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0240):    49.43   1.868     5.25    33.69
       + ID2= 2 (5240): 15536.58 141.979     8.00    30.70
         ================================================
         ID = 3 (2240): 15586.01 142.298     8.00    30.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0634) |   Area    (ha)= 320.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     115.39       205.13
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.10
     Length            (m)=    1461.78        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        13.48
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      18.00 (ii)  106.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00       105.00
     Unit Hyd. peak  (cms)=       0.06         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.84         2.88          8.869 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.75          5.25
     RUNOFF VOLUME    (mm)=      53.38        23.08         33.99
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.42          0.63


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9604) |
| Inlet Cap.=1.303 |
| #of Inlets=    1 |
| Total(cms)=  1.3 |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 320.52      8.87      5.25   33.99
     ================================================
```



```
     MAJOR SYS.(ID= 2): 185.50      7.57      5.25   33.99
     MINOR SYS.(ID= 3): 135.02      1.30      3.50   33.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6604) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  1.3030      5.6300

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9604)    135.025      1.303     3.50      33.99
     OUTFLOW: ID= 1 (6604)    135.025      0.652    12.25      33.98

                PEAK   FLOW  REDUCTION [Qout/Qin](%)= 50.00
                TIME SHIFT OF PEAK FLOW          (min)=525.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.8159

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (4604) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6604):   135.02   0.652    12.25    33.98
       + ID2= 2 (9604):   185.50   7.566     5.25    33.99
         ================================================
         ID = 3 (4604):   320.52   7.814     5.25    33.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2240): 15586.01 142.298     8.00    30.71
       + ID2= 2 (4604):   320.52   7.814     5.25    33.99
         ================================================
         ID = 3 (1264): 15906.53 144.477     8.00    30.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5264) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5264.0) ------>
              Distance      Elevation       Manning
                 0.00         159.01        0.1110
                18.68         154.00        0.1110
                32.14         153.50        0.1110
                59.08         147.50        0.1110
                71.63         147.50        0.1110
                77.74         146.50        0.1110
                81.24         145.00    0.1110 /0.0490  Main Channel
                81.73         143.80        0.0490      Main Channel
```

88.41	143.80	0.0490	Main Channel
89.20	145.00	0.0490 /0.1110	Main Channel
101.11	147.50	0.1110	
105.58	148.00	0.1110	
134.97	150.00	0.1110	
141.87	151.00	0.1110	
157.92	151.30	0.1110	
158.71	151.50	0.1110	
160.99	151.50	0.1110	
169.62	154.50	0.1110	
171.70	155.00	0.1110	
177.64	156.04	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	144.40	.305E+04	3.2	0.77	15.68
1.20	145.00	.637E+04	10.0	1.14	10.64
1.85	145.65	.112E+05	21.9	1.42	8.51
2.50	146.30	.182E+05	38.8	1.55	7.83
3.15	146.95	.277E+05	61.0	1.60	7.56
3.80	147.60	.413E+05	88.5	1.55	7.78
4.45	148.25	.639E+05	129.3	1.47	8.24
5.10	148.90	.920E+05	183.3	1.44	8.37
5.75	149.55	.126E+06	252.5	1.45	8.32
6.40	150.20	.166E+06	339.8	1.49	8.13
7.04	150.84	.210E+06	447.2	1.55	7.81
7.69	151.49	.260E+06	556.6	1.55	7.80
8.34	152.14	.318E+06	709.7	1.62	7.47
8.99	152.79	.378E+06	886.6	1.70	7.10
9.64	153.44	.440E+06	1083.6	1.79	6.77
10.29	154.09	.507E+06	1263.9	1.81	6.69
10.94	154.74	.579E+06	1512.2	1.90	6.38
11.59	155.39	.653E+06	1776.3	1.97	6.13
12.24	156.04	.730E+06	2060.1	2.05	5.91

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (1264) *******	144.48	8.00	30.77		4.63	1.46
OUTFLOW: ID= 1 (5264) *******	144.34	8.00	30.77		4.62	1.46

CALIB			
STANDHYD (0264)	Area (ha)= 37.54		
ID= 1 DT=15.0 min	Total Imp(%)= 21.00	Dir. Conn.(%)= 21.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.88	29.66
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.60
Length	(m)=	500.27	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	12.51
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW (cms)=		0.55	0.61	1.071 (iii)

TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	53.38	20.10	27.09
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.37	0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2264)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0264):	37.54	1.071	5.25	27.09
+ ID2= 2 (5264):	15906.53	144.337	8.00	30.77
ID = 3 (2264):	15944.07	144.561	8.00	30.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0631)	Area (ha)= 49.79		
ID= 1 DT=15.0 min	Total Imp(%)= 18.00	Dir. Conn.(%)= 18.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.96	40.83
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	576.14	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	12.11
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW (cms)=		0.62	0.76	1.248 (iii)
TIME TO PEAK (hrs)=		5.25	5.75	5.25
RUNOFF VOLUME (mm)=		53.38	19.44	25.55
TOTAL RAINFALL (mm)=		54.38	54.38	54.38
RUNOFF COEFFICIENT =		0.98	0.36	0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9606)				
Inlet Cap.=0.099				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	49.79	1.25	5.25	25.55
MAJOR SYS.(ID= 2):	36.71	1.15	5.25	25.55
MINOR SYS.(ID= 3):	13.08	0.10	3.50	25.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6606)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0990	0.4270

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9606)	13.076	0.099	3.50	25.55
OUTFLOW: ID= 1 (6606)	13.076	0.049	12.25	25.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.47
TIME SHIFT OF PEAK FLOW (min)=525.00
MAXIMUM STORAGE USED (ha.m.)= 0.2115

ADD HYD (4606)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (6606):	13.08	0.049	12.25	25.46
+ ID2= 2 (9606):	36.71	1.149	5.25	25.55
ID = 3 (4606):	49.79	1.168	5.25	25.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3264)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (2264):	15944.07	144.561	8.00	30.76
+ ID2= 2 (4606):	49.79	1.168	5.25	25.52
ID = 3 (3264):	15993.86	144.810	8.00	30.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0276)	Area (ha)= 265.62		
ID= 1 DT=15.0 min	Total Imp(%)= 77.00	Dir. Conn.(%)= 77.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	204.53	61.09

Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.30	
Length (m)=	1330.71	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	25.02	20.75	
over (min)	15.00	30.00	
Storage Coeff. (min)=	16.80 (ii)	97.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	105.00	
Unit Hyd. peak (cms)=	0.07	0.01	
		TOTALS	
PEAK FLOW (cms)=	13.96	1.40	14.541 (iii)
TIME TO PEAK (hrs)=	5.25	6.75	5.25
RUNOFF VOLUME (mm)=	53.38	35.02	49.16
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.64	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0438)	Area (ha)= 65.06		
ID= 1 DT=15.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.79	16.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	658.58	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.08
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	67.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW (cms)=		3.38	0.45	3.713 (iii)
TIME TO PEAK (hrs)=		5.25	6.00	5.25
RUNOFF VOLUME (mm)=		53.38	33.62	48.44
TOTAL RAINFALL (mm)=		54.38	54.38	54.38
RUNOFF COEFFICIENT =		0.98	0.62	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1435)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				

```
          ID1= 1 (0276):   265.62  14.541     5.25    49.16
        + ID2= 2 (0438):    65.06   3.713     5.25    48.44
          ================================================
          ID = 3 (1435):   330.68  18.254     5.25    49.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0435) |   Area    (ha)=  78.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  72.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.18        21.85
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.90
     Length            (m)=     721.25        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        19.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   72.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      3.89         0.55         4.213 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=     53.38        32.29         47.47
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
     RUNOFF COEFFICIENT   =      0.98         0.59          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2435) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0435):    78.03   4.213     5.25    47.47
        + ID2= 2 (1435):   330.68  18.254     5.25    49.02
          ================================================
          ID = 3 (2435):   408.71  22.467     5.25    48.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1616) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2435):   408.71  22.467     5.25    48.72
        + ID2= 2 (3264): 15993.86 144.810     8.00    30.75
          ================================================
          ID = 3 (1616): 16402.57 148.264     8.00    31.20
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0632) |   Area    (ha)=  43.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.23        34.71
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.00
     Length            (m)=     541.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        13.83
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      9.00 (ii)   52.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.64         0.69          1.124 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     53.38        22.29         28.82
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
     RUNOFF COEFFICIENT   =      0.98         0.41          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9603) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.94      1.12      5.25   28.82
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.94      1.12      5.25   28.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6603) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.7000      2.4800

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9603)     43.940     1.124      5.25      28.82
     OUTFLOW: ID= 1 (6603)     43.940     0.238      8.50      28.80
```



```
                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.13
                    TIME SHIFT OF PEAK FLOW          (min)=195.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.8421

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (4603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9603 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6603):    43.94   0.238     8.50    28.80
        + ID2= 2 (9603):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4603):    43.94   0.238     8.50    28.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0633) |   Area    (ha)=  19.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.88        15.50
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=     359.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.30
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.27         0.40          0.622 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=     53.38        24.79         30.50
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
     RUNOFF COEFFICIENT   =      0.98         0.46          0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9602) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  19.38      0.62      5.25   30.50
```



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     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  19.38      0.62      5.25   30.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6602) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.8000      0.4900

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9602)     19.380     0.622      5.25      30.50
     OUTFLOW: ID= 1 (6602)     19.380     0.330      6.50      30.50

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.01
                    TIME SHIFT OF PEAK FLOW          (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2030

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (4602) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9602 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6602):    19.38   0.330     6.50    30.50
        + ID2= 2 (9602):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4602):    19.38   0.330     6.50    30.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0630) |   Area    (ha)= 120.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  27.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      32.57        88.07
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.60
     Length            (m)=     896.81        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.30
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     12.60 (ii)   74.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.25         1.65          3.152 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=     53.38        24.79         32.51
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
     RUNOFF COEFFICIENT   =      0.98         0.46          0.60
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9601)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	120.64	3.15	5.25	32.51
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	120.64	3.15	5.25	32.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6601)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.0000	3.5700

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9601)	120.640	3.152	5.25	32.51
OUTFLOW: ID= 1 (6601)	120.640	1.113	8.00	32.50

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.31
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 1.9879

ADD HYD (4601)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 9601 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6601):	120.64	1.113	8.00	32.50
+ ID2= 2 (9601):	0.00	0.000	0.00	0.00
ID = 3 (4601):	120.64	1.113	8.00	32.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2601)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4601):	120.64	1.113	8.00	32.50

+ ID2= 2 (4602):	19.38	0.330	6.50	30.50
ID = 3 (2601):	140.02	1.384	7.50	32.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1602)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2601):	140.02	1.384	7.50	32.22
+ ID2= 2 (4603):	43.94	0.238	8.50	28.80
ID = 3 (1602):	183.96	1.611	7.50	31.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1603)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1602):	183.96	1.611	7.50	31.41
+ ID2= 2 (1616):	16402.57	148.264	8.00	31.20
ID = 3 (1603):	16586.53	149.862	8.00	31.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5616)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5616.0) ------>

Distance	Elevation	Manning	
0.00	155.00	0.1110	
50.69	148.87	0.1110	
67.28	145.00	0.1110	
75.68	144.20	0.1110	
78.03	143.38	0.1110	
78.57	143.00	0.1110 /0.0490	Main Channel
78.71	141.40	0.0490	Main Channel
91.20	141.40	0.0490	Main Channel
92.33	143.00	0.0490 /0.1110	Main Channel
93.98	143.50	0.1110	
211.31	144.60	0.1110	
232.18	145.00	0.1110	
242.93	145.50	0.1110	
278.58	153.02	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	141.93	.821E+04	4.9	0.72	27.93
1.07	142.47	.167E+05	15.1	1.10	18.40
1.60	143.00	.254E+05	29.0	1.38	14.62
2.23	143.63	.380E+05	51.7	1.64	12.28
2.85	144.25	.869E+05	87.9	1.22	16.49
3.48	144.88	.187E+06	155.9	1.01	20.03

4.10	145.50	.316E+06	268.0	1.03	19.65
4.73	146.13	.453E+06	422.4	1.13	17.87
5.36	146.76	.594E+06	610.6	1.24	16.22
5.98	147.38	.740E+06	830.5	1.36	14.85
6.61	148.01	.890E+06	1080.9	1.47	13.72
7.24	148.64	.104E+07	1361.0	1.58	12.79
7.86	149.26	.120E+07	1667.3	1.68	12.02
8.49	149.89	.137E+07	2001.7	1.77	11.39
9.11	150.51	.154E+07	2366.3	1.86	10.84
9.74	151.14	.172E+07	2760.9	1.95	10.36
10.37	151.77	.190E+07	3185.8	2.03	9.94
10.99	152.39	.209E+07	3641.0	2.11	9.56
11.62	153.02	.229E+07	4127.0	2.19	9.23

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1603) *******	149.86	8.00	31.20		3.42	1.02
OUTFLOW: ID= 1 (5616) *******	147.65	8.50	31.20		3.39	1.03

CALIB		
STANDHYD (0616)	Area (ha)= 105.56	
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	55.95	49.61
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.00
Length (m)=	838.89	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.94
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	3.88	1.21	4.761 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	53.38	27.67	41.30
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.51	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2616)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0616):	105.56	4.761	5.25	41.30
+ ID2= 2 (5616):	16586.53	147.654	8.50	31.20

ID = 3 (2616):	16692.09	148.404	8.25	31.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0293)	Area (ha)= 152.56	
ID= 1 DT=15.0 min	Total Imp(%)= 79.00	Dir. Conn.(%)= 79.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	120.52	32.04
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	1008.50	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	20.75
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	8.31	0.84	8.803 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	53.38	35.02	49.53
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.64	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1300)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0293):	152.56	8.803	5.25	49.53
+ ID2= 2 (2616):	16692.09	148.404	8.25	31.26
ID = 3 (1300):	16844.65	149.564	8.25	31.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5300)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5300.0) ------>

Distance	Elevation	Manning
0.00	144.96	0.1110
34.18	134.00	0.1110
50.16	133.00	0.1110
68.52	132.51	0.1110
90.08	132.00	0.1110
110.50	131.00	0.1110

111.48	131.00	0.1110 /0.0490	Main Channel
114.14	130.50	0.0490	Main Channel
123.12	130.50	0.0490	Main Channel
124.57	131.00	0.0490 /0.1110	Main Channel
124.89	131.00	0.1110	
133.94	145.00	0.1110	
152.13	145.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	131.00	.181E+05	4.0	0.73	75.07
1.23	131.73	.716E+05	23.7	1.09	50.39
1.97	132.47	.170E+06	60.5	1.17	46.89
2.70	133.20	.337E+06	124.6	1.21	45.12
3.44	133.94	.544E+06	220.9	1.33	41.04
4.17	134.67	.770E+06	352.8	1.51	36.40
4.91	135.41	.100E+07	512.5	1.68	32.64
5.64	136.14	.124E+07	697.6	1.84	29.71
6.38	136.88	.149E+07	907.0	2.00	27.38
7.11	137.61	.174E+07	1139.9	2.15	25.49
7.85	138.35	.200E+07	1395.8	2.29	23.92
8.58	139.08	.227E+07	1674.1	2.42	22.60
9.32	139.82	.254E+07	1974.6	2.55	21.47
10.05	140.55	.282E+07	2297.1	2.67	20.49
10.79	141.29	.311E+07	2641.3	2.79	19.63
11.52	142.02	.340E+07	3007.1	2.90	18.86
12.26	142.76	.370E+07	3394.4	3.01	18.18
12.99	143.49	.401E+07	3803.3	3.12	17.57
13.73	144.23	.432E+07	4233.6	3.22	17.02

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1300) *******	149.56	8.25	31.43	2.89	1.24
OUTFLOW: ID= 1 (5300) *******	144.88	9.00	31.43	2.86	1.24

CALIB	
STANDHYD (0300)	Area (ha)= 140.00
ID= 1 DT=15.0 min	Total Imp(%)= 39.00 Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	54.60	85.40
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	8.20
Length	(m)=	966.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.93
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	54.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.50	1.95	4.887 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	53.38	24.66	35.00
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.45	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2300)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0300):	140.00	4.887	5.25	35.00
	+ ID2= 2 (5300):	16844.65	144.879	9.00	31.43
	ID = 3 (2300):	16984.65	145.510	9.00	31.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0614)	Area (ha)= 16.47
ID= 1 DT=15.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.00	2.47
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	331.36	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	22.12
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.97	0.10	1.064 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	38.11	51.09
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.70	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9614)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=4.124				
#of Inlets= 1				
Total(cms)= 4.1				
TOTAL HYD.(ID= 1):	16.47	1.06	5.25	51.09

MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	16.47	1.06	5.25	51.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0728)	Area (ha)= 12.10
ID= 1 DT=15.0 min	Total Imp(%)= 68.00 Dir. Conn.(%)= 68.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.23	3.87
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.10
Length	(m)=	284.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.08
over (min)		15.00	30.00
Storage Coeff. (min)=		5.40 (ii)	33.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	0.57	0.16	0.728 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	33.62	47.05
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.62	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2728)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0728):	12.10	0.728	5.25	47.05
	+ ID2= 2 (9614):	16.47	1.064	5.25	51.09
	ID = 3 (2728):	28.57	1.792	5.25	49.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9270)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=8.836				
#of Inlets= 1				
Total(cms)= 8.8				
TOTAL HYD.(ID= 1):	28.57	1.79	5.25	49.38

MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	28.57	1.79	5.25	49.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6270)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	3.5480	0.8200
DT= 15.0 min	0.0870	0.6030	4.3140	0.8520
	0.2750	0.6330	5.1300	0.8840
	0.6180	0.6640	5.9920	0.9160
	1.0600	0.6950	6.8990	0.9480
	1.5840	0.7260	7.8470	0.9800
	2.1780	0.7570	8.8360	1.0120
	2.8350	0.7890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9270)	28.570	1.792	5.25	49.38
OUTFLOW: ID= 1 (6270)	28.570	1.302	5.25	49.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 72.67
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.7314

ADD HYD (4270)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6270):	28.57	1.302	5.25	49.32
	+ ID2= 2 (9270):	0.00	0.000	0.00	0.00
	ID = 3 (4270):	28.57	1.302	5.25	49.32

*** W A R N I N G : HYDROGRAPH 9270 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1427)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2300):	16984.65	145.510	9.00	31.46
	+ ID2= 2 (4270):	28.57	1.302	5.25	49.32
	ID = 3 (1427):	17013.22	145.637	9.00	31.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0606)	Area (ha)= 53.10
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 55.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	29.20	23.89

Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.80
Length	(m)=	594.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	17.53
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.03	0.65 2.585 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	53.38	28.73 42.29
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.53 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9269)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		53.10	2.58	5.25	42.29
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		53.10	2.58	5.25	42.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6269)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.3230	1.1320
	0.0860	0.3350	3.0230	1.4270
	0.1240	0.6920	8.0750	1.7920
	0.1530	1.0380	9.7660	1.9010

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9269)	53.100	2.585	5.25	42.29
OUTFLOW: ID= 1 (6269)	53.100	1.145	6.00	42.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.31
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 1.2224

ADD HYD (4269)

1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)

*** W A R N I N G : HYDROGRAPH 9269 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6269):	53.10	1.145	6.00	42.27
+ ID2= 2 (9269):	0.00	0.000	0.00	0.00
ID = 3 (4269):	53.10	1.145	6.00	42.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2606)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1427):	17013.22	145.637	9.00	31.49
+ ID2= 2 (4269):	53.10	1.145	6.00	42.27
ID = 3 (2606):	17066.32	145.940	9.00	31.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5427)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5427.0) ------>

Distance	Elevation	Manning	
0.00	130.04	0.1110	
10.57	125.00	0.1110	
81.38	125.00	0.1110	
102.44	125.68	0.1110	
131.41	124.00	0.1110	
136.25	123.00	0.1110	
143.40	123.00	0.1110 /0.0490	Main Channel
144.00	122.20	0.0490	Main Channel
150.83	122.20	0.0490	Main Channel
153.56	123.00	0.0490 /0.1110	Main Channel
154.90	123.00	0.1110	
156.48	124.00	0.1110	
164.24	125.00	0.1110	
200.91	125.50	0.1110	
246.89	125.00	0.1110	
283.84	125.00	0.1110	
303.71	126.00	0.1110	
334.11	130.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.40	122.60	.199E+04	2.1	0.69	15.73
0.80	123.00	.441E+04	7.0	1.02	10.56
1.21	123.41	.975E+04	16.7	1.11	9.71
1.62	123.82	.158E+05	30.7	1.26	8.56
2.04	124.24	.229E+05	47.9	1.36	7.96
2.45	124.65	.325E+05	69.8	1.39	7.77
2.86	125.06	.493E+05	86.0	1.13	9.55
3.27	125.47	.108E+06	147.0	0.88	12.25
3.68	125.88	.184E+06	253.0	0.89	12.15

4.09	126.29	.263E+06	398.4	0.98 11.02
4.51	126.71	.344E+06	576.0	1.09 9.94
4.92	127.12	.425E+06	782.8	1.20 9.04
5.33	127.53	.507E+06	1017.2	1.30 8.31
5.74	127.94	.591E+06	1277.8	1.40 7.70
6.15	128.35	.675E+06	1563.6	1.50 7.19
6.56	128.76	.760E+06	1873.9	1.60 6.76
6.98	129.18	.847E+06	2207.9	1.69 6.39
7.39	129.59	.935E+06	2565.3	1.78 6.07
7.80	130.00	.102E+07	2945.4	1.87 5.79

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2606) *******		145.94	9.00	31.52	3.26	0.89
OUTFLOW: ID= 1 (5427) *******		145.19	9.25	31.52	3.26	0.89

CALIB			
STANDHYD (0427)	Area (ha)=	22.52	
ID= 1 DT=15.0 min	Total Imp(%)=	17.00	Dir. Conn.(%)= 14.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.83	18.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.60
Length	(m)=	387.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	12.85
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	36.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	0.22	0.43 0.636 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	53.38	19.95 24.63
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.37 0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2427)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0427):		22.52	0.636	5.25	24.63
+ ID2= 2 (5427):		17066.32	145.192	9.25	31.52
ID = 3 (2427):		17088.85	145.250	9.25	31.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0312)	Area (ha)=	233.87	
ID= 1 DT=15.0 min	Total Imp(%)=	46.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	107.58	126.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	1248.65	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.66
over (min)		15.00	30.00
Storage Coeff. (min)=		15.00 (ii)	88.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01
			TOTALS
PEAK FLOW	(cms)=	6.10	2.99 7.516 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50 5.25
RUNOFF VOLUME	(mm)=	53.38	29.81 38.76
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.55 0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1341)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0312):		233.87	7.516	5.25	38.76
+ ID2= 2 (2427):		17088.85	145.250	9.25	31.51
ID = 3 (1341):		17322.71	146.730	9.25	31.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5341)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5341.0) ------>

Distance	Elevation	Manning	
0.00	129.00	0.1110	
19.97	122.00	0.1110	
43.39	121.83	0.1110	
70.95	121.00	0.1110	
78.38	122.00	0.1110	
110.84	122.00	0.1110	
127.33	120.00	0.1110	
127.83	120.00	0.1110 /0.0490	Main Channel

128.71	118.60	0.0490	Main Channel
147.85	118.60	0.0490	Main Channel
147.86	120.00	0.0490 /0.1110	Main Channel
148.30	120.00	0.1110	
149.10	120.67	0.1110	
154.79	121.69	0.1110	
172.71	122.26	0.1110	
194.33	126.00	0.1110	
343.54	129.42	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	119.07	.628E+04	3.7	0.41	28.15
0.93	119.53	.127E+05	11.6	0.64	18.23
1.40	120.00	.191E+05	22.3	0.81	14.29
1.96	120.56	.284E+05	39.9	0.98	11.86
2.53	121.12	.403E+05	62.0	1.07	10.83
3.09	121.69	.615E+05	90.7	1.03	11.29
3.65	122.25	.106E+06	130.5	0.86	13.58
4.21	122.81	.167E+06	196.4	0.82	14.21
4.78	123.38	.231E+06	279.4	0.85	13.75
5.34	123.94	.296E+06	378.0	0.89	13.03
5.90	124.50	.362E+06	491.4	0.95	12.29
6.46	125.06	.431E+06	619.1	1.00	11.61
7.03	125.63	.502E+06	760.5	1.06	11.00
7.59	126.19	.575E+06	906.8	1.10	10.57
8.15	126.75	.656E+06	1059.7	1.13	10.32
8.71	127.31	.748E+06	1236.5	1.15	10.08
9.28	127.88	.850E+06	1435.7	1.18	9.87
9.84	128.44	.962E+06	1657.4	1.20	9.68
10.40	129.00	.108E+07	1902.7	1.22	9.50

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1341) *******	146.73	9.25	31.61		3.79	0.85
OUTFLOW: ID= 1 (5341) *******	145.42	9.50	31.61		3.78	0.85

CALIB	
STANDHYD (0341)	Area (ha)= 71.87
ID= 1 DT=15.0 min	Total Imp(%)= 39.00 Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.03	43.84
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.00
Length	(m)=	692.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.61
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.60	1.18 2.452 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	53.38	27.39 35.71
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38

RUNOFF COEFFICIENT = 0.98 0.50 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2341)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0341):	71.87	2.452	5.25	35.71
	+ ID2= 2 (5341):	17322.71	145.420	9.50	31.61
	ID = 3 (2341):	17394.59	145.673	9.50	31.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5328)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5328.0) ------>

Distance	Elevation	Manning	
0.00	122.83	0.1110	
38.42	122.00	0.1110	
76.21	122.00	0.1110	
99.10	119.00	0.1110	
111.79	118.00	0.1110	
116.05	117.00	0.1110	
120.04	117.00	0.1110 /0.0490	Main Channel
121.01	116.40	0.0490	Main Channel
129.65	116.40	0.0490	Main Channel
129.67	117.00	0.0490 /0.1110	Main Channel
130.14	117.00	0.1110	
130.87	118.00	0.1110	
139.94	119.00	0.1110	
157.92	118.89	0.1110	
175.26	119.00	0.1110	
192.73	119.00	0.1110	
216.81	119.91	0.1110	
239.98	121.57	0.1110	
256.21	122.00	0.1110	
324.25	122.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	116.60	.235E+04	1.2	0.66	33.87
0.40	116.80	.478E+04	3.6	1.01	21.95
0.60	117.00	.731E+04	7.1	1.29	17.19
0.91	117.31	.135E+05	15.3	1.51	14.73
1.22	117.62	.204E+05	26.4	1.73	12.86
1.54	117.94	.278E+05	40.1	1.92	11.57
1.85	118.25	.367E+05	55.9	2.03	10.94
2.16	118.56	.483E+05	75.3	2.08	10.70
2.47	118.87	.628E+05	98.7	2.10	10.60

2.79	119.19	.962E+05	129.5	1.80	12.38
3.10	119.50	.140E+06	176.6	1.68	13.22
3.41	119.81	.188E+06	235.3	1.67	13.34
3.72	120.12	.241E+06	306.8	1.70	13.08
4.04	120.44	.296E+06	390.4	1.76	12.64
4.35	120.75	.354E+06	485.2	1.83	12.17
4.66	121.06	.415E+06	591.3	1.90	11.70
4.97	121.37	.479E+06	708.7	1.97	11.26
5.29	121.69	.546E+06	831.7	2.03	10.93
5.60	122.00	.618E+06	958.2	2.07	10.74

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2341) *******	145.67	9.50	31.63		2.89	1.75
OUTFLOW: ID= 1 (5328) *******	145.16	9.75	31.63		2.89	1.76

CALIB	
STANDHYD (0328)	Area (ha)= 240.00
ID= 1 DT=15.0 min	Total Imp(%)= 56.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	134.40	105.60
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	1264.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	22.23
over (min)		15.00	30.00
Storage Coeff. (min)=		15.00 (ii)	88.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01
			TOTALS
PEAK FLOW	(cms)=	8.08	2.72 9.396 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50 5.25
RUNOFF VOLUME	(mm)=	53.38	32.10 42.53
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.59 0.78

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2328)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0328):	240.00	9.396	5.25	42.53
	+ ID2= 2 (5328):	17394.59	145.164	9.75	31.63
	ID = 3 (2328):	17634.58	146.230	9.75	31.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0274)	Area (ha)= 98.82
ID= 1 DT=15.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.32	41.50
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	811.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.14
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	70.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	3.97	0.97 4.526 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	53.38	29.85 43.50
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.55 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0287)	Area (ha)= 145.43
ID= 1 DT=15.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	74.17	71.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	984.65	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.82
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	80.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	5.11	1.34 5.839 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	53.38	25.70 39.82
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.47 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1301)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0274):	98.82	4.526	5.25	43.50
+ ID2= 2 (0287):	145.43	5.839	5.25	39.82
ID = 3 (1301):	244.25	10.365	5.25	41.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0301)	Area (ha)= 32.30		
ID= 1 DT=15.0 min	Total Imp(%)= 21.00	Dir. Conn.(%)= 17.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.78	25.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	464.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	14.96
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.38	0.61	0.904 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	53.38	23.04	28.20
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.42	0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2301)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0301):	32.30	0.904	5.25	28.20
+ ID2= 2 (1301):	244.25	10.365	5.25	41.31
ID = 3 (2301):	276.55	11.270	5.25	39.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0683)	Area (ha)= 98.00		
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 56.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.86	42.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	808.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	19.37
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	3.80	1.12	4.611 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	53.38	31.39	43.70
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.58	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0263)	Area (ha)= 112.72		
ID= 1 DT=15.0 min	Total Imp(%)= 20.00	Dir. Conn.(%)= 16.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.54	90.18
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.20
Length	(m)=	866.87	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	14.47
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.25	1.79	2.482 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	53.38	22.26	27.24
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.41	0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2263)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0263):	112.72	2.482	5.25	27.24
+ ID2= 2 (0683):	98.00	4.611	5.25	43.70
ID = 3 (2263):	210.72	7.092	5.25	34.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1428)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2263):	210.72	7.092	5.25	34.90
+ ID2= 2 (2301):	276.55	11.270	5.25	39.78
ID = 3 (1428):	487.27	18.362	5.25	37.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5428)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5428.0) ------>

Distance	Elevation	Manning	
0.00	138.98	0.1110	
32.39	138.00	0.1110	
48.96	135.08	0.1110	
48.99	135.08	0.1110	
49.39	135.00	0.1110	
58.21	134.38	0.1110	
80.35	133.30	0.1110 /0.0490	Main Channel
85.70	132.80	0.0490	Main Channel
88.03	132.80	0.0490	Main Channel
90.50	133.26	0.0490 /0.1110	Main Channel
97.60	134.00	0.1110	
112.23	135.00	0.1110	
113.23	135.00	0.1110	
127.46	137.03	0.1110	
133.90	137.78	0.1110	
136.01	138.00	0.1110	
139.38	138.17	0.1110	
153.22	139.00	0.1110	
157.75	139.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	133.03	.593E+03	0.3	0.31	33.11

0.46	133.26	.171E+04	1.3	0.46	22.49
0.80	133.60	.470E+04	4.9	0.64	16.06
1.13	133.93	.980E+04	11.1	0.70	14.66
1.47	134.27	.171E+05	20.4	0.74	13.98
1.81	134.61	.268E+05	33.4	0.77	13.36
2.14	134.94	.385E+05	50.4	0.81	12.73
2.48	135.28	.520E+05	72.5	0.86	11.95
2.82	135.62	.664E+05	99.1	0.92	11.16
3.15	135.95	.817E+05	129.9	0.98	10.48
3.49	136.29	.979E+05	164.7	1.04	9.91
3.82	136.62	.115E+06	203.6	1.09	9.41
4.16	136.96	.133E+06	246.6	1.14	8.99
4.50	137.30	.152E+06	293.4	1.19	8.63
4.83	137.63	.172E+06	344.5	1.24	8.31
5.17	137.97	.193E+06	399.7	1.28	8.03
5.51	138.31	.216E+06	441.5	1.26	8.14
5.84	138.64	.242E+06	492.5	1.25	8.20
6.18	138.98	.272E+06	553.1	1.25	8.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1428)	487.27	18.36	5.25	37.67	1.40	0.73
OUTFLOW: ID= 1 (5428)	487.27	16.87	5.25	37.67	1.34	0.72

CALIB			
STANDHYD (0428)	Area (ha)= 43.25		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 42.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.92	20.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.20
Length	(m)=	536.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	25.54
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	51.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.26	0.86	2.024 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	35.34	42.91
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.65	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2428)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0428):	43.25	2.024	5.25	42.91
+ ID2= 2 (5428):	487.27	16.869	5.25	37.67
ID = 3 (2428):	530.52	18.893	5.25	38.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5309)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5309.0) ------>

Distance	Elevation	Manning	
0.00	135.01	0.1110	
88.30	132.00	0.1110	
91.73	132.10	0.1110	
100.02	131.00	0.1110	
103.43	130.00	0.1110 /0.0490	Main Channel
105.04	128.50	0.0490	Main Channel
106.10	128.50	0.0490	Main Channel
107.39	130.00	0.0490 /0.1110	Main Channel
107.67	130.05	0.1110	
111.76	131.00	0.1110	
120.80	132.00	0.1110	
120.87	132.00	0.1110	
133.03	133.00	0.1110	
148.52	134.00	0.1110	
172.34	134.99	0.1110	
172.97	134.99	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	128.80	.529E+03	0.2	0.59	37.05
0.60	129.10	.129E+04	0.8	0.83	26.15
0.90	129.40	.227E+04	1.8	1.02	21.39
1.20	129.70	.348E+04	3.1	1.18	18.51
1.50	130.00	.492E+04	5.0	1.32	16.50
1.86	130.36	.743E+04	8.6	1.51	14.46
2.21	130.71	.112E+05	13.4	1.55	14.02
2.57	131.07	.163E+05	19.5	1.56	13.97
2.93	131.43	.237E+05	27.3	1.50	14.49
3.28	131.78	.339E+05	37.6	1.45	14.99
3.64	132.14	.475E+05	49.5	1.36	16.01
4.00	132.50	.688E+05	67.2	1.28	17.08
4.35	132.85	.970E+05	91.4	1.23	17.70
4.71	133.21	.132E+06	122.7	1.21	17.95
5.06	133.56	.175E+06	162.7	1.22	17.90
5.42	133.92	.225E+06	212.7	1.24	17.62
5.78	134.28	.283E+06	271.6	1.26	17.34
6.13	134.63	.349E+06	343.0	1.28	16.98
6.49	134.99	.425E+06	427.8	1.32	16.56

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2428)	530.52	18.89	5.25	38.09	2.53	1.56
OUTFLOW: ID= 1 (5309)	530.52	17.46	5.50	38.09	2.45	1.56

CALIB
STANDHYD (0309) | Area (ha)= 68.51
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.83	37.68
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	675.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	22.16
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.66	1.25	2.593 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	53.38	31.29	39.02
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.58	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2309)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0309):	68.51	2.593	5.25	39.02
+ ID2= 2 (5309):	530.52	17.461	5.50	38.09
ID = 3 (2309):	599.03	19.408	5.25	38.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5615)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5615.0) ------>

Distance	Elevation	Manning	
0.00	126.00	0.1110	
5.19	124.23	0.1110	
5.94	124.00	0.1110	
8.92	123.00	0.1110	
9.88	122.62	0.1110	
11.32	122.00	0.1110	
12.54	122.00	0.1110 /0.0490	Main Channel
13.18	121.10	0.0490	Main Channel
14.84	121.10	0.0490	Main Channel
15.91	122.00	0.0490 /0.1110	Main Channel

20.85	123.00	0.1110				
21.91	123.56	0.1110				
25.11	125.00	0.1110				
26.34	125.69	0.1110				
28.50	126.85	0.1110				
28.61	126.92	0.1110				
30.55	128.00	0.1110				
32.32	128.23	0.1110				
34.17	128.53	0.1110				
36.76	129.00	0.1110				

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	121.33	.431E+03	0.3	0.79	21.69
0.45	121.55	.960E+03	1.1	1.14	14.94
0.67	121.77	.159E+04	2.2	1.40	12.17
0.90	122.00	.231E+04	3.7	1.61	10.55
1.17	122.27	.383E+04	6.6	1.76	9.69
1.43	122.53	.587E+04	10.5	1.83	9.28
1.70	122.80	.845E+04	15.6	1.89	9.01
1.97	123.07	.116E+05	22.0	1.94	8.77
2.23	123.33	.151E+05	29.7	2.01	8.46
2.50	123.60	.189E+05	38.7	2.09	8.15
2.77	123.87	.232E+05	49.1	2.16	7.87
3.03	124.13	.278E+05	60.8	2.23	7.62
3.30	124.40	.328E+05	74.0	2.30	7.39
3.57	124.67	.382E+05	88.7	2.37	7.18
3.83	124.93	.440E+05	105.0	2.44	6.98
4.10	125.20	.501E+05	123.0	2.51	6.79
4.37	125.47	.566E+05	142.7	2.58	6.61
4.63	125.73	.634E+05	164.1	2.65	6.44
4.90	126.00	.706E+05	187.1	2.71	6.29

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2309)	599.03	19.41	5.25	38.20	1.86	1.92
OUTFLOW: ID= 1 (5615)	599.03	19.30	5.50	38.20	1.85	1.92

CALIB
STANDHYD (0615) | Area (ha)= 31.22
ID= 1 DT=15.0 min | Total Imp(%)= 34.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.61	20.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.40
Length	(m)=	456.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.40
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.59	0.67	1.176 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	27.27	34.32

TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.50	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2615)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0615):	31.22	1.176	5.25	34.32
+ ID2= 2 (5615):	599.03	19.303	5.50	38.20
ID = 3 (2615):	630.25	20.179	5.50	38.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1335)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2328):	17634.58	146.230	9.75	31.77
+ ID2= 2 (2615):	630.25	20.179	5.50	38.01
ID = 3 (1335):	18264.83	149.314	9.50	31.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5335)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5335.0) ------>

Distance	Elevation	Manning	
0.00	125.00	0.1110	
40.36	116.00	0.1110	
71.40	114.00	0.1110	
88.94	113.71	0.1110	
106.14	114.00	0.1110	
116.89	114.00	0.1110	
122.13	112.00	0.1110	
122.45	112.00	0.1110	
122.47	112.00	0.1110 /0.0490	Main Channel
122.55	111.50	0.0490	Main Channel
131.77	111.50	0.0490	Main Channel
131.80	112.00	0.0490 /0.1110	Main Channel
132.16	112.00	0.1110	
134.04	113.00	0.1110	
155.71	114.00	0.1110	
250.45	117.00	0.1110	
599.03	117.00	0.1110	
740.01	120.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	111.75	.868E+03	1.2	0.54	11.65
0.50	112.00	.174E+04	3.8	0.83	7.57
0.97	112.47	.370E+04	11.8	1.20	5.21
1.44	112.94	.603E+04	23.5	1.46	4.27
1.91	113.41	.937E+04	38.9	1.56	4.02
2.38	113.88	.154E+05	58.7	1.43	4.37
2.85	114.35	.305E+05	94.5	1.16	5.38
3.32	114.82	.503E+05	150.1	1.12	5.59
3.79	115.29	.740E+05	225.3	1.14	5.47
4.26	115.76	.102E+06	321.5	1.19	5.27
4.74	116.24	.133E+06	443.1	1.25	5.00
5.21	116.71	.168E+06	591.2	1.32	4.72
5.68	117.18	.228E+06	663.8	1.09	5.73
6.15	117.65	.331E+06	985.9	1.12	5.60
6.62	118.12	.439E+06	1389.2	1.19	5.27
7.09	118.59	.551E+06	1868.4	1.27	4.91
7.56	119.06	.667E+06	2420.4	1.36	4.59
8.03	119.53	.787E+06	3043.6	1.45	4.31
8.50	120.00	.912E+06	3736.8	1.54	4.07

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (1335) *******	149.31	9.50	31.99		3.32	1.12
OUTFLOW: ID= 1 (5335) *******	149.19	9.75	31.99		3.31	1.12

CALIB
STANDHYD (0335)
ID= 1 DT=15.0 min

Area (ha)= 17.42
Total Imp(%)= 43.00 Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.49	9.93
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.90
Length	(m)=	340.78	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	19.40
over (min)		15.00	30.00
Storage Coeff. (min)=		5.40 (ii)	32.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04
			TOTALS
PEAK FLOW	(cms)=	0.44	0.37 0.810 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	53.38	28.46 37.43
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.52 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2335)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0335):	17.42	0.810	5.25	37.43
+ ID2= 2 (5335):	18264.83	149.188	9.75	31.99
ID = 3 (2335):	18282.25	149.221	9.75	31.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0672)
ID= 1 DT=15.0 min

Area (ha)= 420.75
Total Imp(%)= 60.00 Dir. Conn.(%)= 52.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	252.45	168.30
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	1674.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	24.65
over (min)		30.00	30.00
Storage Coeff. (min)=		18.00 (ii)	106.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.06	0.01
			TOTALS
PEAK FLOW	(cms)=	14.86	4.40 16.699 (iii)
TIME TO PEAK	(hrs)=	5.25	6.75 5.25
RUNOFF VOLUME	(mm)=	53.38	34.95 44.53
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.64 0.82

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9672)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	420.75	16.70	5.25	44.53
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	420.75	16.70	5.25	44.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6672)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.0660	11.8000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9672)	420.750	16.699	5.25	44.53
OUTFLOW: ID= 1 (6672)	420.750	3.121	9.00	44.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.69
TIME SHIFT OF PEAK FLOW (min)=225.00
MAXIMUM STORAGE USED (ha.m.)= 12.0139

ADD HYD (4672)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9672 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6672):	420.75	3.121	9.00	44.53
+ ID2= 2 (9672):	0.00	0.000	0.00	0.00
ID = 3 (4672):	420.75	3.121	9.00	44.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0322)
ID= 1 DT=15.0 min

Area (ha)= 139.97
Total Imp(%)= 56.00 Dir. Conn.(%)= 46.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	78.38	61.59
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	965.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	25.36
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	79.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	4.44	2.01 5.658 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	53.38	35.26 43.59
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.65 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2322)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0322):	139.97	5.658	5.25	43.59
+ ID2= 2 (4672):	420.75	3.121	9.00	44.53
ID = 3 (2322):	560.72	7.312	5.25	44.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1346)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2322):	560.72	7.312	5.25	44.30
+ ID2= 2 (2335):	18282.25	149.221	9.75	31.99
ID = 3 (1346):	18842.97	152.926	9.50	32.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5346)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5346.0) ------>

Distance	Elevation	Manning	
0.00	119.00	0.1110	
0.00	117.00	0.1110	
13.24	112.00	0.1110	
20.29	111.00	0.1110	
39.56	110.00	0.1110	
39.81	110.00	0.1110	
44.05	109.55	0.1110	
47.94	109.01	0.1110	
47.99	109.00	0.1110	
48.77	109.00	0.1110 /0.0490	Main Channel
50.01	108.50	0.0490	Main Channel
66.15	108.50	0.0490	Main Channel
68.59	109.00	0.0490 /0.1110	Main Channel
68.90	109.00	0.1110	
70.88	110.00	0.1110	
80.34	116.00	0.1110	
82.24	117.02	0.1110	
82.27	117.04	0.1110	
86.00	118.64	0.1110	
86.92	119.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	109.00	.644E+04	12.3	1.37	8.73
1.03	109.53	.152E+05	45.2	2.13	5.61
1.55	110.05	.261E+05	95.1	2.61	4.57
2.08	110.58	.403E+05	162.3	2.88	4.14
2.61	111.11	.587E+05	250.2	3.05	3.91
3.13	111.63	.796E+05	361.0	3.25	3.68

3.66	112.16	.102E+06	492.6	3.46	3.46
4.18	112.68	.126E+06	645.9	3.68	3.24
4.71	113.21	.150E+06	817.9	3.90	3.06
5.24	113.74	.175E+06	1008.2	4.12	2.90
5.76	114.26	.202E+06	1216.4	4.32	2.76
6.29	114.79	.228E+06	1442.2	4.52	2.64
6.82	115.32	.256E+06	1685.5	4.71	2.53
7.34	115.84	.285E+06	1946.1	4.89	2.44
7.87	116.37	.314E+06	2223.6	5.07	2.36
8.39	116.89	.345E+06	2518.3	5.23	2.28
8.92	117.42	.376E+06	2837.9	5.41	2.21
9.45	117.95	.407E+06	3175.6	5.58	2.14
9.97	118.47	.439E+06	3529.2	5.75	2.08

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1346) *******		152.93	9.50	32.36	2.01	2.84
OUTFLOW: ID= 1 (5346) *******		153.02	9.75	32.36	2.01	2.84

CALIB / STANDHYD (0346) / ID= 1 DT=15.0 min	Area (ha)= 29.38	Total Imp(%)= 68.00	Dir. Conn.(%)= 68.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.98	9.40
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.40
Length	(m)=	442.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	18.14
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.39	0.30	1.656 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	53.38	29.85	45.85
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.55	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2346) / 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0346):		29.38	1.656	5.25	45.85
+ ID2= 2 (5346):		18842.97	153.015	9.75	32.36
=					
ID = 3 (2346):		18872.35	153.072	9.75	32.38

ID = 3 (2346): 18872.35 153.072 9.75 32.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0356) / ID= 1 DT=15.0 min	Area (ha)= 67.12	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.34	16.78
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	668.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.75
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	57.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.49	0.53	3.893 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	53.38	35.02	48.79
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.64	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1355) / 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0356):		67.12	3.893	5.25	48.79
+ ID2= 2 (2346):		18872.35	153.072	9.75	32.38
=					
ID = 3 (1355):		18939.47	153.227	9.75	32.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5355) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5355.0) ------>

Distance	Elevation	Manning	
0.00	113.00	0.1110	
27.22	105.00	0.1110	
79.42	103.00	0.1110	
81.02	102.67	0.1110 /0.0490	Main Channel
84.17	102.00	0.0490	Main Channel
84.81	102.00	0.0490	Main Channel

87.18	101.40	0.0490		Main Channel	
94.91	101.40	0.0490		Main Channel	
97.82	102.00	0.0490		Main Channel	
98.24	102.00	0.0490		Main Channel	
98.77	103.00	0.0490 /0.1110		Main Channel	
100.12	106.88	0.1110			
100.16	107.00	0.1110			
108.13	108.00	0.1110			
111.00	109.00	0.1110			
115.64	112.00	0.1110			
133.82	113.00	0.1110			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	101.82	.720E+04	3.0	0.73	40.33
0.85	102.25	.175E+05	10.6	1.08	27.37
1.27	102.67	.298E+05	23.5	1.40	21.16
1.92	103.32	.538E+05	55.5	1.83	16.16
2.56	103.96	.953E+05	102.9	1.92	15.44
3.21	104.61	.156E+06	169.3	1.92	15.39
3.85	105.25	.236E+06	260.4	1.96	15.08
4.50	105.90	.321E+06	378.0	2.09	14.15
5.14	106.54	.409E+06	516.3	2.24	13.20
5.79	107.19	.500E+06	674.0	2.39	12.36
6.44	107.84	.598E+06	851.6	2.53	11.70
7.08	108.48	.703E+06	1050.5	2.65	11.16
7.73	109.13	.813E+06	1270.1	2.77	10.67
8.37	109.77	.927E+06	1510.1	2.89	10.24
9.02	110.42	.105E+07	1769.8	3.00	9.84
9.66	111.06	.117E+07	2049.2	3.12	9.49
10.31	111.71	.129E+07	2348.2	3.22	9.17
10.95	112.35	.142E+07	2654.6	3.31	8.93
11.60	113.00	.157E+07	2983.1	3.38	8.76

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1355) *******		153.23	9.75	32.44	3.05	1.92
OUTFLOW: ID= 1 (5355) *******		152.67	10.00	32.44	3.03	1.92

CALIB / STANDHYD (0355) / ID= 1 DT=15.0 min	Area (ha)= 83.93	Total Imp(%)= 56.00	Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	47.00	36.93
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.50
Length	(m)=	748.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.37
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.26	0.94	4.060 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25

RUNOFF VOLUME	(mm)=	53.38	26.66	41.62
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.49	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2355) / 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0355):		83.93	4.060	5.25	41.62
+ ID2= 2 (5355):		18939.47	152.669	10.00	32.44
=					
ID = 3 (2355):		19023.40	152.837	10.00	32.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0314) / ID= 1 DT=15.0 min	Area (ha)= 515.06	Total Imp(%)= 62.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	319.34	195.72
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	1853.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	20.13
over (min)		30.00	30.00
Storage Coeff. (min)=		18.00 (ii)	104.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.06	0.01

		TOTALS
PEAK FLOW	(cms)=	20.99	4.11	22.622 (iii)
TIME TO PEAK	(hrs)=	5.25	6.75	5.25
RUNOFF VOLUME	(mm)=	53.38	31.82	44.76
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.59	0.82

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2314) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

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*** W A R N I N G :  HYDROGRAPH 9614 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (0314):   515.06  22.622     5.25    44.76
       + ID2= 2 (9614):     0.00   0.000     0.00     0.00
         ==============================================
         ID = 3 (2314):   515.06  22.622     5.25    44.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0675)  |   Area    (ha)=  71.22
|ID= 1 DT=15.0 min  |   Total Imp(%)=  34.00   Dir. Conn.(%)=  27.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     24.21        47.01
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.30
     Length            (m)=    689.06        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        16.22
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     16.20 (ii)   59.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.07         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.32         1.06       2.052 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00       5.25
     RUNOFF VOLUME    (mm)=     53.38        23.82      31.80
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.44       0.58


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9153) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  71.22      2.05      5.25   31.80
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  71.22      2.05      5.25   31.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (6153) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   7.2100     0.1500
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                           3.5200     0.0800   |   9.2000      0.2500
                           5.8400     0.1100   |  12.9500      0.3500

                              AREA     QPEAK     TPEAK      R.V.
                              (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9153)    71.220     2.052      5.25      31.80
     OUTFLOW: ID= 1 (6153)    71.220     1.979      5.25      31.80

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.46
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0482

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-------------------
| ADD HYD   (4153) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9153 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6153):    71.22   1.979     5.25    31.80
       + ID2= 2 (9153):     0.00   0.000     0.00     0.00
         ==============================================
         ID = 3 (4153):    71.22   1.979     5.25    31.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| DUHYD     (9152) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  71.22      1.98      5.25   31.80
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  71.22      1.98      5.25   31.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6152) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.0000     1.1800
                         0.8000     0.3000   |   1.9000     1.4000
                         0.9000     0.7000   |   3.5000     1.9100

                              AREA     QPEAK     TPEAK      R.V.
                              (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9152)    71.220     1.979      5.25      31.80
     OUTFLOW: ID= 1 (6152)    71.220     0.908      7.25      31.80

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.90
                    TIME SHIFT OF PEAK FLOW         (min)=120.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.7409

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| ADD HYD   (4152) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9152 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6152):    71.22   0.908     7.25    31.80
       + ID2= 2 (9152):     0.00   0.000     0.00     0.00
         ==============================================
         ID = 3 (4152):    71.22   0.908     7.25    31.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1314) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2314):   515.06  22.622     5.25    44.76
       + ID2= 2 (4152):    71.22   0.908     7.25    31.80
         ==============================================
         ID = 3 (1314):   586.28  23.443     5.25    43.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0670)  |   Area    (ha)=  43.66
|ID= 1 DT=15.0 min  |   Total Imp(%)=  70.00   Dir. Conn.(%)=  70.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.56        13.10
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.40
     Length            (m)=    539.51        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        20.75
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.60 (ii)   56.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.12         0.42       2.437 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75       5.25
     RUNOFF VOLUME    (mm)=     53.38        35.02      47.87
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.64       0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (8607) |
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| Inlet Cap.=5.000 |
| #of Inlets=    1 |
| Total(cms)=  5.0 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.66      2.44      5.25   47.87
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.66      2.44      5.25   47.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=  68.64
|ID= 1 DT=15.0 min  |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     33.63        35.01
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.70
     Length            (m)=    676.46        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        18.77
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.32         0.83       2.805 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25       5.25
     RUNOFF VOLUME    (mm)=     53.38        31.04      41.99
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.57       0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=  15.80
|ID= 1 DT=15.0 min  |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     13.43         2.37
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.70
     Length            (m)=    324.55        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     25.02        18.77
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
```

```
     PEAK FLOW      (cms)=       0.93         0.06          0.961 (iii)
     TIME TO PEAK   (hrs)=       5.25         6.25           5.25
     RUNOFF VOLUME   (mm)=      53.38        31.04          50.03
     TOTAL RAINFALL  (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT  =       0.98         0.57           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.80      0.96      5.25   50.03
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.80      0.96      5.25   50.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6600      1.5800

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (****)     15.800      0.961      5.25      50.03
     OUTFLOW: ID= 1 (****)     15.800      0.205      6.75      49.99

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.35
                  TIME SHIFT OF PEAK FLOW          (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4912

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (****):    15.80   0.205     6.75    49.99
        + ID2= 2 (****):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (****):    15.80   0.205     6.75    49.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=  44.69
|ID= 1 DT=15.0 min  |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       37.99         6.70
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         2.70
     Length            (m)=      545.83        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       25.02        18.77
                 over (min)       15.00        30.00
     Storage Coeff.  (min)=       12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00        75.00
     Unit Hyd. peak  (cms)=        0.08         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=        2.63         0.16          2.718 (iii)
     TIME TO PEAK    (hrs)=        5.25         6.25           5.25
     RUNOFF VOLUME    (mm)=       53.38        31.04          50.03
     TOTAL RAINFALL   (mm)=       54.38        54.38          54.38
     RUNOFF COEFFICIENT   =        0.98         0.57           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  44.69      2.72      5.25   50.03
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  44.69      2.72      5.25   50.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.8800      4.4690

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (****)     44.690      2.718      5.25      50.03
     OUTFLOW: ID= 1 (****)     44.690      0.583      6.75      50.02

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.46
                  TIME SHIFT OF PEAK FLOW          (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.3869

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (****):    44.69   0.583     6.75    50.02
        + ID2= 2 (****):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (****):    44.69   0.583     6.75    50.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    15.80   0.205     6.75    49.99
        + ID2= 2 (****):    44.69   0.583     6.75    50.02
          ================================================
          ID = 3 (****):    60.49   0.788     6.75    50.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    68.64   2.805     5.25    41.99
        + ID2= 2 (****):    60.49   0.788     6.75    50.01
          ================================================
          ID = 3 (****):   129.13   3.420     5.25    45.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2599) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (8607):    43.66   2.437     5.25    47.87
        + ID2= 2 (****):   129.13   3.420     5.25    45.74
          ================================================
          ID = 3 (2599):   172.79   5.857     5.25    46.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9964) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 172.79      5.86      5.25   46.28
     ================================================
```



```
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 172.79      5.86      5.25   46.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6964) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3000      2.2107
                          0.0400     0.1758   |   0.3200      2.4327
                          0.0700     0.3516   |   0.3400      2.6546
                          0.1100     0.5274   |   0.3500      2.8766
                          0.1500     0.7032   |   0.3700      3.0985
                          0.1800     0.8790   |   0.3800      3.3711
                          0.2000     1.1010   |   0.3900      3.6437
                          0.2300     1.3229   |   0.7400      3.9163
                          0.2500     1.5449   |   0.7600      4.1889
                          0.2700     1.7668   |   0.0000      0.0000
                          0.2900     1.9888   |   0.0000      0.0000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9964)    172.790      5.857      5.25      46.28
     OUTFLOW: ID= 1 (6964)    172.790      0.881     10.25      46.28

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.05
                  TIME SHIFT OF PEAK FLOW          (min)=300.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  4.8578

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (4964) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9964 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6964):   172.79   0.881    10.25    46.28
        + ID2= 2 (9964):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4964):   172.79   0.881    10.25    46.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=  72.09
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       32.44        39.65
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         3.40
     Length            (m)=      693.25        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       25.02        18.14
```

```
                over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.80 (ii)    64.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.25          0.99          2.956 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      53.38         29.85         40.44
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.98          0.55          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=  26.85
|ID= 1 DT=15.0 min  |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.82         4.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     423.08        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        18.14
                over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.80 (ii)    64.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.58          0.10          1.654 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      53.38         29.85         49.85
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.98          0.55          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  26.85      1.65      5.25   49.85
     ====================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  26.85      1.65      5.25   49.85
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1300     2.6850

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     26.850     1.654      5.25      49.85
     OUTFLOW: ID= 1 (****)     26.850     0.352      6.75      49.83

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.30
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8382

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (****):    26.85   0.352     6.75     49.83
        + ID2= 2 (****):     0.00   0.000     0.00      0.00
          ================================================
          ID = 3 (****):    26.85   0.352     6.75     49.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    72.09   2.956     5.25     40.44
        + ID2= 2 (****):    26.85   0.352     6.75     49.83
          ================================================
          ID = 3 (****):    98.94   3.236     5.25     42.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9963) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  98.94      3.24      5.25   42.99
     ====================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.20
     MINOR SYS.(ID= 3):  98.94      3.24      5.25   42.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR (6963) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1600     1.2340
                          0.0200     0.0978   |   0.1700     1.3620
                          0.0400     0.1956   |   0.1800     1.6181
                          0.0600     0.2934   |   0.1900     1.7409
                          0.0800     0.3911   |   0.2000     1.9865
                          0.0900     0.4889   |   0.4400     2.1093
                          0.1100     0.5867   |   0.4600     2.3550
                          0.1200     0.6845   |   0.4700     2.5275
                          0.1300     0.7823   |   0.4800     2.7000
                          0.1400     0.8801   |   0.0000     0.0000
                          0.1500     1.1059   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9963)     98.940     3.236      5.25      42.99
     OUTFLOW: ID= 1 (6963)     98.940     0.478     10.00      42.98

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.79
                TIME SHIFT OF PEAK FLOW         (min)=285.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.6731

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--------------------
| ADD HYD   (4963) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9963 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6963):    98.94   0.478    10.00    42.98
        + ID2= 2 (9963):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4963):    98.94   0.478    10.00    42.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1598) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4963):    98.94   0.478    10.00    42.98
        + ID2= 2 (4964):   172.79   0.881    10.25    46.28
          ================================================
          ID = 3 (1598):   271.73   1.360    10.25    45.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5598) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5598.0) ------>
              Distance      Elevation       Manning
```



```
                 0.00        178.57        0.1110
                19.93        178.35        0.1110
                22.69        178.35        0.1110
                34.83        178.58        0.1110
                49.82        178.60        0.1110
                87.96        179.03        0.1110
                96.42        177.27    0.1110 /0.0490  Main Channel
                97.49        177.31        0.0490      Main Channel
               109.98        177.60    0.0490 /0.1110  Main Channel
               112.52        177.61        0.1110
               121.23        177.69        0.1110
               124.63        177.56        0.1110
               134.04        178.00        0.1110
               155.00        178.79        0.1110
               163.70        178.63        0.1110
               200.02        178.57        0.1110
               211.27        178.56        0.1110
               222.53        178.69        0.1110
               241.93        178.51        0.1110
               275.14        178.54        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.09   177.36    .149E+03       0.0          0.20      80.33
       0.19   177.46    .675E+03       0.2          0.32      48.76
       0.28   177.55    .159E+04       0.7          0.43      36.60
       0.37   177.64    .314E+04       1.7          0.52      30.31
       0.46   177.73    .586E+04       3.5          0.56      27.95
       0.56   177.83    .896E+04       6.0          0.63      25.06
       0.65   177.92    .123E+05       9.0          0.70      22.66
       0.74   178.01    .158E+05      12.7          0.76      20.79
       0.83   178.10    .195E+05      16.8          0.81      19.37
       0.93   178.20    .236E+05      21.6          0.86      18.22
       1.02   178.29    .278E+05      26.9          0.91      17.27
       1.11   178.38    .325E+05      32.1          0.94      16.85
       1.20   178.47    .385E+05      38.5          0.95      16.65
       1.30   178.57    .474E+05      40.9          0.82      19.32
       1.39   178.66    .642E+05      49.0          0.72      21.84
       1.48   178.75    .849E+05      63.4          0.71      22.32
       1.57   178.84    .107E+06      81.3          0.72      21.95
       1.67   178.94    .130E+06     102.1          0.74      21.22
       1.76   179.03    .154E+06     125.6          0.77      20.41

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1598)  271.73     1.36   10.25  45.07      0.34      0.48
     OUTFLOW: ID= 1 (5598)  271.73     1.36   10.75  45.07      0.34      0.48

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-------------------
| CALIB             |
| STANDHYD  (0598)  |   Area    (ha)=  75.95
|ID= 1 DT=15.0 min  |   Total Imp(%)=  52.00   Dir. Conn.(%)=  52.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.49        36.46
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.90
     Length            (m)=     711.57        40.00
     Mannings n           =      0.013        0.250
```

```
     Max.Eff.Inten.(mm/hr)=      25.02       16.94
               over (min)        15.00       30.00
     Storage Coeff.  (min)=       8.40 (ii)   51.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00       45.00
     Unit Hyd. peak  (cms)=       0.09        0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.74        0.96         3.565 (iii)
     TIME TO PEAK    (hrs)=       5.25        5.75          5.25
     RUNOFF VOLUME    (mm)=      53.38       27.67         41.04
     TOTAL RAINFALL   (mm)=      54.38       54.38         54.38
     RUNOFF COEFFICIENT   =       0.98        0.51          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2598) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0598):    75.95   3.565     5.25    41.04
       + ID2= 2 (5598):   271.73   1.358    10.75    45.07
         ==========================================================
         ID = 3 (2598):   347.68   3.892     5.25    44.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ROUTE CHN (5299) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5299.0) ------>
               Distance      Elevation       Manning
                  0.00         161.64        0.1110
                 34.74         161.51        0.1110
                 56.59         160.87        0.1110
                 67.95         160.99        0.1110
                 90.67         160.84        0.1110
                101.14         160.42        0.1110
                118.03         158.89        0.1110
                128.87         156.59    0.1110 /0.0490  Main Channel
                130.10         156.35        0.0490      Main Channel
                133.94         156.82    0.0490 /0.1110  Main Channel
                146.85         159.32        0.1110
                163.58         161.17        0.1110
                166.21         161.74        0.1110
                176.37         161.83        0.1110
                182.39         161.67        0.1110
                190.74         162.12        0.1110
                232.24         162.94        0.1110
                274.39         164.95        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
```



```
      0.24   156.59    .282E+03       0.2          0.58      21.17
      0.51   156.86    .124E+04       1.7          0.99      12.45
      0.77   157.12    .278E+04       5.0          1.34       9.20
      1.04   157.39    .482E+04      10.1          1.55       7.95
      1.30   157.65    .739E+04      17.0          1.70       7.24
      1.57   157.92    .105E+05      25.8          1.82       6.76
      1.83   158.18    .141E+05      36.6          1.92       6.40
      2.10   158.45    .182E+05      49.5          2.01       6.11
      2.37   158.72    .228E+05      64.7          2.10       5.87
      2.63   158.98    .279E+05      81.8          2.16       5.69
      2.90   159.25    .339E+05     100.9          2.20       5.59
      3.16   159.51    .407E+05     122.6          2.22       5.53
      3.43   159.78    .486E+05     147.6          2.24       5.48
      3.70   160.05    .575E+05     176.6          2.27       5.43
      3.96   160.31    .674E+05     209.6          2.29       5.36
      4.23   160.58    .786E+05     244.4          2.29       5.36
      4.49   160.84    .914E+05     283.0          2.28       5.38
      4.76   161.11    .111E+06     309.9          2.06       5.96
      5.02   161.37    .134E+06     376.8          2.07       5.94

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2598)  347.68     3.89    5.25  44.19      0.68      1.19
     OUTFLOW: ID= 1 (5299)  347.68     3.75    5.25  44.19      0.67      1.18


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--------------------
| CALIB              |
| STANDHYD  (0299)   |   Area    (ha)=  97.19
|ID= 1 DT=15.0 min   |   Total Imp(%)=  76.00   Dir. Conn.(%)=  76.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.86        23.33
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.50
     Length            (m)=     804.94        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        21.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   70.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.11         0.68         5.533 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      53.38        36.52         49.33
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.67          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2299) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0299):    97.19   5.533     5.25    49.33
       + ID2= 2 (5299):   347.68   3.751     5.25    44.19
         ==========================================================
         ID = 3 (2299):   444.87   9.284     5.25    45.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5303) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5303.0) ------>
               Distance      Elevation       Manning
                  0.00         153.79        0.1110
                 19.01         151.85        0.1110
                 37.34         151.82        0.1110
                 41.85         151.52        0.1110
                 47.90         151.66        0.1110
                 87.41         151.69        0.1110
                105.06         149.50        0.1110
                125.35         148.50        0.1110
                125.85         148.42    0.1110 /0.0490  Main Channel
                127.68         148.13        0.0490      Main Channel
                128.23         147.30        0.0490      Main Channel
                130.21         147.30        0.0490      Main Channel
                131.55         148.23        0.0490      Main Channel
                132.42         148.32    0.0490 /0.1110  Main Channel
                137.58         148.90        0.1110
                138.78         149.00        0.1110
                150.21         149.50        0.1110
                156.60         150.50        0.1110
                175.54         151.00        0.1110
                263.18         153.41        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.26   147.56    .857E+03       0.5          0.81      30.68
      0.51   147.81    .192E+04       1.5          1.18      21.08
      0.77   148.07    .318E+04       3.1          1.45      17.13
      1.02   148.32    .486E+04       4.6          1.42      17.54
      1.36   148.66    .944E+04      10.5          1.66      14.97
      1.70   149.00    .187E+05      20.4          1.62      15.34
      2.04   149.34    .344E+05      35.2          1.53      16.26
      2.38   149.68    .568E+05      58.3          1.53      16.23
      2.72   150.02    .822E+05      89.6          1.63      15.29
      3.06   150.36    .110E+06     128.2          1.74      14.32
      3.40   150.70    .141E+06     169.5          1.79      13.91
      3.73   151.03    .180E+06     219.3          1.82      13.69
      4.07   151.37    .227E+06     281.8          1.86      13.40
      4.41   151.71    .285E+06     310.6          1.63      15.27
      4.75   152.05    .377E+06     412.0          1.63      15.26
      5.09   152.39    .481E+06     550.2          1.71      14.57
      5.43   152.73    .593E+06     713.3          1.80      13.85
      5.77   153.07    .712E+06     901.5          1.89      13.17
      6.11   153.41    .840E+06    1115.6          1.99      12.55

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
```



```
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2299)  444.87     9.28    5.25  45.32      1.29      1.61
     OUTFLOW: ID= 1 (5303)  444.87     8.67    5.25  45.31      1.25      1.58


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--------------------
| CALIB              |
| STANDHYD  (0303)   |   Area    (ha)= 227.30
|ID= 1 DT=15.0 min   |   Total Imp(%)=  65.00   Dir. Conn.(%)=  65.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     147.75        79.56
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.00
     Length            (m)=    1230.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        19.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=     12.60 (ii)   73.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      10.21         1.99        11.379 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      53.38        32.29         46.00
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.59          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2303) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303):   227.30  11.379     5.25    46.00
       + ID2= 2 (5303):   444.87   8.674     5.25    45.31
         ==========================================================
         ID = 3 (2303):   672.17  20.053     5.25    45.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5306) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5306.0) ------>
               Distance      Elevation       Manning
                  0.00         145.38        0.1110
                 57.12         144.00        0.1110
                 73.05         143.00        0.1110
                 79.09         141.50        0.1110
                 80.80         140.20    0.1110 /0.0490  Main Channel
```

81.66	139.77	0.0490		Main Channel
83.06	139.50	0.0490		Main Channel
84.74	139.32	0.0490		Main Channel
85.03	139.00	0.0490		Main Channel
85.78	139.00	0.0490		Main Channel
87.80	139.39	0.0490		Main Channel
89.94	139.50	0.0490		Main Channel
94.17	140.00	0.0490 /0.1110		Main Channel
97.58	140.50	0.1110		
127.69	142.00	0.1110		
132.10	144.00	0.1110		
141.18	144.50	0.1110		
164.76	144.55	0.1110		
191.51	145.00	0.1110		
226.92	145.00	0.1110		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	139.25	.425E+03	0.2	0.50	37.48
0.50	139.50	.153E+04	0.8	0.57	32.75
0.75	139.75	.394E+04	2.9	0.83	22.69
1.00	140.00	.722E+04	6.8	1.06	17.70
1.33	140.33	.126E+05	16.0	1.43	13.15
1.67	140.67	.193E+05	28.8	1.68	11.15
2.00	141.00	.284E+05	45.5	1.80	10.41
2.33	141.33	.402E+05	66.5	1.86	10.08
2.67	141.67	.547E+05	92.2	1.90	9.89
3.00	142.00	.722E+05	123.3	1.92	9.76
3.33	142.33	.915E+05	162.2	1.99	9.40
3.67	142.67	.112E+06	206.6	2.08	9.01
4.00	143.00	.133E+06	256.3	2.17	8.62
4.33	143.33	.155E+06	310.0	2.25	8.34
4.67	143.67	.180E+06	370.0	2.32	8.10
5.00	144.00	.207E+06	436.4	2.37	7.90
5.33	144.33	.239E+06	495.1	2.33	8.03
5.67	144.67	.282E+06	525.8	2.10	8.93
6.00	145.00	.341E+06	609.9	2.01	9.33

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2303)	672.17	20.05	5.25	45.55	1.44	1.50
OUTFLOW: ID= 1 (5306)	672.17	19.22	5.25	45.55	1.42	1.48

CALIB			
STANDHYD (0306)	Area (ha)= 195.25		
ID= 1 DT=15.0 min	Total Imp(%)= 79.00	Dir. Conn.(%)= 79.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	154.25	41.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	1140.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.43
over (min)		15.00	30.00
Storage Coeff. (min)=		14.40 (ii)	84.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00

Unit Hyd. peak (cms)=	0.07	0.01		
			TOTALS	
PEAK FLOW (cms)=	10.61	1.08	11.161 (iii)	
TIME TO PEAK (hrs)=	5.25	6.25	5.25	
RUNOFF VOLUME (mm)=	53.38	36.52	49.84	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.67	0.92	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2306)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0306):	195.25	11.161	5.25	49.84
+ ID2= 2 (5306):	672.17	19.218	5.25	45.55
ID = 3 (2306):	867.42	30.378	5.25	46.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5314)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5314.0) ------>

Distance	Elevation	Manning		
0.00	140.46	0.1110		
17.34	140.00	0.1110		
23.79	140.00	0.1110		
36.31	139.52	0.1110		
67.27	139.06	0.1110		
99.03	138.86	0.1110		
131.93	136.23	0.1110 /0.0490		Main Channel
135.37	135.79	0.0490		Main Channel
137.27	135.30	0.0490		Main Channel
139.14	135.30	0.0490		Main Channel
143.23	135.76	0.0490		Main Channel
147.44	136.00	0.0490 /0.1110		Main Channel
161.11	136.74	0.1110		
190.39	137.50	0.1110		
204.58	137.50	0.1110		
211.94	139.50	0.1110		
219.37	139.79	0.1110		
272.20	138.00	0.1110		
297.42	138.00	0.1110		
390.77	140.46	0.1110		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	135.53	.686E+03	0.4	0.52	28.15
0.47	135.77	.198E+04	1.7	0.76	19.22
0.70	136.00	.418E+04	4.1	0.86	16.87

0.98	136.28	.842E+04	10.9	1.13	12.91
1.26	136.56	.147E+05	21.8	1.30	11.18
1.54	136.84	.231E+05	36.7	1.39	10.49
1.81	137.11	.347E+05	56.1	1.42	10.30
2.09	137.39	.498E+05	81.3	1.43	10.21
2.37	137.67	.700E+05	112.5	1.41	10.37
2.65	137.95	.928E+05	155.2	1.46	9.96
2.93	138.23	.123E+06	195.9	1.39	10.50
3.21	138.51	.161E+06	255.7	1.39	10.47
3.49	138.79	.204E+06	327.5	1.41	10.36
3.77	139.07	.255E+06	399.4	1.37	10.64
4.04	139.34	.318E+06	500.8	1.38	10.59
4.32	139.62	.391E+06	621.2	1.39	10.49
4.60	139.90	.472E+06	768.9	1.43	10.23
4.88	140.18	.559E+06	940.3	1.47	9.91
5.16	140.46	.652E+06	1136.8	1.53	9.55

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2306)	867.42	30.38	5.25	46.51	1.42	1.35
OUTFLOW: ID= 1 (5314)	867.42	28.75	5.25	46.51	1.39	1.34

ADD HYD (3314)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1314):	586.28	23.443	5.25	43.18
+ ID2= 2 (5314):	867.42	28.746	5.25	46.51
ID = 3 (3314):	1453.70	52.190	5.25	45.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5349)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5349.0) ------>

Distance	Elevation	Manning		
0.00	136.55	0.1110		
0.00	135.00	0.1110		
31.90	134.50	0.1110		
37.07	134.28	0.1110		
50.37	134.19	0.1110		
65.47	134.50	0.1110		
85.81	134.00	0.1110		
128.41	131.00	0.1110		
135.25	130.00	0.1110		
136.03	129.98	0.1110 /0.0490		Main Channel
139.71	129.30	0.0490		Main Channel
144.95	129.30	0.0490		Main Channel
145.11	129.76	0.0490 /0.1110		Main Channel
150.30	130.50	0.1110		
165.12	134.00	0.1110		
169.18	134.50	0.1110		
187.64	135.50	0.1110		
226.77	135.49	0.1110		
233.13	135.35	0.1110		

285.67	136.55	0.1110		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	129.53	.178E+04	0.6	0.41	52.79
0.46	129.76	.396E+04	1.9	0.62	35.44
0.86	130.16	.958E+04	6.3	0.86	25.49
1.26	130.56	.182E+05	13.9	1.00	21.93
1.66	130.96	.294E+05	24.6	1.10	19.93
2.06	131.36	.435E+05	38.4	1.16	18.89
2.46	131.76	.615E+05	56.1	1.20	18.27
2.86	132.16	.834E+05	78.2	1.23	17.77
3.26	132.56	.109E+06	105.0	1.26	17.31
3.66	132.96	.139E+06	137.0	1.30	16.87
4.05	133.35	.172E+06	174.4	1.33	16.44
4.45	133.75	.209E+06	217.8	1.37	16.02
4.85	134.15	.251E+06	263.1	1.38	15.89
5.25	134.55	.312E+06	297.4	1.25	17.51
5.65	134.95	.395E+06	363.3	1.21	18.13
6.05	135.35	.490E+06	459.6	1.23	17.78
6.45	135.75	.609E+06	550.5	1.19	18.43
6.85	136.15	.745E+06	696.6	1.23	17.82
7.25	136.55	.890E+06	863.1	1.27	17.19

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3314)	1453.70	52.19	5.25	45.17	2.37	1.19
OUTFLOW: ID= 1 (5349)	1453.70	46.16	5.50	45.17	2.23	1.18

CALIB			
STANDHYD (0349)	Area (ha)= 324.03		
ID= 1 DT=15.0 min	Total Imp(%)= 44.00	Dir. Conn.(%)= 37.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	142.57	181.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	1469.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	19.46
over (min)		15.00	30.00
Storage Coeff. (min)=		16.20 (ii)	93.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01
			TOTALS
PEAK FLOW (cms)=		8.20	3.90	9.995 (iii)
TIME TO PEAK (hrs)=		5.25	6.50	5.25
RUNOFF VOLUME (mm)=		53.38	28.49	37.70
TOTAL RAINFALL (mm)=		54.38	54.38	54.38
RUNOFF COEFFICIENT =		0.98	0.52	0.69

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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---------------------------------------------------------------------------

--------------------
| ADD HYD   (2349) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0349):   324.03   9.995     5.25    37.70
      + ID2= 2 (5349):  1453.70  46.160     5.50    45.17
        ================================================
        ID = 3 (2349):  1777.73  55.210     5.25    43.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5364) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5364.0) ------>
              Distance      Elevation       Manning
                  0.00         131.00        0.1110
                136.00         129.99        0.1110
                155.89         129.00        0.1110
                172.09         127.83        0.1110
                181.41         127.29        0.1110
                190.94         127.00        0.1110
                195.38         127.00        0.1110
                195.81         126.76        0.1110
                198.20         126.00    0.1110 /0.0490  Main Channel
                200.00         125.00        0.0490      Main Channel
                207.00         125.00        0.0490      Main Channel
                207.99         126.00    0.0490 /0.1110  Main Channel
                210.39         126.42        0.1110
                214.18         126.91        0.1110
                215.71         127.00        0.1110
                249.46         127.00        0.1110
                263.00         128.00        0.1110
                269.13         129.00        0.1110
                275.81         129.51        0.1110
                283.52         130.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.25   125.25    .202E+04       1.0          0.57      32.17
       0.50   125.50    .422E+04       3.3          0.87      21.07
       0.75   125.75    .662E+04       6.6          1.10      16.62
       1.00   126.00    .922E+04      10.9          1.29      14.13
       1.27   126.27    .124E+05      17.1          1.51      12.10
       1.53   126.53    .163E+05      24.7          1.66      11.04
       1.80   126.80    .211E+05      33.6          1.75      10.45
       2.07   127.07    .296E+05      43.4          1.61      11.37
       2.33   127.33    .494E+05      60.9          1.33      13.74
       2.60   127.60    .721E+05      82.1          1.25      14.64
       2.87   127.87    .971E+05     109.3          1.23      14.82
       3.13   128.13    .124E+06     142.1          1.25      14.58
       3.40   128.40    .153E+06     180.5          1.29      14.15
       3.67   128.67    .184E+06     223.9          1.34      13.67
       3.93   128.93    .216E+06     272.5          1.39      13.19
       4.20   129.20    .249E+06     323.7          1.42      12.85
       4.47   129.47    .286E+06     379.6          1.46      12.55
       4.73   129.73    .325E+06     440.5          1.49      12.29
```



```
      5.00   130.00    .367E+06     506.2          1.52      12.08

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2349) 1777.73    55.21    5.25  43.81      2.26      1.40
     OUTFLOW: ID= 1 (5364) 1777.73    50.97    5.50  43.81      2.19      1.47


---------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0364) |   Area    (ha)= 187.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  41.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      93.90         93.90
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.90
     Length            (m)=    1118.93         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         22.11
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=     13.80 (ii)    82.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00         90.00
     Unit Hyd. peak  (cms)=      0.08          0.01
                                                        *TOTALS*
     PEAK FLOW       (cms)=      5.31          2.47        6.510 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.50         5.25
     RUNOFF VOLUME    (mm)=     53.38         31.27        40.33
     TOTAL RAINFALL   (mm)=     54.38         54.38        54.38
     RUNOFF COEFFICIENT   =      0.98          0.57         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2364) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0364):   187.80   6.510     5.25    40.33
      + ID2= 2 (5364):  1777.73  50.971     5.50    43.81
        ================================================
        ID = 3 (2364):  1965.53  55.371     5.50    43.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------
--------------------
| ROUTE CHN (5361) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5361.0) ------>
              Distance      Elevation       Manning
                  0.00         129.00        0.1110
```



```
                 0.38         129.00        0.1110
                13.51         128.00        0.1110
                18.25         127.00        0.1110
                41.14         126.00        0.1110
                49.43         125.20        0.1110
                51.30         125.00        0.1110
                54.61         124.00        0.1110
                56.73         124.00    0.1110 /0.0490  Main Channel
                61.39         123.80        0.0490      Main Channel
                63.13         123.80        0.0490      Main Channel
                64.17         124.00    0.0490 /0.1110  Main Channel
                65.93         124.00        0.1110
                70.09         124.99        0.1110
                70.11         124.99        0.1110
                70.14         125.00        0.1110
                73.16         125.00        0.1110
                79.53         125.23        0.1110
               104.69         126.00        0.1110
               114.76         128.97        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   124.00    .961E+03       0.4          0.42      41.30
       0.46   124.26    .433E+04       2.9          0.71      24.65
       0.72   124.52    .823E+04       7.3          0.93      18.67
       0.98   124.78    .127E+05      13.5          1.11      15.69
       1.25   125.05    .178E+05      20.6          1.21      14.43
       1.51   125.31    .256E+05      30.0          1.22      14.25
       1.77   125.57    .364E+05      42.4          1.22      14.31
       2.03   125.83    .503E+05      58.5          1.22      14.32
       2.29   126.09    .672E+05      79.0          1.23      14.16
       2.55   126.35    .862E+05     104.9          1.27      13.69
       2.82   126.62    .107E+06     135.5          1.32      13.16
       3.08   126.88    .130E+06     171.1          1.38      12.65
       3.34   127.14    .154E+06     212.9          1.44      12.08
       3.60   127.40    .179E+06     260.6          1.52      11.48
       3.86   127.66    .205E+06     312.9          1.60      10.93
       4.12   127.92    .232E+06     369.6          1.67      10.45
       4.39   128.19    .259E+06     428.4          1.73      10.06
       4.65   128.45    .287E+06     490.9          1.79       9.74
       4.91   128.71    .316E+06     558.1          1.85       9.45

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2364) 1965.53    55.37    5.50  43.48      1.98      1.22
     OUTFLOW: ID= 1 (5361) 1965.53    53.78    5.75  43.48      1.95      1.22


---------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0361) |   Area    (ha)=  35.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  37.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.51         19.39
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.40
     Length            (m)=     489.22         40.00
     Mannings n            =      0.013         0.250
```



```
     Max.Eff.Inten.(mm/hr)=      25.02         14.24
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=      8.40 (ii)    47.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.09          0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.92          0.43        1.279 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.75         5.25
     RUNOFF VOLUME    (mm)=     53.38         19.75        32.19
     TOTAL RAINFALL   (mm)=     54.38         54.38        54.38
     RUNOFF COEFFICIENT   =      0.98          0.36         0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2361) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0361):    35.90   1.279     5.25    32.19
      + ID2= 2 (5361):  1965.53  53.783     5.75    43.48
        ================================================
        ID = 3 (2361):  2001.43  54.490     5.75    43.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5357) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5357.0) ------>
              Distance      Elevation       Manning
                  0.00         123.98        0.1110
                  7.26         122.14        0.1110
                 10.93         121.00        0.1110
                 13.86         120.00        0.1110
                 18.79         119.00        0.1110
                 24.81         118.00        0.1110
                 26.76         117.00        0.1110
                 28.16         117.00    0.1110 /0.0490  Main Channel
                 29.00         116.20        0.0490      Main Channel
                 34.00         116.20        0.0490      Main Channel
                 34.48         117.00    0.0490 /0.1110  Main Channel
                 36.38         117.00        0.1110
                 39.42         118.00        0.1110
                 44.78         119.00        0.1110
                 47.65         120.00        0.1110
                 50.41         121.00        0.1110
                 57.87         121.95        0.1110
                 58.40         122.00        0.1110
                 58.65         122.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
```

0.27	116.47	.174E+04	0.9	0.64	32.42
0.53	116.73	.363E+04	2.8	0.97	21.46
0.80	117.00	.566E+04	5.5	1.22	17.09
1.11	117.31	.973E+04	10.5	1.35	15.49
1.42	117.62	.144E+05	17.0	1.48	14.11
1.74	117.94	.197E+05	25.1	1.59	13.07
2.05	118.25	.258E+05	34.5	1.67	12.49
2.36	118.56	.334E+05	45.7	1.72	12.15
2.67	118.87	.423E+05	59.1	1.75	11.91
2.99	119.19	.525E+05	75.1	1.79	11.65
3.30	119.50	.637E+05	93.5	1.84	11.35
3.61	119.81	.759E+05	114.3	1.88	11.06
3.92	120.12	.889E+05	137.6	1.94	10.77
4.24	120.44	.103E+06	163.7	1.99	10.46
4.55	120.75	.117E+06	192.3	2.05	10.17
4.86	121.06	.133E+06	222.6	2.10	9.92
5.17	121.37	.149E+06	253.5	2.13	9.79
5.49	121.69	.167E+06	287.6	2.16	9.66
5.80	122.00	.186E+06	324.8	2.19	9.53

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2361)	2001.43	54.49	5.75	43.27	2.57	1.74
OUTFLOW: ID= 1 (5357)	2001.43	53.64	6.00	43.27	2.55	1.74

CALIB			
STANDHYD (0357)	Area (ha)= 135.25		
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 50.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	77.09	58.16
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.10
Length (m)=	949.56	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.20
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	4.67	1.41 5.468 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	27.12 40.25
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.50 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2357)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0357):	135.25	5.468	5.25	40.25
+ ID2= 2 (5357):	2001.43	53.642	6.00	43.27
ID = 3 (2357):	2136.68	56.451	6.00	43.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5363)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5363.0) ------>

Distance	Elevation	Manning	
0.00	116.00	0.1110	
3.24	115.00	0.1110	
7.85	114.00	0.1110	
11.35	113.00	0.1110	
15.57	112.00	0.1110	
15.63	111.99	0.1110	
15.65	111.98	0.1110	
20.70	111.00	0.1110	
22.85	111.00	0.1110 /0.0490	Main Channel
26.11	110.00	0.0490	Main Channel
29.00	110.00	0.0490	Main Channel
29.19	111.00	0.0490 /0.1110	Main Channel
32.26	111.00	0.1110	
35.40	112.00	0.1110	
37.70	112.15	0.1110	
53.24	113.00	0.1110	
53.72	113.00	0.1110	
79.32	114.00	0.1110	
92.95	115.00	0.1110	
115.26	115.98	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	110.25	.368E+03	0.8	0.92	8.07
0.50	110.50	.833E+03	2.5	1.34	5.51
0.75	110.75	.139E+04	5.2	1.66	4.46
1.00	111.00	.205E+04	8.9	1.92	3.85
1.33	111.33	.395E+04	17.7	1.98	3.73
1.66	111.66	.627E+04	29.9	2.12	3.49
2.00	112.00	.898E+04	45.6	2.26	3.28
2.33	112.33	.124E+05	64.0	2.29	3.23
2.66	112.66	.169E+05	87.7	2.31	3.21
2.99	112.99	.225E+05	117.5	2.32	3.19
3.32	113.32	.294E+05	153.2	2.31	3.20
3.66	113.66	.377E+05	197.3	2.32	3.19
3.99	113.99	.475E+05	250.6	2.34	3.16
4.32	114.32	.584E+05	316.2	2.40	3.08
4.65	114.65	.703E+05	391.6	2.47	2.99
4.98	114.98	.830E+05	476.9	2.55	2.90
5.32	115.32	.968E+05	568.4	2.61	2.84
5.65	115.65	.112E+06	671.3	2.66	2.78
5.98	115.98	.128E+06	786.6	2.72	2.72

	<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2357)	2136.68	56.45	6.00	43.08	2.19	2.28
OUTFLOW: ID= 1 (5363)	2136.68	56.45	6.00	43.08	2.19	2.28

CALIB			
STANDHYD (0363)	Area (ha)= 99.54		
ID= 1 DT=15.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 68.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	70.67	28.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	814.62	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	21.45
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	74.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	4.68	0.80 5.151 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	53.38	32.52 46.71
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.60 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2363)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0363):	99.54	5.151	5.25	46.71
+ ID2= 2 (5363):	2136.68	56.454	6.00	43.08
ID = 3 (2363):	2236.22	58.672	6.00	43.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5368)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5368.0) ------>

Distance	Elevation	Manning
0.00	109.72	0.1110
5.88	105.92	0.1110
7.79	105.00	0.1110
12.32	103.17	0.1110
12.72	103.00	0.1110

26.16	103.00	0.1110	
40.07	102.16	0.1110	
41.21	102.13	0.1110	
42.95	102.00	0.1110	
44.48	102.00	0.1110 /0.0490	Main Channel
46.98	101.70	0.0490	Main Channel
51.64	101.70	0.0490	Main Channel
52.36	102.00	0.0490 /0.1110	Main Channel
52.69	102.00	0.1110	
54.36	102.70	0.1110	
55.02	103.00	0.1110	
55.44	103.16	0.1110	
57.25	104.00	0.1110	
67.26	109.40	0.1110	
68.34	109.93	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	102.00	.139E+04	1.7	0.91	13.57
0.71	102.41	.548E+04	9.9	1.33	9.25
1.11	102.81	.119E+05	25.0	1.55	7.96
1.52	103.22	.226E+05	48.0	1.57	7.85
1.93	103.63	.359E+05	85.5	1.76	7.00
2.33	104.03	.498E+05	132.8	1.97	6.24
2.74	104.44	.641E+05	189.4	2.18	5.64
3.14	104.84	.791E+05	254.7	2.38	5.17
3.55	105.25	.945E+05	328.7	2.57	4.79
3.96	105.66	.110E+06	411.1	2.75	4.48
4.36	106.06	.127E+06	501.8	2.92	4.21
4.77	106.47	.144E+06	600.9	3.09	3.98
5.18	106.88	.161E+06	707.8	3.25	3.79
5.58	107.28	.179E+06	822.5	3.40	3.62
5.99	107.69	.197E+06	944.7	3.55	3.47
6.39	108.09	.215E+06	1074.5	3.69	3.34
6.80	108.50	.234E+06	1211.9	3.82	3.22
7.21	108.91	.253E+06	1356.7	3.95	3.11
7.61	109.31	.273E+06	1509.1	4.08	3.02

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2363)	2236.22	58.67	6.00	43.24	1.63	1.62
OUTFLOW: ID= 1 (5368)	2236.22	58.20	6.25	43.24	1.63	1.61

CALIB			
STANDHYD (0368)	Area (ha)= 23.76		
ID= 1 DT=15.0 min	Total Imp(%)= 64.00	Dir. Conn.(%)= 64.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	15.21	8.55
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.50
Length (m)=	397.99	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.94
over (min)	15.00	15.00
Storage Coeff. (min)=	5.40 (ii)	31.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00

```
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                          *TOTALS*
     PEAK FLOW      (cms)=       1.06         0.28          1.337 (iii)
     TIME TO PEAK   (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME   (mm)=      53.38        27.67          44.12
     TOTAL RAINFALL  (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT  =       0.98         0.51           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2368) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0368):    23.76   1.337     5.25    44.12
       + ID2= 2 (5368):  2236.22  58.200     6.25    43.24
         ================================================
         ID = 3 (2368):  2259.98  58.660     6.25    43.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1365) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2355): 19023.40 152.837    10.00    32.48
       + ID2= 2 (2368):  2259.98  58.660     6.25    43.25
         ================================================
         ID = 3 (1365): 21283.38 167.492     9.50    33.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5365.0) ------>
              Distance      Elevation       Manning
                  0.00         110.00        0.1110
                  7.40         110.00        0.1110
                 15.33         109.51        0.1110
                 47.93          98.00        0.1110
                 65.73          98.00        0.1110
                114.24          97.34        0.1110
                131.22          97.00        0.1110
                141.72          95.00    0.1110 /0.0490  Main Channel
                142.05          94.60        0.0490      Main Channel
                155.43          94.60        0.0490      Main Channel
                155.44          95.00    0.0490 /0.1110  Main Channel
                161.18          95.00        0.1110
                168.95          96.00        0.1110
                203.06          97.00        0.1110
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                211.77         97.00        0.1110
                222.30        108.79        0.1110
                223.07        109.00        0.1110

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40    95.00    .538E+04       4.5          0.83      19.81
       1.14    95.74    .231E+05      29.7          1.27      12.99
       1.87    96.47    .508E+05      74.2          1.45      11.41
       2.61    97.21    .101E+06     146.9          1.45      11.44
       3.35    97.95    .186E+06     275.5          1.47      11.23
       4.08    98.68    .306E+06     482.4          1.56      10.57
       4.82    99.42    .429E+06     757.2          1.75       9.45
       5.56   100.16    .555E+06    1088.0          1.95       8.50
       6.29   100.89    .682E+06    1470.4          2.14       7.73
       7.03   101.63    .811E+06    1901.3          2.33       7.11
       7.77   102.37    .943E+06    2378.5          2.50       6.61
       8.51   103.11    .108E+07    2900.2          2.68       6.18
       9.24   103.84    .121E+07    3465.1          2.84       5.83
       9.98   104.58    .135E+07    4071.9          3.00       5.52
      10.72   105.32    .149E+07    4719.8          3.15       5.26
      11.45   106.05    .163E+07    5407.9          3.29       5.02
      12.19   106.79    .177E+07    6135.7          3.43       4.82
      12.93   107.53    .192E+07    6902.4          3.57       4.63
      13.66   108.26    .207E+07    7707.8          3.70       4.47

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1365) *******   167.49    9.50  33.62      2.73      1.45
     OUTFLOW: ID= 1 (5365) *******   167.25    9.75  33.62      2.73      1.45


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--------------------
| CALIB              |
| STANDHYD  (0365) |   Area    (ha)= 165.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  56.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      97.76         67.93
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.10
     Length            (m)=    1051.00         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         17.03
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                          *TOTALS*
     PEAK FLOW      (cms)=       6.42          1.46          7.234 (iii)
     TIME TO PEAK   (hrs)=       5.25          6.25           5.25
     RUNOFF VOLUME   (mm)=      53.38         25.88          41.28
     TOTAL RAINFALL  (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT  =       0.98          0.48           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2365) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0365):   165.69   7.234     5.25    41.28
       + ID2= 2 (5365): 21283.38 167.251     9.75    33.62
         ================================================
         ID = 3 (2365): 21449.08 167.749     9.75    33.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0671) |   Area    (ha)= 266.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     213.02         53.25
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.70
     Length            (m)=    1332.34         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         19.41
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=      14.40 (ii)    84.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         90.00
     Unit Hyd. peak  (cms)=       0.07          0.01
                                                          *TOTALS*
     PEAK FLOW      (cms)=      14.66          1.22         15.248 (iii)
     TIME TO PEAK   (hrs)=       5.25          6.50           5.25
     RUNOFF VOLUME   (mm)=      53.38         32.29          49.16
     TOTAL RAINFALL  (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT  =       0.98          0.59           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9671) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 266.27     15.25      5.25   49.16
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 266.27     15.25      5.25   49.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR (6671) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   3.4020     9.4300

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9671)    266.270     15.248      5.25      49.16
     OUTFLOW: ID= 1 (6671)    266.270      2.990      7.25      49.16

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.61
               TIME SHIFT OF PEAK FLOW       (min)=120.00
               MAXIMUM  STORAGE   USED      (ha.m.)=  8.3018

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--------------------
| ADD HYD   (4671) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9671 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6671):   266.27   2.990     7.25    49.16
       + ID2= 2 (9671):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4671):   266.27   2.990     7.25    49.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1372) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2365): 21449.08 167.749     9.75    33.68
       + ID2= 2 (4671):   266.27   2.990     7.25    49.16
         ================================================
         ID = 3 (1372): 21715.35 170.363     9.75    33.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5372.0) ------>
              Distance      Elevation       Manning
                  0.00         105.00        0.1110
                 20.51          95.49        0.1110
                 91.87          93.94        0.1110
                 96.84          93.74        0.1110
                105.67          92.57        0.1110
                106.66          92.00    0.1110 /0.0490  Main Channel
                109.09          90.50        0.0490      Main Channel
                122.15          90.50        0.0490      Main Channel
                123.13          92.00    0.0490 /0.1110  Main Channel
```

127.73	92.00	0.1110
158.37	93.00	0.1110
213.54	94.00	0.1110
217.83	95.00	0.1110
233.02	105.00	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	91.25	.531E+04	25.0	2.40	3.53
1.50	92.00	.113E+05	79.9	3.61	2.35
2.26	92.76	.243E+05	179.6	3.75	2.26
3.03	93.53	.500E+05	338.8	3.44	2.46
3.79	94.29	.949E+05	604.9	3.24	2.62
4.56	95.06	.157E+06	1023.9	3.33	2.55
5.32	95.82	.231E+06	1611.1	3.54	2.39
6.09	96.59	.310E+06	2362.5	3.88	2.18
6.85	97.35	.389E+06	3246.6	4.25	2.00
7.62	98.12	.469E+06	4254.1	4.61	1.84
8.38	98.88	.550E+06	5378.1	4.97	1.71
9.15	99.65	.633E+06	6613.7	5.32	1.59
9.91	100.41	.716E+06	7956.7	5.65	1.50
10.68	101.18	.801E+06	9403.9	5.97	1.42
11.44	101.94	.887E+06	10952.7	6.28	1.35
12.21	102.71	.974E+06	12600.7	6.58	1.29
12.97	103.47	.106E+07	14346.0	6.88	1.23
13.74	104.24	.115E+07	16186.9	7.16	1.18
14.50	105.00	.124E+07	18122.2	7.43	1.14

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1372) *******	170.36	9.75	33.87	2.19	3.74	
OUTFLOW: ID= 1 (5372) *******	170.38	9.75	33.87	2.19	3.74	

CALIB	
STANDHYD (0372)	Area (ha)= 47.90
ID= 1 DT=15.0 min	Total Imp(%)= 49.00 Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.47	24.43
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.50
Length	(m)=	565.10	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.86
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	1.36	0.67 1.940 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	23.73 35.88
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.44 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2372)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0372):	47.90	1.940	5.25	35.88
	+ ID2= 2 (5372):	21715.35	170.379	9.75	33.87
	ID = 3 (2372):	21763.24	170.482	9.75	33.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5373)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5373.0) ------>

Distance	Elevation	Manning	
0.00	101.00	0.1110	
12.77	94.00	0.1110	
32.99	89.39	0.1110	
76.52	87.19	0.1110	
79.48	87.00	0.1110	
80.86	86.13	0.1110	
81.09	86.00	0.1110	
81.97	86.00	0.1110 /0.0490	Main Channel
82.61	85.50	0.0490	Main Channel
88.00	85.50	0.0490	Main Channel
89.14	86.00	0.0490 /0.1110	Main Channel
95.90	86.00	0.1110	
106.27	87.00	0.1110	
106.34	87.01	0.1110	
117.67	87.86	0.1110	
158.30	88.14	0.1110	
158.41	88.15	0.1110	
185.29	101.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	86.00	.231E+04	2.5	0.81	15.12
1.29	86.79	.137E+05	18.4	0.99	12.36
2.08	87.58	.328E+05	49.8	1.12	11.00
2.87	88.37	.764E+05	104.1	1.00	12.24
3.66	89.16	.143E+06	224.2	1.16	10.62
4.45	89.95	.217E+06	398.3	1.35	9.10
5.24	90.74	.295E+06	619.7	1.55	7.94
6.03	91.53	.376E+06	883.1	1.73	7.10
6.82	92.32	.460E+06	1187.0	1.90	6.45
7.61	93.11	.546E+06	1530.0	2.06	5.95
8.39	93.89	.636E+06	1911.6	2.21	5.54
9.18	94.68	.728E+06	2340.7	2.37	5.18
9.97	95.47	.821E+06	2808.2	2.52	4.87
10.76	96.26	.917E+06	3312.0	2.66	4.61
11.55	97.05	.101E+07	3851.3	2.80	4.39

12.34	97.84	.111E+07	4425.6	2.93	4.19
13.13	98.63	.121E+07	5034.5	3.05	4.02
13.92	99.42	.132E+07	5677.8	3.18	3.86
14.71	100.21	.142E+07	6355.0	3.30	3.72

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2372) *******	170.48	9.75	33.88	3.30	1.08	
OUTFLOW: ID= 1 (5373) *******	170.33	9.75	33.88	3.30	1.08	

CALIB	
STANDHYD (0373)	Area (ha)= 86.20
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.17	56.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.10
Length	(m)=	758.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	12.28
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	58.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.67	0.94 2.304 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	53.38	17.85 27.80
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.33 0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2373)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0373):	86.20	2.304	5.25	27.80
	+ ID2= 2 (5373):	21763.24	170.327	9.75	33.88
	ID = 3 (2373):	21849.45	170.536	9.75	33.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5374)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5374.0) ------>

Distance	Elevation	Manning	
0.00	98.97	0.1110	
36.91	86.49	0.1110	
134.42	84.00	0.1110 /0.0490	Main Channel
141.69	83.20	0.0490	Main Channel
152.50	83.20	0.0490	Main Channel
159.42	84.00	0.0490 /0.1110	Main Channel
175.53	98.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	83.60	.239E+04	4.2	0.73	9.54
0.80	84.00	.596E+04	15.3	1.07	6.49
1.62	84.82	.202E+05	72.8	1.50	4.63
2.45	85.65	.459E+05	179.3	1.63	4.26
3.27	86.47	.829E+05	344.5	1.73	4.01
4.09	87.29	.126E+06	593.4	1.95	3.55
4.92	88.12	.171E+06	902.7	2.20	3.16
5.74	88.94	.217E+06	1267.1	2.43	2.85
6.56	89.76	.264E+06	1683.7	2.66	2.61
7.39	90.59	.312E+06	2150.3	2.87	2.42
8.21	91.41	.362E+06	2665.3	3.07	2.26
9.04	92.24	.412E+06	3227.6	3.26	2.13
9.86	93.06	.464E+06	3836.1	3.44	2.01
10.68	93.88	.516E+06	4490.2	3.62	1.92
11.51	94.71	.570E+06	5189.2	3.79	1.83
12.33	95.53	.626E+06	5932.8	3.95	1.76
13.15	96.35	.682E+06	6720.5	4.10	1.69
13.98	97.18	.739E+06	7552.1	4.25	1.63
14.80	98.00	.798E+06	8427.5	4.40	1.58

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2373) *******	170.54	9.75	33.85	2.38	1.62	
OUTFLOW: ID= 1 (5374) *******	170.51	9.75	33.85	2.37	1.61	

CALIB	
STANDHYD (0673)	Area (ha)= 211.75
ID= 1 DT=15.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	137.64	74.11
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.60
Length	(m)=	1188.14	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	21.97
over (min)		15.00	45.00
Storage Coeff. (min)=		17.40 (ii)	103.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.07	0.01
			TOTALS
PEAK FLOW	(cms)=	8.36	1.70 9.040 (iii)
TIME TO PEAK	(hrs)=	5.25	6.75 5.25
RUNOFF VOLUME	(mm)=	53.38	30.48 43.76
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38

```
     RUNOFF COEFFICIENT   =       0.98         0.56          0.80


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9673) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 211.75      9.04      5.25   43.76
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 211.75      9.04      5.25   43.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6673) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.7310      6.2000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9673)    211.750     9.040      5.25      43.76
     OUTFLOW: ID= 1 (6673)    211.750     1.650      8.50      43.76

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.26
                   TIME SHIFT OF PEAK FLOW          (min)=195.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  5.9118

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-------------------
| ADD HYD   (4673) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9673 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6673):   211.75   1.650     8.50    43.76
        + ID2= 2 (9673):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4673):   211.75   1.650     8.50    43.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1374) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4673):   211.75   1.650     8.50    43.76
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        + ID2= 2 (5374): 21849.45 170.510     9.75    33.85
          ================================================
          ID = 3 (1374): 22061.20 172.114     9.75    33.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0374) |   Area    (ha)=  32.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       14.69        17.95
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         4.80
     Length            (m)=      466.48        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       25.02        17.43
               over (min)         15.00        30.00
     Storage Coeff.  (min)=        7.20 (ii)   42.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00        45.00
     Unit Hyd. peak  (cms)=        0.10         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.79         0.52          1.243 (iii)
     TIME TO PEAK    (hrs)=        5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=       53.38        24.05          34.32
     TOTAL RAINFALL   (mm)=       54.38        54.38          54.38
     RUNOFF COEFFICIENT   =        0.98         0.44           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2374) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0374):    32.64   1.243     5.25    34.32
        + ID2= 2 (1374): 22061.20 172.114     9.75    33.95
          ================================================
          ID = 3 (2374): 22093.83 172.185     9.75    33.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (5396.0) ------>
             Distance      Elevation       Manning
                 0.00         97.95        0.1110
                17.75         83.00        0.1110
                23.72         82.08        0.1110
                24.22         82.00        0.1110
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                25.33         82.00    0.1110 /0.0490  Main Channel
                26.00         81.40        0.0490      Main Channel
                33.68         81.40        0.0490      Main Channel
                35.87         82.00    0.0490 /0.1110  Main Channel
                43.42         82.00        0.1110
                69.25         82.98        0.1110
               140.88         83.00        0.1110
               166.30         97.94        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.60    82.00    .162E+04       6.3         1.16       4.27
       1.44    82.84    .981E+04      41.2         1.24       3.97
       2.28    83.68    .373E+05     147.1         1.17       4.23
       3.12    84.52    .687E+05     348.9         1.50       3.28
       3.96    85.36    .101E+06     621.1         1.83       2.70
       4.79    86.19    .133E+06     955.6         2.12       2.32
       5.63    87.03    .167E+06    1347.8         2.40       2.06
       6.47    87.87    .200E+06    1794.3         2.65       1.86
       7.31    88.71    .235E+06    2292.7         2.89       1.71
       8.15    89.55    .270E+06    2841.1         3.12       1.58
       8.99    90.39    .305E+06    3438.0         3.34       1.48
       9.83    91.23    .342E+06    4082.2         3.54       1.39
      10.67    92.07    .378E+06    4772.8         3.74       1.32
      11.51    92.91    .416E+06    5508.8         3.93       1.26
      12.35    93.75    .454E+06    6289.6         4.11       1.20
      13.18    94.58    .492E+06    7114.7         4.28       1.15
      14.02    95.42    .532E+06    7983.6         4.45       1.11
      14.86    96.26    .571E+06    8895.9         4.61       1.07
      15.70    97.10    .612E+06    9851.2         4.77       1.04

                                   <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2374) *******   172.18    9.75  33.95      2.38      1.20
     OUTFLOW: ID= 1 (5396) *******   172.19   10.00  33.95      2.38      1.20


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-------------------
| CALIB             |
| STANDHYD  (0396) |   Area    (ha)=   4.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  17.00   Dir. Conn.(%)=  15.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.79         3.86
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00        16.10
     Length            (m)=      176.07        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       25.02        10.72
               over (min)         15.00        15.00
     Storage Coeff.  (min)=        3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=       15.00        15.00
     Unit Hyd. peak  (cms)=        0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.05         0.10          0.152 (iii)
     TIME TO PEAK    (hrs)=        5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=       53.38        16.79          22.27
     TOTAL RAINFALL   (mm)=       54.38        54.38          54.38
     RUNOFF COEFFICIENT   =        0.98         0.31           0.41
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2396) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0396):     4.65   0.152     5.25    22.27
        + ID2= 2 (5396): 22093.83 172.188    10.00    33.95
          ================================================
          ID = 3 (2396): 22098.48 172.193    10.00    33.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0375) |   Area    (ha)=  52.21
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  16.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       10.44        41.77
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         5.30
     Length            (m)=      589.97        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       25.02         8.43
               over (min)         15.00        30.00
     Storage Coeff.  (min)=        7.80 (ii)   46.80 (ii)
     Unit Hyd. Tpeak (min)=       15.00        45.00
     Unit Hyd. peak  (cms)=        0.10         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.58         0.53          1.009 (iii)
     TIME TO PEAK    (hrs)=        5.25         5.75           5.25
     RUNOFF VOLUME    (mm)=       53.38        12.86          19.34
     TOTAL RAINFALL   (mm)=       54.38        54.38          54.38
     RUNOFF COEFFICIENT   =        0.98         0.24           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1376) |
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1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0375):	52.21	1.009	5.25	19.34
+ ID2= 2 (2396):	22098.48	172.193	10.00	33.95
ID = 3 (1376):	22150.69	172.454	7.25	33.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5376) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5376.0) ------>

Distance	Elevation	Manning	
0.00	85.02	0.1110	
7.10	80.04	0.1110	
61.55	79.68	0.1110	
116.38	79.93	0.1110	
143.52	79.00	0.1110	
158.92	78.00	0.1110	
166.66	76.00	0.1110	
167.10	75.50	0.0490	Main Channel
200.00	75.50	0.0490	Main Channel
202.57	76.00	0.0490 /0.1110	Main Channel
207.88	78.85	0.1110	
214.22	80.17	0.1110	
238.13	81.00	0.1110	
277.55	82.00	0.1110	
278.31	83.03	0.1110	
282.09	84.00	0.1110	
288.47	83.19	0.1110	
296.01	84.00	0.1110	
384.91	84.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	75.95	.696E+04	12.6	0.82	9.22
0.89	76.39	.145E+05	41.2	1.30	5.84
1.34	76.84	.225E+05	82.6	1.67	4.54
1.79	77.29	.310E+05	135.2	1.98	3.83
2.24	77.74	.401E+05	198.5	2.25	3.37
2.68	78.18	.498E+05	271.2	2.48	3.06
3.13	78.63	.608E+05	354.3	2.65	2.86
3.58	79.08	.735E+05	448.2	2.77	2.73
4.03	79.53	.888E+05	553.5	2.83	2.68
4.47	79.97	.114E+06	661.9	2.63	2.88
4.92	80.42	.157E+06	829.0	2.40	3.15
5.37	80.87	.202E+06	1031.7	2.32	3.26
5.82	81.32	.250E+06	1266.7	2.30	3.29
6.26	81.76	.302E+06	1534.7	2.31	3.28
6.71	82.21	.357E+06	1840.9	2.35	3.23
7.16	82.66	.412E+06	2183.9	2.41	3.15
7.61	83.11	.468E+06	2556.2	2.48	3.05
8.05	83.55	.525E+06	2944.5	2.55	2.97
8.50	84.00	.584E+06	3359.5	2.61	2.90

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> <-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1376) *******	172.45	7.25	33.91		2.05	2.13

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
OUTFLOW: ID= 1 (5376) *******	172.57	7.25	33.91		2.05	2.13

CALIB | STANDHYD (0376) | Area (ha)= 61.67 | ID= 1 DT=15.0 min | Total Imp(%)= 39.00 Dir. Conn.(%)= 33.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.05	37.62
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.30
Length (m)=	641.20	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.06
over (min)	15.00	30.00
Storage Coeff. (min)=	7.80 (ii)	46.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.02
		TOTALS
PEAK FLOW (cms)=	1.41	0.89 2.165 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	53.38	22.20 32.49
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.41 0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2376) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0376):	61.67	2.165	5.25	32.49
+ ID2= 2 (5376):	22150.69	172.573	7.25	33.91
ID = 3 (2376):	22212.36	173.215	7.25	33.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5395) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5395.0) ------>

Distance	Elevation	Manning
0.00	80.00	0.0700
23.38	80.00	0.0700
28.10	79.57	0.0700
49.96	79.59	0.0700
59.82	79.36	0.0700
73.05	78.62	0.0700
86.41	78.00	0.0700

92.93	77.00	0.0700	
131.54	76.00	0.0700	
223.71	75.98	0.0700 /0.0490	Main Channel
232.74	74.00	0.0490	Main Channel
260.75	74.00	0.0490	Main Channel
263.06	76.00	0.0490 /0.0700	Main Channel
265.52	76.00	0.0700	
297.15	77.04	0.0700	
323.06	78.00	0.0700	
327.20	79.00	0.0700	
341.44	79.37	0.0700	
370.62	80.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	74.28	.496E+04	7.0	0.86	11.77
0.57	74.57	.102E+05	22.5	1.34	7.56
0.85	74.85	.157E+05	44.5	1.72	5.88
1.13	75.13	.215E+05	72.6	2.05	4.93
1.41	75.41	.276E+05	106.4	2.35	4.32
1.70	75.70	.339E+05	145.6	2.61	3.88
1.98	75.98	.405E+05	190.4	2.86	3.55
2.31	76.31	.693E+05	278.8	2.45	4.14
2.65	76.65	.103E+06	406.6	2.39	4.24
2.98	76.98	.142E+06	571.0	2.44	4.15
3.32	77.32	.185E+06	780.5	2.57	3.94
3.65	77.65	.229E+06	1027.4	2.72	3.72
3.99	77.99	.276E+06	1310.5	2.88	3.51
4.32	78.32	.325E+06	1625.0	3.04	3.34
4.66	78.66	.376E+06	1974.5	3.19	3.17
4.99	78.99	.428E+06	2362.2	3.35	3.02
5.33	79.33	.483E+06	2754.4	3.46	2.93
5.66	79.66	.544E+06	3054.6	3.41	2.97
6.00	80.00	.613E+06	3561.5	3.53	2.87

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> <-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2376) *******	173.22	7.25	33.91		1.87	2.76
OUTFLOW: ID= 1 (5395) *******	173.30	7.25	33.91		1.87	2.75

CALIB | STANDHYD (0395) | Area (ha)= 36.20 | ID= 1 DT=15.0 min | Total Imp(%)= 35.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	12.67	23.53
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.90
Length (m)=	491.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.12
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.75	0.66 1.328 (iii)

TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	53.38	25.94	34.17
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.48	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2395) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0395):	36.20	1.328	5.25	34.17
+ ID2= 2 (5395):	22212.36	173.297	7.25	33.91
ID = 3 (2395):	22248.56	173.705	7.25	33.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 3 **
****

READ STORM | Filename: C:\Users\P006437C\AppData\Local\Temp\9f309ab1-fec3-4607-958c-354f894587d2\1c09ca77 | Ptotal= 62.71 mm | Comments: 10yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63
2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

CALIB | NASHYD (0176) | Area (ha)= 121.04 Curve Number (CN)= 73.0 | ID= 1 DT=15.0 min | Ia (mm)= 9.60 # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 1.37

Unit Hyd Qpeak (cms)= 3.387

```
     PEAK FLOW       (cms)=   1.569 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  19.180
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.306

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0168) |   Area    (ha)= 103.55   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   2.868

     PEAK FLOW       (cms)=   1.282 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.454
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.294

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0170) |   Area    (ha)=  31.80   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.10

     Unit Hyd Qpeak  (cms)=   1.100

     PEAK FLOW       (cms)=   0.450 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  18.510
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   103.55   1.282     6.75    18.45
       + ID2= 2 (0170):    31.80   0.450     6.25    18.51
         ================================================
         ID = 3 (2176):   135.35   1.720     6.50    18.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1167) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0176):   121.04   1.569     6.75    19.18
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       + ID2= 2 (2176):   135.35   1.720     6.50    18.47
         ================================================
         ID = 3 (1167):   256.39   3.285     6.50    18.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5167) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (5167.0) ------>
                Distance      Elevation       Manning
                    0.00        262.16        0.0930
                   17.98        262.04        0.0930
                   21.42        262.78        0.0930
                   45.50        262.15        0.0930
                   50.47        262.37        0.0930
                   76.45        262.32        0.0930
                   82.50        261.71        0.0930
                   84.15        261.00    0.0930 /0.0410  Main Channel
                   85.06        260.58        0.0410      Main Channel
                   85.95        260.18        0.0410      Main Channel
                   87.25        260.94    0.0410 /0.0930  Main Channel
                   88.72        261.80        0.0930
                  126.19        262.11        0.0930
                  151.18        262.60        0.0930
                  158.48        262.60        0.0930
                  162.67        262.66        0.0930
                  162.97        262.66        0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.13   260.31    .213E+02       0.0          0.09     118.24
       0.25   260.43    .850E+02       0.0          0.15      74.49
       0.38   260.56    .191E+03       0.1          0.20      56.84
       0.51   260.69    .340E+03       0.1          0.24      46.86
       0.63   260.81    .530E+03       0.2          0.28      40.37
       0.76   260.94    .763E+03       0.4          0.31      35.75
       0.90   261.08    .107E+04       0.6          0.37      30.02
       1.04   261.22    .144E+04       0.9          0.42      26.45
       1.18   261.36    .185E+04       1.3          0.46      24.26
       1.33   261.51    .233E+04       1.7          0.49      22.76
       1.47   261.65    .285E+04       2.2          0.52      21.67
       1.61   261.79    .345E+04       2.7          0.53      21.01
       1.75   261.93    .488E+04       3.3          0.46      24.35
       1.89   262.07    .813E+04       4.3          0.35      31.78
       2.03   262.21    .143E+05       5.9          0.28      40.27
       2.18   262.36    .227E+05       8.3          0.25      45.66
       2.32   262.50    .347E+05      12.1          0.23      47.80
       2.46   262.64    .483E+05      16.8          0.23      47.89
       2.60   262.78    .635E+05      23.6          0.25      44.82

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1167)  256.39     3.28    6.50  18.80      1.74      0.47
     OUTFLOW: ID= 1 (5167)  256.39     3.06    7.00  18.80      1.68      0.49

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| CALIB              |
| NASHYD    (0167) |   Area    (ha)=  45.12   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.10   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.588

     PEAK FLOW       (cms)=   0.925 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  20.093
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2167) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0167):    45.12   0.925     5.50    20.09
       + ID2= 2 (5167):   256.39   3.058     7.00    18.80
         ================================================
         ID = 3 (2167):   301.51   3.572     6.75    18.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0147) |   Area    (ha)=  71.89   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   1.996

     PEAK FLOW       (cms)=   0.906 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.743
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.299

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1153) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0147):    71.89   0.906     6.75    18.74
       + ID2= 2 (2167):   301.51   3.572     6.75    18.99
         ================================================
         ID = 3 (1153):   373.40   4.477     6.75    18.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5153) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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```
                <------ DATA FOR SECTION (5153.0) ------>
                Distance      Elevation       Manning
                    0.00        265.12        0.0930
                   61.22        264.43        0.0930
                   92.80        264.46        0.0930
                  229.62        263.26        0.0930
                  264.40        263.29        0.0930
                  313.73        261.28        0.0930
                  323.84        261.53        0.0930
                  325.29        261.12    0.0930 /0.0410  Main Channel
                  327.44        260.56        0.0410      Main Channel
                  330.20        261.79    0.0410 /0.0930  Main Channel
                  418.41        263.95        0.0930
                  464.80        264.28        0.0930
                  495.72        265.14        0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.19   260.75    .661E+02       0.1          0.53      19.62
       0.37   260.93    .265E+03       0.4          0.84      12.36
       0.56   261.12    .595E+03       1.1          1.10       9.43
       0.81   261.37    .140E+04       3.0          1.33       7.83
       1.06   261.62    .434E+04       7.3          1.04       9.96
       1.31   261.87    .875E+04      15.4          1.10       9.47
       1.56   262.12    .154E+05      28.4          1.15       9.00
       1.81   262.37    .245E+05      47.4          1.21       8.62
       2.06   262.62    .362E+05      73.6          1.27       8.21
       2.31   262.87    .505E+05     108.0          1.33       7.79
       2.56   263.12    .673E+05     151.7          1.41       7.39
       2.81   263.37    .891E+05     180.7          1.27       8.22
       3.06   263.62    .120E+06     251.0          1.31       7.96
       3.31   263.87    .157E+06     341.6          1.36       7.64
       3.56   264.12    .200E+06     442.6          1.38       7.54
       3.81   264.37    .254E+06     578.1          1.42       7.31
       4.06   264.62    .317E+06     738.9          1.45       7.15
       4.31   264.87    .387E+06     966.8          1.56       6.67
       4.56   265.12    .462E+06    1227.8          1.66       6.27

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1153)  373.40     4.48    6.75  18.95      0.90      1.21
     OUTFLOW: ID= 1 (5153)  373.40     4.45    7.00  18.95      0.90      1.22

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD    (0153) |   Area    (ha)=  34.14   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.72

     Unit Hyd Qpeak  (cms)=   1.809

     PEAK FLOW       (cms)=   0.611 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  18.438
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.294

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2153)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0153):		34.14	0.611	5.75	18.44
+ ID2= 2 (5153):		373.40	4.448	7.00	18.95
ID = 3 (2153):		407.54	4.857	6.75	18.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0140)	Area	(ha)= 157.95	Curve Number	(CN)= 73.0	
ID= 1 DT=15.0 min	Ia	(mm)= 9.70	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 1.60				

Unit Hyd Qpeak (cms)= 3.782

PEAK FLOW (cms)= 1.856 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 19.121
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.305

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1132)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0140):		157.95	1.856	7.00	19.12
+ ID2= 2 (2153):		407.54	4.857	6.75	18.90
ID = 3 (1132):		565.49	6.698	6.75	18.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5132)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5132.0) ------>

Distance	Elevation	Manning	
0.00	265.71	0.0930	
157.54	260.12	0.0930 /0.0410	Main Channel
162.96	260.04	0.0410	Main Channel
165.46	260.06	0.0410 /0.0930	Main Channel
230.27	261.15	0.0930	
271.12	261.23	0.0930	
301.57	261.74	0.0930	
340.02	262.22	0.0930	
355.40	262.69	0.0930	
390.99	263.30	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.02	260.06	.461E+02	0.0	0.04	507.91
0.19	260.23	.275E+04	0.4	0.17	118.51
0.36	260.40	.859E+04	1.6	0.22	91.47
0.53	260.57	.175E+05	3.7	0.25	79.15
0.70	260.74	.294E+05	6.9	0.28	71.09
0.87	260.91	.444E+05	11.4	0.31	65.09
1.04	261.08	.624E+05	17.2	0.33	60.33
1.21	261.25	.862E+05	22.8	0.32	63.13
1.38	261.42	.118E+06	33.6	0.34	58.33
1.55	261.59	.152E+06	46.8	0.37	54.18
1.73	261.77	.190E+06	62.3	0.39	50.75
1.90	261.94	.231E+06	79.9	0.41	48.16
2.07	262.11	.276E+06	100.2	0.43	45.88
2.24	262.28	.324E+06	124.0	0.46	43.60
2.41	262.45	.375E+06	152.0	0.48	41.16
2.58	262.62	.428E+06	182.8	0.51	39.06
2.75	262.79	.484E+06	215.5	0.53	37.42
2.92	262.96	.542E+06	250.3	0.55	36.09
3.09	263.13	.603E+06	288.3	0.57	34.89

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1132)	565.49	6.70	6.75	18.96	0.69	0.28
OUTFLOW: ID= 1 (5132)	565.49	5.49	8.00	18.96	0.63	0.27

CALIB					
NASHYD (0132)	Area	(ha)= 78.02	Curve Number	(CN)= 72.0	
ID= 1 DT=15.0 min	Ia	(mm)= 9.60	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.87				

Unit Hyd Qpeak (cms)= 3.421

PEAK FLOW (cms)= 1.260 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 18.563
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.296

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2132)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0132):		78.02	1.260	6.00	18.56
+ ID2= 2 (5132):		565.49	5.488	8.00	18.96
ID = 3 (2132):		643.51	6.108	7.75	18.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0108)	Area	(ha)= 82.89	Curve Number	(CN)= 72.0	
ID= 1 DT=15.0 min	Ia	(mm)= 10.70	# of Linear Res.(N)= 3.00		

U.H. Tp(hrs)= 1.34

Unit Hyd Qpeak (cms)= 2.368

PEAK FLOW (cms)= 1.011 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 17.938
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.286

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5118)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5118.0) ------>

Distance	Elevation	Manning	
0.00	264.29	0.0930	
54.59	264.08	0.0930	
195.91	262.32	0.0930	
196.76	262.30	0.0930	
198.83	261.60	0.0930 /0.0410	Main Channel
200.27	261.11	0.0410	Main Channel
204.45	262.14	0.0410 /0.0930	Main Channel
207.10	262.78	0.0930	
228.84	263.27	0.0930	
329.55	263.73	0.0930	
365.52	264.37	0.0930	
372.71	264.35	0.0930	
402.90	265.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	261.27	.156E+03	0.0	0.29	97.17
0.33	261.44	.623E+03	0.2	0.45	61.21
0.49	261.60	.140E+04	0.5	0.60	46.71
0.66	261.77	.253E+04	1.1	0.75	37.05
0.83	261.94	.399E+04	2.1	0.86	32.23
0.99	262.10	.578E+04	3.3	0.96	29.09
1.16	262.27	.790E+04	5.1	1.09	25.62
1.33	262.44	.115E+05	7.3	1.07	26.06
1.50	262.61	.189E+05	10.6	0.93	29.79
1.67	262.78	.304E+05	15.2	0.84	33.30
1.83	262.94	.467E+05	21.4	0.77	36.32
2.00	263.11	.689E+05	30.1	0.73	38.19
2.17	263.28	.970E+05	41.4	0.71	39.04
2.34	263.45	.136E+06	55.7	0.69	40.59
2.51	263.62	.188E+06	75.6	0.67	41.55
2.68	263.79	.255E+06	102.5	0.67	41.44
2.84	263.95	.329E+06	137.5	0.70	39.94
3.01	264.12	.411E+06	176.5	0.72	38.78
3.18	264.29	.505E+06	217.3	0.72	38.70

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0108)	82.89	1.01	6.75	17.94	0.62	0.71
OUTFLOW: ID= 1 (5118)	82.89	0.93	7.25	17.93	0.60	0.69

CALIB					
NASHYD (0118)	Area	(ha)= 127.26	Curve Number	(CN)= 71.0	
ID= 1 DT=15.0 min	Ia	(mm)= 9.70	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 1.42				

Unit Hyd Qpeak (cms)= 3.416

PEAK FLOW (cms)= 1.501 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 17.925
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.286

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2118)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0118):		127.26	1.501	6.75	17.93
+ ID2= 2 (5118):		82.89	0.934	7.25	17.93
ID = 3 (2118):		210.15	2.401	7.00	17.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1125)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2118):		210.15	2.401	7.00	17.93
+ ID2= 2 (2132):		643.51	6.108	7.75	18.91
ID = 3 (1125):		853.66	8.381	7.50	18.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5125)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5125.0) ------>

Distance	Elevation	Manning	
0.00	261.06	0.0930	
112.10	260.66	0.0930	
128.23	260.37	0.0930	
184.04	259.72	0.0930	
217.53	259.61	0.0930	
253.86	259.67	0.0930	
268.78	259.50	0.0930	
310.66	258.59	0.0930	
323.55	258.45	0.0930 /0.0410	Main Channel
324.18	258.37	0.0410	Main Channel
328.71	257.57	0.0410	Main Channel
330.84	258.63	0.0410 /0.0930	Main Channel
332.23	258.70	0.0930	

402.29	261.32	0.0930
415.98	261.42	0.0930
435.71	261.26	0.0930
609.12	263.01	0.0930

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	257.75	.817E+02	0.0	0.15	77.13
0.35	257.92	.327E+03	0.1	0.24	48.59
0.53	258.10	.735E+03	0.3	0.31	37.08
0.70	258.27	.131E+04	0.7	0.37	30.61
0.88	258.45	.205E+04	1.3	0.43	26.77
1.07	258.64	.402E+04	2.4	0.41	28.11
1.25	258.82	.772E+04	4.3	0.38	30.28
1.44	259.01	.131E+05	7.0	0.36	31.41
1.63	259.20	.203E+05	10.7	0.36	31.50
1.81	259.38	.292E+05	15.7	0.37	30.98
2.00	259.57	.399E+05	21.8	0.38	30.52
2.19	259.76	.579E+05	27.1	0.32	35.56
2.37	259.94	.822E+05	40.1	0.33	34.21
2.56	260.13	.109E+06	56.1	0.35	32.46
2.74	260.31	.139E+06	75.4	0.37	30.73
2.93	260.50	.171E+06	98.6	0.40	28.93
3.12	260.69	.205E+06	124.1	0.42	27.59
3.30	260.87	.245E+06	146.5	0.41	27.88
3.49	261.06	.292E+06	175.3	0.41	27.76

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1125)	853.66	8.38	7.50	18.67	1.51	0.36
OUTFLOW: ID= 1 (5125)	853.66	7.92	8.00	18.67	1.48	0.36

CALIB	
NASHYD (0125)	Area (ha)= 52.22 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 10.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.95

Unit Hyd Qpeak (cms)= 2.093

PEAK FLOW (cms)= 0.774 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 17.991
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.287

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2125)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0125):	52.22	0.774	6.00	17.99
	+ ID2= 2 (5125):	853.66	7.920	8.00	18.67
	ID = 3 (2125):	905.88	8.307	8.00	18.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5107)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5107.0) ------>

Distance	Elevation	Manning	
0.00	259.47	0.0930	
7.84	259.44	0.0930	
11.25	259.57	0.0930	
21.80	259.34	0.0930	
32.98	259.22	0.0930	
41.05	258.44	0.0930	
73.72	258.37	0.0930	
80.66	257.81	0.0930	
83.82	256.91	0.0930 /0.0410	Main Channel
85.86	256.34	0.0410	Main Channel
86.32	256.46	0.0410	Main Channel
88.86	257.10	0.0410 /0.0930	Main Channel
114.39	257.69	0.0930	
138.64	257.87	0.0930	
178.64	259.30	0.0930	
197.11	259.23	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	256.48	.737E+02	0.0	0.20	79.74
0.29	256.62	.296E+03	0.1	0.32	50.29
0.43	256.77	.669E+03	0.3	0.43	38.35
0.57	256.91	.119E+04	0.6	0.52	31.64
0.75	257.09	.205E+04	1.3	0.64	25.38
0.92	257.26	.366E+04	2.5	0.68	24.06
1.10	257.44	.671E+04	4.3	0.63	25.84
1.28	257.62	.112E+05	6.9	0.60	27.04
1.46	257.80	.176E+05	10.1	0.56	29.00
1.63	257.97	.276E+05	15.3	0.54	30.14
1.81	258.15	.392E+05	22.5	0.56	29.03
1.99	258.33	.520E+05	31.4	0.59	27.60
2.17	258.51	.691E+05	41.5	0.59	27.75
2.34	258.68	.898E+05	55.9	0.61	26.80
2.52	258.86	.112E+06	72.8	0.64	25.56
2.70	259.04	.135E+06	92.4	0.67	24.32
2.88	259.22	.159E+06	114.5	0.70	23.15
3.05	259.39	.188E+06	130.8	0.68	23.93
3.23	259.57	.220E+06	159.7	0.71	23.02

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2125)	905.88	8.31	8.00	18.63	1.36	0.58
OUTFLOW: ID= 1 (5107)	905.88	8.04	8.50	18.63	1.34	0.59

CALIB	
NASHYD (0107)	Area (ha)= 121.76 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.34

Unit Hyd Qpeak (cms)= 3.460

PEAK FLOW (cms)= 1.433 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 17.359
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.277

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2107)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0107):	121.76	1.433	6.75	17.36
	+ ID2= 2 (5107):	905.88	8.035	8.50	18.63
	ID = 3 (2107):	1027.64	8.979	8.25	18.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0090)	Area (ha)= 67.74 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.85

Unit Hyd Qpeak (cms)= 3.040

PEAK FLOW (cms)= 1.151 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 19.290
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.308

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5089)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5089.0) ------>

Distance	Elevation	Manning	
0.00	283.61	0.0930	
12.80	283.54	0.0930	
26.10	283.37	0.0930	
32.61	283.02	0.0930	
52.71	281.44	0.0930	
67.48	281.01	0.0930	
83.85	280.06	0.0930	
102.23	279.31	0.0930	
113.08	279.11	0.0930	
117.61	279.05	0.0930 /0.0410	Main Channel
120.37	279.02	0.0410	Main Channel
123.67	277.63	0.0410	Main Channel
124.68	277.19	0.0410	Main Channel
129.65	278.99	0.0410 /0.0930	Main Channel
171.25	280.63	0.0930	
243.68	281.45	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	277.39	.318E+03	0.0	0.35	149.46
0.40	277.59	.127E+04	0.2	0.56	94.15
0.60	277.79	.286E+04	0.7	0.73	71.97
0.80	277.99	.510E+04	1.4	0.88	59.43
1.00	278.19	.798E+04	2.6	1.02	51.20
1.20	278.39	.115E+05	4.2	1.16	45.33
1.40	278.59	.157E+05	6.4	1.28	40.89
1.60	278.79	.205E+05	9.1	1.40	37.40
1.80	278.99	.260E+05	12.5	1.51	34.57
2.00	279.19	.368E+05	16.1	1.37	38.23
2.25	279.44	.637E+05	25.9	1.28	41.02
2.49	279.68	.101E+06	39.5	1.23	42.56
2.74	279.93	.147E+06	57.1	1.22	42.98
2.98	280.17	.203E+06	79.5	1.23	42.60
3.23	280.42	.267E+06	106.9	1.26	41.68
3.48	280.67	.340E+06	138.7	1.28	40.84
3.72	280.91	.428E+06	173.5	1.27	41.10
3.97	281.16	.537E+06	215.6	1.26	41.49
4.21	281.40	.668E+06	266.4	1.25	41.82

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0090)	67.74	1.15	6.00	19.29	0.73	0.82
OUTFLOW: ID= 1 (5089)	67.74	0.85	6.75	19.28	0.65	0.76

CALIB	
NASHYD (0089)	Area (ha)= 167.93 Curve Number (CN)= 67.0
ID= 1 DT=15.0 min	Ia (mm)= 8.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.40

Unit Hyd Qpeak (cms)= 4.572

PEAK FLOW (cms)= 1.814 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 16.336
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.261

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2089)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0089):	167.93	1.814	6.75	16.34
	+ ID2= 2 (5089):	67.74	0.851	6.75	19.28
	ID = 3 (2089):	235.67	2.665	6.75	17.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5097)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5097.0) ------>

Distance	Elevation	Manning	
0.00	264.00	0.0930	
43.72	263.34	0.0930	
75.36	263.31	0.0930	
120.67	262.08	0.0930	
120.80	262.07	0.0930	
122.58	262.15	0.0930 /0.0410	Main Channel
122.81	262.14	0.0410	Main Channel
125.62	261.93	0.0410	Main Channel
127.06	261.90	0.0410	Main Channel
128.23	262.19	0.0410 /0.0930	Main Channel
129.33	262.51	0.0930	
202.64	264.26	0.0930	
234.87	264.54	0.0930	
274.19	274.72	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	261.98	.109E+03	0.0	0.27	51.95
0.17	262.07	.333E+03	0.2	0.41	33.66
0.25	262.15	.799E+03	0.4	0.44	31.23
0.37	262.27	.199E+04	1.3	0.53	25.99
0.48	262.38	.362E+04	2.6	0.60	23.06
0.60	262.50	.570E+04	4.5	0.66	21.17
0.71	262.61	.840E+04	6.9	0.69	20.19
0.83	262.73	.120E+05	10.2	0.71	19.65
0.94	262.84	.164E+05	14.3	0.72	19.19
1.06	262.96	.218E+05	19.4	0.74	18.70
1.17	263.07	.280E+05	25.6	0.76	18.19
1.29	263.19	.350E+05	33.1	0.79	17.66
1.41	263.31	.430E+05	41.8	0.81	17.14
1.52	263.42	.544E+05	47.8	0.73	18.94
1.64	263.54	.674E+05	61.5	0.76	18.26
1.75	263.65	.817E+05	77.4	0.79	17.59
1.87	263.77	.971E+05	95.5	0.82	16.95
1.98	263.88	.114E+06	116.0	0.85	16.35
2.10	264.00	.132E+06	139.0	0.88	15.78

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2089)	235.67	2.67	6.75	17.18	0.48	0.60
OUTFLOW: ID= 1 (5097)	235.67	2.58	7.00	17.18	0.48	0.60

CALIB			
NASHYD (0097)	Area (ha)=	49.25	Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.39	

Unit Hyd Qpeak (cms)= 1.350

PEAK FLOW (cms)= 0.725 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 21.867
TOTAL RAINFALL (mm)= 62.710

RUNOFF COEFFICIENT = 0.349

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2097)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0097):	49.25	0.725	6.75	21.87
	+ ID2= 2 (5097):	235.67	2.581	7.00	17.18
	ID = 3 (2097):	284.92	3.290	7.00	17.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0104)	Area (ha)=	41.86	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.07	

Unit Hyd Qpeak (cms)= 1.491

PEAK FLOW (cms)= 0.572 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 17.643
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.281

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1102)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0104):	41.86	0.572	6.25	17.64
	+ ID2= 2 (2097):	284.92	3.290	7.00	17.99
	ID = 3 (1102):	326.78	3.787	7.00	17.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5102)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5102.0) ------>

Distance	Elevation	Manning
0.00	261.12	0.0930
11.14	260.51	0.0930
18.45	260.84	0.0930
41.57	260.07	0.0930
52.25	260.01	0.0930
73.74	260.12	0.0930
117.88	258.92	0.0930
139.95	258.90	0.0930
184.09	258.61	0.0930

194.98	258.41	0.0930
203.59	258.36	0.0930
209.59	258.28	0.0930 /0.0410 Main Channel
214.07	258.22	0.0410 Main Channel
217.86	258.29	0.0410 /0.0930 Main Channel
325.90	260.68	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	258.28	.441E+02	0.0	0.10	31.73
0.19	258.41	.434E+03	0.4	0.19	16.32
0.31	258.53	.126E+04	1.5	0.23	13.61
0.44	258.66	.240E+04	3.3	0.26	12.17
0.57	258.79	.409E+04	5.9	0.28	11.51
0.69	258.91	.640E+04	9.5	0.28	11.24
0.82	259.04	.958E+04	15.5	0.31	10.33
0.94	259.16	.130E+05	23.3	0.34	9.32
1.07	259.29	.167E+05	32.7	0.37	8.52
1.20	259.42	.207E+05	43.8	0.40	7.87
1.32	259.54	.248E+05	56.4	0.43	7.34
1.45	259.67	.293E+05	70.7	0.46	6.91
1.58	259.80	.340E+05	86.6	0.48	6.54
1.70	259.92	.389E+05	104.3	0.51	6.22
1.83	260.05	.441E+05	119.1	0.51	6.18
1.95	260.17	.503E+05	136.4	0.52	6.14
2.08	260.30	.567E+05	161.7	0.54	5.85
2.21	260.43	.634E+05	189.1	0.57	5.59
2.33	260.55	.704E+05	217.9	0.59	5.38

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1102)	326.78	3.79	7.00	17.95	0.46	0.26
OUTFLOW: ID= 1 (5102)	326.78	3.73	7.25	17.95	0.46	0.26

CALIB			
NASHYD (0102)	Area (ha)=	2.11	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	7.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.29	

Unit Hyd Qpeak (cms)= 0.279

PEAK FLOW (cms)= 0.062 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 19.035
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.304

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2102)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0102):	2.11	0.062	5.25	19.04
	+ ID2= 2 (5102):	326.78	3.733	7.25	17.95

ID = 3 (2102): 328.89 3.747 7.25 17.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0085)	Area (ha)=	100.60	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.58	

Unit Hyd Qpeak (cms)= 2.433

PEAK FLOW (cms)= 1.157 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 18.628
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.297

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1103)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0085):	100.60	1.157	7.00	18.63
	+ ID2= 2 (2102):	328.89	3.747	7.25	17.95
	ID = 3 (1103):	429.49	4.898	7.00	18.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5103)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5103.0) ------>

Distance	Elevation	Manning	
0.00	260.43	0.0930	
64.92	259.80	0.0930	
159.89	259.49	0.0930	
194.21	259.11	0.0930	
200.68	257.93	0.0930	
217.06	258.25	0.0930	
225.28	257.72	0.0930 /0.0410	Main Channel
227.17	257.59	0.0410	Main Channel
228.54	257.71	0.0410 /0.0930	Main Channel
244.04	258.74	0.0930	
267.54	258.84	0.0930	
274.63	259.13	0.0930	
295.89	259.48	0.0930	
310.06	259.61	0.0930	
344.18	260.28	0.0930	
358.34	260.35	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	257.71	.574E+02	0.1	0.27	18.86
0.26	257.85	.281E+03	0.4	0.46	11.20

0.40	257.99	.715E+03	1.2	0.50	10.30
0.54	258.13	.161E+04	2.5	0.48	10.65
0.68	258.27	.302E+04	4.8	0.49	10.40
0.81	258.40	.471E+04	8.5	0.56	9.23
0.95	258.54	.651E+04	13.2	0.62	8.23
1.09	258.68	.844E+04	18.9	0.69	7.46
1.23	258.82	.107E+05	24.0	0.69	7.43
1.37	258.96	.138E+05	32.7	0.73	7.05
1.51	259.10	.172E+05	43.2	0.77	6.61
1.65	259.24	.209E+05	50.6	0.74	6.90
1.79	259.38	.256E+05	61.0	0.73	6.99
1.93	259.52	.312E+05	72.8	0.72	7.14
2.07	259.66	.387E+05	85.1	0.68	7.58
2.20	259.79	.485E+05	106.4	0.67	7.59
2.34	259.93	.598E+05	138.3	0.71	7.20
2.48	260.07	.720E+05	175.6	0.75	6.83
2.62	260.21	.851E+05	218.1	0.79	6.50

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1103)	429.49	4.90	7.00	18.11	0.68	0.49
OUTFLOW: ID= 1 (5103)	429.49	4.88	7.25	18.11	0.68	0.49

CALIB			
NASHYD (0103)	Area (ha)=	13.80	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	9.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.83	

Unit Hyd Qpeak (cms)= 0.638

PEAK FLOW (cms)= 0.219 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 17.804
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.284

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2103)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0103):	13.80	0.219	5.75	17.80
+ ID2= 2 (5103):	429.49	4.876	7.25	18.11
ID = 3 (2103):	443.29	5.009	7.25	18.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1105)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2103):	443.29	5.009	7.25	18.10
+ ID2= 2 (2107):	1027.64	8.979	8.25	18.48

ID = 3 (1105):	1470.93	13.543	7.75	18.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5105)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5105.0) ------>

Distance	Elevation	Manning		
0.00	259.38	0.0930		
16.48	258.87	0.0930		
29.77	258.00	0.0930		
35.97	256.26	0.0930		
47.95	256.26	0.0930		
63.19	256.50	0.0930		
68.45	254.59	0.0930 /0.0410	Main Channel	
69.33	254.24	0.0410	Main Channel	
70.76	254.71	0.0410 /0.0930	Main Channel	
75.24	256.29	0.0930		
93.49	256.07	0.0930		
111.29	256.77	0.0930		
123.23	257.87	0.0930		
136.75	258.67	0.0930		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	254.42	.100E+03	0.0	0.17	113.66
0.35	254.59	.401E+03	0.1	0.27	71.60
0.59	254.83	.115E+04	0.4	0.42	46.70
0.83	255.07	.227E+04	1.0	0.51	38.69
1.07	255.31	.378E+04	1.8	0.56	35.01
1.31	255.55	.566E+04	2.9	0.60	32.70
1.55	255.79	.792E+04	4.3	0.63	30.99
1.79	256.03	.106E+05	5.9	0.66	29.62
2.03	256.27	.163E+05	6.9	0.50	39.36
2.27	256.51	.329E+05	11.3	0.41	48.37
2.51	256.75	.535E+05	18.8	0.41	47.54
2.75	256.99	.757E+05	28.9	0.45	43.75
2.99	257.23	.989E+05	41.2	0.49	40.05
3.23	257.47	.123E+06	55.6	0.53	36.92
3.47	257.71	.148E+06	72.0	0.57	34.30
3.71	257.95	.174E+06	90.3	0.61	32.19
3.95	258.19	.202E+06	108.9	0.63	30.93
4.19	258.43	.232E+06	129.4	0.66	29.87
4.43	258.67	.264E+06	152.4	0.68	28.87

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1105)	1470.93	13.54	7.75	18.36	2.34	0.41
OUTFLOW: ID= 1 (5105)	1470.93	12.21	8.75	18.36	2.30	0.41

CALIB			
NASHYD (0105)	Area (ha)=	54.33	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	10.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.72	

Unit Hyd Qpeak (cms)= 2.866

PEAK FLOW (cms)= 0.943 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 17.980
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.287

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2105)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0105):	54.33	0.943	5.75	17.98
+ ID2= 2 (5105):	1470.93	12.214	8.75	18.36
ID = 3 (2105):	1525.26	12.428	8.75	18.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0072)	Area (ha)=	66.00	Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)=	9.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.00	

Unit Hyd Qpeak (cms)= 2.508

PEAK FLOW (cms)= 0.917 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 17.356
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.277

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0062)	Area (ha)=	194.37	Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)=	8.30	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.33	

Unit Hyd Qpeak (cms)= 5.578

PEAK FLOW (cms)= 2.417 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 18.131
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.289

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1086)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0062):	194.37	2.417	6.50	18.13
+ ID2= 2 (0072):	66.00	0.917	6.25	17.36
ID = 3 (1086):	260.37	3.304	6.50	17.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5086)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5086.0) ------>

Distance	Elevation	Manning		
0.00	261.31	0.0930		
3.21	261.36	0.0930		
28.01	261.03	0.0930		
42.51	261.07	0.0930		
53.44	260.90	0.0930		
62.26	260.66	0.0930		
107.79	260.30	0.0930		
123.86	260.33	0.0930		
139.15	260.06	0.0930		
156.49	259.39	0.0930		
173.83	258.81	0.0930 /0.0410	Main Channel	
179.12	258.67	0.0410	Main Channel	
180.66	258.74	0.0410 /0.0930	Main Channel	
197.95	259.63	0.0930		
205.72	259.81	0.0930		
209.98	259.78	0.0930		
318.53	261.21	0.0930		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.07	258.74	.375E+03	0.0	0.20	216.58
0.21	258.88	.320E+04	0.5	0.43	98.91
0.35	259.02	.847E+04	1.8	0.55	77.87
0.48	259.15	.161E+05	3.9	0.62	69.08
0.62	259.29	.262E+05	6.9	0.67	63.50
0.76	259.43	.387E+05	10.9	0.72	59.26
0.90	259.57	.534E+05	16.0	0.77	55.68
1.04	259.71	.705E+05	22.0	0.80	53.32
1.17	259.84	.917E+05	28.6	0.80	53.38
1.31	259.98	.119E+06	37.8	0.81	52.42
1.45	260.12	.151E+06	48.6	0.82	51.84
1.59	260.26	.190E+06	61.3	0.83	51.51
1.72	260.39	.239E+06	73.2	0.78	54.43
1.86	260.53	.301E+06	93.0	0.79	53.89
2.00	260.67	.372E+06	117.3	0.81	52.88
2.14	260.81	.451E+06	148.5	0.84	50.63
2.28	260.95	.535E+06	183.6	0.88	48.60
2.41	261.08	.628E+06	216.3	0.88	48.38
2.55	261.22	.732E+06	261.9	0.92	46.60

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1086)	260.37	3.30	6.50	17.93	0.44	0.60
OUTFLOW: ID= 1 (5086)	260.37	2.60	7.50	17.93	0.40	0.57

```
--------------------
| CALIB            |
| NASHYD    (0086) |   Area    (ha)=  85.32   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.35

     Unit Hyd Qpeak  (cms)=   2.416

     PEAK FLOW       (cms)=   1.061 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  18.339
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.292

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (2086) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0086):    85.32   1.061     6.75    18.34
       + ID2= 2 (5086):   260.37   2.598     7.50    17.93
         ================================================
         ID = 3 (2086):   345.69   3.553     7.25    18.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0082) |   Area    (ha)= 127.96   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.59

     Unit Hyd Qpeak  (cms)=   3.070

     PEAK FLOW       (cms)=   1.460 (i)
     TIME TO PEAK    (hrs)=   7.000
     RUNOFF VOLUME    (mm)=  18.570
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.296

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0070) |   Area    (ha)=  60.11   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.10   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.23

     Unit Hyd Qpeak  (cms)=   1.871

     PEAK FLOW       (cms)=   0.764 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  17.700
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.282

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (1080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0070):    60.11   0.764     6.50    17.70
       + ID2= 2 (0082):   127.96   1.460     7.00    18.57
         ================================================
         ID = 3 (1080):   188.07   2.198     6.75    18.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (5080) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5080.0) ------>
            Distance      Elevation       Manning
                0.00         265.31        0.0930
                3.12         265.35        0.0930
               51.72         263.31        0.0930
               63.25         263.22        0.0930
               83.29         262.44        0.0930
               98.72         261.99    0.0930 /0.0410  Main Channel
              107.79         261.84        0.0410      Main Channel
              112.42         261.99    0.0410 /0.0930  Main Channel
              182.31         264.06        0.0930
              207.12         264.23        0.0930
              208.20         264.24        0.0930
              230.04         264.24        0.0930
              257.09         264.08        0.0930
              287.23         264.25        0.0930
              339.24         265.08        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.15   261.99    .747E+03        0.3          0.32      38.02
      0.33   262.17    .328E+04        2.6          0.58      20.78
      0.50   262.34    .737E+04        7.0          0.70      17.43
      0.68   262.52    .130E+05       13.8          0.77      15.68
      0.86   262.70    .200E+05       23.1          0.84      14.43
      1.03   262.87    .283E+05       35.0          0.90      13.48
      1.21   263.05    .380E+05       49.8          0.95      12.72
      1.39   263.23    .491E+05       67.4          1.00      12.12
      1.56   263.40    .624E+05       87.5          1.02      11.89
      1.74   263.58    .773E+05      113.3          1.07      11.37
      1.92   263.76    .935E+05      143.0          1.11      10.90
      2.10   263.94    .111E+06      176.6          1.16      10.47
      2.27   264.11    .130E+06      206.5          1.15      10.49
      2.45   264.29    .158E+06      233.3          1.07      11.29
      2.63   264.47    .193E+06      291.6          1.10      11.01
      2.80   264.64    .229E+06      357.8          1.14      10.67
      2.98   264.82    .268E+06      431.9          1.17      10.33
      3.16   265.00    .308E+06      514.1          1.21       9.99
      3.33   265.17    .350E+06      608.3          1.26       9.60

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
```



```
     INFLOW : ID= 2 (1080)  188.07     2.20    6.75  18.29      0.29      0.50
     OUTFLOW: ID= 1 (5080)  188.07     2.18    7.00  18.29      0.29      0.50
```

```
--------------------
| CALIB            |
| NASHYD    (0080) |   Area    (ha)=  26.18   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.78

     Unit Hyd Qpeak  (cms)=   1.287

     PEAK FLOW       (cms)=   0.488 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  19.822
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.316

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (2080) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0080):    26.18   0.488     5.75    19.82
       + ID2= 2 (5080):   188.07   2.182     7.00    18.29
         ================================================
         ID = 3 (2080):   214.25   2.485     7.00    18.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (1087) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2080):   214.25   2.485     7.00    18.48
       + ID2= 2 (2086):   345.69   3.553     7.25    18.03
         ================================================
         ID = 3 (1087):   559.94   5.988     7.00    18.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (5087) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5087.0) ------>
            Distance      Elevation       Manning
                0.00         258.88        0.0930
                8.99         258.76        0.0930
               19.29         256.36        0.0930
               40.77         256.43        0.0930
               45.90         256.36        0.0930
               56.95         256.44        0.0930
               62.65         256.35        0.0930
               72.79         255.95    0.0930 /0.0410  Main Channel
               73.78         255.91        0.0410      Main Channel
```



```
               74.08         256.02    0.0410 /0.0930  Main Channel
               84.33         259.59        0.0930
              121.64         260.15        0.0930
              126.24         260.09        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.04   255.95    .134E+02        0.0          0.13      77.23
      0.26   256.17    .580E+03        0.3          0.33      30.32
      0.48   256.39    .217E+04        1.1          0.31      32.40
      0.70   256.61    .951E+04        6.0          0.38      26.63
      0.92   256.83    .174E+05       15.0          0.53      19.29
      1.15   257.06    .254E+05       27.3          0.65      15.51
      1.37   257.28    .337E+05       42.6          0.77      13.18
      1.59   257.50    .422E+05       60.7          0.88      11.60
      1.81   257.72    .509E+05       81.4          0.97      10.43
      2.03   257.94    .599E+05      104.6          1.06       9.54
      2.25   258.16    .690E+05      130.3          1.15       8.82
      2.47   258.38    .783E+05      158.5          1.23       8.24
      2.69   258.60    .879E+05      189.0          1.31       7.75
      2.91   258.82    .978E+05      213.5          1.33       7.63
      3.13   259.04    .109E+06      244.8          1.37       7.41
      3.36   259.27    .120E+06      286.5          1.45       6.98
      3.58   259.49    .131E+06      330.9          1.54       6.61
      3.80   259.71    .143E+06      372.2          1.59       6.40
      4.02   259.93    .156E+06      418.6          1.63       6.22

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1087)  559.94     5.99    7.00  18.20      0.70      0.38
     OUTFLOW: ID= 1 (5087)  559.94     5.80    7.50  18.20      0.70      0.38
```

```
--------------------
| CALIB            |
| NASHYD    (0087) |   Area    (ha)=  11.14   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

     Unit Hyd Qpeak  (cms)=   0.761

     PEAK FLOW       (cms)=   0.207 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  16.612
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2087) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0087):    11.14   0.207     5.50    16.61
       + ID2= 2 (5087):   559.94   5.800     7.50    18.20
         ================================================
         ID = 3 (2087):   571.08   5.870     7.50    18.17
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2087):	571.08	5.870	7.50	18.17
	+ ID2= 2 (2105):	1525.26	12.428	8.75	18.35
	ID = 3 (1084):	2096.34	17.588	8.25	18.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5084)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5084.0) ------>

Distance	Elevation	Manning	
0.00	259.35	0.0930	
3.22	259.33	0.0930	
19.62	255.67	0.0930	
53.75	255.23	0.0930	
140.86	255.25	0.0930	
146.73	253.99	0.0930 /0.0410	Main Channel
148.19	253.66	0.0410	Main Channel
148.47	253.71	0.0410	Main Channel
151.58	254.18	0.0410 /0.0930	Main Channel
159.61	255.34	0.0930	
161.63	255.50	0.0930	
175.11	259.05	0.0930	
185.75	258.95	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	253.83	.358E+02	0.0	0.30	13.95
0.33	253.99	.147E+03	0.3	0.48	8.74
0.62	254.28	.530E+03	1.6	0.78	5.37
0.91	254.57	.116E+04	4.5	0.96	4.33
1.21	254.87	.203E+04	8.7	1.07	3.90
1.50	255.16	.315E+04	14.5	1.15	3.63
1.79	255.45	.953E+04	25.6	0.67	6.20
2.08	255.74	.194E+05	52.8	0.68	6.14
2.37	256.03	.300E+05	93.7	0.78	5.33
2.66	256.32	.407E+05	145.5	0.89	4.67
2.96	256.62	.516E+05	207.0	1.00	4.16
3.25	256.91	.627E+05	277.8	1.11	3.76
3.54	257.20	.740E+05	357.4	1.21	3.45
3.83	257.49	.854E+05	445.5	1.31	3.19
4.12	257.78	.970E+05	541.8	1.40	2.98
4.41	258.07	.109E+06	646.1	1.49	2.81
4.71	258.37	.121E+06	758.3	1.57	2.65
5.00	258.66	.133E+06	878.1	1.65	2.52
5.29	258.95	.145E+06	1005.6	1.73	2.41

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1084)	2096.34	17.59	8.25	18.30	1.58	0.96

OUTFLOW: ID= 1 (5084)	2096.34	17.56	8.50	18.30	1.58	0.96

CALIB
NASHYD (0084) | Area (ha)= 19.87 | Curve Number (CN)= 73.0
ID= 1 DT=15.0 min | Ia (mm)= 8.40 | # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.53

Unit Hyd Qpeak (cms)= 1.435

PEAK FLOW (cms)= 0.459 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 19.834
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.316

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2084)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0084):	19.87	0.459	5.50	19.83
	+ ID2= 2 (5084):	2096.34	17.563	8.50	18.30
	ID = 3 (2084):	2116.21	17.643	8.50	18.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0083) | Area (ha)= 50.78 | Curve Number (CN)= 69.0
ID= 1 DT=15.0 min | Ia (mm)= 9.90 | # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.05

Unit Hyd Qpeak (cms)= 1.852

PEAK FLOW (cms)= 0.664 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 16.704
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.266

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1076)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0083):	50.78	0.664	6.25	16.70
	+ ID2= 2 (2084):	2116.21	17.643	8.50	18.32
	ID = 3 (1076):	2166.99	17.937	8.50	18.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5076)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5076.0) ------>

Distance	Elevation	Manning	
0.00	260.17	0.0930	
14.24	259.77	0.0930	
43.01	255.21	0.0930	
58.26	254.66	0.0930 /0.0410	Main Channel
63.42	253.10	0.0410	Main Channel
66.04	253.09	0.0410	Main Channel
70.21	254.56	0.0410 /0.0930	Main Channel
123.72	254.97	0.0930	
148.22	259.84	0.0930	
150.20	260.01	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	253.38	.521E+03	0.3	0.33	26.27
0.59	253.68	.132E+04	1.2	0.48	17.88
0.88	253.97	.240E+04	2.8	0.60	14.31
1.18	254.27	.374E+04	5.1	0.70	12.19
1.47	254.56	.536E+04	8.3	0.80	10.75
1.86	254.95	.134E+05	16.5	0.63	13.59
2.25	255.34	.293E+05	33.0	0.58	14.78
2.64	255.73	.464E+05	57.0	0.63	13.58
3.03	256.12	.644E+05	87.3	0.70	12.31
3.42	256.51	.833E+05	123.5	0.76	11.24
3.81	256.90	.103E+06	165.6	0.83	10.38
4.19	257.28	.124E+06	213.3	0.89	9.67
4.58	257.67	.145E+06	266.7	0.94	9.08
4.97	258.06	.168E+06	325.6	1.00	8.59
5.36	258.45	.191E+06	390.2	1.05	8.16
5.75	258.84	.215E+06	460.3	1.10	7.79
6.14	259.23	.240E+06	536.1	1.15	7.47
6.53	259.62	.266E+06	617.6	1.19	7.19
6.92	260.01	.294E+06	691.2	1.21	7.08

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1076)	2166.99	17.94	8.50	18.28	1.89	0.63
OUTFLOW: ID= 1 (5076)	2166.99	17.77	8.75	18.28	1.89	0.63

CALIB
NASHYD (0076) | Area (ha)= 22.96 | Curve Number (CN)= 69.0
ID= 1 DT=15.0 min | Ia (mm)= 10.60 | # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.44

Unit Hyd Qpeak (cms)= 2.011

PEAK FLOW (cms)= 0.463 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 16.230
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.259

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2076)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0076):	22.96	0.463	5.25	16.23
	+ ID2= 2 (5076):	2166.99	17.765	8.75	18.28
	ID = 3 (2076):	2189.95	17.825	8.75	18.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0071) | Area (ha)= 79.26 | Curve Number (CN)= 72.0
ID= 1 DT=15.0 min | Ia (mm)= 9.60 | # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.35

Unit Hyd Qpeak (cms)= 2.247

PEAK FLOW (cms)= 1.000 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 18.569
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.296

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1063)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0071):	79.26	1.000	6.50	18.57
	+ ID2= 2 (2076):	2189.95	17.825	8.75	18.26
	ID = 3 (1063):	2269.21	18.427	8.50	18.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5063)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5063.0) ------>

Distance	Elevation	Manning	
0.00	260.53	0.0930	
7.93	260.16	0.0930	
25.92	255.95	0.0930	
48.02	251.95	0.0930	
74.10	251.57	0.0930 /0.0410	Main Channel
75.60	250.50	0.0410	Main Channel
79.20	250.50	0.0410	Main Channel
81.24	251.63	0.0410 /0.0930	Main Channel
112.21	252.04	0.0930	
134.13	254.75	0.0930	
150.69	255.82	0.0930	

162.81	257.37	0.0930

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	250.86	.284E+04	0.6	0.38	84.04
0.71	251.21	.647E+04	1.9	0.56	57.07
1.07	251.57	.109E+05	3.9	0.69	45.95
1.43	251.93	.310E+05	8.2	0.50	63.18
1.80	252.30	.758E+05	18.0	0.45	70.25
2.16	252.66	.125E+06	32.8	0.50	63.38
2.52	253.02	.177E+06	52.0	0.56	56.78
2.88	253.38	.233E+06	75.3	0.62	51.53
3.24	253.74	.292E+06	102.7	0.67	47.38
3.61	254.11	.355E+06	134.2	0.72	44.04
3.97	254.47	.421E+06	169.8	0.77	41.30
4.33	254.83	.490E+06	208.9	0.81	39.11
4.69	255.19	.565E+06	250.5	0.85	37.56
5.06	255.56	.644E+06	296.8	0.88	36.16
5.42	255.92	.729E+06	349.0	0.92	34.80
5.78	256.28	.817E+06	409.2	0.96	33.29
6.14	256.64	.909E+06	474.1	1.00	31.94
6.51	257.01	.100E+07	543.9	1.04	30.74
6.87	257.37	.110E+07	618.4	1.07	29.67

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1063)	2269.21	18.43	8.50	18.27	1.81	0.45
OUTFLOW: ID= 1 (5063)	2269.21	16.39	9.75	18.27	1.73	0.46

CALIB			
NASHYD (0063)	Area	(ha)= 109.84	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia	(mm)= 8.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.82		

Unit Hyd Qpeak (cms)= 5.123

PEAK FLOW (cms)= 2.023 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 20.229
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.323

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2063)				
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0063):	109.84	2.023	5.75	20.23
	+ ID2= 2 (5063):	2269.21	16.391	9.75	18.27
	ID = 3 (2063):	2379.05	16.670	9.75	18.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

279.45	279.08	0.0930
352.04	279.93	0.0930
414.67	279.67	0.0930
506.68	280.29	0.0930

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	276.61	.333E+04	0.3	0.36	194.87
0.36	276.80	.142E+05	2.2	0.66	106.21
0.55	276.99	.311E+05	6.0	0.82	86.49
0.74	277.18	.531E+05	11.7	0.93	75.45
0.92	277.36	.783E+05	19.2	1.04	67.84
1.11	277.55	.108E+06	28.6	1.12	62.81
1.30	277.74	.142E+06	40.0	1.19	59.08
1.49	277.93	.180E+06	53.5	1.26	56.15
1.68	278.12	.223E+06	69.2	1.31	53.73
1.87	278.31	.270E+06	87.2	1.36	51.68
2.05	278.49	.322E+06	107.7	1.41	49.89
2.24	278.68	.384E+06	123.7	1.36	51.76
2.43	278.87	.465E+06	145.3	1.32	53.33
2.62	279.06	.567E+06	172.7	1.29	54.76
2.81	279.25	.716E+06	195.8	1.16	60.92
3.00	279.44	.913E+06	246.9	1.14	61.62
3.18	279.62	.113E+07	307.9	1.15	61.33
3.37	279.81	.139E+07	362.7	1.10	63.96
3.56	280.00	.173E+07	441.2	1.08	65.24

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1055)	215.53	2.96	6.25	18.18	0.40	0.69
OUTFLOW: ID= 1 (5055)	215.53	1.99	7.50	18.17	0.33	0.60

CALIB			
NASHYD (0055)	Area	(ha)= 149.76	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia	(mm)= 10.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.53		

Unit Hyd Qpeak (cms)= 3.748

PEAK FLOW (cms)= 1.659 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 17.645
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.281

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2055)				
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0055):	149.76	1.659	7.00	17.65
	+ ID2= 2 (5055):	215.53	1.987	7.50	18.17
	ID = 3 (2055):	365.29	3.558	7.50	17.96

CALIB			
NASHYD (0035)	Area	(ha)= 49.86	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia	(mm)= 10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.90		

Unit Hyd Qpeak (cms)= 2.121

PEAK FLOW (cms)= 0.782 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 18.333
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.292

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0018)	Area	(ha)= 165.67	Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia	(mm)= 8.30	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.18		

Unit Hyd Qpeak (cms)= 5.349

PEAK FLOW (cms)= 2.204 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 18.130
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.289

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1055)				
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0018):	165.67	2.204	6.50	18.13
	+ ID2= 2 (0035):	49.86	0.782	6.00	18.33
	ID = 3 (1055):	215.53	2.962	6.25	18.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5055)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5055.0) ------>

Distance	Elevation	Manning	
0.00	280.19	0.0930	
87.50	278.82	0.0930	
98.89	278.56	0.0930	
123.84	277.27	0.0930	
130.09	276.61	0.0930 /0.0410	Main Channel
131.71	276.44	0.0410	Main Channel
141.16	276.65	0.0410 /0.0930	Main Channel
152.62	277.02	0.0930	
168.18	278.51	0.0930	
229.80	279.24	0.0930	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0054)	Area	(ha)= 59.63	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia	(mm)= 9.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.14		

Unit Hyd Qpeak (cms)= 1.994

PEAK FLOW (cms)= 0.864 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 19.297
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.308

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1053)				
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0054):	59.63	0.864	6.25	19.30
	+ ID2= 2 (2055):	365.29	3.558	7.50	17.96
	ID = 3 (1053):	424.92	4.265	7.25	18.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5053)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5053.0) ------>

Distance	Elevation	Manning	
0.00	259.86	0.0930	
30.23	255.77	0.0930 /0.0410	Main Channel
32.12	255.61	0.0410	Main Channel
33.86	255.81	0.0410 /0.0930	Main Channel
75.21	261.86	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	255.77	.644E+02	0.1	0.19	21.35
0.38	255.99	.322E+03	0.5	0.37	10.94
0.59	256.20	.742E+03	1.4	0.45	9.00
0.81	256.42	.132E+04	2.7	0.51	8.07
1.02	256.63	.207E+04	4.6	0.55	7.47
1.24	256.85	.297E+04	7.1	0.58	7.01
1.45	257.06	.404E+04	10.1	0.62	6.64
1.67	257.28	.527E+04	13.9	0.65	6.33
1.88	257.49	.666E+04	18.3	0.67	6.06
2.10	257.71	.821E+04	23.5	0.70	5.82
2.31	257.92	.992E+04	29.5	0.73	5.61
2.53	258.14	.118E+05	36.3	0.76	5.41
2.74	258.35	.138E+05	44.1	0.78	5.23
2.96	258.57	.160E+05	52.7	0.81	5.07
3.17	258.78	.184E+05	62.3	0.83	4.92

3.39	259.00	.209E+05	72.9	0.86	4.78
3.60	259.21	.236E+05	84.6	0.88	4.65
3.82	259.43	.264E+05	97.3	0.90	4.53
4.03	259.64	.295E+05	111.1	0.93	4.42

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1053)	424.92	4.27	7.25	18.14	0.98	0.54
OUTFLOW: ID= 1 (5053)	424.92	4.24	7.25	18.14	0.98	0.54

CALIB					
NASHYD (0053)	Area (ha)=	5.96	Curve Number (CN)=	72.0	
ID= 1 DT=15.0 min	Ia (mm)=	9.90	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.35			

Unit Hyd Qpeak (cms)= 0.652

PEAK FLOW	(cms)=	0.156 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	18.122
TOTAL RAINFALL	(mm)=	62.710
RUNOFF COEFFICIENT	=	0.289

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2053)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0053):	5.96	0.156	5.25	18.12
+ ID2= 2 (5053):	424.92	4.243	7.25	18.14
ID = 3 (2053):	430.88	4.282	7.25	18.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0020)	Area (ha)=	80.57	Curve Number (CN)=	71.0	
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.12			

Unit Hyd Qpeak (cms)= 2.738

PEAK FLOW	(cms)=	1.070 (i)
TIME TO PEAK	(hrs)=	6.250
RUNOFF VOLUME	(mm)=	17.643
TOTAL RAINFALL	(mm)=	62.710
RUNOFF COEFFICIENT	=	0.281

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0011)	Area (ha)=	91.04	Curve Number (CN)=	73.0	

CALIB					
|ID= 1 DT=15.0 min | NASHYD (0053)	Ia (mm)=	9.60	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.42			

Unit Hyd Qpeak (cms)= 2.445

PEAK FLOW	(cms)=	1.154 (i)
TIME TO PEAK	(hrs)=	6.750
RUNOFF VOLUME	(mm)=	19.180
TOTAL RAINFALL	(mm)=	62.710
RUNOFF COEFFICIENT	=	0.306

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1021)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0011):	91.04	1.154	6.75	19.18
+ ID2= 2 (0020):	80.57	1.070	6.25	17.64
ID = 3 (1021):	171.61	2.206	6.50	18.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5021) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5021.0) ------>

Distance	Elevation	Manning	
0.00	276.23	0.0930	
23.73	276.03	0.0930	
36.85	275.23	0.0930	
61.59	270.42	0.0930	
76.89	269.69	0.0930	
79.38	269.35	0.0930 /0.0410	Main Channel
82.08	268.91	0.0410	Main Channel
83.34	269.30	0.0410 /0.0930	Main Channel
84.93	269.79	0.0930	
98.02	269.97	0.0930	
107.38	271.99	0.0930	
117.80	275.64	0.0930	
136.41	276.14	0.0930	
138.19	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	269.11	.350E+03	0.1	0.48	67.98
0.39	269.30	.140E+04	0.5	0.77	42.82
0.80	269.71	.602E+04	3.9	1.29	25.50
1.21	270.12	.223E+05	12.1	1.07	30.66
1.61	270.52	.510E+05	30.1	1.16	28.18
2.02	270.93	.842E+05	58.1	1.36	24.18
2.43	271.34	.121E+06	94.6	1.54	21.28
2.84	271.75	.160E+06	139.5	1.71	19.16
3.24	272.15	.203E+06	193.4	1.87	17.51
3.65	272.56	.249E+06	256.5	2.03	16.17
4.06	272.97	.297E+06	328.1	2.17	15.08
4.47	273.38	.348E+06	408.4	2.31	14.19

4.87	273.78	.401E+06	497.5	2.44	13.44
5.28	274.19	.457E+06	595.6	2.56	12.79
5.69	274.60	.516E+06	702.7	2.68	12.23
6.10	275.01	.577E+06	819.1	2.79	11.74
6.50	275.41	.641E+06	934.0	2.87	11.44
6.91	275.82	.712E+06	1009.8	2.79	11.76
7.32	276.23	.803E+06	1016.7	2.49	13.16

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1021)	171.61	2.21	6.50	18.46	0.59	0.95
OUTFLOW: ID= 1 (5021)	171.61	2.05	7.00	18.46	0.57	0.93

CALIB					
NASHYD (0021)	Area (ha)=	68.90	Curve Number (CN)=	78.0	
ID= 1 DT=15.0 min	Ia (mm)=	7.20	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.75			

Unit Hyd Qpeak (cms)= 3.490

PEAK FLOW	(cms)=	1.623 (i)
TIME TO PEAK	(hrs)=	5.750
RUNOFF VOLUME	(mm)=	24.215
TOTAL RAINFALL	(mm)=	62.710
RUNOFF COEFFICIENT	=	0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2021)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0021):	68.90	1.623	5.75	24.21
+ ID2= 2 (5021):	171.61	2.050	7.00	18.46
ID = 3 (2021):	240.51	3.106	6.50	20.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0042)	Area (ha)=	109.13	Curve Number (CN)=	73.0	
ID= 1 DT=15.0 min	Ia (mm)=	9.40	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.32			

Unit Hyd Qpeak (cms)= 3.160

PEAK FLOW	(cms)=	1.456 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	19.298
TOTAL RAINFALL	(mm)=	62.710
RUNOFF COEFFICIENT	=	0.308

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1052)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0042):	109.13	1.456	6.50	19.30
+ ID2= 2 (2021):	240.51	3.106	6.50	20.11
ID = 3 (1052):	349.64	4.561	6.50	19.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5052) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5052.0) ------>

Distance	Elevation	Manning	
0.00	266.73	0.0930	
17.65	266.70	0.0930	
30.84	260.87	0.0930 /0.0410	Main Channel
33.16	260.30	0.0410	Main Channel
33.54	260.21	0.0410	Main Channel
34.62	260.23	0.0410	Main Channel
40.02	260.43	0.0410 /0.0930	Main Channel
79.73	260.97	0.0930	
92.56	266.14	0.0930	
101.74	266.11	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	260.43	.103E+04	0.4	0.49	40.73
0.52	260.73	.781E+04	4.3	0.66	30.29
0.82	261.03	.227E+05	14.6	0.77	25.83
1.12	261.33	.405E+05	33.4	0.98	20.21
1.42	261.63	.589E+05	58.5	1.18	16.79
1.71	261.92	.778E+05	89.1	1.37	14.55
2.01	262.22	.972E+05	125.0	1.53	12.95
2.31	262.52	.117E+06	166.0	1.69	11.76
2.61	262.82	.137E+06	211.7	1.84	10.82
2.91	263.12	.158E+06	262.2	1.97	10.07
3.21	263.42	.180E+06	317.2	2.11	9.44
3.51	263.72	.202E+06	376.8	2.23	8.92
3.81	264.02	.224E+06	440.8	2.35	8.47
4.11	264.32	.247E+06	509.2	2.46	8.08
4.41	264.62	.270E+06	582.0	2.57	7.74
4.70	264.91	.294E+06	659.2	2.67	7.44
5.00	265.21	.319E+06	740.6	2.77	7.17
5.30	265.51	.344E+06	826.4	2.87	6.93
5.60	265.81	.369E+06	916.5	2.96	6.71

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1052)	349.64	4.56	6.50	19.85	0.53	0.66
OUTFLOW: ID= 1 (5052)	349.64	4.37	7.00	19.85	0.52	0.66

CALIB	

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| NASHYD    (0052) |   Area    (ha)=  37.91   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.84

     Unit Hyd Qpeak  (cms)=   1.718

     PEAK FLOW       (cms)=   0.653 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  19.408
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.309

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2052) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0052):    37.91   0.653     5.75    19.41
       + ID2= 2 (5052):   349.64   4.365     7.00    19.85
         ================================================
         ID = 3 (2052):   387.55   4.819     7.00    19.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2052):   387.55   4.819     7.00    19.81
       + ID2= 2 (2053):   430.88   4.282     7.25    18.14
         ================================================
         ID = 3 (1050):   818.43   9.014     7.00    18.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5050) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5050.0) ------>
              Distance      Elevation       Manning
                  0.00         259.67        0.0930
                 13.92         256.13        0.0930
                 17.59         256.29        0.0930
                 21.12         255.95        0.0930
                 30.78         255.82        0.0930
                 33.55         255.60        0.0930
                 35.41         255.31        0.0930
                 42.56         254.71    0.0930 /0.0410  Main Channel
                 44.43         254.55        0.0410      Main Channel
                 44.75         254.59        0.0410      Main Channel
                 49.70         255.17    0.0410 /0.0930  Main Channel
                 61.41         256.32        0.0930
                 62.19         256.25        0.0930
                 64.00         256.45        0.0930
                 73.57         258.88        0.0930
                 75.52         259.01        0.0930
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                 83.84         260.70        0.0930
                 88.87         260.76        0.0930

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.16   254.71    .591E+02       0.1         0.31      12.48
       0.42   254.97    .414E+03       1.0         0.56       6.87
       0.68   255.23    .109E+04       3.4         0.72       5.32
       0.94   255.49    .209E+04       8.0         0.89       4.32
       1.20   255.75    .336E+04      14.5         1.00       3.86
       1.47   256.02    .523E+04      22.5         0.99       3.87
       1.73   256.28    .775E+04      34.4         1.02       3.76
       1.99   256.54    .108E+05      51.1         1.09       3.52
       2.25   256.80    .140E+05      71.5         1.18       3.26
       2.51   257.06    .173E+05      95.2         1.27       3.03
       2.77   257.32    .208E+05     122.0         1.36       2.84
       3.03   257.58    .243E+05     151.8         1.44       2.67
       3.29   257.84    .280E+05     184.5         1.52       2.53
       3.55   258.10    .318E+05     220.3         1.60       2.41
       3.81   258.36    .358E+05     259.0         1.67       2.30
       4.08   258.63    .398E+05     300.7         1.74       2.21
       4.34   258.89    .440E+05     345.1         1.81       2.13
       4.60   259.15    .484E+05     390.3         1.86       2.07
       4.86   259.41    .530E+05     441.0         1.92       2.00

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1050)  818.43     9.01    7.00  18.93      0.98      0.90
     OUTFLOW: ID= 1 (5050)  818.43     9.02    7.25  18.93      0.98      0.90

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| CALIB             |
| NASHYD    (0050) |   Area    (ha)=   7.41   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.46

     Unit Hyd Qpeak  (cms)=   0.615

     PEAK FLOW       (cms)=   0.165 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  18.357
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.293

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0050):     7.41   0.165     5.25    18.36
       + ID2= 2 (5050):   818.43   9.023     7.25    18.93
         ================================================
         ID = 3 (2050):   825.84   9.075     7.25    18.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB             |
| NASHYD    (0007) |   Area    (ha)= 178.66   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   4.684

     PEAK FLOW       (cms)=   2.041 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  17.645
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (5009) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5009.0) ------>
              Distance      Elevation       Manning
                  0.00         285.25        0.0930
                 17.97         284.61        0.0930
                 25.53         284.49        0.0930
                 30.68         284.43        0.0930
                 35.54         284.45        0.0930
                 41.74         284.38    0.0930 /0.0410  Main Channel
                 43.34         284.37        0.0410      Main Channel
                 43.57         284.36        0.0410      Main Channel
                 43.90         284.36        0.0410      Main Channel
                 45.20         284.36        0.0410      Main Channel
                 47.00         284.36    0.0410 /0.0930  Main Channel
                 57.95         284.80        0.0930
                 74.16         285.17        0.0930
                 94.21         285.41        0.0930
                108.93         285.51        0.0930

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.05   284.41    .601E+02       0.0         0.14      25.46
       0.09   284.45    .195E+03       0.2         0.17      21.00
       0.14   284.50    .428E+03       0.4         0.19      18.59
       0.19   284.55    .706E+03       0.7         0.22      16.30
       0.23   284.59    .103E+04       1.2         0.24      14.64
       0.28   284.64    .138E+04       1.7         0.27      13.25
       0.33   284.69    .177E+04       2.4         0.30      12.12
       0.37   284.73    .217E+04       3.2         0.32      11.22
       0.42   284.78    .261E+04       4.1         0.34      10.50
       0.47   284.83    .307E+04       5.1         0.36       9.94
       0.52   284.88    .356E+04       6.3         0.38       9.48
       0.56   284.92    .409E+04       7.5         0.39       9.08
       0.61   284.97    .465E+04       8.9         0.41       8.73
       0.66   285.02    .524E+04      10.4         0.42       8.43
       0.70   285.06    .587E+04      12.0         0.44       8.15
       0.75   285.11    .653E+04      13.8         0.45       7.90
       0.80   285.16    .723E+04      15.7         0.47       7.68
       0.84   285.20    .796E+04      17.7         0.48       7.51
       0.89   285.25    .875E+04      19.8         0.49       7.37
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                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0007)  178.66     2.04    6.75  17.64      0.30      0.28
     OUTFLOW: ID= 1 (5009)  178.66     2.03    7.00  17.64      0.30      0.28

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| CALIB             |
| NASHYD    (0009) |   Area    (ha)=  57.35   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.98

     Unit Hyd Qpeak  (cms)=   2.228

     PEAK FLOW       (cms)=   0.951 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  20.235
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.323

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2009) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0009):    57.35   0.951     6.00    20.24
       + ID2= 2 (5009):   178.66   2.028     7.00    17.64
         ================================================
         ID = 3 (2009):   236.01   2.844     6.75    18.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5012) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5012.0) ------>
              Distance      Elevation       Manning
                  0.00         286.59        0.0930
                  7.35         286.54        0.0930
                182.68         282.59    0.0930 /0.0410  Main Channel
                188.50         282.42        0.0410      Main Channel
                196.35         282.37        0.0410      Main Channel
                198.54         282.38        0.0410      Main Channel
                198.86         282.39        0.0410      Main Channel
                204.09         282.60    0.0410 /0.0930  Main Channel
                220.42         283.20        0.0930
                227.76         283.19        0.0930
                249.45         283.60        0.0930
                276.70         284.52        0.0930
                280.20         284.62        0.0930
                338.90         285.99        0.0930
                430.49         286.70        0.0930

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
```

0.22	282.59	.133E+05	1.7	0.54	133.55
0.43	282.80	.395E+05	7.7	0.85	85.15
0.64	283.01	.795E+05	18.1	0.99	73.15
0.85	283.22	.134E+06	32.8	1.06	68.25
1.06	283.43	.212E+06	53.6	1.10	65.80
1.27	283.64	.308E+06	81.1	1.14	63.31
1.48	283.85	.420E+06	116.0	1.20	60.37
1.69	284.06	.546E+06	158.0	1.26	57.61
1.90	284.27	.687E+06	207.6	1.31	55.13
2.11	284.48	.841E+06	265.1	1.37	52.91
2.33	284.70	.101E+07	329.9	1.42	51.07
2.54	284.91	.120E+07	402.8	1.46	49.51
2.75	285.12	.140E+07	485.2	1.51	48.06
2.96	285.33	.162E+07	577.5	1.55	46.71
3.17	285.54	.185E+07	680.1	1.59	45.45
3.38	285.75	.211E+07	793.5	1.63	44.27
3.59	285.96	.238E+07	918.1	1.68	43.16
3.80	286.17	.267E+07	1036.2	1.68	42.94
4.01	286.38	.300E+07	1169.3	1.69	42.70

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2009)	236.01	2.84	6.75	18.27	0.26	0.58
OUTFLOW: ID= 1 (5012)	236.01	1.84	8.50	18.27	0.23	0.55

CALIB			
NASHYD (0012)	Area (ha)=	183.34	Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)=	8.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.22	

Unit Hyd Qpeak (cms)= 5.735

PEAK FLOW (cms)= 2.817 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 21.095
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.336

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2012)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0012):	183.34	2.817	6.50	21.10
+ ID2= 2 (5012):	236.01	1.843	8.50	18.27
ID = 3 (2012):	419.35	4.038	7.00	19.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0032)	Area (ha)=	49.09	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.97	

Unit Hyd Qpeak (cms)= 1.937

PEAK FLOW (cms)= 0.780 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 19.294
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.308

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1040)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0032):	49.09	0.780	6.00	19.29
+ ID2= 2 (2012):	419.35	4.038	7.00	19.51
ID = 3 (1040):	468.44	4.692	6.75	19.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5040)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5040.0) ------>

Distance	Elevation	Manning	
0.00	263.73	0.0930	
3.80	263.50	0.0930	
15.09	260.45	0.0930	
19.73	260.13	0.0930	
24.77	259.11	0.0930	
29.24	257.72	0.0930	
39.41	256.76	0.0930	
45.12	255.96	0.0930 /0.0410	Main Channel
45.71	255.95	0.0410	Main Channel
46.66	255.94	0.0410	Main Channel
47.79	255.93	0.0410	Main Channel
48.07	255.95	0.0410	Main Channel
49.01	256.02	0.0410	Main Channel
49.66	256.06	0.0410 /0.0930	Main Channel
50.09	256.08	0.0930	
66.82	257.59	0.0930	
68.76	257.78	0.0930	
85.17	263.07	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.03	255.96	.201E+02	0.0	0.13	49.56
0.40	256.33	.103E+04	2.0	0.75	8.68
0.78	256.71	.305E+04	7.5	0.95	6.80
1.15	257.08	.613E+04	16.9	1.07	6.03
1.53	257.46	.104E+05	31.3	1.17	5.53
1.90	257.83	.158E+05	52.0	1.28	5.06
2.28	258.21	.218E+05	80.4	1.43	4.52
2.65	258.58	.281E+05	114.3	1.58	4.10
3.02	258.95	.348E+05	153.7	1.72	3.78
3.40	259.33	.419E+05	197.9	1.84	3.53

3.77	259.70	.493E+05	247.2	1.95	3.33
4.15	260.08	.573E+05	302.2	2.05	3.16
4.52	260.45	.658E+05	356.5	2.11	3.08
4.89	260.82	.750E+05	426.3	2.21	2.93
5.27	261.20	.846E+05	502.3	2.31	2.81
5.64	261.57	.945E+05	584.5	2.41	2.69
6.02	261.95	.105E+06	673.1	2.50	2.60
6.39	262.32	.116E+06	768.0	2.59	2.51
6.77	262.70	.127E+06	869.4	2.67	2.43

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1040)	468.44	4.69	6.75	19.48	0.59	0.84
OUTFLOW: ID= 1 (5040)	468.44	4.68	7.00	19.48	0.59	0.84

CALIB			
NASHYD (0040)	Area (ha)=	5.95	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	8.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.28	

Unit Hyd Qpeak (cms)= 0.797

PEAK FLOW (cms)= 0.184 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 19.668
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.314

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2040)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0040):	5.95	0.184	5.25	19.67
+ ID2= 2 (5040):	468.44	4.677	7.00	19.48
ID = 3 (2040):	474.39	4.719	7.00	19.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1043)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2040):	474.39	4.719	7.00	19.49
+ ID2= 2 (2050):	825.84	9.075	7.25	18.93
ID = 3 (1043):	1300.23	13.755	7.00	19.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5043)	

IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5043.0) ------>

Distance	Elevation	Manning	
0.00	258.27	0.0930	
9.62	255.23	0.0930	
22.15	254.22	0.0930	
41.61	253.70	0.0930 /0.0410	Main Channel
42.11	253.67	0.0410	Main Channel
44.98	252.56	0.0410	Main Channel
45.13	252.60	0.0410	Main Channel
47.49	253.41	0.0410 /0.0930	Main Channel
50.17	253.96	0.0930	
52.43	253.89	0.0930	
55.10	253.86	0.0930	
58.88	253.98	0.0930	
61.24	253.95	0.0930	
105.33	254.48	0.0930	
118.27	258.71	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	252.84	.132E+03	0.1	0.25	38.42
0.57	253.13	.519E+03	0.4	0.39	24.35
0.85	253.41	.116E+04	1.0	0.51	18.63
1.15	253.71	.219E+04	2.4	0.62	15.46
1.46	254.02	.541E+04	5.0	0.53	17.97
1.76	254.32	.150E+05	10.9	0.42	23.00
2.06	254.62	.295E+05	22.1	0.43	22.31
2.37	254.93	.454E+05	38.6	0.49	19.62
2.67	255.23	.622E+05	59.5	0.55	17.40
2.98	255.54	.795E+05	85.3	0.62	15.52
3.28	255.84	.971E+05	115.1	0.68	14.06
3.58	256.14	.115E+06	148.5	0.74	12.91
3.89	256.45	.133E+06	185.5	0.80	11.98
4.19	256.75	.152E+06	226.0	0.86	11.20
4.49	257.05	.171E+06	269.9	0.91	10.55
4.80	257.36	.190E+06	317.2	0.96	9.99
5.10	257.66	.210E+06	367.7	1.01	9.51
5.41	257.97	.230E+06	421.4	1.06	9.09
5.71	258.27	.250E+06	478.3	1.10	8.71

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1043)	1300.23	13.75	7.00	19.13	1.84	0.42
OUTFLOW: ID= 1 (5043)	1300.23	13.24	7.50	19.13	1.83	0.42

CALIB			
NASHYD (0043)	Area (ha)=	12.70	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.41	

Unit Hyd Qpeak (cms)= 1.195

PEAK FLOW (cms)= 0.325 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 19.253
TOTAL RAINFALL (mm)= 62.710

RUNOFF COEFFICIENT = 0.307

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2043)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0043):		12.70	0.325	5.25	19.25
	+ ID2= 2 (5043):		1300.23	13.238	7.50	19.13
	ID = 3 (2043):		1312.93	13.315	7.50	19.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0014)	ID= 1 DT=15.0 min	Area (ha)= 82.92	Ia (mm)= 8.60	U.H. Tp(hrs)= 1.27	Curve Number (CN)= 75.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 2.502

PEAK FLOW (cms)= 1.249 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 21.096
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.336

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5013)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5013.0) ------>

Distance	Elevation	Manning	
0.00	275.77	0.0930	
14.35	275.60	0.0930	
43.06	272.29	0.0930	
99.28	270.53	0.0930	
104.12	270.24	0.0930	
107.91	270.08	0.0930	
113.53	269.94	0.0930 /0.0410	Main Channel
117.24	269.85	0.0410	Main Channel
117.42	269.85	0.0410	Main Channel
122.48	269.97	0.0410 /0.0930	Main Channel
149.76	270.95	0.0930	
171.23	275.18	0.0930	
223.54	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	269.94	.752E+03	0.1	0.29	124.05
0.40	270.25	.123E+05	4.2	0.71	49.57
0.70	270.55	.339E+05	14.4	0.90	39.14
1.01	270.86	.661E+05	31.5	1.01	34.91
1.32	271.17	.109E+06	58.4	1.14	31.11

1.62	271.47	.160E+06	95.2	1.27	27.97
1.93	271.78	.218E+06	141.7	1.38	25.60
2.24	272.09	.283E+06	198.6	1.49	23.75
2.54	272.39	.356E+06	268.4	1.60	22.08
2.85	272.70	.432E+06	352.8	1.74	20.41
3.16	273.01	.511E+06	447.7	1.86	19.02
3.47	273.32	.593E+06	553.0	1.98	17.87
3.77	273.62	.677E+06	668.6	2.10	16.89
4.08	273.93	.765E+06	794.4	2.21	16.05
4.39	274.24	.855E+06	930.4	2.31	15.31
4.69	274.54	.948E+06	1076.7	2.41	14.67
5.00	274.85	.104E+07	1233.2	2.51	14.10
5.31	275.16	.114E+07	1400.1	2.61	13.59
5.61	275.46	.125E+07	1528.9	2.61	13.58

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0014)	82.92	1.25	6.50	21.10	0.18	0.34
OUTFLOW: ID= 1 (5013)	82.92	0.85	8.00	21.09	0.15	0.32

CALIB	NASHYD (0013)	ID= 1 DT=15.0 min	Area (ha)= 118.75	Ia (mm)= 9.70	U.H. Tp(hrs)= 1.20	Curve Number (CN)= 72.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 3.792

PEAK FLOW (cms)= 1.606 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 18.511
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.295

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2013)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0013):		118.75	1.606	6.50	18.51
	+ ID2= 2 (5013):		82.92	0.846	8.00	21.09
	ID = 3 (2013):		201.67	2.240	6.75	19.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0002)	ID= 1 DT=15.0 min	Area (ha)= 141.56	Ia (mm)= 9.90	U.H. Tp(hrs)= 1.27	Curve Number (CN)= 72.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 4.261

PEAK FLOW (cms)= 1.839 (i)
TIME TO PEAK (hrs)= 6.500

RUNOFF VOLUME (mm)= 18.396
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.293

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0003)	ID= 1 DT=15.0 min	Area (ha)= 57.29	Ia (mm)= 9.90	U.H. Tp(hrs)= 0.86	Curve Number (CN)= 72.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 2.533

PEAK FLOW (cms)= 0.919 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 18.389
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.293

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1006)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0002):		141.56	1.839	6.50	18.40
	+ ID2= 2 (0003):		57.29	0.919	6.00	18.39
	ID = 3 (1006):		198.85	2.683	6.25	18.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5006)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5006.0) ------>

Distance	Elevation	Manning	
0.00	287.32	0.0930	
23.48	286.69	0.0930	
44.41	286.64	0.0930	
58.95	286.40	0.0930	
73.88	284.37	0.0930 /0.0410	Main Channel
84.88	284.02	0.0410	Main Channel
87.92	283.91	0.0410	Main Channel
95.92	284.40	0.0410 /0.0930	Main Channel
111.06	285.99	0.0930	
138.74	286.46	0.0930	
172.31	287.17	0.0930	
211.16	287.27	0.0930	
236.90	287.59	0.0930	
267.08	287.45	0.0930	
312.04	288.42	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	284.06	.461E+03	0.1	0.24	63.72

0.31	284.22	.190E+04	0.8	0.38	40.19
0.46	284.37	.434E+04	2.4	0.50	30.58
0.64	284.55	.816E+04	6.4	0.73	21.22
0.83	284.74	.125E+05	12.1	0.89	17.25
1.01	284.92	.175E+05	19.4	1.03	15.03
1.20	285.11	.229E+05	28.1	1.13	13.60
1.38	285.29	.290E+05	38.4	1.23	12.58
1.57	285.48	.355E+05	50.1	1.30	11.82
1.75	285.66	.427E+05	63.4	1.37	11.21
1.94	285.85	.503E+05	78.2	1.44	10.73
2.12	286.03	.586E+05	94.1	1.49	10.38
2.30	286.21	.684E+05	110.8	1.50	10.30
2.49	286.40	.804E+05	130.2	1.50	10.29
2.67	286.58	.952E+05	150.2	1.46	10.56
2.86	286.77	.115E+06	173.2	1.39	11.06
3.04	286.95	.139E+06	203.8	1.36	11.36
3.23	287.14	.166E+06	238.3	1.33	11.58
3.41	287.32	.198E+06	269.7	1.26	12.23

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1006)	198.85	2.68	6.25	18.39	0.47	0.52
OUTFLOW: ID= 1 (5006)	198.85	2.54	6.75	18.39	0.47	0.51

CALIB	NASHYD (0006)	ID= 1 DT=15.0 min	Area (ha)= 26.09	Ia (mm)= 8.30	U.H. Tp(hrs)= 0.65	Curve Number (CN)= 70.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 1.533

PEAK FLOW (cms)= 0.486 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 18.107
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.289

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2006)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0006):		26.09	0.486	5.50	18.11
	+ ID2= 2 (5006):		198.85	2.541	6.75	18.39
	ID = 3 (2006):		224.94	2.830	6.75	18.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0001)	ID= 1 DT=15.0 min	Area (ha)= 255.18	Ia (mm)= 9.60	U.H. Tp(hrs)= 1.71	Curve Number (CN)= 73.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 5.686

PEAK FLOW (cms)= 2.871 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 19.180
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.306

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1008)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	255.18	2.871	7.25	19.18
	+ ID2= 2 (2006):	224.94	2.830	6.75	18.36
	ID = 3 (1008):	480.12	5.636	6.75	18.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5008)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5008.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
5.09	285.37	0.0930	
133.83	283.19	0.0930	
146.67	282.58	0.0930	
159.56	277.24	0.0930	
181.65	275.77	0.0930 /0.0410	Main Channel
184.90	275.43	0.0410	Main Channel
185.21	275.45	0.0410	Main Channel
187.80	275.63	0.0410	Main Channel
191.31	275.97	0.0410 /0.0930	Main Channel
209.70	278.15	0.0930	
221.15	281.88	0.0930	
261.53	283.57	0.0930	
304.31	284.15	0.0930	
337.36	284.93	0.0930	
377.51	285.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	275.77	.187E+04	0.8	0.58	40.13
0.85	276.28	.116E+05	8.7	1.05	22.11
1.35	276.78	.296E+05	26.7	1.25	18.51
1.86	277.29	.559E+05	56.0	1.39	16.65
2.36	277.79	.880E+05	99.4	1.57	14.74
2.87	278.30	.124E+06	155.5	1.74	13.27
3.37	278.80	.162E+06	224.4	1.92	12.03
3.88	279.31	.202E+06	304.6	2.09	11.06
4.38	279.81	.244E+06	395.9	2.25	10.28
4.89	280.32	.288E+06	498.0	2.40	9.64
5.39	280.82	.334E+06	611.1	2.54	9.11
5.90	281.33	.382E+06	735.0	2.67	8.66
6.40	281.83	.432E+06	869.8	2.79	8.28

6.91	282.34	.487E+06	982.8	2.80	8.25
7.41	282.84	.552E+06	1089.7	2.74	8.44
7.92	283.35	.633E+06	1183.0	2.59	8.91
8.42	283.85	.742E+06	1270.3	2.37	9.74
8.93	284.36	.897E+06	1446.3	2.24	10.33
9.43	284.86	.109E+07	1711.6	2.18	10.60

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->				<-pipe / channel->	
INFLOW :	ID= 2 (1008)	480.12	5.64	6.75	18.80	0.65	0.79
OUTFLOW:	ID= 1 (5008)	480.12	5.45	7.25	18.80	0.64	0.78

CALIB					
NASHYD (0008)	Area (ha)= 39.23	Curve Number (CN)= 70.0			
ID= 1 DT=15.0 min	Ia (mm)= 10.70	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.70				

Unit Hyd Qpeak (cms)= 2.153

PEAK FLOW (cms)= 0.644 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 16.797
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.268

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2008)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0008):	39.23	0.644	5.75	16.80
	+ ID2= 2 (5008):	480.12	5.448	7.25	18.80
	ID = 3 (2008):	519.35	5.775	7.25	18.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0010)	Area (ha)= 32.74	Curve Number (CN)= 73.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.20	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.85				

Unit Hyd Qpeak (cms)= 1.473

PEAK FLOW (cms)= 0.561 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 19.409
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.309

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1017)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0010):	32.74	0.561	5.75	19.41
	+ ID2= 2 (2008):	519.35	5.775	7.25	18.65
	ID = 3 (1017):	552.09	6.123	7.25	18.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5017)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5017.0) ------>

Distance	Elevation	Manning	
0.00	284.04	0.0930	
46.21	283.58	0.0930	
60.07	282.83	0.0930	
78.57	282.39	0.0930	
85.85	282.05	0.0930	
121.94	278.24	0.0930	
123.09	278.18	0.0930	
129.01	277.91	0.0930	
139.25	277.70	0.0930	
148.64	277.62	0.0930	
150.40	277.60	0.0930 /0.0410	Main Channel
153.11	277.50	0.0410	Main Channel
156.99	277.64	0.0410 /0.0930	Main Channel
169.99	278.18	0.0930	
199.99	281.62	0.0930	
209.74	282.18	0.0930	
218.36	282.39	0.0930	
234.68	282.62	0.0930	
330.59	282.90	0.0930	
341.39	283.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	277.60	.885E+03	0.1	0.24	223.44
0.39	277.89	.204E+05	2.8	0.44	123.11
0.67	278.17	.572E+05	10.5	0.59	91.21
0.96	278.46	.103E+06	23.8	0.74	72.31
1.24	278.74	.154E+06	42.1	0.88	61.07
1.53	279.03	.210E+06	65.0	1.00	53.76
1.81	279.31	.270E+06	92.7	1.11	48.56
2.10	279.60	.336E+06	125.3	1.21	44.64
2.39	279.89	.406E+06	162.7	1.30	41.55
2.67	280.17	.480E+06	205.2	1.38	39.03
2.96	280.46	.560E+06	252.8	1.46	36.93
3.24	280.74	.645E+06	305.8	1.53	35.14
3.53	281.03	.734E+06	364.2	1.60	33.59
3.82	281.32	.828E+06	428.2	1.67	32.23
4.10	281.60	.927E+06	497.9	1.73	31.02
4.39	281.89	.103E+07	569.1	1.78	30.21
4.67	282.17	.114E+07	642.6	1.81	29.66
4.96	282.46	.127E+07	698.4	1.78	30.27
5.24	282.74	.143E+07	715.3	1.62	33.24

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1017)	552.09	6.12	7.25	18.69	0.51	0.49
OUTFLOW:	ID= 1 (5017)	552.09	4.39	8.75	18.69	0.45	0.46

CALIB					
NASHYD (0017)	Area (ha)= 148.68	Curve Number (CN)= 69.0			
ID= 1 DT=15.0 min	Ia (mm)= 8.50	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 1.11				

Unit Hyd Qpeak (cms)= 5.125

PEAK FLOW (cms)= 1.977 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 17.456
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.278

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2017)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0017):	148.68	1.977	6.25	17.46
	+ ID2= 2 (5017):	552.09	4.388	8.75	18.69
	ID = 3 (2017):	700.77	5.383	8.00	18.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1033)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2013):	201.67	2.240	6.75	19.57
	+ ID2= 2 (2017):	700.77	5.383	8.00	18.43
	ID = 3 (1033):	902.44	7.346	7.75	18.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5033)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5033.0) ------>

Distance	Elevation	Manning
0.00	262.20	0.0930
7.96	260.93	0.0930
28.15	259.22	0.0930
39.76	257.39	0.0930
55.06	257.09	0.0930
63.73	256.73	0.0930
75.56	256.77	0.0930

86.35	257.05	0.0930 /0.0410	Main Channel
88.50	256.67	0.0410	Main Channel
89.43	256.54	0.0410	Main Channel
90.89	256.33	0.0410	Main Channel
92.64	256.68	0.0410	Main Channel
94.27	257.00	0.0410 /0.0930	Main Channel
113.17	257.17	0.0930	
126.05	259.64	0.0930	
159.89	261.07	0.0930	
170.84	262.03	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	256.55	.142E+03	0.1	0.35	22.74
0.45	256.78	.731E+03	0.7	0.45	17.70
0.67	257.00	.357E+04	3.0	0.40	19.98
0.98	257.31	.121E+05	12.3	0.49	16.35
1.30	257.63	.234E+05	30.9	0.63	12.60
1.61	257.94	.352E+05	57.0	0.77	10.29
1.93	258.26	.476E+05	89.8	0.90	8.85
2.24	258.57	.606E+05	128.7	1.01	7.85
2.56	258.89	.741E+05	173.7	1.12	7.11
2.87	259.20	.882E+05	224.6	1.22	6.54
3.18	259.51	.103E+06	279.2	1.30	6.14
3.50	259.83	.119E+06	335.2	1.35	5.89
3.81	260.14	.136E+06	396.3	1.39	5.71
4.13	260.46	.155E+06	466.0	1.44	5.54
4.44	260.77	.175E+06	544.3	1.48	5.37
4.76	261.09	.198E+06	634.2	1.53	5.19
5.07	261.40	.221E+06	740.3	1.60	4.98
5.39	261.72	.245E+06	854.6	1.66	4.78
5.70	262.03	.270E+06	977.2	1.73	4.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1033)	902.44	7.35	7.75	18.68	0.82	0.43
OUTFLOW: ID= 1 (5033)	902.44	7.28	8.00	18.68	0.81	0.43

CALIB			
NASHYD (0033)	Area (ha)=	14.99	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.51	

Unit Hyd Qpeak (cms)= 1.118

PEAK FLOW (cms)= 0.323 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 18.390
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.293

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2033)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0033):	14.99	0.323	5.50	18.39
+ ID2= 2 (5033):	902.44	7.279	8.00	18.68
ID = 3 (2033):	917.43	7.351	8.00	18.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0034)	Area (ha)=	66.29	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	8.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.32	

Unit Hyd Qpeak (cms)= 1.917

PEAK FLOW (cms)= 0.930 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 20.239
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.323

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1037)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0034):	66.29	0.930	6.50	20.24
+ ID2= 2 (2033):	917.43	7.351	8.00	18.68
ID = 3 (1037):	983.72	8.051	7.75	18.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5037)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5037.0) ------>

Distance	Elevation	Manning	
0.00	260.96	0.0930	
3.52	260.75	0.0930	
32.87	255.52	0.0930	
40.76	254.86	0.0930 /0.0410	Main Channel
42.91	253.65	0.0410	Main Channel
48.59	254.84	0.0410 /0.0930	Main Channel
80.76	254.83	0.0930	
96.56	255.53	0.0930	
112.29	261.81	0.0930	
119.25	261.97	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.95	.102E+03	0.1	0.40	14.86
0.60	254.25	.410E+03	0.7	0.63	9.36
0.89	254.54	.922E+03	2.2	0.82	7.14
1.19	254.84	.170E+04	4.6	0.97	6.10

1.60	255.25	.848E+04	16.3	0.68	8.67
2.01	255.66	.172E+05	38.2	0.78	7.50
2.41	256.06	.268E+05	70.6	0.93	6.32
2.82	256.47	.368E+05	111.6	1.07	5.50
3.23	256.88	.474E+05	160.7	1.20	4.91
3.64	257.29	.584E+05	217.8	1.32	4.47
4.05	257.70	.699E+05	282.6	1.43	4.12
4.45	258.10	.818E+05	355.1	1.53	3.84
4.86	258.51	.943E+05	435.2	1.63	3.61
5.27	258.92	.107E+06	522.9	1.72	3.42
5.68	259.33	.121E+06	618.3	1.81	3.25
6.09	259.74	.134E+06	721.4	1.90	3.11
6.49	260.14	.149E+06	832.2	1.98	2.98
6.90	260.55	.164E+06	950.8	2.05	2.87
7.31	260.96	.179E+06	1070.9	2.11	2.79

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1037)	983.72	8.05	7.75	18.78	1.31	0.86
OUTFLOW: ID= 1 (5037)	983.72	8.03	8.00	18.78	1.31	0.86

CALIB			
NASHYD (0037)	Area (ha)=	10.16	Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)=	8.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.36	

Unit Hyd Qpeak (cms)= 1.090

PEAK FLOW (cms)= 0.305 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 20.866
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.333

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2037)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0037):	10.16	0.305	5.25	20.87
+ ID2= 2 (5037):	983.72	8.028	8.00	18.78
ID = 3 (2037):	993.88	8.074	8.00	18.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1049)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2037):	993.88	8.074	8.00	18.80
+ ID2= 2 (2043):	1312.93	13.315	7.50	19.13
ID = 3 (1049):	2306.81	21.224	7.75	18.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5049)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5049.0) ------>

Distance	Elevation	Manning	
0.00	263.74	0.0930	
50.53	263.28	0.0930	
63.03	262.47	0.0930	
87.97	255.04	0.0930	
98.77	253.73	0.0930 /0.0410	Main Channel
108.22	253.09	0.0410	Main Channel
111.56	253.07	0.0410	Main Channel
112.80	253.14	0.0410	Main Channel
114.25	253.67	0.0410 /0.0930	Main Channel
116.67	254.81	0.0930	
143.69	255.06	0.0930	
162.94	255.55	0.0930	
197.87	263.69	0.0930	
207.51	264.45	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.37	.221E+04	0.5	0.27	69.99
0.60	253.67	.629E+04	2.2	0.40	47.02
1.19	254.26	.184E+05	11.1	0.68	27.66
1.78	254.85	.348E+05	25.8	0.84	22.46
2.38	255.45	.732E+05	49.7	0.77	24.52
2.97	256.04	.125E+06	87.5	0.79	23.92
3.56	256.63	.181E+06	136.9	0.86	22.04
4.15	257.22	.240E+06	197.0	0.93	20.28
4.75	257.82	.301E+06	267.3	1.01	18.79
5.34	258.41	.366E+06	347.6	1.08	17.55
5.93	259.00	.434E+06	437.8	1.15	16.52
6.52	259.59	.505E+06	537.8	1.21	15.64
7.12	260.19	.579E+06	647.6	1.27	14.89
7.71	260.78	.655E+06	767.3	1.33	14.24
8.30	261.37	.735E+06	896.9	1.38	13.66
8.89	261.96	.818E+06	1036.6	1.44	13.16
9.49	262.56	.904E+06	1183.2	1.48	12.74
10.08	263.15	.997E+06	1325.9	1.51	12.53
10.67	263.74	.111E+07	1426.8	1.46	12.94

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1049)	2306.81	21.22	7.75	18.99	1.60	0.79
OUTFLOW: ID= 1 (5049)	2306.81	20.71	8.00	18.99	1.57	0.78

CALIB			
NASHYD (0049)	Area (ha)=	30.46	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	9.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.60	

Unit Hyd Qpeak (cms)= 1.949

```
     PEAK FLOW       (cms)=   0.671 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  20.080
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2049) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0049):    30.46   0.671     5.50    20.08
        + ID2= 2 (5049):  2306.81  20.706     8.00    18.99
          ===============================================
          ID = 3 (2049):  2337.27  20.877     8.00    19.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1039) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2049):  2337.27  20.877     8.00    19.00
        + ID2= 2 (2063):  2379.05  16.670     9.75    18.36
          ===============================================
          ID = 3 (1039):  4716.32  35.456     8.50    18.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5039) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5039.0) ------>
               Distance      Elevation       Manning
                   0.00        260.00        0.0930
                 105.82        257.72        0.0930
                 137.40        257.00        0.0930
                 163.69        256.37        0.0930
                 237.19        256.95        0.0930
                 283.24        256.00        0.0930
                 335.42        256.00        0.0930
                 341.91        256.25        0.0930
                 370.46        254.68        0.0930
                 405.46        252.00        0.0930
                 421.66        251.26    0.0930 /0.0410  Main Channel
                 425.14        251.00        0.0410      Main Channel
                 430.43        250.00        0.0410      Main Channel
                 434.15        250.00        0.0410      Main Channel
                 436.43        250.89    0.0410 /0.0930  Main Channel
                 443.70        251.29        0.0930
                 472.16        252.35        0.0930
                 485.36        252.50        0.0930
                 501.02        253.82        0.0930
                 541.72        263.04        0.0930
```



```
 <---------------------- TRAVEL TIME TABLE ---------------------->
  DEPTH    ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
   (m)      (m)      (cu.m.)      (cms)       (m/s)       (min)
  0.45   250.44    .417E+04       0.9          0.39       73.75
  0.89   250.89    .110E+05       3.6          0.57       50.45
  1.43   251.43    .282E+05      10.5          0.64       44.71
  1.96   251.96    .672E+05      25.6          0.65       43.77
  2.50   252.50    .129E+06      49.3          0.65       43.75
  3.03   253.03    .215E+06      87.2          0.70       41.04
  3.57   253.57    .313E+06     137.1          0.75       38.00
  4.11   254.11    .422E+06     200.2          0.81       35.13
  4.64   254.64    .541E+06     276.8          0.88       32.56
  5.18   255.18    .669E+06     364.3          0.93       30.60
  5.71   255.71    .808E+06     465.2          0.99       28.96
  6.25   256.25    .985E+06     546.0          0.95       30.06
  6.78   256.78    .124E+07     671.8          0.93       30.86
  7.32   257.32    .159E+07     859.8          0.93       30.80
  7.86   257.86    .196E+07    1093.1          0.96       29.92
  8.39   258.39    .236E+07    1360.3          0.99       28.92
  8.93   258.93    .278E+07    1662.5          1.02       27.90
  9.46   259.46    .323E+07    2000.4          1.06       26.92
 10.00   260.00    .370E+07    2374.8          1.10       25.99

                                   <---- hydrograph ---->  <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1039) 4716.32   35.46    8.50  18.68      2.19      0.65
     OUTFLOW: ID= 1 (5039) 4716.32   33.66    9.50  18.68      2.14      0.65

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0039) |   Area    (ha)=  81.93   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.20   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   4.145

     PEAK FLOW       (cms)=   1.362 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  17.632
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2039) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0039):    81.93   1.362     5.75    17.63
        + ID2= 2 (5039):  4716.32  33.657     9.50    18.68
          ===============================================
          ID = 3 (2039):  4798.25  33.884     9.25    18.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
```



```
| STANDHYD  (0454) |   Area    (ha)=  15.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  43.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.33         6.82
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.70
     Length            (m)=     317.80        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        31.48
                over (min)      15.00        15.00
     Storage Coeff.  (min)=       1.80 (ii)    9.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.09
                                                              *TOTALS*
     PEAK FLOW       (cms)=       0.52         0.59             1.110 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25              5.25
     RUNOFF VOLUME    (mm)=      61.71        43.34             51.24
     TOTAL RAINFALL   (mm)=      62.71        62.71             62.71
     RUNOFF COEFFICIENT   =       0.98         0.69              0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9119) |
| Inlet Cap.=2.458 |
| #of Inlets=    1 |
| Total(cms)=  2.5 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.15      1.11      5.25   51.24
     =====================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.15      1.11      5.25   51.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6119) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7140     0.1930
                          0.0220     0.0770   |   1.0810     0.2120
                          0.0300     0.1400   |   1.4980     0.2320
                          0.1630     0.1580   |   2.4580     0.2560
                          0.4020     0.1760   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9119)     15.150     1.110      5.25      51.24
     OUTFLOW: ID= 1 (6119)     15.150     1.090      5.25      51.18

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.18
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
```



```
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2134

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4119) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9119 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6119):    15.15   1.090     5.25    51.18
        + ID2= 2 (9119):     0.00   0.000     0.00     0.00
          ===============================================
          ID = 3 (4119):    15.15   1.090     5.25    51.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (3039) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2039):  4798.25  33.884     9.25    18.66
        + ID2= 2 (4119):    15.15   1.090     5.25    51.18
          ===============================================
          ID = 3 (3039):  4813.40  33.940     9.25    18.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0029) |   Area    (ha)=  90.39   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.80   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.955

     PEAK FLOW       (cms)=   1.352 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  17.289
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.276

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0029):    90.39   1.352     6.00    17.29
        + ID2= 2 (3039):  4813.40  33.940     9.25    18.76
          ===============================================
          ID = 3 (1038):  4903.79  34.233     9.25    18.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
```

```
| ROUTE CHN (5038) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (5038.0) ------>

Distance	Elevation	Manning	
0.00	264.96	0.0930	
17.37	263.50	0.0930	
57.10	253.15	0.0930	
82.21	251.50	0.0930	
173.97	249.50	0.0930	
230.01	246.00	0.0930	
254.43	246.00	0.0930	
281.97	245.79	0.0930	
286.56	245.45	0.0930	
287.80	245.00	0.0930 /0.0410	Main Channel
288.00	244.50	0.0410	Main Channel
292.35	244.50	0.0410	Main Channel
292.94	245.00	0.0410 /0.0930	Main Channel
315.83	257.40	0.0930	
330.45	261.99	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.00	.228E+04	1.3	0.53	30.29
1.39	245.89	.101E+05	8.0	0.77	20.93
2.29	246.79	.679E+05	38.7	0.55	29.25
3.18	247.68	.143E+06	101.6	0.69	23.38
4.08	248.58	.231E+06	194.8	0.81	19.76
4.97	249.47	.333E+06	319.4	0.92	17.38
5.87	250.37	.460E+06	449.5	0.94	17.04
6.76	251.26	.623E+06	634.5	0.98	16.36
7.65	252.15	.817E+06	913.9	1.08	14.89
8.55	253.05	.102E+07	1260.8	1.18	13.54
9.44	253.94	.124E+07	1690.1	1.31	12.24
10.34	254.84	.146E+07	2176.8	1.43	11.20
11.23	255.73	.169E+07	2715.7	1.55	10.37
12.12	256.62	.192E+07	3305.4	1.66	9.68
13.02	257.52	.215E+07	3944.1	1.76	9.11
13.91	258.41	.239E+07	4628.0	1.86	8.62
14.81	259.31	.264E+07	5361.6	1.95	8.21
15.70	260.20	.289E+07	6144.6	2.04	7.84
16.60	261.10	.315E+07	6976.6	2.13	7.52

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1038)	4903.79	34.23	9.25	18.74	2.16	0.57
OUTFLOW: ID= 1 (5038)	4903.79	33.37	10.00	18.74	2.12	0.58

```
-------------------
| CALIB           |
| NASHYD   (0038) |   Area    (ha)=  18.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min|   Ia      (mm)=   9.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.42

     Unit Hyd Qpeak  (cms)=   1.701

     PEAK FLOW       (cms)=   0.471 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  19.278
```



```
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (2038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0038):    18.88   0.471     5.25    19.28
        + ID2= 2 (5038):  4903.79  33.373    10.00    18.74
          ================================================
          ID = 3 (2038):  4922.67  33.396    10.00    18.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (0023) |   Area    (ha)= 185.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min|   Ia      (mm)=   8.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.25

     Unit Hyd Qpeak  (cms)=   5.685

     PEAK FLOW       (cms)=   2.821 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  21.096
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (1051) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0023):   185.77   2.821     6.50    21.10
        + ID2= 2 (2038):  4922.67  33.396    10.00    18.74
          ================================================
          ID = 3 (1051):  5108.44  34.154     9.75    18.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

-------------------
| CALIB           |
| STANDHYD  (0449) |   Area    (ha)=  59.38
|ID= 1 DT=15.0 min|   Total Imp(%)=  46.00   Dir. Conn.(%)=  36.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.31         32.07
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.90
     Length            (m)=     629.18         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         26.92
               over (min)        15.00         15.00
```



```
     Storage Coeff.  (min)=       2.40 (ii)   15.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.71          2.27      3.982 (iii)
     TIME TO PEAK    (hrs)=       5.00          5.25       5.25
     RUNOFF VOLUME    (mm)=      61.71         38.54      46.88
     TOTAL RAINFALL   (mm)=      62.71         62.71      62.71
     RUNOFF COEFFICIENT   =       0.98          0.61       0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
| DUHYD    (9118) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK     R.V.
-------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  59.38      3.98      5.25    46.88
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00     0.00
     MINOR SYS.(ID= 3):  59.38      3.98      5.25    46.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

-------------------
| RESERVOIR (6118) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  17.0000     0.4500
                         1.1800     0.3000   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9118)     59.380      3.982      5.25      46.88
     OUTFLOW: ID= 1 (6118)     59.380      4.307      5.25      46.88

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=108.16
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3443

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------

-------------------
| ADD HYD   (4118) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9118 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6118):    59.38   4.307     5.25    46.88
        + ID2= 2 (9118):     0.00   0.000     0.00     0.00
```



```
          ================================================
          ID = 3 (4118):    59.38   4.307     5.25    46.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (3051) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (5051):  5108.44  34.154     9.75    18.82
        + ID2= 2 (4118):    59.38   4.307     5.25    46.88
          ================================================
          ID = 3 (3051):  5167.82  34.360     9.75    19.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

-------------------
| ROUTE CHN (5051) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (5051.0) ------>

Distance	Elevation	Manning	
0.00	254.99	0.0930	
45.56	252.50	0.0930	
55.02	252.50	0.0930	
73.97	254.29	0.0930	
227.89	251.34	0.0930	
260.10	248.27	0.0930	
305.08	247.61	0.0930	
342.61	243.00	0.0930	
370.31	242.00	0.0930	
383.77	242.50	0.0930	
407.52	242.50	0.0930	
427.35	242.00	0.0930	
428.40	241.76	0.0930 /0.0410	Main Channel
429.92	241.00	0.0410	Main Channel
437.00	241.00	0.0410	Main Channel
437.12	241.50	0.0410 /0.0930	Main Channel
439.50	242.50	0.0930	
471.55	242.50	0.0930	
491.51	244.88	0.0930	
515.66	256.99	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	241.50	.856E+04	2.7	0.70	53.03
1.21	242.21	.290E+05	13.1	1.01	36.81
1.92	242.92	.174E+06	49.5	0.64	58.53
2.63	243.63	.393E+06	138.4	0.79	47.30
3.34	244.34	.630E+06	269.1	0.96	39.04
4.05	245.05	.886E+06	439.5	1.11	33.60
4.76	245.76	.116E+07	651.0	1.26	29.59
5.47	246.47	.144E+07	898.5	1.40	26.65
6.18	247.18	.173E+07	1181.0	1.53	24.40
6.89	247.89	.204E+07	1436.7	1.58	23.65
7.60	248.60	.241E+07	1738.7	1.62	23.08
8.31	249.31	.280E+07	2162.7	1.73	21.58
9.02	250.02	.321E+07	2629.6	1.84	20.32
9.73	250.73	.363E+07	3139.3	1.94	19.25

10.44	251.44	.406E+07	3663.4	2.02	18.48	
11.15	252.15	.454E+07	4085.1	2.01	18.52	
11.86	252.86	.509E+07	4492.2	1.98	18.89	
12.57	253.57	.574E+07	5031.6	1.96	19.02	
13.28	254.28	.648E+07	5692.0	1.97	18.99	

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3051)	5167.82	34.36	9.75	19.15	1.62	0.75
OUTFLOW: ID= 1 (5051)	5167.82	32.85	10.75	19.15	1.60	0.77

CALIB			
NASHYD (0051)	Area (ha)= 73.29	Curve Number (CN)= 76.0	
ID= 1 DT=15.0 min	Ia (mm)= 7.80	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

Unit Hyd Qpeak (cms)= 3.971

PEAK FLOW	(cms)=	1.626 (i)
TIME TO PEAK	(hrs)=	5.750
RUNOFF VOLUME	(mm)=	22.292
TOTAL RAINFALL	(mm)=	62.710
RUNOFF COEFFICIENT	=	0.355

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2051)

1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0051):	73.29	1.626	5.75	22.29
+ ID2= 2 (5051):	5167.82	32.854	10.75	19.15
ID = 3 (2051):	5241.11	32.953	10.75	19.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

STANDHYD (0067) | Area (ha)= 23.75 | Total Imp(%)= 23.00 | Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.46	18.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	397.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.99
over (min)		15.00	30.00
Storage Coeff. (min)=		2.40 (ii)	12.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	0.40 0.87 1.265 (iii)

TIME TO PEAK	(hrs)=	5.00 5.25	5.25
RUNOFF VOLUME	(mm)=	61.71 28.66	35.60
TOTAL RAINFALL	(mm)=	62.71 62.71	62.71
RUNOFF COEFFICIENT	=	0.98 0.46	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2467)

1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0067):	23.75	1.265	5.25	35.60
+ ID2= 2 (2051):	5241.11	32.953	10.75	19.19
ID = 3 (2467):	5264.86	32.986	10.75	19.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

STANDHYD (0467) | Area (ha)= 22.32 | Total Imp(%)= 47.00 | Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.49	11.83
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	385.75	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	25.89
over (min)		15.00	15.00
Storage Coeff. (min)=		1.80 (ii)	11.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	0.70 0.82 1.522 (iii)
TIME TO PEAK	(hrs)=	4.75 5.25 5.25
RUNOFF VOLUME	(mm)=	61.71 38.05 47.28
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.98 0.61 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9268)

Inlet Cap.=0.026

#of Inlets= 1

Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	22.32	1.52	5.25	47.28
MAJOR SYS.(ID= 2):	20.28	1.50	5.25	47.28
MINOR SYS.(ID= 3):	2.04	0.03	2.50	47.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6268)

IN= 2---> OUT= 1

DT= 15.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0260	0.3400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9268)	2.042	0.026	2.50	47.28
OUTFLOW: ID= 1 (6268)	2.042	0.006	12.50	45.65

PEAK FLOW REDUCTION [Qout/Qin](%)= 24.56
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.0835

ADD HYD (4268)

1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6268):	2.04	0.006	12.50	45.65
+ ID2= 2 (9268):	20.28	1.496	5.25	47.28
ID = 3 (4268):	22.32	1.498	5.25	47.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1069)

1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2467):	5264.86	32.986	10.75	19.26
+ ID2= 2 (4268):	22.32	1.498	5.25	47.13
ID = 3 (1069):	5287.18	33.001	10.75	19.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5069)

IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5069.0) ------>

Distance	Elevation	Manning
0.00	249.35	0.0930
17.46	245.50	0.0930
49.96	240.00	0.0930

64.40	240.00	0.0930	
85.68	240.46	0.0930	
104.52	238.50	0.0930	
119.89	237.61	0.0930	
150.03	237.50	0.0930	
170.81	238.00	0.0930	
198.79	238.00	0.0930	
200.49	236.53	0.0930 /0.0410	Main Channel
201.16	235.70	0.0410	Main Channel
211.80	235.70	0.0410	Main Channel
212.04	236.00	0.0410 /0.0930	Main Channel
216.53	237.00	0.0930	
222.34	237.50	0.0930	
257.68	237.50	0.0930	
279.63	243.00	0.0930	
328.63	245.49	0.0930	
342.46	247.54	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	236.00	.100E+05	1.7	0.51	100.52
0.91	236.61	.337E+05	10.8	0.98	52.06
1.51	237.21	.641E+05	26.6	1.27	40.21
2.12	237.82	.173E+06	53.5	0.94	54.05
2.73	238.43	.434E+06	117.6	0.83	61.46
3.34	239.04	.732E+06	221.2	0.93	55.16
3.94	239.64	.105E+07	356.8	1.05	48.84
4.55	240.25	.139E+07	499.3	1.10	46.42
5.16	240.86	.180E+07	702.2	1.19	42.78
5.77	241.47	.223E+07	951.9	1.31	39.02
6.37	242.07	.267E+07	1235.3	1.42	35.97
6.98	242.68	.312E+07	1551.4	1.53	33.47
7.59	243.29	.358E+07	1880.6	1.61	31.70
8.20	243.90	.407E+07	2227.4	1.68	30.42
8.80	244.50	.458E+07	2614.2	1.75	29.22
9.41	245.11	.513E+07	3040.8	1.82	28.11
10.02	245.72	.570E+07	3522.2	1.89	26.99
10.63	246.33	.629E+07	4065.9	1.98	25.80
11.23	246.93	.690E+07	4645.2	2.06	24.74

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1069)	5287.18	33.00	10.75	19.38	1.66	1.17
OUTFLOW: ID= 1 (5069)	5287.18	32.12	11.75	19.38	1.64	1.18

CALIB

STANDHYD (0069) | Area (ha)= 155.42 | Total Imp(%)= 30.00 | Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	46.63	108.79
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	1017.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	20.97
over (min)		15.00	15.00

```
     Storage Coeff.  (min)=       3.00 (ii)   16.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.11         5.82          8.931 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        32.35         39.69
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.52          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0069):   155.42   8.931     5.25    39.69
       + ID2= 2 (5069):  5287.18  32.117    11.75    19.38
         ================================================
         ID = 3 (2069):  5442.60  32.347    11.75    19.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0471) |   Area    (ha)=   3.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.27         2.08
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.40
     Length            (m)=     149.44        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        25.93
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       0.60 (ii)    4.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.11
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.15          0.230 (iii)
     TIME TO PEAK    (hrs)=       4.50         5.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        38.96         45.79
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.62          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| DUHYD     (9158) |
| Inlet Cap.=1.825 |
| #of Inlets=    1 |
| Total(cms)=  1.8 |      AREA     QPEAK     TPEAK     R.V.
-------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):   3.35      0.23      5.25   45.79
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.35      0.23      5.25   45.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6158) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0950     0.1100
                          0.0750     0.0340   |   1.8250     0.1650

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9158)     3.350     0.230      5.25      45.79
     OUTFLOW: ID= 1 (6158)     3.350     0.083      5.50      45.76

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.14
               TIME SHIFT OF PEAK FLOW       (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.0649

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-------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9158 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6158):     3.35   0.083     5.50    45.76
       + ID2= 2 (9158):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (****):     3.35   0.083     5.50    45.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (3069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2069):  5442.60  32.347    11.75    19.96
       + ID2= 2 (****):     3.35   0.083     5.50    45.76
         ================================================
         ID = 3 (3069):  5445.95  32.357    11.75    19.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0078) |   Area    (ha)= 127.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  17.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.78       100.76
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.90
     Length            (m)=     922.10        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.11
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       3.60 (ii)   21.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.74         4.40          6.139 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        28.17         33.87
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.45          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0475) |   Area    (ha)=  62.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  44.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.83        28.81
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.30
     Length            (m)=     646.22        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        29.99
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.21         2.28          4.483 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        42.75         51.09
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.68          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2475) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0078):   127.54   6.139     5.25    33.87
       + ID2= 2 (0475):    62.64   4.483     5.25    51.09
         ================================================
         ID = 3 (2475):   190.18  10.622     5.25    39.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| DUHYD     (9078) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)= 14.6 |      AREA     QPEAK     TPEAK     R.V.
-------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1): 190.18     10.62      5.25   39.54
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 190.18     10.62      5.25   39.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0015) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3069):  5445.95  32.357    11.75    19.98
       + ID2= 2 (9078):   190.18  10.622     5.25    39.54
         ================================================
         ID = 3 (0015):  5636.13  32.634    11.75    20.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0066) |   Area    (ha)= 130.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  39.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      62.59        67.81
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.60
     Length            (m)=     932.38        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        26.56
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                    *TOTALS*
```

PEAK FLOW	(cms)=	4.07	4.69	8.762 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	38.37	47.47
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.61	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1101)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	5636.13	32.634	11.75	20.64
+ ID2= 2 (0066):	130.40	8.762	5.25	47.47
ID = 3 (1101):	5766.53	32.844	11.75	21.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5101)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5101.0) ------>

Distance	Elevation	Manning	
0.00	241.94	0.0930	
8.16	239.50	0.0930	
22.34	239.00	0.0930	
28.16	235.50	0.0930	
31.19	235.00	0.0930	
45.37	235.00	0.0930	
66.87	235.30	0.0930	
92.82	235.00	0.0930	
128.48	235.00	0.0930	
131.88	234.50	0.0930	
133.09	234.00	0.0930 /0.0410	Main Channel
133.35	233.80	0.0410	Main Channel
143.76	233.80	0.0410	Main Channel
143.82	234.00	0.0410 /0.0930	Main Channel
146.15	235.00	0.0930	
163.07	235.45	0.0930	
172.90	235.85	0.0930	
179.77	238.00	0.0930	
182.39	238.10	0.0930	
202.70	242.63	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	234.00	.288E+04	0.8	0.38	59.38
0.62	234.42	.955E+04	5.5	0.78	29.17
1.04	234.84	.177E+05	13.2	1.02	22.25
1.45	235.25	.536E+05	26.9	0.68	33.23
1.87	235.67	.130E+06	60.9	0.64	35.54

2.29	236.09	.212E+06	113.1	0.73	31.26	
2.71	236.51	.296E+06	180.8	0.83	27.30	
3.13	236.93	.381E+06	262.0	0.94	24.24	
3.54	237.34	.467E+06	355.8	1.04	21.89	
3.96	237.76	.555E+06	461.5	1.13	20.04	
4.38	238.18	.644E+06	575.5	1.22	18.64	
4.80	238.60	.735E+06	703.6	1.30	17.41	
5.21	239.01	.828E+06	841.5	1.38	16.39	
5.63	239.43	.925E+06	958.9	1.41	16.08	
6.05	239.85	.103E+07	1117.1	1.48	15.34	
6.47	240.27	.113E+07	1291.9	1.55	14.63	
6.89	240.69	.124E+07	1477.9	1.62	13.99	
7.30	241.10	.135E+07	1675.0	1.69	13.43	
7.72	241.52	.146E+07	1883.1	1.76	12.93	

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1101)	5766.53	32.844	11.75	21.24	1.53	0.67
OUTFLOW: ID= 1 (5101)	5766.53	32.46	12.25	21.24	1.52	0.68

CALIB
STANDHYD (0101) Area (ha)= 133.45
ID= 1 DT=15.0 min Total Imp(%)= 47.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	62.72	70.73	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.30	
Length	(m)=	943.22	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	25.89	
over (min)		15.00	15.00	
Storage Coeff. (min)=		3.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.11	0.06	

		TOTALS
PEAK FLOW	(cms)=	4.17	4.69	8.860 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	38.05	47.28
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.61	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2101)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0101):	133.45	8.860	5.25	47.28
+ ID2= 2 (5101):	5766.53	32.462	12.25	21.24

ID = 3 (2101): 5899.98 32.677 12.25 21.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5095)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5095.0) ------>

Distance	Elevation	Manning	
0.00	236.91	0.0930	
17.88	233.09	0.0930	
29.64	231.89	0.0930	
36.51	231.50	0.0930	
36.72	231.50	0.0930	
39.68	230.95	0.0930	
42.58	230.50	0.0930 /0.0410	Main Channel
42.67	229.70	0.0410	Main Channel
42.81	229.70	0.0410	Main Channel
49.66	229.70	0.0410	Main Channel
49.91	230.50	0.0410 /0.0930	Main Channel
53.95	231.00	0.0930	
111.16	232.00	0.0930	
167.36	232.00	0.0930	
183.43	233.00	0.0930	
203.76	237.50	0.0930	
211.96	238.12	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	229.97	.137E+04	1.1	0.56	21.49
0.53	230.23	.275E+04	3.3	0.86	14.11
0.80	230.50	.416E+04	6.2	1.08	11.19
1.20	230.90	.714E+04	12.6	1.28	9.45
1.60	231.30	.134E+05	21.9	1.19	10.18
2.00	231.70	.270E+05	37.2	1.00	12.08
2.40	232.10	.530E+05	59.5	0.82	14.86
2.80	232.50	.957E+05	110.2	0.84	14.47
3.20	232.90	.141E+06	179.2	0.92	13.15
3.60	233.30	.190E+06	268.0	1.03	11.79
4.01	233.71	.239E+06	374.4	1.14	10.64
4.41	234.11	.290E+06	496.3	1.25	9.72
4.81	234.51	.341E+06	633.1	1.35	8.98
5.21	234.91	.394E+06	784.4	1.45	8.37
5.61	235.31	.447E+06	949.8	1.54	7.85
6.01	235.71	.502E+06	1129.0	1.63	7.41
6.41	236.11	.558E+06	1322.0	1.72	7.04
6.81	236.51	.615E+06	1528.3	1.81	6.71
7.21	236.91	.673E+06	1748.1	1.89	6.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2101)	5899.98	32.68	12.25	21.83	1.88	1.05
OUTFLOW: ID= 1 (5095)	5899.98	32.54	12.25	21.83	1.88	1.05

CALIB

STANDHYD (0095) Area (ha)= 84.82
ID= 1 DT=15.0 min Total Imp(%)= 46.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	39.02	45.80	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.40	
Length	(m)=	751.98	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	26.50	
over (min)		15.00	15.00	
Storage Coeff. (min)=		3.00 (ii)	15.60 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.11	0.07	

		TOTALS
PEAK FLOW	(cms)=	2.58	3.18	5.764 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	39.24	47.78
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.63	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2095)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0095):	84.82	5.764	5.25	47.78
+ ID2= 2 (5095):	5899.98	32.540	12.25	21.83
ID = 3 (2095):	5984.80	33.539	5.25	22.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0688) Area (ha)= 43.70
ID= 1 DT=15.0 min Total Imp(%)= 44.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.23	24.47
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	539.75	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	23.39
over (min)		15.00	30.00
Storage Coeff. (min)=		2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	1.37	1.50	2.861 (iii)

```
     TIME TO PEAK    (hrs)=       5.00         5.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        35.93         45.99
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.57          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2688) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9078 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (0688):    43.70   2.861     5.25    45.99
      + ID2= 2 (9078):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (2688):    43.70   2.861     5.25    45.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0476) |   Area    (ha)=  22.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  76.00   Dir. Conn.(%)=  76.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.25         5.45
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.20
     Length            (m)=     389.02        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        24.09
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       1.80 (ii)   12.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.38         0.35          1.736 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        41.12          56.77
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.66           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        16.27
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       1.20 (ii)    7.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.10
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.15          0.233 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        26.44          34.55
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.42           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2689) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0689):     4.42   0.233     5.25    34.55
      + ID2= 2 (****):    22.70   1.014     5.50    56.65
        ================================================
        ID = 3 (2689):    27.12   1.159     5.25    53.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1113) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2688):    43.70   2.861     5.25    45.99
      + ID2= 2 (2689):    27.12   1.159     5.25    53.05
        ================================================
        ID = 3 (1113):    70.82   4.020     5.25    48.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5113) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5113.0) ------>
              Distance      Elevation      Manning
                  0.00         244.57       0.0930
                317.65         242.05       0.0930
                348.79         241.03       0.0930
                378.18         238.00       0.0930
                381.25         236.49    0.0930 /0.0410  Main Channel
                381.97         235.89       0.0410       Main Channel
                384.32         236.39    0.0410 /0.0930  Main Channel
                413.50         241.05       0.0930
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| DUHYD     (9331) |
| Inlet Cap.=5.900 |
| #of Inlets=    1 |
| Total(cms)=  5.9 |         AREA     QPEAK     TPEAK    R.V.
-------------------          (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  22.70      1.74      5.25   56.77
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  22.70      1.74      5.25   56.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6331) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------         (cms)    (ha.m.)   |   (cms)    (ha.m.)
                             0.0000     0.0000  |   1.2500     0.7550
                             0.0400     0.4210  |   1.6700     0.8120
                             0.0800     0.4760  |   2.3800     0.8680
                             0.1700     0.5310  |   3.3600     0.9250
                             0.4100     0.5870  |   4.5400     0.9820
                             0.6500     0.6430  |   5.9000     1.0400
                             0.9500     0.6990  |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9331)     22.700      1.736      5.25      56.77
     OUTFLOW: ID= 1 (6331)     22.700      1.014      5.50      56.65

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.40
               TIME SHIFT OF PEAK FLOW         (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.7310

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-------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9331 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0001 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6331):    22.70   1.014     5.50    56.65
      + ID2= 2 (9331):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (****):    22.70   1.014     5.50    56.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0689) |   Area    (ha)=   4.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.02         3.40
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     171.66        40.00
```



```
                457.83        240.38        0.0930
                497.88        241.26        0.0930
                759.99        241.26        0.0930
                924.92        242.38        0.0930
                990.74        242.50        0.0930
               1030.87        242.13        0.0930
               1081.60        243.06        0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)         (m/s)      (min)
        0.25   236.14    .126E+03        0.1          0.48      23.67
        0.50   236.39    .504E+03        0.6          0.76      14.91
        0.89   236.78    .171E+04        2.9          1.15       9.87
        1.28   237.17    .379E+04        7.2          1.30       8.76
        1.68   237.57    .674E+04       13.8          1.40       8.12
        2.07   237.96    .106E+05       23.1          1.49       7.64
        2.46   238.35    .156E+05       34.9          1.53       7.44
        2.85   238.74    .223E+05       50.9          1.56       7.29
        3.25   239.14    .307E+05       71.8          1.60       7.12
        3.64   239.53    .407E+05       98.0          1.65       6.93
        4.03   239.92    .525E+05      130.2          1.70       6.71
        4.42   240.31    .659E+05      169.0          1.75       6.50
        4.82   240.71    .850E+05      186.4          1.50       7.60
        5.21   241.10    .117E+06      240.8          1.40       8.13
        5.60   241.49    .203E+06      302.7          1.02      11.19
        5.99   241.88    .336E+06      517.9          1.05      10.81
        6.39   242.28    .490E+06      782.2          1.09      10.44
        6.78   242.67    .691E+06     1137.8          1.13      10.12
        7.17   243.06    .920E+06     1698.5          1.26       9.03

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1113)   70.82     4.02    5.25  48.69      0.99      1.19
     OUTFLOW: ID= 1 (5113)   70.82     3.71    5.25  48.69      0.97      1.18

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-------------------
| CALIB             |
| STANDHYD  (0113) |   Area    (ha)=  12.71
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  52.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.61         6.10
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     291.09        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.15
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       1.80 (ii)    9.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.53         0.33          0.863 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        33.29          48.07
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.53           0.77
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2113)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0113):	12.71	0.863	5.25	48.07
	+ ID2= 2 (5113):	70.82	3.710	5.25	48.69
	ID = 3 (2113):	83.53	4.574	5.25	48.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0120)	Area (ha)=	46.27	
ID= 1 DT=15.0 min	Total Imp(%)=	63.00	Dir. Conn.(%)= 63.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	29.15	17.12
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	555.40	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	22.73
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

			TOTALS
PEAK FLOW	(cms)=	2.34	1.03	3.362 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	38.25	53.03
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.61	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1119)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0120):	46.27	3.362	5.25	53.03
	+ ID2= 2 (2113):	83.53	4.574	5.25	48.60

ID = 3 (1119): 129.80 7.936 5.25 50.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5119)		
IN= 2---> OUT= 1	Routing time step (min)=	15.00

<------ DATA FOR SECTION (5119.0) ------>

Distance	Elevation	Manning	
0.00	240.51	0.0930	
29.89	240.57	0.0930	
116.44	238.41	0.0930	
139.64	232.93	0.0930 /0.0410	Main Channel
141.61	232.28	0.0410	Main Channel
145.25	233.93	0.0410 /0.0930	Main Channel
173.42	238.12	0.0930	
173.87	238.19	0.0930	
270.90	240.57	0.0930	
279.44	240.59	0.0930	
297.64	240.11	0.0930	
300.84	240.11	0.0930	
309.34	240.24	0.0930	
309.90	240.23	0.0930	
315.37	240.29	0.0930	
322.46	240.34	0.0930	
324.59	240.37	0.0930	
337.93	240.53	0.0930	
338.14	240.54	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	232.60	.159E+03	0.1	0.35	27.10
0.65	232.93	.636E+03	0.6	0.56	17.07
1.10	233.38	.189E+04	2.6	0.80	12.00
1.55	233.83	.390E+04	6.3	0.93	10.35
2.00	234.28	.683E+04	12.6	1.06	9.01
2.45	234.73	.110E+05	21.8	1.14	8.43
2.90	235.18	.165E+05	34.0	1.19	8.08
3.35	235.63	.232E+05	49.7	1.23	7.79
3.80	236.08	.313E+05	69.2	1.27	7.53
4.25	236.53	.406E+05	92.9	1.32	7.28
4.71	236.99	.511E+05	121.0	1.36	7.05
5.16	237.44	.630E+05	153.9	1.40	6.83
5.61	237.89	.761E+05	191.8	1.45	6.62
6.06	238.34	.908E+05	229.8	1.46	6.58
6.51	238.79	.111E+06	254.0	1.31	7.30
6.96	239.24	.141E+06	302.2	1.23	7.78
7.41	239.69	.180E+06	372.7	1.19	8.06
7.86	240.14	.229E+06	460.2	1.16	8.30
8.31	240.59	.297E+06	525.8	1.02	9.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1119)	129.80	7.94	5.25	50.18	1.67	0.96
OUTFLOW: ID= 1 (5119)	129.80	7.50	5.25	50.18	1.64	0.95

DUHYD (9033)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)= 26.9		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	129.80	7.50	5.25	50.18
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	129.80	7.50	5.25	50.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6033)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	9.6100	1.9350
	0.1300	1.4400	12.0700	2.0240
	0.7800	1.5180	14.7200	2.1150
	1.9600	1.5970	17.5300	2.2070
	3.4900	1.6790	20.5100	2.3010
	5.2900	1.7620	23.6400	2.3970
	7.3400	1.8480	26.9100	2.4940

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9033)	129.800	7.500	5.25	50.18
OUTFLOW: ID= 1 (6033)	129.800	7.065	5.25	50.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 94.20
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 1.8560

ADD HYD (****)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6033):	129.80	7.065	5.25	50.16
	+ ID2= 2 (9033):	0.00	0.000	0.00	0.00
	ID = 3 (****):	129.80	7.065	5.25	50.16

*** W A R N I N G : HYDROGRAPH 9033 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0119)	Area (ha)=	7.24	
ID= 1 DT=15.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 19.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.52	5.72
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.50
Length	(m)=	219.70	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		28.84	17.44
over (min)		15.00	15.00
Storage Coeff. (min)=		1.20 (ii)	6.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.10

			TOTALS
PEAK FLOW	(cms)=	0.11	0.27	0.384 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	27.74	34.20
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.44	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2119)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0119):	7.24	0.384	5.25	34.20
	+ ID2= 2 (****):	129.80	7.065	5.25	50.16
	ID = 3 (2119):	137.04	7.450	5.25	49.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9529)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	137.04	7.45	5.25	49.31
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	137.04	7.45	5.25	49.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6529)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	6.0000	0.2720
	2.0000	0.0946	8.0000	0.3631
	4.0000	0.1999	10.0000	0.4677

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9529)	137.040	7.450	5.25	49.31

```
 OUTFLOW: ID= 1 (6529)    137.040      7.290      5.50      49.31

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.86
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3442

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-------------------
| ADD HYD   (4529) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9529 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6529):   137.04   7.290     5.50    49.31
       + ID2= 2 (9529):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4529):   137.04   7.290     5.50    49.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0484)  |   Area    (ha)=  10.31
|ID= 1 DT=15.0 min  |   Total Imp(%)=  53.00   Dir. Conn.(%)=  42.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      5.46         4.85
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.10
     Length            (m)=    262.17        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        29.79
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      1.80 (ii)    8.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.35         0.40       0.743 (iii)
     TIME TO PEAK    (hrs)=      4.75         5.25       5.25
     RUNOFF VOLUME    (mm)=     61.71        41.65      50.08
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.66       0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9129) |
| Inlet Cap.=0.021 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)      (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  10.31      0.74      5.25   50.08
```



```
     Max.Eff.Inten.(mm/hr)=     28.84        20.73
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.75         1.19       2.945 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=     61.71        33.64      47.39
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.54       0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2485) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0485):    44.69   2.945     5.25    47.39
       + ID2= 2 (2484):   147.35   7.540     5.50    49.36
         ================================================
         ID = 3 (2485):   192.04   8.901     5.25    48.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1122) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2095):  5984.80  33.539     5.25    22.20
       + ID2= 2 (2485):   192.04   8.901     5.25    48.90
         ================================================
         ID = 3 (1122):  6176.84  42.440     5.25    23.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5122) |
| IN= 2---> OUT= 1 |      Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (5122.0) ------>
             Distance      Elevation       Manning
                0.00         235.73        0.0930
               17.92         231.50        0.0930
               24.58         231.00        0.0930
               44.00         230.55        0.0930
              142.67         231.50        0.0930
              150.22         231.50        0.0930
              174.16         231.28        0.0930
              192.63         231.06        0.0930
              194.24         231.00        0.0930
```



```
 MAJOR SYS.(ID= 2):   8.86      0.72      5.25   50.08
 MINOR SYS.(ID= 3):   1.45      0.02      2.50   50.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6129) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0160     0.0567
                         0.0090     0.0175   |   0.0190     0.0784
                         0.0130     0.0364   |   0.0210     0.1015

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9129)     1.454     0.021      2.50      50.08
     OUTFLOW: ID= 1 (6129)     1.454     0.013     12.25      49.74

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 62.63
                TIME SHIFT OF PEAK FLOW          (min)=585.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0376

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-------------------
| ADD HYD   (4129) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6129):     1.45   0.013    12.25    49.74
       + ID2= 2 (9129):     8.86   0.722     5.25    50.08
         ================================================
         ID = 3 (4129):    10.31   0.731     5.25    50.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (2484) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4129):    10.31   0.731     5.25    50.03
       + ID2= 2 (4529):   137.04   7.290     5.50    49.31
         ================================================
         ID = 3 (2484):   147.35   7.540     5.50    49.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0485)  |   Area    (ha)=  44.69
|ID= 1 DT=15.0 min  |   Total Imp(%)=  50.00   Dir. Conn.(%)=  49.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     22.34        22.34
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         1.70
     Length            (m)=    545.83        40.00
     Mannings n            =     0.013        0.250
```



```
    196.93        230.16        0.0930
    197.38        230.00    0.0930 /0.0410  Main Channel
    197.43        229.98        0.0410      Main Channel
    197.57        229.90        0.0410      Main Channel
    205.27        229.00        0.0410      Main Channel
    205.34        229.94        0.0410      Main Channel
    205.54        230.00    0.0410 /0.0930  Main Channel
    229.92        238.50        0.0930

  <--------------------- TRAVEL TIME TABLE ---------------------->
   DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
    (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
   0.33   229.33    .126E+04       1.5          0.58      14.12
   0.67   229.67    .254E+04       4.5          0.87       9.33
   1.00   230.00    .383E+04       8.5          1.08       7.54
   1.36   230.36    .544E+04      14.4          1.30       6.28
   1.72   230.72    .843E+04      22.0          1.28       6.38
   2.07   231.07    .197E+05      35.4          0.88       9.28
   2.43   231.43    .424E+05      59.9          0.69      11.80
   2.79   231.79    .757E+05     107.8          0.70      11.70
   3.15   232.15    .110E+06     175.4          0.78      10.45
   3.51   232.51    .145E+06     258.4          0.88       9.33
   3.87   232.87    .180E+06     355.7          0.97       8.42
   4.22   233.22    .215E+06     466.3          1.06       7.70
   4.58   233.58    .251E+06     589.7          1.15       7.10
   4.94   233.94    .288E+06     725.4          1.23       6.61
   5.30   234.30    .325E+06     873.0          1.32       6.20
   5.66   234.66    .362E+06    1032.1          1.40       5.85
   6.01   235.01    .400E+06    1202.5          1.47       5.54
   6.37   235.37    .438E+06    1384.0          1.55       5.28
   6.73   235.73    .477E+06    1576.4          1.62       5.04

                             <---- hydrograph ---->   <-pipe / channel->
                        AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                        (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1122) 6176.84    42.44    5.25  23.03      2.18      0.82
     OUTFLOW: ID= 1 (5122) 6176.84    38.92    5.50  23.03      2.13      0.85

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-------------------
| CALIB             |
| STANDHYD  (0122)  |   Area    (ha)=  30.63
|ID= 1 DT=15.0 min  |   Total Imp(%)=  32.00   Dir. Conn.(%)=  26.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      9.80        20.83
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.30
     Length            (m)=    451.88        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        21.45
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      1.80 (ii)   12.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.64         1.19       1.826 (iii)
     TIME TO PEAK    (hrs)=      5.00         5.25       5.25
     RUNOFF VOLUME    (mm)=     61.71        32.62      40.18
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.52       0.64
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2122)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0122):	30.63	1.826	5.25	40.18
	+ ID2= 2 (5122):	6176.84	38.925	5.50	23.03
	ID = 3 (2122):	6207.47	39.708	5.50	23.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5112)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5112.0) ------>

Distance	Elevation	Manning	
0.00	235.91	0.0930	
5.76	235.56	0.0930	
118.08	233.00	0.0930	
121.46	233.00	0.0930	
158.56	231.55	0.0930	
190.22	229.04	0.0930	
190.34	229.04	0.0930	
212.62	228.00	0.0930	
225.02	227.50	0.0930	
226.84	227.00	0.0930 /0.0410	Main Channel
227.92	226.50	0.0410	Main Channel
232.46	226.50	0.0410	Main Channel
232.95	228.98	0.0410 /0.0930	Main Channel
237.55	228.00	0.0930	
247.07	228.50	0.0930	
255.73	228.80	0.0930	
268.28	229.64	0.0930	
274.49	231.50	0.0930	
283.66	232.45	0.0930	
298.53	235.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	226.74	.770E+03	0.5	0.47	23.34
0.48	226.98	.166E+04	1.8	0.70	15.51
0.95	227.45	.411E+04	6.4	1.02	10.61
1.42	227.92	.897E+04	14.3	1.04	10.49
1.90	228.40	.186E+05	27.2	0.95	11.44
2.37	228.87	.346E+05	48.1	0.91	11.99
2.84	229.34	.563E+05	80.7	0.93	11.62
3.31	229.81	.819E+05	125.6	1.00	10.87
3.78	230.28	.110E+06	183.3	1.08	10.03
4.25	230.75	.141E+06	252.3	1.17	9.31

4.73	231.23	.174E+06	333.0	1.25	8.70
5.20	231.70	.209E+06	420.3	1.31	8.30
5.67	232.17	.249E+06	512.6	1.34	8.10
6.14	232.64	.294E+06	623.0	1.38	7.87
6.61	233.11	.344E+06	742.9	1.41	7.72
7.08	233.58	.401E+06	880.3	1.43	7.60
7.56	234.06	.466E+06	1041.7	1.46	7.45
8.03	234.53	.538E+06	1228.2	1.49	7.30
8.50	235.00	.616E+06	1440.8	1.52	7.13

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (2122)	6207.47	39.71	5.50	23.12	2.18	0.92
OUTFLOW:	ID= 1 (5112)	6207.47	38.20	5.75	23.12	2.15	0.93

CALIB		
STANDHYD (0112)	Area	(ha)= 91.24
ID= 1 DT=15.0 min	Total Imp(%)=	48.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.80	47.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	779.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	27.83
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.78 3.43 6.211 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	61.71 39.85 48.16
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.98 0.64 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2112)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0112):	91.24	6.211	5.25	48.16
	+ ID2= 2 (5112):	6207.47	38.195	5.75	23.12
	ID = 3 (2112):	6298.71	40.451	5.75	23.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5091)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5091.0) ------>

Distance	Elevation	Manning	
0.00	233.68	0.0930	
57.19	231.45	0.0930	
70.84	229.38	0.0930	
75.11	228.00	0.0930	
76.32	227.82	0.0930	
78.35	227.50	0.0930 /0.0410	Main Channel
79.48	227.23	0.0410	Main Channel
80.40	227.00	0.0410	Main Channel
81.40	226.00	0.0410	Main Channel
87.08	226.00	0.0410	Main Channel
87.20	226.00	0.0410	Main Channel
87.27	226.50	0.0410	Main Channel
88.50	227.47	0.0410	Main Channel
88.62	227.50	0.0410	Main Channel
92.08	227.50	0.0410	Main Channel
93.44	227.80	0.0410	Main Channel
94.43	228.72	0.0410 /0.0930	Main Channel
111.61	232.98	0.0930	
115.31	233.50	0.0930	
134.67	234.81	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	226.38	.167E+04	1.4	0.61	20.11
0.75	226.75	.348E+04	4.3	0.91	13.58
1.12	227.12	.554E+04	8.3	1.10	11.19
1.50	227.50	.808E+04	13.4	1.22	10.07
1.91	227.91	.129E+05	21.9	1.25	9.82
2.32	228.32	.187E+05	36.9	1.46	8.45
2.74	228.74	.250E+05	55.3	1.63	7.54
3.15	229.15	.321E+05	78.4	1.81	6.83
3.56	229.56	.401E+05	104.9	1.94	6.37
3.97	229.97	.493E+05	135.2	2.03	6.08
4.38	230.38	.599E+05	169.9	2.10	5.88
4.80	230.80	.718E+05	209.2	2.15	5.72
5.21	231.21	.851E+05	253.2	2.20	5.60
5.62	231.62	.999E+05	299.6	2.22	5.56
6.03	232.03	.118E+06	350.3	2.20	5.61
6.44	232.44	.140E+06	409.8	2.17	5.69
6.86	232.86	.165E+06	478.0	2.14	5.76
7.27	233.27	.195E+06	554.6	2.11	5.85
7.68	233.68	.228E+06	639.5	2.07	5.95

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (2112)	6298.71	40.45	5.75	23.48	2.40	1.49
OUTFLOW:	ID= 1 (5091)	6298.71	40.18	5.75	23.48	2.40	1.49

CALIB		
STANDHYD (0091)	Area	(ha)= 180.35
ID= 1 DT=15.0 min	Total Imp(%)=	47.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	84.76	95.59
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	1096.51	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	27.15
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	19.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	5.49 6.57 12.060 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	61.71 39.54 47.97
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.98 0.63 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2091)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0091):	180.35	12.060	5.25	47.97
	+ ID2= 2 (5091):	6298.71	40.176	5.75	23.48
	ID = 3 (2091):	6479.06	48.017	5.25	24.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9023)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)= 17.8		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		6479.06	48.02	5.25	24.16
MAJOR SYS.(ID= 2):		2241.27	30.18	5.25	24.16
MINOR SYS.(ID= 3):		4237.79	17.84	4.50	24.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6023)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	6.0830	0.7376
	0.5140	0.0185	8.6630	1.7454

```
      1.9040     0.1110   |  17.8370      3.6437
      3.8440     0.3047   |   0.0000      0.0000

                    AREA     QPEAK     TPEAK      R.V.
                     (ha)     (cms)     (hrs)      (mm)
INFLOW : ID= 2 (9023)   4237.790     17.837      4.50      24.16
OUTFLOW: ID= 1 (6023)   4237.790     17.837     13.00      24.16

          PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
          TIME SHIFT OF PEAK FLOW         (min)=510.00
          MAXIMUM  STORAGE   USED       (ha.m.)=  3.6437
```

```
| ADD HYD   (****) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (6023):  4237.79  17.837    13.00    24.16
     + ID2= 2 (9023):  2241.27  30.180     5.25    24.16
       ================================================
       ID = 3 (****):  6479.06  45.638     5.25    24.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5530) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (5530.0) ------>
           Distance      Elevation       Manning
               0.00         232.00        0.0930
               4.96         232.00        0.0930
               7.83         231.50        0.0930
              17.85         231.00        0.0930
              42.32         226.50        0.0930
              90.46         226.50        0.0930
              96.74         225.00    0.0930 /0.0410  Main Channel
              98.31         224.50        0.0410      Main Channel
             108.69         224.50        0.0410      Main Channel
             109.36         225.00    0.0410 /0.0930  Main Channel
             114.19         225.50        0.0930
             117.90         227.00        0.0930
             121.45         227.50        0.0930
             134.20         227.50        0.0930
             149.51         228.94        0.0930
             154.36         229.23        0.0930
             155.62         229.30        0.0930
             155.63         232.00        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)    (cu.m.)       (cms)       (m/s)      (min)
       0.25   224.75    .192E+04         2.5        0.92      12.70
       0.50   225.00    .403E+04         8.1        1.41       8.28
       0.91   225.41    .850E+04        24.2        1.99       5.86
       1.32   225.82    .144E+05        48.1        2.35       4.97
       1.74   226.24    .210E+05        79.6        2.66       4.40
       2.15   226.65    .335E+05       118.2        2.48       4.72
       2.56   227.06    .557E+05       182.5        2.30       5.09
       2.97   227.47    .793E+05       264.6        2.34       5.00
       3.38   227.88    .108E+06       362.6        2.36       4.96
```



```
       3.79   228.29    .139E+06       488.9        2.47       4.73
       4.21   228.71    .172E+06       634.9        2.60       4.50
       4.62   229.12    .206E+06       799.2        2.72       4.30
       5.03   229.53    .243E+06       987.9        2.85       4.10
       5.44   229.94    .281E+06      1201.3        3.00       3.90
       5.85   230.35    .320E+06      1433.6        3.15       3.72
       6.26   230.76    .359E+06      1684.2        3.29       3.55
       6.68   231.18    .399E+06      1936.0        3.41       3.43
       7.09   231.59    .441E+06      2195.5        3.50       3.34
       7.50   232.00    .484E+06      2505.8        3.63       3.22

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (****) 6479.06    45.64    5.25  24.16      1.28      2.31
OUTFLOW: ID= 1 (5530) 6479.06    45.56    5.50  24.16      1.28      2.31
```

```
| CALIB            |
| STANDHYD  (0530) |   Area    (ha)=  12.46
|ID= 1 DT=15.0 min |   Total Imp(%)=  33.00   Dir. Conn.(%)=  28.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.11         8.35
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.00
     Length            (m)=     288.21        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.30
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       1.20 (ii)    7.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.10
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.44          0.719 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        29.47          38.50
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.47           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (2530) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0530):    12.46   0.719     5.25    38.50
     + ID2= 2 (5530):  6479.06  45.564     5.50    24.16
       ================================================
       ID = 3 (2530):  6491.52  45.821     5.50    24.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



```
| CALIB            |
| STANDHYD  (0114) |   Area    (ha)=  71.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  43.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.09        34.23
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.90
     Length            (m)=     689.54        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        28.38
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.00 (ii)   15.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.46         2.56          5.015 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        41.05          49.94
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.65           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (1529) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (0114):    71.32   5.015     5.25    49.94
     + ID2= 2 (2530):  6491.52  45.821     5.50    24.19
       ================================================
       ID = 3 (1529):  6562.84  49.148     5.25    24.47

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5529) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
            <------ DATA FOR SECTION (5529.0) ------>
           Distance      Elevation       Manning
               0.00         229.04        0.0930
               7.45         221.83    0.0930 /0.0410  Main Channel
               7.73         221.00        0.0410      Main Channel
              11.19         221.00        0.0410      Main Channel
              14.51         222.00    0.0410 /0.0930  Main Channel
              15.34         222.00        0.0930
              16.50         222.50        0.0930
              29.47         222.35        0.0930
              55.40         222.50        0.0930
```



```
              76.32         222.50        0.0930
             144.32         223.00        0.0930
             157.97         223.80        0.0930
             163.43         224.00        0.0930
             184.95         224.50        0.0930
             193.87         225.00        0.0930
             197.46         225.00        0.0930
             203.83         225.27        0.0930
             208.01         225.56        0.0930
             214.39         225.78        0.0930
             214.40         229.00        0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)    (cu.m.)       (cms)       (m/s)      (min)
        0.41   221.41    .154E+04         0.8        0.48      30.55
        0.83   221.83    .362E+04         2.9        0.69      21.07
        1.25   222.25    .652E+04         6.7        0.90      16.23
        1.67   222.67    .235E+05        14.4        0.54      27.14
        2.10   223.10    .682E+05        36.2        0.46      31.45
        2.52   223.52    .121E+06        75.3        0.54      26.85
        2.94   223.94    .177E+06       127.4        0.63      23.21
        3.36   224.36    .238E+06       188.5        0.69      21.08
        3.78   224.78    .305E+06       266.7        0.77      19.08
        4.20   225.20    .376E+06       356.2        0.83      17.60
        4.63   225.63    .451E+06       463.5        0.90      16.22
        5.05   226.05    .529E+06       588.5        0.98      14.97
        5.47   226.47    .607E+06       732.6        1.06      13.81
        5.89   226.89    .685E+06       889.1        1.14      12.85
        6.31   227.31    .764E+06      1057.6        1.21      12.04
        6.73   227.73    .843E+06      1237.6        1.29      11.35
        7.16   228.16    .922E+06      1428.6        1.36      10.75
        7.58   228.58    .100E+07      1630.4        1.43      10.23
        8.00   229.00    .108E+07      1842.6        1.50       9.77

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1529) 6562.84    49.15    5.25  24.47      2.24      0.49
OUTFLOW: ID= 1 (5529) 6562.84    42.49    6.25  24.47      2.16      0.48
```

```
| CALIB            |
| STANDHYD  (0529) |   Area    (ha)=  41.93
|ID= 1 DT=15.0 min |   Total Imp(%)=  33.00   Dir. Conn.(%)=  26.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.84        28.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.80
     Length            (m)=     528.71        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        21.91
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       2.40 (ii)   12.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.87         1.63          2.504 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25           5.25
```

```
     RUNOFF VOLUME    (mm)=      61.71        32.88          40.37
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.52           0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2529) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0529):    41.93   2.504     5.25     40.37
      + ID2= 2 (5529):  6562.84  42.492     6.25     24.47
        ================================================
        ID = 3 (2529):  6604.77  43.275     6.25     24.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0488)  |   Area    (ha)=  47.77
|ID= 1 DT=15.0 min  |   Total Imp(%)=  57.00   Dir. Conn.(%)=  51.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.23        20.54
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     564.33        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        26.93
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       2.40 (ii)   14.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.95         1.47          3.419 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        40.40          51.27
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.64           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9164) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
```



```
| Total(cms)=***** |      AREA     QPEAK     TPEAK     R.V.
-------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  47.77      3.42      5.25    51.27
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00     0.00
     MINOR SYS.(ID= 3):  47.77      3.42      5.25    51.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1280      0.6485
                          0.0360     0.0650   |   0.2220      0.6870
                          0.0470     0.1250   |   0.6040      0.7600
                          0.0620     0.1800   |   1.1450      0.8300
                          0.0750     0.2500   |   1.8080      0.9100
                          0.0850     0.3100   |   2.5730      0.9800
                          0.0950     0.3750   |   3.4270      1.0500
                          0.1030     0.4330   |   4.3630      1.1200
                          0.1110     0.4930   |   5.3730      1.1950
                          0.1180     0.5630   |   0.0000      0.0000
                          0.1250     0.6120   |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9164)  47.770     3.419      5.25      51.27
     OUTFLOW: ID= 1 (6164)  47.770     2.902      5.25      51.26

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 84.90
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0302

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--------------------
| ADD HYD   (4164) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9164 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6164):    47.77   2.902     5.25     51.26
      + ID2= 2 (9164):     0.00   0.000     0.00      0.00
        ================================================
        ID = 3 (4164):    47.77   2.902     5.25     51.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1486) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2529):  6604.77  43.275     6.25    24.57
      + ID2= 2 (4164):    47.77   2.902     5.25    51.26
        ================================================
        ID = 3 (1486):  6652.54  44.465     6.25    24.76
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5486) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5486.0) ------>
              Distance      Elevation       Manning
                  0.00         225.00        0.0930
                 11.94         222.00        0.0930
                 16.06         221.50        0.0930
                 41.45         220.50        0.0930
                 88.07         220.00        0.0930
                 99.13         219.50        0.0930
                102.39         219.00    0.0930 /0.0410  Main Channel
                102.82         218.50        0.0410      Main Channel
                108.08         218.50        0.0410      Main Channel
                108.18         219.00    0.0410 /0.0930  Main Channel
                109.15         219.20        0.0930
                110.60         219.50        0.0930
                116.50         221.36        0.0930
                127.30         226.50        0.0930
                144.83         227.58        0.0930

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.25   218.75    .815E+03       0.8          0.62       16.38
        0.50   219.00    .167E+04       2.6          0.93       10.82
        0.85   219.35    .333E+04       6.6          1.20        8.38
        1.21   219.71    .603E+04      12.7          1.27        7.93
        1.56   220.06    .106E+05      21.3          1.22        8.29
        1.91   220.41    .206E+05      34.9          1.02        9.84
        2.26   220.76    .364E+05      59.4          0.99       10.22
        2.62   221.12    .546E+05      93.6          1.04        9.71
        2.97   221.47    .748E+05     137.0          1.11        9.10
        3.32   221.82    .967E+05     193.1          1.21        8.34
        3.68   222.18    .119E+06     259.4          1.32        7.66
        4.03   222.53    .142E+06     335.2          1.42        7.08
        4.38   222.88    .166E+06     419.5          1.53        6.59
        4.74   223.24    .190E+06     512.1          1.63        6.18
        5.09   223.59    .214E+06     612.7          1.73        5.83
        5.44   223.94    .239E+06     721.2          1.82        5.53
        5.79   224.29    .264E+06     837.5          1.92        5.26
        6.15   224.65    .290E+06     961.5          2.00        5.03
        6.50   225.00    .317E+06    1093.1          2.09        4.83

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1486) 6652.54    44.47    6.25  24.76      2.05      1.01
     OUTFLOW: ID= 1 (5486) 6652.54    43.78    6.25  24.76      2.04      1.01


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| CALIB             |
| STANDHYD  (0486)  |   Area    (ha)=  35.14
|ID= 1 DT=15.0 min  |   Total Imp(%)=  47.00   Dir. Conn.(%)=  41.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.52        18.62
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```
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     484.01        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        24.10
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       1.80 (ii)   12.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.15         1.20          2.355 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        36.31          46.72
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.58           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2486) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0486):    35.14   2.355     5.25     46.72
      + ID2= 2 (5486):  6652.54  43.779     6.25     24.76
        ================================================
        ID = 3 (2486):  6687.68  44.489     6.25     24.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0533)  |   Area    (ha)=  61.35
|ID= 1 DT=15.0 min  |   Total Imp(%)=  49.00   Dir. Conn.(%)=  39.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.06        31.29
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.80
     Length            (m)=     639.53        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        27.94
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       2.40 (ii)   15.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.92         2.31          4.223 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        39.90          48.41
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.64           0.77
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1165)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0533):		61.35	4.223	5.25	48.41
	+ ID2= 2 (2486):		6687.68	44.489	6.25	24.88
	ID = 3 (1165):		6749.03	45.785	6.25	25.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5165)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5165.0) ------>

Distance	Elevation	Manning	
0.00	217.93	0.0930	
93.80	215.00	0.0930	
100.20	213.00	0.0930	
110.33	212.37	0.0930	
119.07	212.00	0.0930	
119.29	212.00	0.0930	
131.29	211.51	0.0930	
131.54	211.50	0.0930 /0.0410	Main Channel
133.06	211.27	0.0410	Main Channel
133.84	211.00	0.0410	Main Channel
145.04	211.00	0.0410	Main Channel
145.53	211.37	0.0410 /0.0930	Main Channel
148.07	212.50	0.0930	
159.61	213.50	0.0930	
179.18	214.00	0.0930	
235.23	213.00	0.0930	
247.26	213.00	0.0930	
261.80	214.00	0.0930	
277.22	218.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	211.18	.179E+04	0.9	0.44	31.48
0.37	211.37	.372E+04	3.0	0.68	20.65
0.76	211.76	.900E+04	10.9	1.01	13.79
1.14	212.14	.175E+05	24.0	1.14	12.17
1.53	212.53	.292E+05	42.8	1.23	11.37
1.91	212.91	.440E+05	67.9	1.29	10.81
2.30	213.30	.675E+05	101.8	1.26	11.05
2.69	213.69	.103E+06	148.9	1.21	11.48
3.07	214.07	.151E+06	213.5	1.18	11.80
3.46	214.46	.205E+06	302.0	1.23	11.31
3.84	214.84	.260E+06	407.0	1.31	10.63
4.23	215.23	.316E+06	516.4	1.37	10.19

4.61	215.61	.376E+06	638.6	1.42	9.81
5.00	216.00	.441E+06	780.7	1.48	9.41
5.39	216.39	.510E+06	941.7	1.54	9.03
5.77	216.77	.584E+06	1121.6	1.61	8.67
6.16	217.16	.662E+06	1320.5	1.67	8.35
6.54	217.54	.744E+06	1538.7	1.73	8.06
6.93	217.93	.832E+06	1776.7	1.79	7.80

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1165)		6749.03	45.78	6.25	25.09	1.57	1.23
OUTFLOW: ID= 1 (5165)		6749.03	45.21	6.50	25.09	1.56	1.23

CALIB	STANDHYD (0165)	ID= 1 DT=15.0 min	Area (ha)= 101.91	Total Imp(%)= 50.00	Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.96	50.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	824.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	26.16
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	17.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07
			TOTALS
PEAK FLOW	(cms)=	3.43	3.43 6.863 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	61.71	38.18 48.06
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.61 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2165)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0165):		101.91	6.863	5.25	48.06
	+ ID2= 2 (5165):		6749.03	45.210	6.50	25.09
	ID = 3 (2165):		6850.94	46.886	6.25	25.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5383)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5383.0) ------>

Distance	Elevation	Manning	
0.00	217.40	0.0930	
9.80	217.00	0.0930	
16.80	215.50	0.0930	
48.20	214.50	0.0930	
66.70	214.50	0.0930	
92.00	211.00	0.0930	
96.20	210.50	0.0930 /0.0410	Main Channel
97.00	210.10	0.0410	Main Channel
107.00	210.10	0.0410	Main Channel
107.50	210.50	0.0410 /0.0930	Main Channel
112.00	211.00	0.0930	
120.50	212.50	0.0930	
131.90	213.00	0.0930	
199.00	213.00	0.0930	
201.70	212.50	0.0930	
214.00	212.00	0.0930	
229.70	212.00	0.0930	
243.80	215.00	0.0930	
270.00	215.00	0.0930	
310.90	216.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	210.30	.188E+04	1.1	0.53	28.54
0.40	210.50	.388E+04	3.5	0.82	18.44
0.72	210.82	.804E+04	10.0	1.14	13.34
1.05	211.15	.138E+05	19.8	1.30	11.64
1.37	211.47	.209E+05	32.8	1.43	10.61
1.69	211.79	.292E+05	49.2	1.54	9.89
2.02	212.12	.406E+05	67.1	1.51	10.07
2.34	212.44	.584E+05	93.8	1.46	10.37
2.66	212.76	.801E+05	127.3	1.45	10.49
2.99	213.09	.111E+06	158.3	1.30	11.68
3.31	213.41	.158E+06	222.8	1.28	11.83
3.64	213.74	.206E+06	301.4	1.33	11.41
3.96	214.06	.256E+06	393.0	1.40	10.84
4.28	214.38	.306E+06	497.1	1.48	10.26
4.61	214.71	.362E+06	595.1	1.50	10.13
4.93	215.03	.423E+06	682.5	1.47	10.34
5.25	215.35	.497E+06	819.4	1.50	10.12
5.58	215.68	.578E+06	979.1	1.54	9.84
5.90	216.00	.663E+06	1160.9	1.59	9.52

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2165)		6850.94	46.89	6.25	25.43	1.65	1.52
OUTFLOW: ID= 1 (5383)		6850.94	46.69	6.50	25.43	1.64	1.52

CALIB	STANDHYD (0383)	ID= 1 DT=15.0 min	Area (ha)= 61.08	Total Imp(%)= 40.00	Dir. Conn.(%)= 31.00

		IMPERVIOUS	PERVIOUS (i)

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.43	36.65
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	638.12	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	24.52
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07
			TOTALS
PEAK FLOW	(cms)=	1.52	2.36 3.876 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25 5.25
RUNOFF VOLUME	(mm)=	61.71	35.72 43.78
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.57 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2383)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0383):		61.08	3.876	5.25	43.78
	+ ID2= 2 (5383):		6850.94	46.692	6.50	25.43
	ID = 3 (2383):		6912.02	47.468	6.50	25.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0177)	ID= 1 DT=15.0 min	Area (ha)= 144.80	Total Imp(%)= 52.00	Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	75.30	69.50
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	982.51	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	28.38
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	4.95	2.52 6.480 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	61.71	41.05 49.94
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.65 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1720)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0177):	144.80	6.480	5.25	49.94
	+ ID2= 2 (2383):	6912.02	47.468	6.50	25.59
	ID = 3 (1720):	7056.82	51.039	6.25	26.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DIVERT HYD (1800)
IN= 1 # OUT= 5

Outflow / Inflow Relationships

Flow 1 (cms)	+ Flow 2 (cms)	+ Flow 3 (cms)	+ Flow 4 (cms)	+ Flow 5 (cms)	= Total (cms)
0.00	0.00	0.00	0.00	0.00	0.00
0.00	******	0.00	0.00	0.00	******

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	7056.82	51.04	6.25	26.09
ID= 2 (2) :	0.01	0.00	6.25	26.09
ID= 3 (2) :	7056.81	51.04	6.25	26.09
ID= 4 (2) :	0.00	0.00	0.00	0.00
ID= 5 (2) :	0.00	0.00	0.00	0.00
ID= 6 (2) :	0.00	0.00	0.00	0.00

ROUTE CHN (5800)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5800.0) ------>

Distance	Elevation	Manning	
0.00	214.42	0.0700	
79.28	213.89	0.0700	
120.12	213.16	0.0700	
155.24	211.47	0.0700 /0.0700	Main Channel
158.88	211.30	0.0700	Main Channel
162.95	211.27	0.0700	Main Channel
173.48	211.26	0.0700	Main Channel
221.99	210.58	0.0700	Main Channel
245.42	210.53	0.0700	Main Channel
264.64	210.60	0.0700	Main Channel
283.77	210.98	0.0700	Main Channel
294.38	211.50	0.0700 /0.0700	Main Channel
314.27	212.46	0.0700	

375.00 214.31 0.0700

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	210.72	.117E+05	1.6	0.20	122.43
0.38	210.91	.314E+05	6.6	0.32	78.97
0.56	211.09	.573E+05	15.6	0.41	61.03
0.75	211.28	.884E+05	27.4	0.46	53.77
0.94	211.47	.126E+06	47.3	0.56	44.53
1.14	211.67	.170E+06	76.4	0.68	37.02
1.35	211.88	.216E+06	111.7	0.78	32.20
1.55	212.08	.264E+06	152.9	0.87	28.81
1.75	212.28	.315E+06	200.1	0.95	26.27
1.95	212.48	.369E+06	253.3	1.03	24.29
2.16	212.69	.426E+06	312.4	1.10	22.72
2.36	212.89	.486E+06	377.9	1.17	21.42
2.56	213.09	.549E+06	450.2	1.23	20.33
2.77	213.30	.616E+06	527.6	1.28	19.47
2.97	213.50	.689E+06	612.3	1.33	18.75
3.17	213.70	.767E+06	705.3	1.38	18.12
3.37	213.90	.850E+06	806.4	1.42	17.57
3.58	214.11	.942E+06	911.2	1.45	17.23
3.78	214.31	.105E+07	1029.3	1.48	16.93

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	0.01	0.00	6.25	26.09	0.00	0.20
OUTFLOW: ID= 1 (5800)	0.01	0.00	8.00	26.09	0.00	0.20

ROUTE CHN (5720)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5720.0) ------>

Distance	Elevation	Manning	
0.00	217.21	0.1110	
21.44	216.00	0.1110	
44.42	215.50	0.1110	
50.34	215.00	0.1110	
62.51	209.50	0.1110	
65.10	209.15	0.1110	
66.24	209.00	0.1110 /0.0490	Main Channel
66.50	208.60	0.0490	Main Channel
68.40	208.60	0.0490	Main Channel
68.93	209.00	0.0490 /0.1110	Main Channel
69.89	209.12	0.1110	
72.86	209.50	0.1110	
80.96	213.52	0.1110	
83.23	214.31	0.1110	
86.07	215.00	0.1110	
87.25	215.10	0.1110	
97.04	215.50	0.1110	
101.19	215.50	0.1110	
112.34	215.74	0.1110	
112.52	215.74	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.20	208.80	.325E+03	0.2	0.46	28.04
0.40	209.00	.710E+03	0.6	0.67	19.10
0.80	209.40	.247E+04	2.5	0.79	16.41
1.19	209.79	.573E+04	6.3	0.86	15.03
1.59	210.19	.954E+04	12.0	0.98	13.20
1.99	210.59	.139E+05	19.5	1.09	11.85
2.38	210.98	.187E+05	28.7	1.19	10.85
2.78	211.38	.241E+05	39.8	1.28	10.08
3.18	211.78	.299E+05	52.7	1.36	9.46
3.57	212.17	.363E+05	67.6	1.44	8.95
3.97	212.57	.432E+05	84.5	1.51	8.52
4.36	212.96	.506E+05	103.6	1.58	8.14
4.76	213.36	.585E+05	124.8	1.65	7.82
5.16	213.76	.670E+05	147.8	1.71	7.55
5.55	214.15	.761E+05	173.1	1.76	7.32
5.95	214.55	.858E+05	200.2	1.81	7.14
6.35	214.95	.962E+05	229.9	1.85	6.98
6.74	215.34	.109E+06	242.9	1.73	7.45
7.14	215.74	.127E+06	242.9	1.48	8.73

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	7056.81	51.04	6.25	26.09	3.12	1.35
OUTFLOW: ID= 1 (5720)	7056.81	50.92	6.50	26.09	3.12	1.35

ADD HYD (2800)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (5720):	7056.81	50.924	6.50	26.09
	+ ID2= 2 (5800):	0.01	0.000	8.00	26.09
	ID = 3 (2800):	7056.82	50.924	6.50	26.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0720)	Area	(ha)= 50.88
ID= 1 DT=15.0 min	Total Imp(%)=	36.00 Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.32	32.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	582.41	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	21.33
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.30 2.283 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25
RUNOFF VOLUME	(mm)=	61.71 42.36
TOTAL RAINFALL	(mm)=	62.71 62.71

RUNOFF COEFFICIENT	=	0.98	0.53 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2720)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0720):	50.88	2.283	5.25	42.36
	+ ID2= 2 (2800):	7056.82	50.924	6.50	26.09
	ID = 3 (2720):	7107.70	51.928	6.50	26.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0393)	Area	(ha)= 98.98
ID= 1 DT=15.0 min	Total Imp(%)=	57.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	56.42	42.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	812.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	26.93
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	67.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	4.03 1.58 5.012 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	61.71 40.40 51.27
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.98 0.64 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1394)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0393):	98.98	5.012	5.25	51.27

```
      + ID2= 2 (2720):  7107.70  51.928     6.50    26.21
        ================================================
        ID = 3 (1394):  7206.68  54.122     6.50    26.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (5394) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (5394.0) ------>

Distance	Elevation	Manning	
0.00	213.16	0.1110	
20.83	211.00	0.1110	
60.38	209.34	0.1110	
86.89	209.00	0.1110	
94.15	208.62	0.1110	
151.69	206.40	0.1110	
157.26	206.00	0.1110	
161.49	205.39	0.1110	
163.96	204.98	0.1110 /0.0490	Main Channel
166.91	204.50	0.0490	Main Channel
174.77	204.50	0.0490	Main Channel
177.78	204.96	0.0490	Main Channel
178.68	205.00	0.0490	Main Channel
178.78	204.99	0.0490 /0.1110	Main Channel
180.81	206.00	0.1110	
203.93	206.50	0.1110	
209.84	206.50	0.1110	
222.90	207.00	0.1110	
250.93	210.92	0.1110	
250.94	213.16	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	204.74	.209E+04	0.7	0.33	47.42
0.48	204.98	.486E+04	2.5	0.48	32.36
0.96	205.46	.123E+05	10.4	0.78	19.84
1.44	205.94	.216E+05	22.7	0.97	15.86
1.92	206.42	.372E+05	39.8	0.99	15.55
2.40	206.90	.676E+05	65.8	0.90	17.13
2.89	207.39	.108E+06	104.1	0.89	17.35
3.37	207.87	.156E+06	154.4	0.92	16.88
3.85	208.35	.211E+06	217.1	0.95	16.23
4.33	208.83	.273E+06	293.4	0.99	15.54
4.81	209.31	.344E+06	374.8	1.01	15.30
5.29	209.79	.427E+06	483.1	1.05	14.73
5.77	210.27	.517E+06	608.5	1.09	14.15
6.25	210.75	.613E+06	750.5	1.14	13.61
6.74	211.24	.715E+06	918.2	1.19	12.98
7.22	211.72	.820E+06	1109.3	1.26	12.32
7.70	212.20	.927E+06	1316.7	1.32	11.73
8.18	212.68	.104E+07	1539.9	1.38	11.21
8.66	213.16	.115E+07	1778.7	1.44	10.74

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1394)	7206.68	54.12	6.50	26.55	2.19	0.94
OUTFLOW: ID= 1 (5394)	7206.68	52.94	6.75	26.55	2.16	0.95

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--------------------
| CALIB              |
| STANDHYD  (0394) |   Area    (ha)=  38.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  25.00
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```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.78	26.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	503.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	20.81
over (min)		15.00	30.00
Storage Coeff. (min)	=	7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)	=	15.00	45.00
Unit Hyd. peak (cms)	=	0.10	0.03

				TOTALS
PEAK FLOW	(cms)=	0.76	0.90	1.551 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	31.58	39.11
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.50	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2394) |
|   1 +  2 =  3    |
--------------------
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0394):	38.01	1.551	5.25	39.11
+ ID2= 2 (5394):	7206.68	52.942	6.75	26.55
ID = 3 (2394):	7244.69	53.591	6.75	26.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5221) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (5221.0) ------>

Distance	Elevation	Manning
0.00	209.40	0.1110
6.90	205.50	0.1110
12.79	205.00	0.1110
50.72	205.00	0.1110
54.17	204.40	0.1110
58.47	204.00	0.1110
68.03	203.71	0.1110
77.31	203.69	0.1110
81.46	203.50	0.1110

86.45	203.56	0.1110	
89.27	202.50	0.1110	
89.61	202.33	0.1110 /0.0490	Main Channel
90.01	201.80	0.0490	Main Channel
100.15	201.80	0.0490	Main Channel
100.63	202.43	0.0490 /0.1110	Main Channel
104.18	204.27	0.1110	
115.16	204.94	0.1110	
119.53	204.93	0.1110	
121.87	205.00	0.1110	
148.39	209.73	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	202.07	.229E+04	1.1	0.40	34.80
0.53	202.33	.467E+04	3.5	0.62	22.52
0.95	202.75	.875E+04	9.3	0.89	15.59
1.36	203.16	.135E+05	17.6	1.09	12.75
1.78	203.58	.191E+05	27.9	1.22	11.42
2.19	203.99	.314E+05	42.1	1.12	12.44
2.61	204.41	.481E+05	61.9	1.08	12.96
3.03	204.83	.679E+05	87.5	1.08	12.95
3.44	205.24	.999E+05	113.6	0.95	14.66
3.86	205.66	.140E+06	161.3	0.96	14.52
4.27	206.07	.182E+06	219.4	1.01	13.86
4.69	206.49	.225E+06	286.6	1.06	13.11
5.10	206.90	.269E+06	362.5	1.13	12.39
5.52	207.32	.315E+06	446.9	1.19	11.73
5.94	207.74	.361E+06	539.4	1.25	11.15
6.35	208.15	.408E+06	640.0	1.31	10.62
6.77	208.57	.456E+06	748.5	1.37	10.16
7.18	208.98	.506E+06	864.8	1.43	9.74
7.60	209.40	.556E+06	988.9	1.49	9.37

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2394)	7244.69	53.59	6.75	26.62	2.43	1.09
OUTFLOW: ID= 1 (5221)	7244.69	52.96	7.00	26.62	2.42	1.10

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| CALIB              |
| STANDHYD  (0221) |   Area    (ha)= 129.39
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  39.00
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```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.11	67.28
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	928.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	27.95
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.60 (ii)	75.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	75.00
Unit Hyd. peak (cms)	=	0.08	0.02

				TOTALS
PEAK FLOW	(cms)=	4.02	2.48	5.548 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25

RUNOFF VOLUME	(mm)=	61.71	40.86	48.99
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.65	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2221) |
|   1 +  2 =  3    |
--------------------
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0221):	129.39	5.548	5.25	48.99
+ ID2= 2 (5221):	7244.69	52.962	7.00	26.62
ID = 3 (2221):	7374.08	55.539	7.00	27.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5233) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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```

<------ DATA FOR SECTION (5233.0) ------>

Distance	Elevation	Manning	
0.00	211.05	0.1110	
13.16	206.00	0.1110	
38.98	205.50	0.1110	
46.73	205.50	0.1110	
58.41	203.00	0.1110	
69.39	202.53	0.1110	
79.51	202.50	0.1110	
95.91	202.01	0.1110 /0.0490	Main Channel
96.32	201.98	0.0490	Main Channel
100.74	201.58	0.0490	Main Channel
109.40	201.58	0.0490	Main Channel
111.17	202.00	0.0490 /0.1110	Main Channel
111.89	202.15	0.1110	
117.63	203.50	0.1110	
119.63	204.24	0.1110	
122.33	205.00	0.1110	
127.31	205.55	0.1110	
140.44	206.50	0.1110	
170.27	211.50	0.1110	
180.32	212.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	202.00	.395E+04	2.6	0.51	25.73
0.90	202.48	.130E+05	12.1	0.74	17.85
1.37	202.95	.313E+05	30.7	0.78	17.01
1.85	203.43	.535E+05	59.9	0.89	14.88
2.33	203.91	.772E+05	98.3	1.01	13.09
2.80	204.38	.102E+06	145.0	1.12	11.76
3.28	204.86	.129E+06	199.5	1.23	10.76

3.75	205.33	.157E+06	261.1	1.32	10.02
4.23	205.81	.191E+06	306.9	1.27	10.40
4.71	206.29	.237E+06	388.0	1.30	10.16
5.18	206.76	.285E+06	493.3	1.37	9.63
5.66	207.24	.335E+06	612.1	1.45	9.13
6.14	207.72	.387E+06	742.9	1.52	8.68
6.61	208.19	.440E+06	885.6	1.60	8.29
7.09	208.67	.495E+06	1040.0	1.67	7.94
7.56	209.14	.552E+06	1206.2	1.73	7.62
8.04	209.62	.609E+06	1384.0	1.80	7.34
8.52	210.10	.669E+06	1573.4	1.87	7.09
8.99	210.57	.730E+06	1774.6	1.93	6.86

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2221)	7374.08	55.54	7.00	27.01	1.78	0.87
OUTFLOW: ID= 1 (5233)	7374.08	55.18	7.00	27.01	1.77	0.87

CALIB	
STANDHYD (0233)	Area (ha)= 60.17
ID= 1 DT=15.0 min	Total Imp(%)= 44.00 Dir. Conn.(%)= 35.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	26.47	33.70
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	633.35	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	27.57
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	1.69	1.48 2.828 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	61.71	40.69 48.05
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.65 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2233)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0233):	60.17	2.828	5.25	48.05
+ ID2= 2 (5233):	7374.08	55.178	7.00	27.01
ID = 3 (2233):	7434.25	56.325	7.00	27.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5242)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5242.0) ------>

Distance	Elevation	Manning	
0.00	206.25	0.1110	
7.53	204.51	0.1110	
40.12	201.31	0.1110	
59.19	200.00	0.1110	
69.28	199.50	0.1110	
73.36	199.03	0.1110 /0.0490	Main Channel
74.00	198.50	0.0490	Main Channel
83.49	198.50	0.0490	Main Channel
84.08	199.00	0.0490 /0.1110	Main Channel
84.49	199.26	0.1110	
86.60	200.30	0.1110	
87.15	200.50	0.1110	
94.96	201.00	0.1110	
98.93	201.50	0.1110	
111.89	204.46	0.1110	
115.16	205.00	0.1110	
122.69	207.55	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	198.75	.233E+04	1.0	0.40	39.67
0.50	199.00	.480E+04	3.1	0.62	25.72
0.93	199.43	.995E+04	9.2	0.88	17.97
1.35	199.85	.176E+05	18.3	0.99	16.00
1.78	200.28	.289E+05	31.3	1.03	15.39
2.21	200.71	.434E+05	48.2	1.06	15.01
2.63	201.13	.628E+05	70.2	1.07	14.90
3.06	201.56	.862E+05	98.6	1.09	14.58
3.49	201.99	.113E+06	133.3	1.13	14.06
3.91	202.41	.141E+06	174.0	1.17	13.53
4.34	202.84	.173E+06	220.8	1.22	13.03
4.76	203.26	.206E+06	273.9	1.26	12.57
5.19	203.69	.243E+06	333.4	1.31	12.14
5.62	204.12	.282E+06	399.8	1.35	11.74
6.04	204.54	.323E+06	473.2	1.39	11.38
6.47	204.97	.367E+06	557.1	1.45	10.97
6.90	205.40	.412E+06	650.2	1.50	10.56
7.32	205.82	.458E+06	750.3	1.56	10.18
7.75	206.25	.506E+06	857.3	1.61	9.83

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2233)	7434.25	56.32	7.00	27.18	2.36	1.06
OUTFLOW: ID= 1 (5242)	7434.25	55.74	7.25	27.18	2.35	1.06

CALIB	
STANDHYD (0242)	Area (ha)= 144.68
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 44.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.23	69.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	982.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	28.45
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	5.07	2.67 6.734 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	61.71	42.10 50.73
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.67 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2242)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0242):	144.68	6.734	5.25	50.73
+ ID2= 2 (5242):	7434.25	55.739	7.25	27.18
ID = 3 (2242):	7578.93	58.398	7.25	27.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5551)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5551.0) ------>

Distance	Elevation	Manning	
0.00	206.24	0.1110	
25.71	201.81	0.1110	
46.60	199.50	0.1110	
67.80	199.50	0.1110	
74.10	198.50	0.1110	
97.90	197.50	0.1110	
132.90	197.50	0.1110	
138.60	197.00	0.1110	
146.80	196.50	0.1110 /0.0490	Main Channel
150.90	196.00	0.0490	Main Channel
160.46	196.00	0.0490	Main Channel
161.39	196.31	0.0490	Main Channel
161.98	196.50	0.0490 /0.1110	Main Channel
163.24	196.92	0.1110	
163.50	197.00	0.1110	

165.25	197.50	0.1110
193.50	204.00	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	196.25	.400E+04	1.8	0.65	37.22
0.50	196.50	.903E+04	6.1	0.98	24.86
0.94	196.94	.216E+05	21.1	1.43	17.03
1.38	197.38	.392E+05	44.8	1.67	14.58
1.82	197.82	.785E+05	80.3	1.49	16.31
2.26	198.26	.132E+06	136.7	1.52	16.07
2.71	198.71	.193E+06	212.4	1.61	15.11
3.15	199.15	.257E+06	307.3	1.75	13.94
3.59	199.59	.327E+06	395.1	1.76	13.80
4.03	200.03	.412E+06	531.2	1.88	12.93
4.47	200.47	.500E+06	686.6	2.00	12.15
4.91	200.91	.593E+06	861.3	2.12	11.47
5.35	201.35	.689E+06	1054.9	2.24	10.88
5.79	201.79	.789E+06	1267.4	2.35	10.37
6.24	202.24	.892E+06	1504.2	2.46	9.88
6.68	202.68	.998E+06	1760.2	2.57	9.45
7.12	203.12	.111E+07	2034.9	2.68	9.07
7.56	203.56	.122E+07	2328.5	2.79	8.73
8.00	204.00	.133E+07	2640.8	2.89	8.42

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2242)	7578.93	58.40	7.25	27.63	1.55	1.60
OUTFLOW: ID= 1 (5551)	7578.93	57.72	7.50	27.63	1.54	1.60

CALIB			
NASHYD (0551)	Area (ha)= 27.37	Curve Number (CN)= 79.1	
ID= 1 DT=15.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.31		

Unit Hyd Qpeak (cms)= 3.405

PEAK FLOW (cms)= 1.044 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 24.870
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.397

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2551)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0551):	27.37	1.044	5.25	24.87
+ ID2= 2 (5551):	7578.93	57.724	7.50	27.63
ID = 3 (2551):	7606.30	57.903	7.50	27.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB                |
| STANDHYD  (0554) |   Area    (ha)=  16.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  39.00
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      8.06         8.06
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.30
     Length            (m)=    327.92        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        30.07
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.60 (ii)   37.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.50         0.46      0.931 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50      5.25
     RUNOFF VOLUME    (mm)=     61.71        42.78     50.16
     TOTAL RAINFALL   (mm)=     62.71        62.71     62.71
     RUNOFF COEFFICIENT   =      0.98         0.68      0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| DUHYD     (9099) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
                          (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  16.13      0.93      5.25   50.16
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  16.13      0.93      5.25   50.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (6099) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                          (cms)    (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |  0.1500     2.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9099)     16.130     0.931      5.25      50.16
     OUTFLOW: ID= 1 (6099)     16.130     0.052      9.50      49.95

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.60
                    TIME SHIFT OF PEAK FLOW         (min)=255.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6943
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| ADD HYD   (4099) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9099 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6099):    16.13   0.052     9.50    49.95
       + ID2= 2 (9099):     0.00   0.000     0.00     0.00
         ==============================================
         ID = 3 (4099):    16.13   0.052     9.50    49.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD   (1230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2551):  7606.30  57.903     7.50    27.62
       + ID2= 2 (4099):    16.13   0.052     9.50    49.95
         ==============================================
         ID = 3 (1230):  7622.43  57.951     7.50    27.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5230) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00

              <------ DATA FOR SECTION (5230.0) ------>
             Distance      Elevation       Manning
                 0.00         206.83        0.1110
                 4.14         206.00        0.1110
                22.63         198.67        0.1110
                36.40         196.50        0.1110
               112.13         195.70        0.1110
               118.23         195.50        0.1110
               122.94         195.00        0.1110
               123.65         194.50    0.1110 /0.0490  Main Channel
               123.86         194.36        0.0490      Main Channel
               135.37         194.41        0.0490      Main Channel
               135.47         194.41        0.0490      Main Channel
               135.58         194.50    0.0490 /0.1110  Main Channel
               136.38         195.21        0.1110
               163.77         196.50        0.1110
               176.41         197.50        0.1110
               187.00         199.50        0.1110
               197.29         200.50        0.1110
               222.22         205.14        0.1110

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.14   194.50    .102E+04        0.3        0.22      57.77
      0.70   195.06    .639E+04        5.8        0.69      18.34
      1.26   195.62    .149E+05       16.6        0.84      14.95
      1.82   196.18    .395E+05       36.4        0.70      18.12
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      2.38   196.74    .894E+05       77.0        0.65      19.35
      2.94   197.30    .147E+06      141.7        0.73      17.35
      3.50   197.86    .210E+06      227.1        0.82      15.39
      4.06   198.42    .275E+06      331.5        0.91      13.82
      4.62   198.98    .343E+06      455.0        1.00      12.55
      5.18   199.54    .412E+06      596.4        1.09      11.52
      5.74   200.10    .485E+06      751.0        1.17      10.75
      6.30   200.66    .560E+06      924.2        1.25      10.09
      6.86   201.22    .637E+06     1117.9        1.33       9.50
      7.42   201.78    .716E+06     1327.9        1.40       8.99
      7.98   202.34    .797E+06     1554.0        1.47       8.55
      8.54   202.90    .880E+06     1796.2        1.54       8.17
      9.10   203.46    .965E+06     2054.2        1.61       7.83
      9.66   204.02    .105E+07     2328.1        1.67       7.53
     10.22   204.58    .114E+07     2617.9        1.74       7.26

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1230) 7622.43    57.95    7.50  27.67      2.12      0.67
     OUTFLOW: ID= 1 (5230) 7622.43    56.98    7.75  27.67      2.10      0.67

| CALIB                |
| STANDHYD  (0230) |   Area    (ha)=  73.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  28.00   Dir. Conn.(%)=  22.00
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     20.69        53.20
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.40
     Length            (m)=    701.85        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        23.22
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.60 (ii)   54.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.30         1.86      2.693 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75      5.25
     RUNOFF VOLUME    (mm)=     61.71        35.84     41.53
     TOTAL RAINFALL   (mm)=     62.71        62.71     62.71
     RUNOFF COEFFICIENT   =      0.98         0.57      0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD   (2230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0230):    73.89   2.693     5.25    41.53
```



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       + ID2= 2 (5230):  7622.43  56.978     7.75    27.67
         ==============================================
         ID = 3 (2230):  7696.32  57.905     7.75    27.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB                |
| STANDHYD  (0561) |   Area    (ha)=  20.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  50.00
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     11.46         9.38
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         1.80
     Length            (m)=    372.74        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        26.77
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      8.40 (ii)   49.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.83         0.42      1.213 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50      5.25
     RUNOFF VOLUME    (mm)=     61.71        41.34     51.53
     TOTAL RAINFALL   (mm)=     62.71        62.71     62.71
     RUNOFF COEFFICIENT   =      0.98         0.66      0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| DUHYD     (9561) |
| Inlet Cap.=0.850 |
| #of Inlets=    1 |
| Total(cms)=  0.9 |      AREA     QPEAK     TPEAK    R.V.
                          (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  20.84      1.21      5.25   51.53
     MAJOR SYS.(ID= 2):   1.37      0.36      5.25   51.53
     MINOR SYS.(ID= 3):  19.47      0.85      4.50   51.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2230):  7696.32  57.905     7.75    27.80
       + ID2= 2 (9561):    19.47   0.850     4.50    51.53
         ==============================================
         ID = 3 (****):  7715.79  58.124     7.75    27.86
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5389) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5389.0) ------>

Distance	Elevation	Manning	
0.00	199.34	0.1110	
3.25	198.31	0.1110	
8.26	194.50	0.1110	
12.49	192.78	0.1110	
35.23	192.57	0.1110	
45.14	192.86	0.1110	
56.75	192.19	0.1110	
64.87	192.00	0.1110	
86.92	192.00	0.1110	
87.41	191.50	0.1110	
87.93	191.00	0.1110	
88.41	190.96	0.1110 /0.0490	Main Channel
89.77	190.00	0.0490	Main Channel
93.81	190.00	0.0490	Main Channel
95.69	190.80	0.0490	Main Channel
96.61	191.00	0.0490 /0.1110	Main Channel
98.47	191.50	0.1110	
113.20	193.50	0.1110	
129.63	197.50	0.1110	
129.73	197.53	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	190.32	.222E+04	0.9	0.58	42.60
0.64	190.64	.502E+04	2.9	0.87	28.76
0.96	190.96	.843E+04	5.9	1.05	23.65
1.37	191.37	.142E+05	12.9	1.35	18.41
1.78	191.78	.214E+05	22.3	1.55	16.04
2.19	192.19	.382E+05	35.0	1.37	18.18
2.60	192.60	.702E+05	55.8	1.19	20.95
3.01	193.01	.124E+06	87.2	1.05	23.68
3.42	193.42	.185E+06	135.4	1.09	22.78
3.83	193.83	.248E+06	195.9	1.18	21.14
4.24	194.24	.313E+06	267.3	1.27	19.55
4.66	194.66	.380E+06	349.2	1.37	18.15
5.07	195.07	.448E+06	441.3	1.47	16.93
5.48	195.48	.518E+06	542.9	1.57	15.90
5.89	195.89	.589E+06	653.9	1.66	15.00
6.30	196.30	.661E+06	773.9	1.75	14.23
6.71	196.71	.734E+06	902.9	1.84	13.56
7.12	197.12	.809E+06	1040.7	1.92	12.96
7.53	197.53	.886E+06	1187.4	2.00	12.43

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (****)	7715.79	58.12	7.75	27.86	2.63	1.18
OUTFLOW: ID= 1 (5389)	7715.79	56.99	8.25	27.86	2.61	1.18

CALIB	STANDHYD (0389)	ID= 1 DT=15.0 min	Area (ha)= 77.16	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	18.52	58.64
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.50
Length (m)=	717.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.72	2.943 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	61.71	31.13	38.47
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.50	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2389)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0389):		77.16	2.943	5.25	38.47
+ ID2= 2 (5389):		7715.79	56.993	8.25	27.86
ID = 3 (2389):		7792.95	57.636	8.25	27.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5680) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5680.0) ------>

Distance	Elevation	Manning	
0.00	192.05	0.1110	
4.42	191.50	0.1110	
19.11	187.00	0.1110	
24.86	186.33	0.1110	
30.83	186.31	0.1110	
36.85	186.50	0.1110	
56.81	186.50	0.1110	
63.15	186.00	0.1110	
73.63	186.00	0.1110	
74.48	185.90	0.1110 /0.0490	Main Channel
75.36	184.90	0.0490	Main Channel
82.36	184.90	0.0490	Main Channel

83.09	185.85	0.0490 /0.1110	Main Channel
83.24	185.85	0.1110	
96.38	186.50	0.1110	
112.87	191.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	185.22	.230E+04	1.5	0.64	26.12
0.63	185.53	.476E+04	4.6	0.97	17.18
0.95	185.85	.739E+04	9.1	1.22	13.61
1.33	186.23	.150E+05	17.5	1.16	14.35
1.70	186.60	.339E+05	31.6	0.93	17.88
2.08	186.98	.626E+05	58.2	0.93	17.92
2.45	187.35	.925E+05	94.4	1.02	16.33
2.83	187.73	.123E+06	139.1	1.13	14.79
3.20	188.10	.155E+06	191.4	1.23	13.51
3.58	188.48	.188E+06	251.2	1.34	12.47
3.96	188.86	.221E+06	318.1	1.44	11.60
4.33	189.23	.256E+06	392.0	1.53	10.88
4.71	189.61	.291E+06	472.7	1.62	10.27
5.08	189.98	.328E+06	560.2	1.71	9.74
5.46	190.36	.365E+06	654.4	1.79	9.29
5.83	190.73	.403E+06	755.2	1.87	8.89
6.21	191.11	.442E+06	862.6	1.95	8.53
6.58	191.48	.482E+06	976.5	2.03	8.22
6.96	191.86	.523E+06	1088.5	2.08	8.00

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2389)	7792.95	57.64	8.25	27.97	2.07	0.93
OUTFLOW: ID= 1 (5680)	7792.95	57.07	8.50	27.97	2.06	0.93

CALIB	STANDHYD (0680)	ID= 1 DT=15.0 min	Area (ha)= 29.70	Total Imp(%)= 19.00	Dir. Conn.(%)= 19.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.64	24.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.80
Length (m)=	444.97	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	34.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.45	0.87	1.309 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	31.13	36.94
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.50	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2680)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0680):		29.70	1.309	5.25	36.94
+ ID2= 2 (5680):		7792.95	57.072	8.50	27.97
ID = 3 (2680):		7822.65	57.232	8.50	28.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0215)	ID= 1 DT=15.0 min	Area (ha)= 168.73	Total Imp(%)= 58.00	Dir. Conn.(%)= 52.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.86	70.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.80
Length (m)=	1060.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	28.43
over (min)	15.00	30.00
Storage Coeff. (min)=	15.60 (ii)	91.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	6.93	2.41	8.182 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	61.71	43.18	52.82
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.69	0.84

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ROUTE CHN (5563) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5563.0) ------>

Distance	Elevation	Manning
0.00	191.36	0.1110
14.77	191.00	0.1110
25.44	190.67	0.1110
80.93	190.90	0.1110

145.10	190.42	0.1110	
212.09	190.83	0.1110	
285.12	189.56	0.1110	
295.52	188.71	0.1110	
307.38	188.32	0.1110	
307.51	188.31	0.1110	
312.32	188.04	0.1110 /0.0490	Main Channel
317.15	187.12	0.0490	Main Channel
321.73	188.01	0.0490 /0.1110	Main Channel
327.33	189.06	0.1110	
328.00	189.07	0.1110	
347.82	189.58	0.1110	
348.77	189.58	0.1110	
359.57	189.55	0.1110	
452.50	191.17	0.1110	
496.50	191.28	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	187.30	.208E+03	0.1	0.42	50.17
0.36	187.48	.832E+03	0.4	0.67	31.60
0.53	187.65	.187E+04	1.3	0.87	24.12
0.71	187.83	.333E+04	2.8	1.06	19.91
0.89	188.01	.520E+04	5.1	1.23	17.16
1.12	188.24	.862E+04	10.3	1.51	13.96
1.36	188.48	.138E+05	17.5	1.60	13.14
1.59	188.71	.214E+05	27.2	1.61	13.11
1.82	188.94	.309E+05	40.1	1.64	12.84
2.06	189.18	.419E+05	55.2	1.67	12.64
2.29	189.41	.561E+05	74.0	1.66	12.65
2.52	189.64	.755E+05	94.5	1.58	13.32
2.76	189.88	.104E+06	122.0	1.47	14.28
2.99	190.11	.141E+06	158.7	1.42	14.85
3.23	190.35	.186E+06	205.5	1.39	15.10
3.46	190.58	.244E+06	249.0	1.29	16.31
3.69	190.81	.332E+06	310.8	1.18	17.80
3.93	191.05	.455E+06	425.1	1.18	17.82
4.16	191.28	.588E+06	551.2	1.18	17.79

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0215)	168.73	8.18	5.25	52.82	1.03	1.38
OUTFLOW: ID= 1 (5563)	168.73	7.69	5.25	52.81	1.01	1.35

CALIB / STANDHYD (0563) / ID= 1 DT=15.0 min	Area (ha)= 27.61 / Total Imp(%)= 37.00 Dir. Conn.(%)= 37.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.22	17.39
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.90
Length (m)=	429.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.77
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	42.60 (ii)

Unit Hyd. Tpeak (min)=	15.00	45.00			
Unit Hyd. peak (cms)=	0.10	0.03			
					TOTALS
PEAK FLOW (cms)=	0.82	0.62			1.365 (iii)
TIME TO PEAK (hrs)=	5.25	5.50			5.25
RUNOFF VOLUME (mm)=	61.71	34.45			44.53
TOTAL RAINFALL (mm)=	62.71	62.71			62.71
RUNOFF COEFFICIENT =	0.98	0.55			0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2563) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0563):	27.61	1.365	5.25	44.53
+ ID2= 2 (5563):	168.73	7.695	5.25	52.81
ID = 3 (2563):	196.34	9.060	5.25	51.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0565) / ID= 1 DT=15.0 min	Area (ha)= 11.31 / Total Imp(%)= 54.00 Dir. Conn.(%)= 54.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.11	5.20
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	274.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	23.41
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

					TOTALS
PEAK FLOW (cms)=	0.49	0.22			0.692 (iii)
TIME TO PEAK (hrs)=	5.25	5.50			5.25
RUNOFF VOLUME (mm)=	61.71	39.65			51.56
TOTAL RAINFALL (mm)=	62.71	62.71			62.71
RUNOFF COEFFICIENT =	0.98	0.63			0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9290) / Inlet Cap.=***** / #of Inlets= 1 / Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	11.31	0.69	5.25	51.56
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	11.31	0.69	5.25	51.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6290) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6680	0.3357
	0.0690	0.0792	0.9860	0.4276
	0.2090	0.1615	1.3660	0.5226
	0.4090	0.2471	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9290)	11.310	0.692	5.25	51.56
OUTFLOW: ID= 1 (6290)	11.310	0.360	5.75	51.54

PEAK FLOW REDUCTION [Qout/Qin](%)= 51.93
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.2260

ADD HYD (4290) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9290 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6290):	11.31	0.360	5.75	51.54
+ ID2= 2 (9290):	0.00	0.000	0.00	0.00
ID = 3 (4290):	11.31	0.360	5.75	51.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3563) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2563):	196.34	9.060	5.25	51.65
+ ID2= 2 (4290):	11.31	0.360	5.75	51.54
ID = 3 (3563):	207.65	9.370	5.25	51.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3680) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2680):	7822.65	57.232	8.50	28.00
+ ID2= 2 (3563):	207.65	9.370	5.25	51.64
ID = 3 (3680):	8030.30	59.561	8.25	28.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****) / ID= 1 DT=15.0 min	Area (ha)= 0.60 / Total Imp(%)= 31.00 Dir. Conn.(%)= 31.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.41
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	13.50
Length (m)=	63.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	21.41
over (min)	15.00	15.00
Storage Coeff. (min)=	4.80 (ii)	27.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

					TOTALS
PEAK FLOW (cms)=	0.01	0.02			0.034 (iii)
TIME TO PEAK (hrs)=	5.25	5.25			5.25
RUNOFF VOLUME (mm)=	61.71	35.66			43.70
TOTAL RAINFALL (mm)=	62.71	62.71			62.71
RUNOFF COEFFICIENT =	0.98	0.57			0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****) / ID= 1 DT=15.0 min	Area (ha)= 1.60 / Total Imp(%)= 31.00 Dir. Conn.(%)= 31.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	1.10
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	13.50
Length (m)=	103.28	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	21.41
over (min)	15.00	15.00
Storage Coeff. (min)=	4.80 (ii)	27.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00

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 Unit Hyd. peak  (cms)=       0.11         0.04
                                                    *TOTALS*
 PEAK FLOW      (cms)=       0.04         0.05          0.089 (iii)
 TIME TO PEAK   (hrs)=       5.25         5.25           5.25
 RUNOFF VOLUME   (mm)=      61.71        35.66          43.72
 TOTAL RAINFALL  (mm)=      62.71        62.71          62.71
 RUNOFF COEFFICIENT  =       0.98         0.57           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=  19.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.14        13.67
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        13.50
     Length            (m)=     363.41        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        21.41
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                    *TOTALS*
     PEAK FLOW      (cms)=       0.49         0.61          1.107 (iii)
     TIME TO PEAK   (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME   (mm)=      61.71        35.66          43.73
     TOTAL RAINFALL  (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT  =       0.98         0.57           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    19.81   1.107     5.25    43.73
       + ID2= 2 (****):     1.60   0.089     5.25    43.72
         ================================================
         ID = 3 (0405):    21.41   1.196     5.25    43.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
```



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-------------------
| ADD HYD   (0404) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0405):    21.41   1.196     5.25    43.73
       + ID2= 2 (****):     0.60   0.034     5.25    43.70
         ================================================
         ID = 3 (0404):    22.01   1.229     5.25    43.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (9473) |
| Inlet Cap.=0.059 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK    R.V.
-------------------         (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  22.01      1.23      5.25   43.73
     ================================================
     MAJOR SYS.(ID= 2):  17.52      1.17      5.25   43.73
     MINOR SYS.(ID= 3):   4.49      0.06      2.50   43.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (6473) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------        (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000    0.0000    |   0.0590     0.2565

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9473)      4.492     0.059      2.50      43.73
     OUTFLOW: ID= 1 (6473)      4.492     0.029     12.25      43.49

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.88
               TIME SHIFT OF PEAK FLOW          (min)=585.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.1256

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (4473) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6473):     4.49   0.029    12.25    43.49
       + ID2= 2 (9473):    17.52   1.170     5.25    43.73
         ================================================
         ID = 3 (4473):    22.01   1.183     5.25    43.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1227) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3680):  8030.30  59.561     8.25    28.61
```



```
       + ID2= 2 (4473):    22.01   1.183     5.25    43.68
         ================================================
         ID = 3 (1227):  8052.31  59.674     8.25    28.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5227) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (5227.0) ------>
             Distance      Elevation       Manning
                 0.00         183.10        0.1110
                 2.58         183.12        0.1110
                12.20         179.50        0.1110
                18.00         179.50        0.1110
                24.51         179.00        0.1110
                31.60         179.00        0.1110
                36.79         179.37        0.1110
                53.69         179.00    0.1110 /0.0490  Main Channel
                55.00         178.00        0.0490      Main Channel
                68.00         178.00        0.0490      Main Channel
                69.17         179.00    0.0490 /0.1110  Main Channel
                81.13         179.50        0.1110
               103.11         179.50        0.1110
               130.08         180.00        0.1110
               146.16         180.75        0.1110
               171.96         185.35        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   178.25    .765E+04        2.3          0.70      54.53
      0.50   178.50    .157E+05        7.4          1.09      35.12
      0.75   178.75    .240E+05       14.6          1.40      27.35
      1.00   179.00    .327E+05       23.7          1.67      23.01
      1.27   179.27    .552E+05       37.9          1.58      24.27
      1.55   179.55    .952E+05       58.0          1.40      27.36
      1.82   179.82    .159E+06       89.5          1.29      29.60
      2.09   180.09    .232E+06      131.2          1.30      29.46
      2.37   180.37    .310E+06      183.3          1.36      28.21
      2.64   180.64    .393E+06      244.7          1.43      26.77
      2.91   180.91    .479E+06      316.3          1.52      25.24
      3.19   181.19    .567E+06      397.7          1.61      23.76
      3.46   181.46    .656E+06      487.5          1.71      22.43
      3.73   181.73    .747E+06      585.4          1.80      21.26
      4.01   182.01    .839E+06      691.2          1.89      20.23
      4.28   182.28    .933E+06      804.7          1.98      19.32
      4.55   182.55    .103E+07      925.7          2.07      18.50
      4.83   182.83    .112E+07     1054.1          2.16      17.77
      5.10   183.10    .122E+07     1189.9          2.24      17.11

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1227) 8052.31   59.67    8.25  28.65      1.56      1.39
     OUTFLOW: ID= 1 (5227) 8052.31   58.25    9.00  28.65      1.55      1.40

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| CALIB           |
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| STANDHYD  (****) |   Area    (ha)=  91.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.38        62.44
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.60
     Length            (m)=     782.39        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.54
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.20 (ii)   60.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW      (cms)=       2.35         1.72          3.581 (iii)
     TIME TO PEAK   (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME   (mm)=      61.71        32.19          41.63
     TOTAL RAINFALL  (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT  =       0.98         0.51           0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   4.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.38         2.92
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.60
     Length            (m)=     169.31        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.54
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.20 (ii)   60.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW      (cms)=       0.11         0.08          0.168 (iii)
     TIME TO PEAK   (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME   (mm)=      61.71        32.19          41.63
     TOTAL RAINFALL  (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT  =       0.98         0.51           0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  12.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      3.99         8.49
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.60
     Length            (m)=    288.44        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        19.54
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.20 (ii)   60.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.32         0.23          0.487 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     61.71        32.19         41.63
     TOTAL RAINFALL   (mm)=     62.71        62.71         62.71
     RUNOFF COEFFICIENT   =      0.98         0.51          0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0359) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    12.48   0.487     5.25    41.63
       + ID2= 2 (****):     4.30   0.168     5.25    41.63
         ================================================
         ID = 3 (0359):    16.78   0.654     5.25    41.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0358) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0359):    16.78   0.654     5.25    41.63
       + ID2= 2 (****):    91.82   3.581     5.25    41.63
         ================================================
         ID = 3 (0358):   108.60   4.236     5.25    41.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (2227) |
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|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0358):   108.60   4.236     5.25    41.63
       + ID2= 2 (5227):  8052.31  58.249     9.00    28.65
         ================================================
         ID = 3 (2227):  8160.91  58.901     9.00    28.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0197) |   Area    (ha)= 124.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  62.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     83.33        41.05
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.50
     Length            (m)=    910.60        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        29.38
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.20 (ii)   76.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=      6.14         1.63          7.172 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     61.71        44.75         55.26
     TOTAL RAINFALL   (mm)=     62.71        62.71         62.71
     RUNOFF COEFFICIENT   =      0.98         0.71          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0183) |   Area    (ha)=  74.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     63.66        11.23
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.30
     Length            (m)=    706.59        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        26.79
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.40 (ii)   67.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      5.08         0.46          5.441 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75          5.25
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```
     RUNOFF VOLUME    (mm)=     61.71        47.82         59.63
     TOTAL RAINFALL   (mm)=     62.71        62.71         62.71
     RUNOFF COEFFICIENT   =      0.98         0.76          0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  95.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1191) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0183):    74.89   5.441     5.25    59.63
       + ID2= 2 (0197):   124.38   7.172     5.25    55.26
         ================================================
         ID = 3 (1191):   199.27  12.612     5.25    56.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5191) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5191.0) ------>
              Distance      Elevation       Manning
                  0.00         206.09        0.1110
                 41.11         202.34        0.1110
                 69.44         202.09        0.1110
                120.54         202.43        0.1110
                159.64         202.06        0.1110
                176.80         201.18        0.1110
                193.03         197.88        0.1110
                193.97         197.91    0.1110 /0.0490  Main Channel
                202.84         197.45        0.0490      Main Channel
                207.88         196.02    0.0490 /0.1110  Main Channel
                219.68         198.15        0.1110
                226.18         199.27        0.1110
                252.21         200.52        0.1110
                288.65         200.95        0.1110
                324.33         200.78        0.1110
                336.83         201.55        0.1110
                350.63         201.56        0.1110
                407.58         202.86        0.1110
                457.84         201.67        0.1110
                478.94         202.83        0.1110

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.36   196.38    .805E+03        0.2         0.26      88.04
      0.72   196.74    .322E+04        1.0         0.42      55.46
      1.08   197.10    .724E+04        2.9         0.54      42.32
      1.43   197.45    .129E+05        6.1         0.66      35.09
      1.79   197.81    .215E+05       10.3         0.66      34.83
      2.15   198.17    .344E+05       20.5         0.83      27.92
      2.51   198.53    .493E+05       35.2         0.99      23.31
```



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      2.87   198.89    .661E+05       53.8         1.13      20.47
      3.23   199.25    .848E+05       76.3         1.24      18.53
      3.58   199.60    .107E+06       99.7         1.29      17.82
      3.94   199.96    .133E+06      128.8         1.34      17.20
      4.30   200.32    .164E+06      163.8         1.38      16.67
      4.66   200.68    .201E+06      198.9         1.37      16.81
      5.02   201.04    .260E+06      234.3         1.24      18.51
      5.38   201.40    .337E+06      305.3         1.25      18.42
      5.73   201.75    .425E+06      376.5         1.22      18.83
      6.09   202.11    .535E+06      456.7         1.18      19.53
      6.45   202.47    .701E+06      555.9         1.10      21.03
      6.81   202.83    .909E+06      714.3         1.09      21.22

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1191)  199.27   12.61    5.25  56.90      1.87      0.69
     OUTFLOW: ID= 1 (5191)  199.27   10.15    5.25  56.90      1.78      0.66

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| CALIB            |
| STANDHYD  (0191) |   Area    (ha)= 162.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  82.00   Dir. Conn.(%)=  81.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    133.55        29.32
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.00
     Length            (m)=   1042.02        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        27.82
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.20 (ii)   78.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=     10.50         1.11         11.211 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     61.71        46.74         58.86
     TOTAL RAINFALL   (mm)=     62.71        62.71         62.71
     RUNOFF COEFFICIENT   =      0.98         0.75          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2191) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0191):   162.87  11.211     5.25    58.86
       + ID2= 2 (5191):   199.27  10.149     5.25    56.90
         ================================================
         ID = 3 (2191):   362.14  21.359     5.25    57.78
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5214)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5214.0) ------>

Distance	Elevation	Manning		
0.00	190.50	0.1110		
2.09	189.13	0.1110		
13.57	187.20	0.1110		
23.54	186.97	0.1110 /0.0490	Main Channel	
26.84	186.32	0.0490	Main Channel	
27.21	186.25	0.0490	Main Channel	
31.31	187.11	0.0490 /0.1110	Main Channel	
35.60	187.49	0.1110		
46.65	189.04	0.1110		
49.91	188.81	0.1110		
63.03	189.57	0.1110		
78.54	190.45	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	186.43	.305E+03	0.1	0.37	85.15
0.36	186.61	.121E+04	0.4	0.59	53.70
0.54	186.79	.272E+04	1.1	0.77	41.01
0.72	186.97	.484E+04	2.4	0.93	33.86
0.95	187.20	.104E+05	5.6	1.01	31.17
1.18	187.43	.196E+05	11.1	1.07	29.32
1.42	187.67	.303E+05	18.7	1.17	27.02
1.65	187.90	.424E+05	28.2	1.26	25.01
1.88	188.13	.558E+05	39.8	1.35	23.38
2.11	188.36	.705E+05	53.3	1.43	22.05
2.34	188.59	.866E+05	68.9	1.50	20.94
2.58	188.83	.104E+06	86.4	1.57	20.06
2.81	189.06	.125E+06	104.5	1.58	19.87
3.04	189.29	.148E+06	128.2	1.63	19.28
3.27	189.52	.174E+06	155.0	1.68	18.70
3.50	189.75	.201E+06	184.8	1.73	18.17
3.74	189.99	.231E+06	217.7	1.78	17.68
3.97	190.22	.262E+06	253.8	1.83	17.24
4.20	190.45	.296E+06	293.1	1.87	16.82

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2191)	362.14	21.36	5.25	57.78	1.48	1.19
OUTFLOW: ID= 1 (5214)	362.14	17.99	5.50	57.78	1.39	1.16

CALIB	
STANDHYD (0214)	Area (ha)= 38.36
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	19.18	19.18
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80

Length (m)=	505.70	40.00			
Mannings n =	0.013	0.250			
Max.Eff.Inten.(mm/hr)=	28.84	22.73			
over (min)	15.00	30.00			
Storage Coeff. (min)=	7.20 (ii)	43.80 (ii)			
Unit Hyd. Tpeak (min)=	15.00	45.00			
Unit Hyd. peak (cms)=	0.10	0.03			
			TOTALS		
PEAK FLOW (cms)=	1.54	0.76	2.213 (iii)		
TIME TO PEAK (hrs)=	5.25	5.50	5.25		
RUNOFF VOLUME (mm)=	61.71	38.25	49.98		
TOTAL RAINFALL (mm)=	62.71	62.71	62.71		
RUNOFF COEFFICIENT =	0.98	0.61	0.80		

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2214)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0214):	38.36	17.213	5.25	49.98
+ ID2= 2 (5214):	362.14	17.994	5.50	57.78
ID = 3 (2214):	400.50	19.691	5.25	57.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0134)	Area (ha)= 24.26
ID= 1 DT=15.0 min	Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.95	6.31
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	402.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	25.47
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	1.44	0.28	1.693 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	61.71	44.29	57.18
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.71	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9313)				
Inlet Cap.=8.700				
#of Inlets= 1				
Total(cms)= 8.7	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.26	1.69	5.25	57.18
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	24.26	1.69	5.25	57.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6313)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1050	0.6800
	0.1030	0.5950	8.7000	0.9200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9313)	24.260	1.693	5.25	57.18
OUTFLOW: ID= 1 (6313)	24.260	1.462	5.50	57.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 86.38
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.7524

ADD HYD (4313)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9313 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6313):	24.26	1.462	5.50	57.12
+ ID2= 2 (9313):	0.00	0.000	0.00	0.00
ID = 3 (4313):	24.26	1.462	5.50	57.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3214)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2214):	400.50	19.691	5.25	57.04
+ ID2= 2 (4313):	24.26	1.462	5.50	57.12

ID = 3 (3214): 424.76 20.786 5.50 57.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0189)	Area (ha)= 116.03
ID= 1 DT=15.0 min	Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	85.86	30.17
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.20
Length (m)=	879.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	25.47
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	6.86	1.15	7.751 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	61.71	44.29	57.18
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.71	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5200)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5200.0) ------>

Distance	Elevation	Manning		
0.00	193.37	0.1110		
17.44	193.51	0.1110		
50.09	193.00	0.1110		
90.09	192.83	0.1110		
121.68	192.17	0.1110		
128.93	192.61	0.1110		
141.32	191.78	0.1110		
147.98	191.88	0.1110		
197.61	189.48	0.1110 /0.0490	Main Channel	
204.01	189.06	0.0490	Main Channel	
205.40	188.96	0.0490	Main Channel	
211.29	189.53	0.0490 /0.1110	Main Channel	
222.97	191.23	0.1110		
226.70	191.10	0.1110		
263.00	191.03	0.1110		
355.09	192.45	0.1110		
382.19	192.49	0.1110		
383.02	192.49	0.1110		
396.28	192.31	0.1110		

520.20 195.65 0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	189.13	.489E+03	0.1	0.39	56.62
0.35	189.31	.199E+04	0.9	0.62	35.61
0.52	189.48	.451E+04	2.8	0.82	27.13
0.76	189.72	.990E+04	8.6	1.15	19.26
1.01	189.97	.175E+05	17.5	1.33	16.62
1.25	190.21	.272E+05	29.7	1.45	15.26
1.49	190.45	.391E+05	45.3	1.54	14.36
1.74	190.70	.531E+05	64.6	1.62	13.70
1.98	190.94	.693E+05	87.8	1.68	13.16
2.22	191.18	.945E+05	112.8	1.59	13.96
2.47	191.43	.133E+06	151.5	1.51	14.68
2.71	191.67	.179E+06	199.9	1.48	14.95
2.95	191.91	.233E+06	253.7	1.45	15.28
3.19	192.15	.294E+06	326.4	1.47	15.02
3.44	192.40	.365E+06	396.3	1.44	15.34
3.68	192.64	.457E+06	480.9	1.40	15.85
3.92	192.88	.561E+06	600.7	1.42	15.57
4.17	193.13	.680E+06	737.3	1.44	15.37
4.41	193.37	.808E+06	909.7	1.50	14.81

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0189)	116.03	7.75	5.25	57.18	0.73	1.09
OUTFLOW: ID= 1 (5200)	116.03	7.28	5.25	57.18	0.71	1.05

CALIB
STANDHYD (0200)
ID= 1 DT=15.0 min

Area (ha)= 47.53
Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.50	9.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	562.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	26.14
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	3.08	0.38 3.384 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	61.71	46.01 58.73
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.73 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2200)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0200):	47.53	3.384	5.25	58.73
+ ID2= 2 (5200):	116.03	7.285	5.25	57.18
ID = 3 (2200):	163.56	10.668	5.25	57.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1650)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2200):	163.56	10.668	5.25	57.63
+ ID2= 2 (3214):	424.76	20.786	5.50	57.04
ID = 3 (1650):	588.32	30.846	5.25	57.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5650)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5650.0) ------>

Distance	Elevation	Manning	
0.00	186.99	0.1110	
0.62	186.98	0.1110	
54.47	185.71	0.1110	
69.34	182.09	0.1110 /0.0490	Main Channel
71.18	181.64	0.0490	Main Channel
73.43	182.23	0.0490 /0.1110	Main Channel
82.69	184.73	0.1110	
87.60	185.04	0.1110	
110.20	184.66	0.1110	
129.32	184.73	0.1110	
164.79	185.85	0.1110	
170.26	185.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	181.79	.249E+02	0.0	0.18	26.45
0.30	181.94	.997E+02	0.1	0.28	16.66
0.45	182.09	.224E+03	0.3	0.37	12.71
0.69	182.33	.521E+03	1.0	0.53	8.87
0.92	182.56	.939E+03	2.1	0.63	7.37
1.16	182.80	.148E+04	3.7	0.70	6.65
1.39	183.03	.214E+04	5.7	0.75	6.21
1.63	183.27	.292E+04	8.3	0.79	5.90
1.86	183.50	.383E+04	11.3	0.83	5.65
2.10	183.74	.486E+04	14.9	0.86	5.44
2.34	183.98	.600E+04	19.0	0.89	5.26
2.57	184.21	.727E+04	23.7	0.92	5.10

2.81	184.45	.866E+04	29.1	0.94	4.96
3.04	184.68	.102E+05	33.4	0.92	5.09
3.28	184.92	.138E+05	39.5	0.80	5.82
3.51	185.15	.190E+05	50.2	0.74	6.31
3.75	185.39	.250E+05	64.4	0.72	6.46
3.98	185.62	.315E+05	81.4	0.72	6.45
4.22	185.86	.387E+05	96.4	0.70	6.69

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1650)	588.32	30.85	5.25	57.20	2.90	0.93
OUTFLOW: ID= 1 (5650)	588.32	29.68	5.25	57.20	2.83	0.94

CALIB
STANDHYD (0650)
ID= 1 DT=15.0 min

Area (ha)= 10.55
Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.59	4.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	265.20	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	22.06
over (min)		15.00	30.00
Storage Coeff. (min)=		5.40 (ii)	33.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.03
			TOTALS
PEAK FLOW	(cms)=	0.45	0.22 0.665 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	61.71	36.93 50.06
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.59 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2650)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0650):	10.55	0.665	5.25	50.06
+ ID2= 2 (5650):	588.32	29.684	5.25	57.20
ID = 3 (2650):	598.87	30.349	5.25	57.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0187)
ID= 1 DT=15.0 min

Area (ha)= 103.50
Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	83.83	19.66
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	830.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	26.14
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	6.67	0.70 7.119 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	61.71	46.01 58.73
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.73 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2187)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0187):	103.50	7.119	5.25	58.73
+ ID2= 2 (2650):	598.87	30.349	5.25	57.08
ID = 3 (2187):	702.37	37.468	5.25	57.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0212)
ID= 1 DT=15.0 min

Area (ha)= 14.09
Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.38	10.71
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.60
Length	(m)=	306.49	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	20.15
over (min)		15.00	30.00
Storage Coeff. (min)=		5.40 (ii)	31.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04
			TOTALS

```
     PEAK FLOW      (cms)=       0.27         0.43          0.698 (iii)
     TIME TO PEAK   (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME   (mm)=      61.71        33.29          40.11
     TOTAL RAINFALL  (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT  =       0.98         0.53           0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD    (9474) |
| Inlet Cap.=0.031 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  14.09      0.70      5.25   40.11
     ==================================================
     MAJOR SYS.(ID= 2):  11.40      0.67      5.25   40.11
     MINOR SYS.(ID= 3):   2.69      0.03      2.50   40.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6474) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0310     0.1340

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9474)     2.695     0.031      2.50      40.11
     OUTFLOW: ID= 1 (6474)     2.695     0.016     12.50      39.71

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.64
                    TIME SHIFT OF PEAK FLOW          (min)=600.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0693

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--------------------
| ADD HYD   (4474) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6474):     2.69   0.016    12.50    39.71
       + ID2= 2 (9474):    11.40   0.667     5.25    40.11
         ==========================================================
         ID = 3 (4474):    14.09   0.673     5.25    40.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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```
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2187):   702.37  37.468     5.25    57.32
       + ID2= 2 (4474):    14.09   0.673     5.25    40.03
         ==========================================================
         ID = 3 (1210):   716.46  38.142     5.25    56.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5210.0) ------>
               Distance      Elevation       Manning
                   0.00         186.99        0.1110
                   0.62         186.98        0.1110
                  54.47         185.71        0.1110
                  69.34         182.09    0.1110 /0.0490  Main Channel
                  71.18         181.64        0.0490      Main Channel
                  73.43         182.23    0.0490 /0.1110  Main Channel
                  82.69         184.73        0.1110
                  87.60         185.04        0.1110
                 110.20         184.66        0.1110
                 129.32         184.73        0.1110
                 164.79         185.85        0.1110
                 170.26         185.86        0.1110

       <--------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
         0.15   181.79    .140E+03        0.0        0.24     111.40
         0.30   181.94    .561E+03        0.1        0.37      70.18
         0.45   182.09    .126E+04        0.4        0.49      53.56
         0.69   182.33    .293E+04        1.3        0.70      37.38
         0.92   182.56    .528E+04        2.8        0.85      31.04
         1.16   182.80    .832E+04        4.9        0.94      28.03
         1.39   183.03    .120E+05        7.7        1.00      26.17
         1.63   183.27    .164E+05       11.0        1.06      24.84
         1.86   183.50    .215E+05       15.1        1.10      23.79
         2.10   183.74    .273E+05       19.8        1.15      22.92
         2.34   183.98    .338E+05       25.4        1.19      22.17
         2.57   184.21    .409E+05       31.7        1.22      21.50
         2.81   184.45    .487E+05       38.8        1.26      20.91
         3.04   184.68    .573E+05       44.5        1.22      21.46
         3.28   184.92    .774E+05       52.7        1.07      24.50
         3.51   185.15    .107E+06       67.1        0.99      26.57
         3.75   185.39    .140E+06       86.0        0.97      27.21
         3.98   185.62    .177E+06      108.6        0.97      27.17
         4.22   185.86    .218E+06      128.7        0.93      28.18

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1210)  716.46   38.14    5.25  56.98      2.78      1.25
     OUTFLOW: ID= 1 (5210)  716.46   33.89    5.50  56.98      2.64      1.23

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  20.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.29         1.11
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.70
     Length            (m)=      96.61        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.96
                 over (min)      15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   53.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.03          0.046 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75           5.25
     RUNOFF VOLUME    (mm)=      61.71        31.13          37.53
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.50           0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0352) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    20.85   0.686     5.25    37.55
       + ID2= 2 (****):     1.40   0.046     5.25    37.53
         ==========================================================
         ID = 3 (0352):    22.25   0.732     5.25    37.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  32.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.90        25.96
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.70
     Length            (m)=     468.05        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.96
                 over (min)      15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   53.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.55         0.73          1.081 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75           5.25
     RUNOFF VOLUME    (mm)=      61.71        31.13          37.55
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.50           0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0351) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0352):    22.25   0.732     5.25    37.55
       + ID2= 2 (****):    32.86   1.081     5.25    37.55
         ==========================================================
         ID = 3 (0351):    55.11   1.813     5.25    37.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

ID1= 1 (0351):	55.11	1.813	5.25	37.55
+ ID2= 2 (5210):	716.46	33.887	5.50	56.98
ID = 3 (2210):	771.57	35.379	5.50	55.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1431)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2210):	771.57	35.379	5.50	55.59
+ ID2= 2 (2227):	8160.91	58.901	9.00	28.83
ID = 3 (1431):	8932.48	67.722	8.25	31.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5431)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5431.0) ------>

Distance	Elevation	Manning	
0.00	176.00	0.1110	
18.09	175.90	0.1110	
27.45	175.50	0.1110	
47.50	172.50	0.1110	
67.08	171.89	0.1110	
142.45	171.74	0.1110	
221.81	171.00	0.1110	
241.52	171.00	0.1110	
242.37	170.64	0.1110 /0.0490	Main Channel
242.71	170.00	0.0490	Main Channel
253.79	170.00	0.0490	Main Channel
256.58	170.50	0.0490 /0.1110	Main Channel
257.61	170.61	0.1110	
261.77	171.00	0.1110	
278.03	171.50	0.1110	
301.37	172.00	0.1110	
309.55	174.50	0.1110	
324.51	174.87	0.1110	
351.19	174.68	0.1110	
357.20	176.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	170.25	.704E+03	2.0	0.68	5.79
0.50	170.50	.150E+04	6.6	1.04	3.81
0.82	170.82	.273E+04	16.4	1.43	2.78
1.15	171.15	.528E+04	30.8	1.38	2.86
1.47	171.47	.117E+05	55.8	1.14	3.49
1.79	171.79	.218E+05	93.3	1.02	3.90
2.12	172.12	.393E+05	161.6	0.98	4.05
2.44	172.44	.584E+05	263.6	1.07	3.69
2.76	172.76	.781E+05	393.2	1.20	3.31
3.09	173.09	.981E+05	546.6	1.33	2.99
3.41	173.41	.118E+06	721.6	1.45	2.73
3.74	173.74	.139E+06	917.2	1.57	2.52

4.06	174.06	.160E+06	1132.4	1.69	2.35
4.38	174.38	.181E+06	1366.6	1.80	2.20
4.71	174.71	.202E+06	1590.5	1.87	2.12
5.03	175.03	.226E+06	1819.4	1.91	2.07
5.35	175.35	.251E+06	2124.7	2.01	1.97
5.68	175.68	.276E+06	2436.9	2.10	1.89
6.00	176.00	.302E+06	2681.4	2.11	1.88

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1431)	8932.48	67.72	8.25	31.14	1.57	1.10
OUTFLOW: ID= 1 (5431)	8932.48	67.66	8.50	31.14	1.57	1.10

CALIB	
STANDHYD (0431)	Area (ha)= 8.28
ID= 1 DT=15.0 min	Total Imp(%)= 22.00 Dir. Conn.(%)= 22.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.82	6.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	234.95	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.29
over (min)		15.00	30.00
Storage Coeff. (min)=		5.40 (ii)	30.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04
			TOTALS
PEAK FLOW (cms)=		0.15	0.22 0.363 (iii)
TIME TO PEAK (hrs)=		5.25	5.50 5.25
RUNOFF VOLUME (mm)=		61.71	28.20 35.57
TOTAL RAINFALL (mm)=		62.71	62.71 62.71
RUNOFF COEFFICIENT =		0.98	0.45 0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2431)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0431):	8.28	0.363	5.25	35.57
+ ID2= 2 (5431):	8932.48	67.656	8.50	31.14
ID = 3 (2431):	8940.76	67.696	8.50	31.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5213)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5213.0) ------>

Distance	Elevation	Manning	
0.00	171.99	0.1110	
10.86	169.00	0.1110	
21.10	168.00	0.1110	
30.39	165.73	0.1110	
64.57	165.00	0.1110	
65.32	164.91	0.1110	
68.94	164.50	0.1110	
71.70	164.50	0.1110 /0.0490	Main Channel
71.83	163.50	0.0490	Main Channel
75.93	163.50	0.0490	Main Channel
76.19	164.48	0.0490 /0.1110	Main Channel
76.80	164.50	0.1110	
78.99	165.50	0.1110	
107.09	166.50	0.1110	
126.24	171.00	0.1110	
133.28	171.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	163.83	.319E+04	0.9	0.63	62.42
0.65	164.15	.647E+04	2.5	0.92	42.47
0.98	164.48	.986E+04	4.7	1.13	34.66
1.42	164.92	.201E+05	9.6	1.13	34.67
1.86	165.36	.410E+05	17.2	0.98	39.67
2.30	165.80	.862E+05	31.4	0.85	45.81
2.73	166.24	.152E+06	57.6	0.89	44.08
3.17	166.67	.232E+06	95.3	0.96	40.57
3.61	167.11	.317E+06	144.7	1.07	36.56
4.05	167.55	.407E+06	204.0	1.18	33.22
4.49	167.99	.500E+06	272.8	1.28	30.53
4.93	168.43	.598E+06	346.1	1.36	28.78
5.37	168.87	.702E+06	429.2	1.43	27.27
5.81	169.31	.813E+06	527.3	1.52	25.69
6.24	169.74	.927E+06	637.5	1.61	24.23
6.68	170.18	.104E+07	757.3	1.70	22.98
7.12	170.62	.117E+07	886.9	1.78	21.91
7.56	171.06	.129E+07	1023.7	1.86	21.01
8.00	171.50	.142E+07	1156.8	1.91	20.48

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2431)	8940.76	67.70	8.50	31.14	2.85	0.91
OUTFLOW: ID= 1 (5213)	8940.76	66.77	8.75	31.14	2.84	0.90

CALIB	
STANDHYD (0213)	Area (ha)= 101.69
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.85	50.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.80
Length	(m)=	823.37	40.00

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	20.77
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW (cms)=		4.06	1.47 5.127 (iii)
TIME TO PEAK (hrs)=		5.25	6.00 5.25
RUNOFF VOLUME (mm)=		61.71	34.45 48.08
TOTAL RAINFALL (mm)=		62.71	62.71 62.71
RUNOFF COEFFICIENT =		0.98	0.55 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2213)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0213):	101.69	5.127	5.25	48.08
+ ID2= 2 (5213):	8940.76	66.767	8.75	31.14
ID = 3 (2213):	9042.45	67.405	8.75	31.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0559)	Area (ha)= 35.17
ID= 1 DT=15.0 min	Total Imp(%)= 49.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.23	17.94
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	484.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	29.94
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	50.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW (cms)=		1.07	0.91 1.891 (iii)
TIME TO PEAK (hrs)=		5.25	5.50 5.25
RUNOFF VOLUME (mm)=		61.71	42.73 49.94
TOTAL RAINFALL (mm)=		62.71	62.71 62.71
RUNOFF COEFFICIENT =		0.98	0.68 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

```
          CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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ADD HYD (2561)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0559):	35.17	1.891	5.25	49.94
	+ ID2= 2 (9561):	1.37	0.363	5.25	51.53
	ID = 3 (2561):	36.54	2.254	5.25	50.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9105)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		36.54	2.25	5.25	50.00
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		36.54	2.25	5.25	50.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6105)		OUTFLOW	STORAGE		OUTFLOW	STORAGE
IN= 2---> OUT= 1						
DT= 15.0 min		(cms)	(ha.m.)		(cms)	(ha.m.)
		0.0000	0.0000		0.6400	0.3000
		0.0990	0.0030		0.8600	0.4700
		0.2100	0.0050		1.3200	0.7100
		0.3400	0.0100		1.9000	0.9500
		0.4600	0.0330		2.5600	1.2000
		0.5600	0.1330		3.2000	1.4500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9105)	36.539	2.254	5.25	50.00
OUTFLOW: ID= 1 (6105)	36.539	0.974	6.25	50.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.21
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.5304

ADD HYD (4105)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

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*** W A R N I N G :  HYDROGRAPH 9105 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
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		AREA	QPEAK	TPEAK	R.V.
ID1= 1 (6105):		36.54	0.974	6.25	50.00
+ ID2= 2 (9105):		0.00	0.000	0.00	0.00
ID = 3 (4105):		36.54	0.974	6.25	50.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	3.04	
ID= 1 DT=15.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.73	2.31
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	142.36	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.54
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	22.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.06	0.11	0.167 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	32.19	39.27
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.51	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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DUHYD (9470)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		3.04	0.17	5.25	39.27
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		3.04	0.17	5.25	39.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6470)		OUTFLOW	STORAGE		OUTFLOW	STORAGE
IN= 2---> OUT= 1						
DT= 15.0 min		(cms)	(ha.m.)		(cms)	(ha.m.)
		0.0000	0.0000		0.0190	0.1800
		0.0110	0.0490		0.4930	0.2300
		0.0160	0.1130		2.4340	0.3150

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9470)	3.040	0.167	5.25	39.27
OUTFLOW: ID= 1 (6470)	3.040	0.014	8.50	38.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.57
TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 0.0918

ADD HYD (4470)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

```
*** W A R N I N G :  HYDROGRAPH 9470 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
```

	ID1= 1 (6470):	3.04	0.014	8.50	38.90
	+ ID2= 2 (9470):	0.00	0.000	0.00	0.00
	ID = 3 (4470):	3.04	0.014	8.50	38.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2568)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (4105):	36.54	0.974	6.25	50.00
	+ ID2= 2 (4470):	3.04	0.014	8.50	38.90
	ID = 3 (2568):	39.58	0.987	6.25	49.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	3.77	
ID= 1 DT=15.0 min	Total Imp(%)=	49.00	Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.85	1.92
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	158.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	23.41
over (min)		15.00	30.00
Storage Coeff. (min)=		4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.15	0.10	0.247 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	39.65	50.46
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.63	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

DUHYD (9471)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		3.77	0.25	5.25	50.46
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		3.77	0.25	5.25	50.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6471)		OUTFLOW	STORAGE		OUTFLOW	STORAGE
IN= 2---> OUT= 1						
DT= 15.0 min		(cms)	(ha.m.)		(cms)	(ha.m.)
		0.0000	0.0000		0.0110	0.1460
		0.0050	0.0110		0.1620	0.1660
		0.0090	0.0690		0.9650	0.2080

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9471)	3.770	0.247	5.25	50.46
OUTFLOW: ID= 1 (6471)	3.770	0.038	7.50	50.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.38
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 0.1498

ADD HYD (4471)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

```
*** W A R N I N G :  HYDROGRAPH 9471 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
```

	ID1= 1 (6471):	3.77	0.038	7.50	50.32
	+ ID2= 2 (9471):	0.00	0.000	0.00	0.00
	ID = 3 (4471):	3.77	0.038	7.50	50.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2605)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3					

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2568):	39.58	0.987	6.25	49.15
+ ID2= 2 (4471):	3.77	0.038	7.50	50.32
ID = 3 (2605):	43.35	0.998	6.25	49.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 128.50		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.83	70.68
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	925.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	21.41
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	4.59 1.86 5.663 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	61.71 35.66 47.38
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.98 0.57 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 3.04		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.37	1.67
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	142.36	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	21.41
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	0.11 0.04 0.134 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	61.71 35.66 47.37

TOTAL RAINFALL (mm)=	62.71	62.71		62.71
RUNOFF COEFFICIENT =	0.98	0.57		0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 24.00		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.80	13.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	400.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	21.41
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	0.86 0.35 1.058 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	61.71 35.66 47.38
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.98 0.57 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0390)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):	24.00	1.058	5.25	47.38
+ ID2= 2 (****):	3.04	0.134	5.25	47.37
ID = 3 (0390):	27.04	1.192	5.25	47.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0391)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)

ID1= 1 (0390):	27.04	1.192	5.25	47.38
+ ID2= 2 (****):	128.50	5.663	5.25	47.38
ID = 3 (0391):	155.54	6.855	5.25	47.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2603)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0391):	155.54	6.855	5.25	47.38
+ ID2= 2 (2605):	43.35	0.998	6.25	49.25
ID = 3 (2603):	198.89	7.617	5.25	47.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9961)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=****	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	198.89	7.62	5.25	47.79
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	198.89	7.62	5.25	47.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6961)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	5.7000	4.8500
	1.6000	3.9500	6.2000	5.1400
	3.4000	4.2400	7.2000	5.6300
	4.2000	4.4000	23.4500	7.4400

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9961)	198.889	7.617	5.25	47.79
OUTFLOW: ID= 1 (6961)	198.889	3.776	6.75	47.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.58
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 4.3197

ADD HYD (4961)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)

*** W A R N I N G : HYDROGRAPH 9961 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6961):	198.89	3.776	6.75	47.78
+ ID2= 2 (9961):	0.00	0.000	0.00	0.00
ID = 3 (4961):	198.89	3.776	6.75	47.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5602)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5602.0) ------>

Distance	Elevation	Manning	
0.00	188.36	0.1110	
46.99	187.30	0.1110	
162.32	186.72	0.1110	
234.98	185.20	0.1110	
249.46	183.65	0.1110 /0.0490	Main Channel
254.33	182.64	0.0490	Main Channel
258.04	183.49	0.0490	Main Channel
258.31	183.51	0.0490	Main Channel
262.53	182.77	0.0490	Main Channel
262.63	182.75	0.0490	Main Channel
267.86	183.52	0.0490 /0.1110	Main Channel
270.83	183.61	0.1110	
286.95	183.40	0.1110	
289.09	183.46	0.1110	
298.71	185.52	0.1110	
325.92	186.31	0.1110	
406.09	185.45	0.1110	
529.18	187.66	0.1110	
556.31	187.61	0.1110	
804.52	190.22	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.29	182.93	.360E+03	0.3	0.50	19.84
0.59	183.23	.179E+04	2.5	0.84	11.80
0.88	183.52	.478E+04	8.3	1.03	9.61
1.18	183.82	.119E+05	23.5	1.18	8.45
1.49	184.13	.200E+05	46.9	1.40	7.12
1.79	184.43	.289E+05	77.4	1.60	6.23
2.09	184.73	.386E+05	114.7	1.77	5.61
2.39	185.03	.490E+05	158.8	1.93	5.15
2.70	185.34	.604E+05	208.1	2.05	4.84
3.00	185.64	.761E+05	241.2	1.89	5.26
3.30	185.94	.103E+06	300.5	1.73	5.74
3.60	186.24	.143E+06	390.6	1.63	6.12
3.90	186.54	.194E+06	522.2	1.61	6.19
4.21	186.85	.251E+06	675.9	1.61	6.19
4.51	187.15	.321E+06	859.4	1.60	6.22
4.81	187.45	.403E+06	1099.0	1.63	6.11
5.11	187.75	.494E+06	1347.8	1.63	6.11
5.42	188.06	.596E+06	1679.2	1.68	5.92
5.72	188.36	.706E+06	2056.8	1.74	5.72

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (4961)	198.89	3.78	6.75	47.78	0.65	0.88
OUTFLOW: ID= 1 (5602)	198.89	3.77	7.00	47.78	0.65	0.88

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--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0602)   |   Area    (ha)=  42.99
|ID= 1 DT=15.0 min   |   Total Imp(%)=  67.00   Dir. Conn.(%)=  67.00
--------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      28.80        14.19
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.90
     Length            (m)=     535.35        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        24.09
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   52.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.31         0.54          2.725 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      61.71        41.12         54.91
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.66          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2602)   |
|   1 +  2 =  3      |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0602):    42.99   2.725     5.25    54.91
     + ID2= 2 (5602):   198.89   3.767     7.00    47.78
       ================================================
       ID = 3 (2602):   241.88   4.447     7.00    49.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5271)   |
| IN= 2---> OUT= 1   |     Routing time step (min)'= 15.00
--------------------
              <----- DATA FOR SECTION (5271.0) ------>
             Distance      Elevation       Manning
                0.00         187.00        0.1110
                3.39         183.79        0.1110
               10.53         183.00        0.1110
               21.75         182.99        0.1110
               23.53         182.68    0.1110 /0.0490  Main Channel
               33.07         181.08        0.0490      Main Channel
               41.98         183.10    0.0490 /0.1110  Main Channel
               44.71         183.70        0.1110
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                62.12         184.09        0.1110
                77.77         183.81        0.1110
               120.17         183.78        0.1110
               169.07         183.98        0.1110
               228.74         185.84        0.1110
               358.41         186.79        0.1110
               420.15         186.79        0.1110
               448.98         187.02        0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.27   181.35    .272E+03       0.1         0.36      33.75
       0.53   181.61    .109E+04       0.9         0.58      21.26
       0.80   181.88    .245E+04       2.5         0.76      16.23
       1.07   182.15    .436E+04       5.4         0.92      13.39
       1.33   182.41    .681E+04       9.8         1.07      11.54
       1.60   182.68    .980E+04      16.0         1.20      10.22
       1.93   183.01    .144E+05      27.6         1.41       8.73
       2.26   183.34    .226E+05      44.8         1.46       8.42
       2.60   183.68    .319E+05      67.2         1.55       7.92
       2.93   184.01    .558E+05      97.7         1.29       9.52
       3.26   184.34    .978E+05     149.0         1.12      10.95
       3.59   184.67    .143E+06     217.6         1.12      10.94
       3.93   185.01    .190E+06     301.7         1.17      10.52
       4.26   185.34    .241E+06     400.7         1.23      10.02
       4.59   185.67    .294E+06     514.3         1.29       9.53
       4.92   186.00    .351E+06     627.2         1.32       9.32
       5.26   186.34    .418E+06     746.8         1.32       9.32
       5.59   186.67    .496E+06     891.5         1.33       9.27
       5.92   187.00    .594E+06    1023.1         1.27       9.68

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2602)  241.88     4.45    7.00  49.05      0.98      0.86
     OUTFLOW: ID= 1 (5271)  241.88     4.41    7.25  49.05      0.97      0.85


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--------------------
| CALIB              |
| STANDHYD  (0271)   |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min   |   Total Imp(%)=  40.00   Dir. Conn.(%)=  40.00
--------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.03        10.55
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.70
     Length            (m)=     342.34        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        21.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   34.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.56         0.44          0.998 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      61.71        35.66         46.08
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.57          0.73
```



```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2271)   |
|   1 +  2 =  3      |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0271):    17.58   0.998     5.25    46.08
     + ID2= 2 (5271):   241.88   4.405     7.25    49.05
       ================================================
       ID = 3 (2271):   259.46   4.628     7.25    48.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| STANDHYD  (****)   |   Area    (ha)= 198.33
|ID= 1 DT=15.0 min   |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     113.05        85.28
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.10
     Length            (m)=    1149.87        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        24.78
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.98         2.71         10.641 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        42.66         53.52
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.68          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****)   |   Area    (ha)=  35.00
|ID= 1 DT=15.0 min   |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.75         5.25
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```
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.10
     Length            (m)=     483.05        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        24.78
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.36         0.17          2.466 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        42.66         58.85
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.68          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (****)   |
| Inlet Cap.=*****   |
| #of Inlets=    1   |
| Total(cms)=*****   |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  35.00      2.47      5.25   58.85
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  35.00      2.47      5.25   58.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (****)   |
| IN= 2---> OUT= 1   |
| DT= 15.0 min       |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.2800     1.3790
                          0.3900     0.0010   |   1.3400     1.7290
                          0.8700     0.1580   |   1.4700     2.5690
                          1.0600     0.4640   |   5.1200     2.6000
                          1.2300     1.0530   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     35.000     2.466     5.25       58.85
     OUTFLOW: ID= 1 (****)     35.000     1.095     5.75       58.85

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.42
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.5899

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| ADD HYD   (****) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    35.00   1.095     5.75    58.85
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (****):    35.00   1.095     5.75    58.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  17.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.54          2.56
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.10
     Length            (m)=     337.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         24.78
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.80 (ii)    81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.15          0.08          1.205 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71         42.66         58.85
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.98          0.68          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  17.10      1.20      5.25   58.85
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  17.10      1.20      5.25   58.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (****) |
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| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.6300      0.6750
                         0.1900     0.0610   |  0.6600      0.8460
                         0.4200     0.0770   |  0.7200      1.2570
                         0.5200     0.2270   |  2.5000      1.3000
                         0.6000     0.5150   |  0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     17.100     1.205     5.25      58.85
     OUTFLOW: ID= 1 (****)     17.100     0.543     5.75      58.85

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 45.05
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3108

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| ADD HYD   (****) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    17.10   0.543     5.75    58.85
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (****):    17.10   0.543     5.75    58.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    35.00   1.095     5.75    58.85
      + ID2= 2 (****):    17.10   0.543     5.75    58.85
        ================================================
        ID = 3 (****):    52.10   1.638     5.75    58.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  16.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.69          2.41
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.10
     Length            (m)=     327.62         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         24.78
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.80 (ii)    81.60 (ii)
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     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.09          0.08          1.134 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71         42.66         58.85
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.98          0.68          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  16.10      1.13      5.25   58.85
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  16.10      1.13      5.25   58.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.5900      0.6350
                         0.1800     0.0610   |  0.6200      0.7960
                         0.4000     0.0730   |  0.6800      1.1820
                         0.4900     0.2140   |  2.3600      1.2000
                         0.5600     0.4850   |  0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     16.100     1.134     5.25      58.85
     OUTFLOW: ID= 1 (****)     16.100     0.510     5.75      58.85

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.95
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2926

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    16.10   0.510     5.75    58.85
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
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        ================================================
        ID = 3 (****):    16.10   0.510     5.75    58.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    52.10   1.638     5.75    58.85
      + ID2= 2 (****):    16.10   0.510     5.75    58.85
        ================================================
        ID = 3 (****):    68.20   2.148     5.75    58.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  37.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.45          5.55
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.10
     Length            (m)=     496.66         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         24.78
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.80 (ii)    81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.50          0.18          2.607 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71         42.66         58.85
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.98          0.68          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  37.00      2.61      5.25   58.85
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  37.00      2.61      5.25   58.85
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)						
IN= 2---> OUT= 1						
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		1.3600	1.4580
	0.4100	0.0010		1.4200	1.8280
	0.9200	0.1670		1.5600	2.7160
	1.1200	0.4910		5.4000	2.8000
	1.3000	1.1140		0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	37.000	2.607	5.25	58.85
OUTFLOW: ID= 1 (****)	37.000	1.157	5.75	58.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.40
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.6239

ADD HYD (****)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (****):	37.00	1.157	5.75	58.86	
+ ID2= 2 (****):	0.00	0.000	0.00	0.00	
ID = 3 (****):	37.00	1.157	5.75	58.86	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	68.20	2.148	5.75	58.85
+ ID2= 2 (****):	37.00	1.157	5.75	58.86
ID = 3 (****):	105.20	3.305	5.75	58.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (****)	Area (ha)= 17.40	
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	14.79	2.61
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	340.59	40.00

Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	24.78
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	1.18	0.08 1.226 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	61.71	42.66 58.85
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.68 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	17.40	1.23	5.25	58.85
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	17.40	1.23	5.25	58.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)						
IN= 2---> OUT= 1						
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		0.6300	0.6750
	0.1900	0.0610		0.6600	0.8460
	0.4200	0.0770		0.7200	1.2570
	0.5200	0.2270		2.5500	1.3000
	0.6000	0.5150		0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.400	1.226	5.25	58.85
OUTFLOW: ID= 1 (****)	17.400	0.545	5.75	58.85

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.45
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.3186

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.						
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001						
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001						
ID1= 1 (****):	17.40	0.545	5.75	58.85		
+ ID2= 2 (****):	0.00	0.000	0.00	0.00		
ID = 3 (****):	17.40	0.545	5.75	58.85		

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0218)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	105.20	3.305	5.75	58.85
+ ID2= 2 (****):	17.40	0.545	5.75	58.85
ID = 3 (0218):	122.60	3.850	5.75	58.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0218):	122.60	3.850	5.75	58.85
+ ID2= 2 (****):	198.33	10.641	5.25	53.52
ID = 3 (****):	320.93	14.408	5.25	55.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9962)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	320.93	14.41	5.25	55.56
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	320.93	14.41	5.25	55.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6962)						
IN= 2---> OUT= 1						
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		8.8300	5.8290
	0.7800	0.0930		14.9900	7.2690
	3.3000	1.1140		22.7900	8.7080
	4.6600	3.2000		28.8000	10.2730
	5.2100	4.5150		31.2000	11.8370

	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9962)	320.930	14.408	5.25	55.56
OUTFLOW: ID= 1 (6962)	320.930	7.813	6.75	55.56

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.23
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 5.4689

ADD HYD (4962)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G : HYDROGRAPH 9962 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (6962):	320.93	7.813	6.75	55.56	
+ ID2= 2 (9962):	0.00	0.000	0.00	0.00	
ID = 3 (4962):	320.93	7.813	6.75	55.56	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1273)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2271):	259.46	4.628	7.25	48.85
+ ID2= 2 (4962):	320.93	7.813	6.75	55.56
ID = 3 (1273):	580.39	12.349	7.00	52.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5273)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5273.0) ------>

Distance	Elevation	Manning	
0.00	179.99	0.1110	
18.34	178.57	0.1110	
55.29	178.07	0.1110	
114.00	177.92	0.1110	
155.06	177.41	0.1110	
161.65	174.89	0.1110 /0.0490	Main Channel
164.66	174.75	0.0490	Main Channel
167.51	174.61	0.0490 /0.1110	Main Channel
169.36	174.72	0.1110	
179.42	177.94	0.1110	
271.83	179.31	0.1110	
298.09	178.85	0.1110	
325.92	179.14	0.1110	
444.55	179.57	0.1110	
496.32	180.68	0.1110	
506.76	181.27	0.1110	
526.42	185.07	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	174.89	.871E+03	0.7	0.51	21.75
0.57	175.18	.260E+04	3.9	1.01	11.13
0.85	175.46	.463E+04	9.2	1.34	8.38
1.13	175.74	.697E+04	16.5	1.59	7.05
1.42	176.03	.963E+04	25.7	1.79	6.25
1.70	176.31	.126E+05	36.8	1.96	5.70
1.98	176.59	.159E+05	49.9	2.11	5.30
2.27	176.88	.194E+05	65.0	2.24	4.99
2.55	177.16	.233E+05	82.1	2.36	4.74
2.83	177.44	.275E+05	99.6	2.43	4.61
3.11	177.72	.346E+05	118.3	2.29	4.88
3.40	178.01	.471E+05	137.4	1.96	5.71
3.68	178.29	.741E+05	173.1	1.57	7.13
3.96	178.57	.109E+06	235.8	1.45	7.71
4.25	178.86	.150E+06	326.1	1.46	7.67
4.53	179.14	.200E+06	429.3	1.44	7.75
4.81	179.42	.266E+06	565.0	1.43	7.85
5.10	179.71	.348E+06	760.3	1.47	7.63
5.38	179.99	.435E+06	1005.3	1.55	7.21

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1273)	580.39	12.35	7.00	52.56	0.97	1.43
OUTFLOW: ID= 1 (5273)	580.39	12.32	7.00	52.56	0.97	1.43

CALIB	
STANDHYD (0273)	Area (ha)= 25.66
ID= 1 DT=15.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 65.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.68	8.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	413.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	24.78
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.34	0.42	1.720 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	42.66	55.04
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.68	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2273)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0273):	25.66	1.720	5.25	55.04
	+ ID2= 2 (5273):	580.39	12.318	7.00	52.56
	ID = 3 (2273):	606.05	12.695	7.00	52.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0272)	Area (ha)= 42.09
ID= 1 DT=15.0 min	Total Imp(%)= 78.00 Dir. Conn.(%)= 78.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.83	9.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.70
Length	(m)=	529.72	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	26.14
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.62	0.37	2.915 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	61.71	46.01	58.25
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.73	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2272)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0272):	42.09	2.915	5.25	58.25
	+ ID2= 2 (2273):	606.05	12.695	7.00	52.66
	ID = 3 (2272):	648.14	13.704	5.25	53.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5260)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5260.0) ------>

Distance	Elevation	Manning	
0.00	175.32	0.1110	
51.36	174.58	0.1110	
87.35	174.75	0.1110	
122.73	174.10	0.1110	
131.56	174.13	0.1110	
202.82	173.44	0.1110	
276.03	173.59	0.1110	
349.20	172.56	0.1110	
376.00	173.21	0.1110	
384.10	170.08	0.1110 /0.0490	Main Channel
390.86	169.74	0.0490	Main Channel
394.42	170.00	0.0490 /0.1110	Main Channel
398.31	170.30	0.1110	
402.54	173.35	0.1110	
447.19	173.02	0.1110	
550.72	173.46	0.1110	
592.93	173.28	0.1110	
680.14	173.52	0.1110	
753.95	175.23	0.1110	
784.10	175.41	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	171.00	.960E+03	0.4	0.39	36.34
0.54	170.28	.382E+04	3.3	0.72	19.54
0.82	170.56	.743E+04	8.5	0.97	14.53
1.10	170.84	.113E+05	15.8	1.18	11.94
1.38	171.12	.155E+05	24.9	1.36	10.36
1.66	171.40	.199E+05	35.7	1.52	9.28
1.94	171.68	.245E+05	48.1	1.66	8.49
2.22	171.96	.295E+05	62.2	1.79	7.89
2.50	172.24	.346E+05	77.9	1.90	7.41
2.78	172.52	.401E+05	95.2	2.01	7.02
3.06	172.80	.486E+05	111.1	1.93	7.29
3.34	173.08	.652E+05	125.2	1.62	8.68
3.62	173.36	.108E+06	156.2	1.23	11.50
3.90	173.64	.206E+06	216.9	0.89	15.81
4.18	173.92	.330E+06	333.6	0.86	16.48
4.46	174.20	.464E+06	483.8	0.88	15.99
4.74	174.48	.608E+06	675.3	0.94	15.00
5.02	174.76	.761E+06	877.5	0.97	14.46
5.30	175.04	.930E+06	1142.6	1.04	13.56

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2272)	648.14	13.70	5.25	53.03	1.02	1.11
OUTFLOW: ID= 1 (5260)	648.14	13.31	7.25	53.03	1.00	1.10

CALIB	
STANDHYD (0260)	Area (ha)= 60.94
ID= 1 DT=15.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	45.70	15.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60

Length	(m)=	637.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	25.47
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.66	0.60	4.117 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	61.71	44.29	57.35
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.71	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0260):	60.94	4.117	5.25	57.35
	+ ID2= 2 (5260):	648.14	13.308	7.25	53.03
	ID = 3 (2260):	709.08	17.034	5.25	53.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0643)	Area (ha)= 7.16
ID= 1 DT=15.0 min	Total Imp(%)= 48.00 Dir. Conn.(%)= 48.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.44	3.72
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	11.00
Length	(m)=	218.48	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	23.41
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.28	0.22	0.493 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	39.65	50.24
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.63	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9472)	Inlet Cap.=*****	#of Inlets= 1	Total(cms)=*****		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):					7.16	0.49	5.25	50.24
MAJOR SYS.(ID= 2):					0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):					7.16	0.49	5.25	50.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6472)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.3490	0.9110
			0.0190	0.1220	0.4450	0.9620
			0.0270	0.2490	1.0700	1.0670
			0.1280	0.5180	2.6100	1.2280
			0.2430	0.7100	4.0000	1.3380

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9472)	7.160	0.493	5.25	50.24
OUTFLOW: ID= 1 (6472)	7.160	0.042	8.25	50.01

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.51
TIME SHIFT OF PEAK FLOW (min)=180.00
MAXIMUM STORAGE USED (ha.m.)= 0.2892

ADD HYD (4472)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9472 <ID= 2> IS DRY.						
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001						
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001						
	ID1= 1 (6472):		7.16	0.042	8.25	50.01
	+ ID2= 2 (9472):		0.00	0.000	0.00	0.00
	ID = 3 (4472):		7.16	0.042	8.25	50.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 76.38	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	18.33	58.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	713.58	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	1.46	1.43 2.277 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	61.71	31.13 38.47
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.50 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 2.24	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.54	1.70
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	122.20	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	0.04	0.04 0.067 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	61.71	31.13 38.45
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.50 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 84.89	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.37	64.52
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	752.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	1.63	1.58 2.531 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	61.71	31.13 38.47
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.50 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0380)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (****):		84.89	2.531	5.25	38.47
	+ ID2= 2 (****):		2.24	0.067	5.25	38.45
	ID = 3 (0380):		87.13	2.597	5.25	38.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0381)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0380):		87.13	2.597	5.25	38.47
	+ ID2= 2 (****):		76.38	2.277	5.25	38.47
	ID = 3 (0381):		163.51	4.874	5.25	38.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2251)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0381):		163.51	4.874	5.25	38.47

+ ID2= 2 (4472):			7.16	0.042	8.25	50.01
ID = 3 (2251):			170.67	4.897	5.25	38.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0709)	ID= 1 DT=15.0 min	Area (ha)= 7.69	Total Imp(%)= 4.00	Dir. Conn.(%)= 4.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	7.38
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	226.42	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	16.77
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	33.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.02	0.23 0.253 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	61.71	27.31 28.68
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.44 0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9219)	Inlet Cap.=*****	#of Inlets= 1	Total(cms)=*****		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):					7.69	0.25	5.25	28.68
MAJOR SYS.(ID= 2):					0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):					7.69	0.25	5.25	28.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6219)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.5000	0.0350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9219)	7.690	0.253	5.25	28.68
OUTFLOW: ID= 1 (6219)	7.690	0.240	5.50	28.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 94.66
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0169

ADD HYD (4219)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9219 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6219):	7.69	0.240	5.50	28.68
+ ID2= 2 (9219):	0.00	0.000	0.00	0.00
ID = 3 (4219):	7.69	0.240	5.50	28.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 40.11
ID= 1 DT=15.0 min | Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	14.44	25.67
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	517.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.77
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	1.15	0.74	1.691 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	61.71	34.45	44.26
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.55	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 1.17
ID= 1 DT=15.0 min | Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.42	0.75
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	88.32	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.77
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	0.03	0.02	0.049 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	61.71	34.45	44.23
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.55	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0371)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	40.11	1.691	5.25	44.26
+ ID2= 2 (****):	1.17	0.049	5.25	44.23
ID = 3 (0371):	41.28	1.740	5.25	44.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 70.33
ID= 1 DT=15.0 min | Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.32	45.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	684.74	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.77
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	2.02	1.30	2.965 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	61.71	34.45	44.26

TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.55	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0377)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0371):	41.28	1.740	5.25	44.26
+ ID2= 2 (****):	70.33	2.965	5.25	44.26
ID = 3 (0377):	111.61	4.705	5.25	44.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2248)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0377):	111.61	4.705	5.25	44.26
+ ID2= 2 (4219):	7.69	0.240	5.50	28.68
ID = 3 (2248):	119.30	4.917	5.25	43.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1252)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2248):	119.30	4.917	5.25	43.26
+ ID2= 2 (2251):	170.67	4.897	5.25	38.95
ID = 3 (1252):	289.97	9.814	5.25	40.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0252) | Area (ha)= 58.15
ID= 1 DT=15.0 min | Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	44.19	13.96
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.60
Length (m)=	622.63	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	25.47
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	69.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	3.53	0.50	3.842 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	61.71	44.29	57.53
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.71	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2252)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):	58.15	3.842	5.25	57.53
+ ID2= 2 (1252):	289.97	9.814	5.25	40.72
ID = 3 (2252):	348.12	13.656	5.25	43.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1261)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2252):	348.12	13.656	5.25	43.53
+ ID2= 2 (2260):	709.08	17.034	5.25	53.40
ID = 3 (1261):	1057.20	30.690	5.25	50.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0261) | Area (ha)= 53.92
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	45.83	8.09
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	599.56	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	26.79
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00

```
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                             *TOTALS*
     PEAK FLOW       (cms)=       3.66          0.34          3.932 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME    (mm)=      61.71         47.82          59.63
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.76           0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  95.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (1256) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0261):    53.92   3.932     5.25    59.63
        + ID2= 2 (1261):  1057.20  30.690     5.25    50.15
          ===============================================
          ID = 3 (1256):  1111.12  34.622     5.25    50.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5256) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5256.0) ------>
               Distance      Elevation       Manning
                   0.00        169.02         0.1110
                  20.27        168.76         0.1110
                  52.65        169.09         0.1110
                  62.64        168.83         0.1110
                  71.51        165.89         0.1110
                  80.77        164.57         0.1110
                  89.62        164.27     0.1110 /0.0490  Main Channel
                  90.94        164.26         0.0490      Main Channel
                  95.82        164.32         0.0490      Main Channel
                 100.45        164.36     0.0490 /0.1110  Main Channel
                 108.74        168.86         0.1110
                 132.94        169.64         0.1110
                 157.62        169.90         0.1110

       <-------------------- TRAVEL TIME TABLE --------------------->
        DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.01   164.27    .329E+01       0.0          0.07      75.11
        0.26   164.52    .997E+03       2.1          0.66       7.75
        0.51   164.77    .258E+04       8.6          1.02       5.02
        0.76   165.02    .435E+04      18.4          1.31       3.93
        1.01   165.27    .629E+04      31.4          1.54       3.34
        1.26   165.52    .840E+04      47.4          1.74       2.95
        1.51   165.77    .107E+05      66.3          1.91       2.68
        1.76   166.02    .131E+05      88.5          2.08       2.47
        2.01   166.27    .157E+05     113.9          2.24       2.29
        2.26   166.52    .183E+05     142.1          2.39       2.15
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        2.51   166.77    .210E+05     173.0          2.54       2.02
        2.76   167.02    .238E+05     206.6          2.67       1.92
        3.01   167.27    .268E+05     242.9          2.80       1.84
        3.26   167.52    .298E+05     281.9          2.92       1.76
        3.51   167.77    .329E+05     323.6          3.03       1.69
        3.76   168.02    .361E+05     367.9          3.14       1.63
        4.01   168.27    .393E+05     414.8          3.25       1.58
        4.26   168.52    .427E+05     464.5          3.35       1.53
        4.51   168.77    .462E+05     509.4          3.40       1.51

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1256) 1111.12    34.62    5.25  50.61      1.06      1.57
     OUTFLOW: ID= 1 (5256) 1111.12    34.25    5.25  50.61      1.05      1.57


-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0256) |   Area    (ha)=  20.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  77.00   Dir. Conn.(%)=  77.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.94          4.76
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.80
     Length            (m)=     371.48         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         26.14
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       7.20 (ii)    43.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                             *TOTALS*
     PEAK FLOW       (cms)=       1.28          0.23          1.490 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      61.71         46.01          58.10
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.73           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2256) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0256):    20.70   1.490     5.25    58.10
        + ID2= 2 (5256):  1111.12  34.254     5.25    50.61
          ===============================================
          ID = 3 (2256):  1131.82  35.744     5.25    50.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 116.17
|ID= 1 DT=15.0 min |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      85.97         30.20
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          1.60
     Length            (m)=     880.04         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         25.47
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      14.40 (ii)    85.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         90.00
     Unit Hyd. peak  (cms)=       0.07          0.01
                                                             *TOTALS*
     PEAK FLOW       (cms)=       6.82          0.96          7.324 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.25           5.25
     RUNOFF VOLUME    (mm)=      61.71         44.29          57.18
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.71           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.08          0.03
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          1.60
     Length            (m)=      27.08         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         25.47
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      14.40 (ii)    85.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         90.00
     Unit Hyd. peak  (cms)=       0.07          0.01
                                                             *TOTALS*
     PEAK FLOW       (cms)=       0.01          0.00          0.007 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.25           5.25
     RUNOFF VOLUME    (mm)=      61.71         44.29          56.78
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.71           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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```
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0367) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):   116.17   7.324     5.25    57.18
        + ID2= 2 (****):     0.11   0.007     5.25    56.78
          ===============================================
          ID = 3 (0367):   116.28   7.331     5.25    57.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1247) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0367):   116.28   7.331     5.25    57.18
        + ID2= 2 (2256):  1131.82  35.744     5.25    50.75
          ===============================================
          ID = 3 (1247):  1248.10  43.074     5.25    51.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5247) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5247.0) ------>
               Distance      Elevation       Manning
                   0.00        164.49         0.1110
                  96.53        159.50         0.1110
                  96.60        159.50         0.1110
                  98.32        159.15         0.1110
                  99.07        159.00     0.1110 /0.0490  Main Channel
                 101.36        158.57         0.0490      Main Channel
                 101.75        158.00         0.0490      Main Channel
                 102.83        158.00         0.0490      Main Channel
                 104.82        158.00         0.0490      Main Channel
                 105.65        158.66         0.0490      Main Channel
                 107.41        159.00     0.0490 /0.1110  Main Channel
                 109.23        159.35         0.1110
                 110.01        159.50         0.1110
                 111.19        159.56         0.1110
                 111.57        159.58         0.1110
                 121.33        160.00         0.1110
                 148.53        160.00         0.1110
                 158.08        161.00         0.1110
                 169.93        164.43         0.1110

       <-------------------- TRAVEL TIME TABLE --------------------->
        DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.33   158.33    .750E+03       0.9          0.78      14.16
        0.67   158.67    .166E+04       2.7          1.09      10.15
        1.00   159.00    .311E+04       5.5          1.18       9.36
        1.34   159.34    .538E+04      12.3          1.52       7.28
```

1.68	159.68	.874E+04	21.6	1.64	6.76
2.02	160.02	.154E+05	34.0	1.46	7.54
2.36	160.36	.305E+05	57.4	1.25	8.85
2.70	160.70	.478E+05	90.5	1.26	8.79
3.04	161.04	.673E+05	133.4	1.31	8.40
3.38	161.38	.887E+05	186.9	1.40	7.91
3.71	161.71	.112E+06	250.3	1.48	7.45
4.05	162.05	.137E+06	323.8	1.57	7.04
4.39	162.39	.163E+06	407.4	1.65	6.68
4.73	162.73	.192E+06	501.6	1.73	6.37
5.07	163.07	.222E+06	606.4	1.81	6.10
5.41	163.41	.254E+06	722.2	1.89	5.86
5.75	163.75	.287E+06	849.3	1.96	5.64
6.09	164.09	.323E+06	987.9	2.03	5.45
6.43	164.43	.360E+06	1138.4	2.10	5.27

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1247)	1248.10	43.07	5.25	51.34	2.15	1.37
OUTFLOW: ID= 1 (5247)	1248.10	40.46	5.25	51.34	2.12	1.40

CALIB	
STANDHYD (0247)	Area (ha)= 38.02
ID= 1 DT=15.0 min	Total Imp(%)= 64.00 Dir. Conn.(%)= 64.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.33	13.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.50
Length	(m)=	503.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	24.09
over (min)		15.00	30.00
Storage Coeff. (min)	=	7.80 (ii)	45.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	45.00
Unit Hyd. peak (cms)	=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.95	0.58	2.470 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	41.12	54.30
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.66	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2247)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0247):	38.02	2.470	5.25	54.30

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1226) *******	87.18	7.25	33.84		2.51	1.55
OUTFLOW: ID= 1 (5226) *******	86.73	7.50	33.84		2.50	1.56

CALIB	
STANDHYD (0226)	Area (ha)= 128.50
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.25	64.25
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.40
Length	(m)=	925.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	21.41
over (min)		15.00	30.00
Storage Coeff. (min)	=	10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)	=	15.00	60.00
Unit Hyd. peak (cms)	=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	5.13	1.92	6.525 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	61.71	35.66	48.68
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.57	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2226)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0226):	128.50	6.525	5.25	48.68
	+ ID2= 2 (5226):	10328.57	86.731	7.50	33.84
	ID = 3 (2226):	10457.07	88.400	7.25	34.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5237)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5237.0) ------>

Distance	Elevation	Manning
0.00	158.00	0.1110
14.00	155.00	0.1110
15.00	154.50	0.1110
45.00	154.00	0.1110

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (5247):	1248.10	40.464	5.25	51.34
ID = 3 (2247):	1286.12	42.934	5.25	51.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1226)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2213):	9042.45	67.405	8.75	31.33
	+ ID2= 2 (2247):	1286.12	42.934	5.25	51.43
	ID = 3 (1226):	10328.57	87.183	7.25	33.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5226)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5226.0) ------>

Distance	Elevation	Manning	
0.00	167.48	0.1110	
4.33	163.54	0.1110	
26.47	158.00	0.1110	
57.29	157.00	0.1110	
63.27	155.78	0.1110	
63.95	155.50	0.1110 /0.0490	Main Channel
64.81	155.10	0.0490	Main Channel
74.07	155.10	0.0490	Main Channel
75.37	155.50	0.0490 /0.1110	Main Channel
81.00	157.00	0.1110	
137.94	159.50	0.1110	
171.75	168.01	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	155.50	.560E+04	3.0	0.72	31.36
1.03	156.13	.172E+05	16.4	1.29	17.55
1.66	156.76	.334E+05	38.9	1.58	14.28
2.29	157.39	.588E+05	70.0	1.61	14.02
2.92	158.02	.111E+06	119.9	1.46	15.48
3.55	158.65	.185E+06	198.8	1.45	15.52
4.18	159.28	.273E+06	304.3	1.51	14.97
4.81	159.91	.374E+06	443.6	1.61	14.04
5.44	160.54	.479E+06	613.0	1.73	13.02
6.07	161.17	.588E+06	808.3	1.86	12.13
6.71	161.81	.702E+06	1028.8	1.98	11.38
7.34	162.44	.820E+06	1274.3	2.10	10.73
7.97	163.07	.943E+06	1544.4	2.22	10.18
8.60	163.70	.107E+07	1841.5	2.33	9.68
9.23	164.33	.120E+07	2170.2	2.45	9.21
9.86	164.96	.133E+07	2522.8	2.57	8.80
10.49	165.59	.147E+07	2898.9	2.68	8.44
11.12	166.22	.161E+07	3298.4	2.78	8.11
11.75	166.85	.175E+07	3721.0	2.89	7.82

65.00	153.50	0.1110
97.00	153.50	0.1110
101.00	154.00	0.1110
102.00	154.00	0.1110
105.00	153.50	0.1110
120.00	153.00	0.1110
121.00	152.50	0.1110 /0.0490 Main Channel
122.00	151.40	0.0490 Main Channel
134.00	151.40	0.0490 Main Channel
135.00	152.50	0.0490 /0.1110 Main Channel
144.00	153.50	0.1110
146.00	154.00	0.1110
160.00	164.00	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	151.67	.218E+04	1.7	0.51	21.12
0.55	151.95	.446E+04	5.4	0.79	13.63
0.83	152.22	.682E+04	10.7	1.01	10.64
1.10	152.50	.927E+04	17.2	1.20	8.97
1.47	152.87	.131E+05	28.8	1.43	7.56
1.83	153.23	.183E+05	43.3	1.53	7.05
2.20	153.60	.290E+05	61.9	1.39	7.79
2.57	153.97	.497E+05	90.9	1.18	9.12
2.93	154.33	.759E+05	130.0	1.11	9.73
3.30	154.70	.107E+06	183.2	1.11	9.71
3.67	155.07	.138E+06	249.6	1.17	9.23
4.03	155.43	.170E+06	325.8	1.24	8.71
4.40	155.80	.203E+06	411.6	1.31	8.22
4.77	156.17	.236E+06	506.6	1.39	7.77
5.13	156.53	.270E+06	610.4	1.47	7.36
5.50	156.90	.304E+06	722.7	1.54	7.01
5.87	157.27	.339E+06	843.4	1.61	6.69
6.23	157.63	.374E+06	972.3	1.69	6.41
6.60	158.00	.410E+06	1109.3	1.76	6.15

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2226) *******	88.40	7.25	34.02		2.54	1.20
OUTFLOW: ID= 1 (5237) *******	88.15	7.50	34.02		2.53	1.20

CALIB	
STANDHYD (0237)	Area (ha)= 15.48
ID= 1 DT=15.0 min	Total Imp(%)= 25.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	11.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.30
Length	(m)=	321.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	18.38
over (min)		15.00	30.00
Storage Coeff. (min)	=	5.40 (ii)	32.40 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.11	0.04

TOTALS

```
PEAK FLOW      (cms)=       0.31         0.41          0.717 (iii)
TIME TO PEAK   (hrs)=       5.25         5.50           5.25
RUNOFF VOLUME   (mm)=      61.71        30.11          38.01
TOTAL RAINFALL  (mm)=      62.71        62.71          62.71
RUNOFF COEFFICIENT  =       0.98         0.48           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2237) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0237):    15.48   0.717     5.25    38.01
      + ID2= 2 (5237): 10457.07  88.148     7.50    34.02
        ================================================
        ID = 3 (2237): 10472.55  88.289     7.50    34.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0447) |   Area    (ha)= 106.74   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   6.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.58

    Unit Hyd Qpeak  (cms)=   6.969

    PEAK FLOW      (cms)=   3.058 (i)
    TIME TO PEAK   (hrs)=   5.500
    RUNOFF VOLUME   (mm)=  25.273
    TOTAL RAINFALL  (mm)=  62.710
    RUNOFF COEFFICIENT  =   0.403

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (5024) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5024.0) ------>
             Distance      Elevation       Manning
                 0.00         247.19        0.1000
                52.21         246.15        0.1000
                62.95         246.38        0.1000
                94.83         245.47        0.1000
               131.08         245.92        0.1000
               263.16         244.86        0.1000
               320.30         244.93        0.1000
               355.96         243.82        0.1000
               398.49         243.50        0.1000
               420.89         243.19    0.1000 /0.0440  Main Channel
               421.43         243.14        0.0440      Main Channel
               424.25         243.19    0.0440 /0.1000  Main Channel
```



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               502.84         245.16        0.1000
               552.79         245.54        0.1000
               669.65         247.85        0.1000
               770.08         247.29        0.1000
               869.85         249.34        0.1000

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.05   243.19    .204E+03       0.0         0.13      310.61
      0.26   243.40    .796E+04       0.8         0.25      159.47
      0.47   243.61    .287E+05       3.6         0.31      131.52
      0.68   243.82    .673E+05       9.9         0.36      112.91
      0.89   244.03    .119E+06      21.9         0.45       90.72
      1.10   244.24    .178E+06      38.5         0.52       77.32
      1.31   244.45    .246E+06      59.9         0.59       68.34
      1.52   244.66    .321E+06      86.4         0.65       61.83
      1.73   244.87    .403E+06     112.5         0.68       59.76
      1.94   245.08    .527E+06     138.2         0.64       63.51
      2.16   245.30    .673E+06     183.9         0.66       60.98
      2.37   245.51    .846E+06     238.8         0.69       59.06
      2.58   245.72    .105E+07     306.9         0.71       57.14
      2.79   245.93    .129E+07     393.3         0.74       54.65
      3.00   246.14    .155E+07     515.2         0.81       50.02
      3.21   246.35    .182E+07     640.6         0.86       47.28
      3.42   246.56    .210E+07     791.7         0.91       44.30
      3.63   246.77    .240E+07     960.6         0.97       41.68
      3.84   246.98    .271E+07    1145.3         1.03       39.46

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0447)  106.74     3.06    5.50  25.27      0.43      0.29
    OUTFLOW: ID= 1 (5024)  106.74     1.30    6.75  25.26      0.30      0.26

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--------------------
| CALIB            |
| NASHYD    (0024) |   Area    (ha)= 140.14   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.10   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.56

    Unit Hyd Qpeak  (cms)=   9.610

    PEAK FLOW      (cms)=   3.551 (i)
    TIME TO PEAK   (hrs)=   5.500
    RUNOFF VOLUME   (mm)=  22.064
    TOTAL RAINFALL  (mm)=  62.710
    RUNOFF COEFFICIENT  =   0.352

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2024) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0024):   140.14   3.551     5.50    22.06
      + ID2= 2 (5024):   106.74   1.304     6.75    25.26
        ================================================
        ID = 3 (2024):   246.88   4.184     5.50    23.44
```



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    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5045) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5045.0) ------>
             Distance      Elevation       Manning
                 0.00         245.32        0.1000
                48.84         244.35        0.1000
                66.83         244.49        0.1000
                77.60         244.28        0.1000
                92.37         244.53        0.1000
               148.98         243.76        0.1000
               202.60         243.77        0.1000
               250.13         244.20        0.1000
               292.80         243.79        0.1000
               323.01         243.86        0.1000
               373.16         242.22    0.1000 /0.0440  Main Channel
               377.19         242.15        0.0440      Main Channel
               382.31         242.13        0.0440      Main Channel
               387.43         242.26    0.0440 /0.1000  Main Channel
               438.88         244.46        0.1000
               489.19         244.67        0.1000
               537.88         243.99        0.1000
               580.30         244.40        0.1000
               602.74         244.26        0.1000
               764.27         245.55        0.1000

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.09   242.22    .178E+03       0.3         0.43       9.82
      0.25   242.38    .901E+03       3.2         0.90       4.65
      0.42   242.55    .199E+04       9.0         1.14       3.67
      0.58   242.71    .343E+04      17.7         1.29       3.24
      0.74   242.87    .524E+04      29.4         1.41       2.97
      0.91   243.04    .741E+04      44.5         1.51       2.78
      1.07   243.20    .994E+04      63.0         1.59       2.63
      1.23   243.36    .128E+05      85.3         1.67       2.51
      1.40   243.53    .161E+05     111.5         1.74       2.40
      1.56   243.69    .197E+05     141.8         1.81       2.31
      1.72   243.85    .252E+05     158.6         1.58       2.65
      1.88   244.01    .348E+05     205.5         1.48       2.82
      2.05   244.18    .472E+05     259.7         1.38       3.03
      2.21   244.34    .626E+05     336.4         1.35       3.10
      2.37   244.50    .822E+05     430.4         1.31       3.18
      2.54   244.67    .106E+06     568.2         1.34       3.11
      2.70   244.83    .132E+06     747.9         1.42       2.94
      2.86   244.99    .159E+06     953.9         1.50       2.78
      3.03   245.16    .188E+06    1185.5         1.59       2.64

                              <---- hydrograph ---->   <-pipe / channel->
                         AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (2024)  246.88     4.18    5.50  23.44      0.28      0.93
    OUTFLOW: ID= 1 (5045)  246.88     4.29    5.50  23.44      0.28      0.94

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| CALIB            |
| NASHYD    (0045) |   Area    (ha)=  69.60   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.10   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.59

    Unit Hyd Qpeak  (cms)=   4.483

    PEAK FLOW      (cms)=   1.894 (i)
    TIME TO PEAK   (hrs)=   5.500
    RUNOFF VOLUME   (mm)=  24.254
    TOTAL RAINFALL  (mm)=  62.710
    RUNOFF COEFFICIENT  =   0.387

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2045) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0045):    69.60   1.894     5.50    24.25
      + ID2= 2 (5045):   246.88   4.285     5.50    23.44
        ================================================
        ID = 3 (2045):   316.48   6.179     5.50    23.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0016) |   Area    (ha)= 208.86   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   6.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.80

    Unit Hyd Qpeak  (cms)=   9.972

    PEAK FLOW      (cms)=   5.032 (i)
    TIME TO PEAK   (hrs)=   5.750
    RUNOFF VOLUME   (mm)=  25.450
    TOTAL RAINFALL  (mm)=  62.710
    RUNOFF COEFFICIENT  =   0.406

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1048) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0016):   208.86   5.032     5.75    25.45
      + ID2= 2 (2045):   316.48   6.179     5.50    23.62
        ================================================
        ID = 3 (1048):   525.34  10.996     5.50    24.35

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5048) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<-------- DATA FOR SECTION (5048.0) ------>

Distance	Elevation	Manning	
0.00	243.03	0.1000	
359.76	240.13	0.1000	
503.08	241.12	0.1000	
509.36	239.75	0.1000	
547.35	239.09	0.1000	
550.14	239.02	0.1000	
571.65	237.24	0.1000 /0.0440	Main Channel
573.01	237.04	0.0440	Main Channel
575.59	237.59	0.0440 /0.1000	Main Channel
588.26	239.41	0.1000	
637.64	239.34	0.1000	
713.38	240.34	0.1000	
773.29	240.09	0.1000	
817.41	241.38	0.1000	
880.91	240.96	0.1000	
1218.10	243.31	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	237.24	.152E+03	0.0	0.15	75.62
0.50	237.54	.113E+04	0.4	0.23	46.91
0.81	237.85	.318E+04	1.4	0.30	36.85
1.11	238.15	.640E+04	3.3	0.34	32.68
1.42	238.46	.108E+05	6.0	0.37	29.97
1.72	238.76	.163E+05	9.8	0.39	27.86
2.03	239.07	.231E+05	14.5	0.41	26.52
2.33	239.37	.320E+05	18.1	0.36	30.17
2.64	239.68	.585E+05	28.4	0.32	34.30
2.94	239.98	.918E+05	46.9	0.34	32.63
3.25	240.29	.136E+06	61.5	0.30	36.76
3.55	240.59	.208E+06	94.6	0.30	36.68
3.86	240.90	.300E+06	146.5	0.32	34.13
4.16	241.20	.416E+06	204.2	0.32	33.93
4.47	241.51	.561E+06	293.7	0.35	31.81
4.77	241.81	.724E+06	413.2	0.38	29.19
5.08	242.12	.903E+06	556.1	0.41	27.06
5.38	242.42	.110E+07	723.7	0.43	25.30
5.69	242.73	.131E+07	917.4	0.46	23.82

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1048)	525.34	11.00	5.50	24.35	1.80	0.40
OUTFLOW: ID= 1 (5048)	525.34	9.39	6.00	24.35	1.70	0.39

CALIB	
STANDHYD (0048)	Area (ha)= 61.81
ID= 1 DT=15.0 min	Total Imp(%)= 29.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.92	43.89
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	641.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	20.74

1.13	238.07	.138E+05	11.9	0.58	19.41
1.40	238.34	.226E+05	19.8	0.59	19.09
1.67	238.61	.356E+05	32.4	0.62	18.28
1.94	238.88	.583E+05	45.2	0.53	21.51
2.21	239.15	.948E+05	78.6	0.56	20.10
2.48	239.42	.144E+06	129.6	0.61	18.49
2.76	239.70	.203E+06	205.8	0.69	16.41
3.03	239.97	.268E+06	297.8	0.76	14.98
3.30	240.24	.340E+06	408.5	0.82	13.86
3.57	240.51	.419E+06	544.6	0.88	12.81
3.84	240.78	.504E+06	702.1	0.95	11.96
4.11	241.05	.595E+06	882.1	1.01	11.25
4.38	241.32	.693E+06	1085.3	1.07	10.64
4.65	241.59	.800E+06	1271.2	1.08	10.48
4.92	241.86	.916E+06	1530.3	1.14	9.98

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2048)	587.15	11.00	6.00	25.84	1.09	0.57
OUTFLOW: ID= 1 (5046)	587.15	10.52	6.25	25.84	1.07	0.57

CALIB	
STANDHYD (0046)	Area (ha)= 117.70
ID= 1 DT=15.0 min	Total Imp(%)= 37.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.55	74.15
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.20
Length	(m)=	885.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	22.10
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	2.81	2.04	3.970 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	61.71	32.98	41.60
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.53	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2046)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0046):	117.70	3.970	5.25	41.60

		TOTALS
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
PEAK FLOW (cms)=	1.14	1.28	2.054 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	61.71	31.54	38.48
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.50	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2048)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0048):	61.81	2.054	5.25	38.48
	+ ID2= 2 (5048):	525.34	9.388	6.00	24.35
	ID = 3 (2048):	587.15	10.999	6.00	25.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5046)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5046.0) ------>

Distance	Elevation	Manning	
0.00	242.13	0.1000	
21.95	242.56	0.1000	
73.65	242.53	0.1000	
129.75	241.36	0.1000	
150.90	241.54	0.1000	
175.31	240.19	0.1000	
191.36	239.80	0.1000	
206.39	238.06	0.1000	
242.75	238.88	0.1000	
260.87	237.01	0.1000 /0.0440	Main Channel
262.52	236.94	0.0440	Main Channel
262.96	236.99	0.0440 /0.1000	Main Channel
316.06	239.46	0.1000	
411.45	238.61	0.1000	
755.24	241.81	0.1000	
768.93	242.79	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	236.99	.275E+02	0.0	0.13	85.24
0.32	237.26	.115E+04	0.6	0.36	31.89
0.59	237.53	.383E+04	2.5	0.44	25.54
0.86	237.80	.806E+04	6.2	0.52	21.83

+ ID2= 2 (5046):		587.15	10.524	6.25	25.84
ID = 3 (2046):		704.85	13.381	6.25	28.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0058)	Area (ha)= 66.21
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.10	33.10
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	664.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	28.66
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	2.06	1.36	3.081 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	61.71	40.22	48.60
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.64	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1065)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0058):	66.21	3.081	5.25	48.60
	+ ID2= 2 (2046):	704.85	13.381	6.25	28.47
	ID = 3 (1065):	771.06	15.210	6.25	30.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5065)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5065.0) ------>

Distance	Elevation	Manning
0.00	239.31	0.1000
5.58	239.49	0.1000
15.91	238.39	0.1000
40.00	238.08	0.1000

49.46	237.62	0.1000	
60.68	238.23	0.1000	
78.72	234.07	0.1000	
80.23	233.37	0.1000 /0.0440	Main Channel
81.64	232.65	0.0440	Main Channel
82.98	233.25	0.0440 /0.1000	Main Channel
90.42	235.93	0.1000	
96.97	235.80	0.1000	
141.98	236.43	0.1000	
154.34	236.80	0.1000	
162.27	236.56	0.1000	
167.80	237.32	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	232.95	.996E+02	0.1	0.73	12.12
0.60	233.25	.399E+03	0.9	1.15	7.63
0.97	233.62	.106E+04	3.4	1.71	5.16
1.33	233.98	.207E+04	7.8	1.98	4.44
1.70	234.35	.347E+04	14.0	2.13	4.14
2.07	234.72	.538E+04	22.5	2.21	3.98
2.44	235.09	.780E+04	33.7	2.28	3.86
2.80	235.45	.107E+05	47.7	2.35	3.74
3.17	235.82	.142E+05	63.0	2.35	3.75
3.54	236.19	.220E+05	81.7	1.97	4.48
3.90	236.55	.352E+05	120.0	1.80	4.89
4.27	236.92	.528E+05	176.3	1.76	4.99
4.64	237.29	.723E+05	258.3	1.89	4.67
5.00	237.65	.925E+05	357.0	2.04	4.32
5.37	238.02	.115E+06	459.2	2.12	4.16
5.74	238.39	.141E+06	584.5	2.19	4.02
6.11	238.76	.171E+06	760.2	2.35	3.74
6.47	239.12	.201E+06	958.4	2.52	3.50
6.84	239.49	.233E+06	1168.1	2.65	3.32

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1065)	771.06	15.21	6.25	30.20	1.75	2.14
OUTFLOW: ID= 1 (5065)	771.06	15.17	6.25	30.20	1.75	2.14

CALIB	
STANDHYD (0065)	Area (ha)= 10.36
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.91	4.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.40
Length (m)=	262.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	24.85
over (min)	15.00	15.00
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04
		TOTALS
PEAK FLOW (cms)=	0.44	0.24 0.682 (iii)

TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	38.43	50.77
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.61	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2065)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0065):	10.36	0.682	5.25	50.77
	+ ID2= 2 (5065):	771.06	15.173	6.25	30.20
	ID = 3 (2065):	781.42	15.414	6.25	30.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0734)	Area (ha)= 28.31 Curve Number (CN)= 80.0
ID= 1 DT=15.0 min	Ia (mm)= 9.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.30

Unit Hyd Qpeak (cms)= 3.653

PEAK FLOW	(cms)=	1.054 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	23.598
TOTAL RAINFALL	(mm)=	62.710
RUNOFF COEFFICIENT	=	0.376

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0545)	Area (ha)= 6.45
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.42	3.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	207.36	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	30.49
over (min)	15.00	15.00
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04
		TOTALS
PEAK FLOW (cms)=	0.22	0.21 0.426 (iii)

TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	42.95	50.83
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.68	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9130)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=0.009					
#of Inlets= 1					
Total(cms)= 0.0	TOTAL HYD.(ID= 1):	6.45	0.43	5.25	50.83
	MAJOR SYS.(ID= 2):	5.78	0.42	5.25	50.83
	MINOR SYS.(ID= 3):	0.67	0.01	2.50	50.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6130)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1					
DT= 15.0 min		0.0000	0.0000	0.0090	0.0800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9130)	0.671	0.009	2.50	50.83
OUTFLOW: ID= 1 (6130)	0.671	0.003	12.75	47.49

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.09
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.0273

ADD HYD (4130)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6130):	0.67	0.003	12.75	47.49
	+ ID2= 2 (9130):	5.78	0.417	5.25	50.83
	ID = 3 (4130):	6.45	0.418	5.25	50.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2734)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3					

ID1= 1 (0734):	28.31	1.054	5.25	23.60
+ ID2= 2 (4130):	6.45	0.418	5.25	50.48
ID = 3 (2734):	34.76	1.473	5.25	28.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0741)	Area (ha)= 3.39
ID= 1 DT=15.0 min	Total Imp(%)= 47.00 Dir. Conn.(%)= 44.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.59	1.80
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.50
Length (m)=	150.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	14.85
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	19.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06
		TOTALS
PEAK FLOW (cms)=	0.12	0.06 0.184 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	61.71	22.78 39.91
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.36 0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2741)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0741):	3.39	0.184	5.25	39.91
	+ ID2= 2 (2734):	34.76	1.473	5.25	28.59
	ID = 3 (2741):	38.15	1.657	5.25	29.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0041)	Area (ha)= 263.00 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 8.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.52

Unit Hyd Qpeak (cms)= 19.468

PEAK FLOW (cms)= 6.247 (i)

```
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  20.172
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2041)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0041):	263.00	6.247	5.50	20.17
	+ ID2= 2 (2741):	38.15	1.657	5.25	29.59
	ID = 3 (2041):	301.15	7.607	5.25	21.37

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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DUHYD (9001)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=0.000					
#of Inlets= 1					
Total(cms)= 0.0	TOTAL HYD.(ID= 1):	301.15	7.61	5.25	21.37
	MAJOR SYS.(ID= 2):	301.15	7.61	5.25	21.37
	MINOR SYS.(ID= 3):	0.00	0.00	0.00	0.00

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

CALIB	NASHYD (0064)	ID= 1 DT=15.0 min
	Area (ha)= 67.94	Curve Number (CN)= 75.0
	Ia (mm)= 8.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.37	

```
     Unit Hyd Qpeak  (cms)=   7.071

     PEAK FLOW       (cms)=   2.014 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  20.898
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.333

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (1068)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0064):	67.94	2.014	5.25	20.90
	+ ID2= 2 (9001):	301.15	7.607	5.25	21.37
	ID = 3 (1068):	369.09	9.621	5.25	21.28

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ROUTE CHN (5068)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5068.0) ------>

Distance	Elevation	Manning	
0.00	243.69	0.1000	
1.05	244.22	0.1000	
19.37	243.89	0.1000	
41.05	239.31	0.1000	
42.39	239.06	0.1000	
54.90	238.66	0.1000	
104.87	239.47	0.1000	
187.22	239.06	0.1000	
198.63	238.28	0.1000	
214.93	233.81	0.1000 /0.0440	Main Channel
224.74	232.68	0.0440	Main Channel
234.23	233.89	0.0440 /0.1000	Main Channel
244.57	237.42	0.1000	
253.16	237.28	0.1000	
264.49	238.25	0.1000	
303.31	239.05	0.1000	
336.23	238.84	0.1000	
370.20	238.82	0.1000	
618.04	242.11	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.57	233.24	.503E+04	2.0	0.75	42.17
1.13	233.81	.201E+05	12.6	1.20	26.56
1.74	234.42	.447E+05	43.5	1.86	17.13
2.35	235.03	.741E+05	90.1	2.32	13.71
2.97	235.65	.108E+06	151.2	2.67	11.92
3.58	236.26	.147E+06	226.7	2.95	10.80
4.19	236.87	.190E+06	316.7	3.18	10.02
4.80	237.48	.241E+06	415.4	3.29	9.67
5.42	238.10	.310E+06	540.6	3.33	9.55
6.03	238.71	.399E+06	666.7	3.19	9.97
6.64	239.32	.651E+06	921.2	2.41	13.21
7.25	239.93	.110E+07	1176.4	2.04	15.63
7.87	240.55	.162E+07	1669.2	1.97	16.15
8.48	241.16	.219E+07	2289.5	2.00	15.94
9.09	241.77	.282E+07	3040.5	2.06	15.45
9.70	242.38	.350E+07	3971.5	2.17	14.69
10.32	243.00	.419E+07	5093.0	2.32	13.72
10.93	243.61	.489E+07	6341.8	2.48	12.85
11.54	244.22	.560E+07	7596.9	2.59	12.28

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1068)	369.09	9.62	5.25	21.28	0.97	1.03
OUTFLOW: ID= 1 (5068)	369.09	7.39	5.75	21.28	0.85	0.93

CALIB	STANDHYD (0068)	ID= 1 DT=15.0 min
	Area (ha)= 67.87	
	Total Imp(%)= 24.00	Dir. Conn.(%)= 22.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.29	51.58
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	672.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.00
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	56.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	1.19	1.32	2.137 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	61.71	28.66	35.93
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.46	0.57

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2068)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0068):	67.87	2.137	5.25	35.93
	+ ID2= 2 (5068):	369.09	7.392	5.75	21.28
	ID = 3 (2068):	436.96	9.083	5.75	23.55

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

CALIB	STANDHYD (0075)	ID= 1 DT=15.0 min
	Area (ha)= 90.63	
	Total Imp(%)= 59.00	Dir. Conn.(%)= 54.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	53.47	37.16
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	777.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	24.36
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	66.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	3.91	1.26	4.828 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	61.71	36.44	50.08

TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.58	0.80

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (1074)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0075):	90.63	4.828	5.25	50.08
	+ ID2= 2 (2068):	436.96	9.083	5.75	23.55
	ID = 3 (1074):	527.59	12.012	5.25	28.11

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ROUTE CHN (5074)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5074.0) ------>

Distance	Elevation	Manning	
0.00	237.79	0.1000	
113.79	235.41	0.1000	
164.89	228.84	0.1000 /0.0440	Main Channel
166.86	228.66	0.0440	Main Channel
168.93	229.03	0.0440 /0.1000	Main Channel
184.89	232.46	0.1000	
190.40	232.85	0.1000	
196.98	234.94	0.1000	
215.36	235.65	0.1000	
232.15	237.32	0.1000	
254.34	236.11	0.1000	
290.72	237.19	0.1000	
335.58	237.37	0.1000	
355.30	236.87	0.1000	
416.53	238.54	0.1000	
454.71	237.66	0.1000	
532.81	237.74	0.1000	
585.25	238.79	0.1000	
633.15	238.27	0.1000	
651.47	238.62	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	228.84	.883E+02	0.1	0.42	13.12
0.70	229.36	.119E+04	3.7	1.03	5.33
1.23	229.89	.342E+04	13.1	1.26	4.34
1.75	230.41	.677E+04	29.3	1.43	3.85
2.27	230.93	.112E+05	53.3	1.56	3.51
2.80	231.46	.168E+05	86.4	1.69	3.25
3.32	231.98	.236E+05	129.4	1.81	3.04
3.85	232.51	.314E+05	182.7	1.92	2.87

4.37	233.03	.408E+05	246.6	1.99	2.76
4.89	233.55	.514E+05	329.5	2.11	2.60
5.42	234.08	.630E+05	426.4	2.23	2.46
5.94	234.60	.756E+05	537.9	2.34	2.34
6.46	235.12	.893E+05	650.4	2.40	2.29
6.99	235.65	.106E+06	732.6	2.28	2.41
7.51	236.17	.128E+06	845.2	2.17	2.53
8.04	236.70	.158E+06	973.3	2.02	2.71
8.56	237.22	.200E+06	1148.0	1.89	2.90
9.08	237.74	.263E+06	1390.2	1.74	3.15
9.61	238.27	.349E+06	1932.2	1.82	3.01

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1074)	527.59	12.01	5.25	28.11	1.17	1.23
OUTFLOW: ID= 1 (5074)	527.59	12.03	5.50	28.11	1.17	1.23

CALIB	
STANDHYD (0074)	Area (ha)= 22.67
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 40.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.34	11.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	388.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	27.36
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.73	0.56	1.227 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	38.74	47.93
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.62	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2074)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0074):	22.67	1.227	5.25	47.93
	+ ID2= 2 (5074):	527.59	12.027	5.50	28.11
	ID = 3 (2074):	550.26	12.853	5.50	28.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1073)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2065):	781.42	15.414	6.25	30.47
	+ ID2= 2 (2074):	550.26	12.853	5.50	28.93
	ID = 3 (1073):	1331.68	26.923	6.00	29.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0073)	Area (ha)= 52.49
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 44.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.29	25.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	591.55	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	25.01
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.85	0.96	2.572 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	61.71	35.97	47.29
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.57	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2073)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0073):	52.49	2.572	5.25	47.29
	+ ID2= 2 (1073):	1331.68	26.923	6.00	29.83
	ID = 3 (2073):	1384.17	28.405	6.00	30.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9013)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):1384.17		28.41	6.00	30.49
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):1384.17		28.41	6.00	30.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6013)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.8550	10.8920
	0.0000	0.0000	4.2540	12.9360
	0.0400	0.8560	4.6190	15.0330
	0.1500	1.7950	4.9570	17.1840
	0.5660	2.8160	5.2730	19.3870
	0.7780	3.9200	5.6900	20.1320
	0.9440	5.1060	9.2940	23.1620
	1.1480	6.9760	13.1840	25.4880
	1.3740	7.6130	17.8240	27.8720
	3.1710	8.9050	0.0000	0.0000
	3.5640	9.5610	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9013)	1384.170	28.405	6.00	30.49
OUTFLOW: ID= 1 (6013)	1384.170	11.614	8.50	30.49

PEAK FLOW REDUCTION [Qout/Qin](%)= 40.89
TIME SHIFT OF PEAK FLOW (min)=150.00
MAXIMUM STORAGE USED (ha.m.)= 24.5690

ADD HYD (4013)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9013 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
	ID1= 1 (6013):	1384.17	11.614	8.50	30.49
	+ ID2= 2 (9013):	0.00	0.000	0.00	0.00
	ID = 3 (4013):	1384.17	11.614	8.50	30.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5081)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5081.0) ---------->

Distance	Elevation	Manning
0.00	225.82	0.1000

5.97	224.62	0.1000	
29.57	222.64	0.1000	
40.42	222.57	0.1000	
76.56	222.70	0.1000	
80.13	222.70	0.1000	
86.10	222.50	0.1000	
92.53	222.61	0.1000	
98.56	222.41	0.1000	
98.87	222.40	0.1000	
105.10	222.00	0.1000 /0.0440	Main Channel
110.31	221.50	0.0440	Main Channel
112.61	221.67	0.0440	Main Channel
114.64	221.50	0.0440	Main Channel
114.83	221.49	0.0440	Main Channel
116.29	222.00	0.0440 /0.1000	Main Channel
119.94	222.25	0.1000	
167.66	226.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	221.66	.987E+03	0.2	0.35	87.86
0.34	221.83	.345E+04	1.2	0.65	47.66
0.51	222.00	.662E+04	3.1	0.86	35.87
0.75	222.24	.132E+05	8.0	1.12	27.52
0.99	222.48	.229E+05	15.2	1.23	25.11
1.23	222.72	.475E+05	25.7	1.00	30.83
1.46	222.95	.917E+05	46.2	0.94	33.04
1.70	223.19	.138E+06	74.5	1.00	30.96
1.94	223.43	.188E+06	109.8	1.08	28.50
2.18	223.67	.240E+06	151.7	1.17	26.33
2.42	223.91	.294E+06	200.1	1.26	24.49
2.66	224.15	.351E+06	254.8	1.35	22.95
2.90	224.39	.410E+06	316.0	1.43	21.64
3.14	224.63	.472E+06	383.6	1.51	20.52
3.37	224.86	.537E+06	460.0	1.59	19.44
3.61	225.10	.603E+06	542.8	1.67	18.50
3.85	225.34	.670E+06	632.0	1.75	17.68
4.09	225.58	.740E+06	727.6	1.82	16.95
4.33	225.82	.811E+06	829.6	1.90	16.30

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (4013)	1384.17	11.61	8.50	30.49	0.87	1.18
OUTFLOW: ID= 1 (5081)	1384.17	11.31	8.75	30.49	0.86	1.17

CALIB	
STANDHYD (0081)	Area (ha)= 131.60
ID= 1 DT=15.0 min	Total Imp(%)= 44.00 Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.90	73.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	936.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	25.65
over (min)		15.00	30.00

```
Storage Coeff.  (min)=      12.00 (ii)   69.00 (ii)
Unit Hyd. Tpeak (min)=      15.00        75.00
Unit Hyd. peak  (cms)=       0.08         0.02
                                                *TOTALS*
PEAK FLOW       (cms)=       3.78         2.54        5.321 (iii)
TIME TO PEAK    (hrs)=       5.25         6.00         5.25
RUNOFF VOLUME    (mm)=      61.71        37.93        46.49
TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
RUNOFF COEFFICIENT   =       0.98         0.60         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (2081) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0081):   131.60   5.321     5.25    46.49
       + ID2= 2 (5081):  1384.17  11.309     8.75    30.49
         ================================================
         ID = 3 (2081):  1515.77  12.386     8.75    31.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (5446) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5446.0) ------>
              Distance      Elevation       Manning
                  0.00         217.81        0.1000
                 11.08         216.00        0.1000
                 36.54         215.00        0.1000
                 55.05         214.88        0.1000
                 57.65         214.50        0.1000
                 65.88         212.00    0.1000 /0.0440  Main Channel
                 65.89         212.00        0.0440      Main Channel
                 68.31         211.78        0.0440      Main Channel
                 71.62         211.62        0.0440      Main Channel
                 74.08         211.60        0.0440      Main Channel
                 82.25         211.66        0.0440      Main Channel
                 86.11         212.00        0.0440      Main Channel
                 86.23         212.02    0.0440 /0.1000  Main Channel
                 94.33         213.50        0.1000
                134.71         215.48        0.1000
                170.10         216.00        0.1000
                190.26         216.67        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   211.80    .388E+04       1.2          0.50      56.18
      0.40   212.00    .994E+04       4.7          0.79      35.45
      0.67   212.27    .199E+05      14.2          1.20      23.33
      0.95   212.55    .309E+05      27.8          1.52      18.54
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      1.22   212.82    .431E+05      45.1          1.77      15.91
      1.50   213.10    .564E+05      66.1          1.98      14.22
      1.77   213.37    .708E+05      90.5          2.16      13.03
      2.05   213.65    .865E+05     118.0          2.30      12.23
      2.32   213.92    .105E+06     149.2          2.39      11.75
      2.60   214.20    .127E+06     184.8          2.46      11.43
      2.87   214.47    .151E+06     224.9          2.51      11.22
      3.15   214.75    .179E+06     269.4          2.53      11.09
      3.42   215.02    .213E+06     313.7          2.48      11.31
      3.70   215.30    .257E+06     372.2          2.44      11.52
      3.97   215.57    .308E+06     435.1          2.38      11.79
      4.25   215.85    .369E+06     503.4          2.30      12.21
      4.52   216.12    .441E+06     588.7          2.25      12.48
      4.80   216.40    .519E+06     690.4          2.24      12.53
      5.07   216.67    .602E+06     802.7          2.25      12.49

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (2081) 1515.77    12.39    8.75  31.88      0.62      1.10
OUTFLOW: ID= 1 (5446) 1515.77    12.34    9.00  31.88      0.62      1.09
```

```
--------------------
| CALIB            |
| STANDHYD  (0446) |   Area    (ha)= 124.88
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  28.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      43.71         81.17
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.90
     Length            (m)=     912.43         40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84         22.63
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      11.40 (ii)    66.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.79          2.51          4.593 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=      61.71         33.98          41.75
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.54           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2446) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0446):   124.88   4.593     5.25    41.75
```



```
       + ID2= 2 (5446):  1515.77  12.344     9.00    31.88
         ================================================
         ID = 3 (2446):  1640.65  13.259     8.75    32.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5110) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5110.0) ------>
              Distance      Elevation       Manning
                  0.00         210.19        0.1000
                 21.36         209.50        0.1000
                 46.49         206.88        0.1000
                 52.44         205.50    0.1000 /0.0440  Main Channel
                 56.57         203.68        0.0440      Main Channel
                 58.67         203.50        0.0440      Main Channel
                 62.44         203.66        0.0440      Main Channel
                 67.42         205.50    0.0440 /0.1000  Main Channel
                 71.31         206.50        0.1000
                 89.08         207.50        0.1000
                149.36         207.99        0.1000
                149.52         208.00        0.1000
                155.13         208.50        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   203.75    .141E+04       0.6          0.64      36.91
      0.50   204.00    .384E+04       3.0          1.10      21.46
      0.75   204.25    .672E+04       6.8          1.43      16.47
      1.00   204.50    .100E+05      12.1          1.71      13.82
      1.25   204.75    .138E+05      19.0          1.94      12.13
      1.50   205.00    .180E+05      27.5          2.16      10.93
      1.75   205.25    .226E+05      37.7          2.36      10.01
      2.00   205.50    .277E+05      49.8          2.54       9.28
      2.27   205.77    .339E+05      68.3          2.85       8.28
      2.55   206.05    .410E+05      89.4          3.09       7.64
      2.82   206.32    .489E+05     113.3          3.27       7.20
      3.09   206.59    .578E+05     139.7          3.42       6.90
      3.36   206.86    .687E+05     169.1          3.48       6.77
      3.64   207.14    .822E+05     201.9          3.48       6.78
      3.91   207.41    .985E+05     239.1          3.44       6.86
      4.18   207.68    .120E+06     277.9          3.27       7.20
      4.45   207.95    .155E+06     326.8          2.98       7.91
      4.73   208.23    .200E+06     392.5          2.78       8.48
      5.00   208.50    .247E+06     469.4          2.69       8.75

                                 <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (2446) 1640.65    13.26    8.75  32.63      1.04      1.74
OUTFLOW: ID= 1 (5110) 1640.65    13.21    9.00  32.63      1.04      1.74
```

```
--------------------
| CALIB            |
| STANDHYD  (0110) |   Area    (ha)=  86.93
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  30.00
--------------------
```



```
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.29         55.64
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.90
     Length            (m)=     761.27         40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84         24.19
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.80 (ii)    65.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.08          1.89          3.472 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=      61.71         37.20          44.55
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.59           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| ADD HYD   (2110) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0110):    86.93   3.472     5.25    44.55
       + ID2= 2 (5110):  1640.65  13.211     9.00    32.63
         ================================================
         ID = 3 (2110):  1727.58  13.832     8.75    33.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ROUTE CHN (5721) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5721.0) ------>
              Distance      Elevation       Manning
                  0.00         199.53        0.1000
                 12.53         199.00        0.1000
                 12.61         199.00        0.1000
                 22.51         197.82    0.1000 /0.0440  Main Channel
                 24.05         197.50        0.0440      Main Channel
                 30.35         196.57        0.0440      Main Channel
                 32.97         196.00        0.0440      Main Channel
                 34.58         195.50        0.0440      Main Channel
                 38.37         195.83        0.0440      Main Channel
                 39.72         196.22        0.0440      Main Channel
                 45.13         197.31        0.0440      Main Channel
                 49.32         197.68    0.0440 /0.1000  Main Channel
                 62.29         198.50        0.1000
                 76.95         199.00        0.1000
                 82.76         199.28        0.1000
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	195.70	.369E+03	0.1	0.46	46.56
0.40	195.90	.145E+04	0.9	0.77	27.85
0.59	196.09	.297E+04	2.4	1.05	20.39
0.79	196.29	.489E+04	4.8	1.25	17.02
0.99	196.49	.727E+04	8.1	1.43	14.94
1.19	196.69	.102E+05	12.5	1.57	13.56
1.39	196.89	.136E+05	18.2	1.71	12.49
1.59	197.09	.177E+05	25.5	1.84	11.56
1.78	197.28	.223E+05	34.5	1.98	10.77
1.98	197.48	.277E+05	44.4	2.05	10.38
2.18	197.68	.339E+05	57.1	2.15	9.90
2.38	197.88	.411E+05	76.1	2.37	9.00
2.58	198.08	.495E+05	99.1	2.56	8.33
2.78	198.28	.592E+05	125.0	2.70	7.89
2.98	198.48	.701E+05	153.9	2.81	7.59
3.18	198.68	.825E+05	185.7	2.88	7.40
3.38	198.88	.968E+05	221.1	2.92	7.30
3.58	199.08	.113E+06	260.2	2.94	7.24
3.78	199.28	.132E+06	303.3	2.95	7.23

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2110)	1727.58	13.83	8.75	33.23	1.24	1.60
OUTFLOW: ID= 1 (5721)	1727.58	13.80	9.00	33.23	1.23	1.60

CALIB / STANDHYD (0721)	Area (ha)= 44.92
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 31.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.07	27.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	547.24	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	25.44
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	1.11	1.11 1.961 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	61.71	38.73 45.85
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.62 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2721)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0721):	44.92	1.961	5.25	45.85
+ ID2= 2 (5721):	1727.58	13.797	9.00	33.23
ID = 3 (2721):	1772.50	14.077	9.00	33.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / NASHYD (0699)	Area (ha)= 49.10 Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)= 7.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.37

Unit Hyd Qpeak (cms)= 5.138

PEAK FLOW (cms)= 1.607 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 22.893
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.365

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (0540)	Area (ha)= 11.06
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.08	4.98
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	271.54	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	30.14
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.40	0.28 0.659 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	61.71	42.81 51.31
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.68 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9214)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=0.031				
#of Inlets= 1				
Total(cms)= 0.0				
TOTAL HYD.(ID= 1):	11.06	0.66	5.25	51.31
MAJOR SYS.(ID= 2):	8.98	0.63	5.25	51.31
MINOR SYS.(ID= 3):	2.08	0.03	2.50	51.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6214)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 15.0 min	0.0000	0.0000	0.0280	0.3760
	0.0230	0.2300	0.0290	0.4150
	0.0240	0.2640	0.0300	0.4560
	0.0260	0.3000	0.0310	0.4990
	0.0270	0.3370	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9214)	2.082	0.031	2.50	51.31
OUTFLOW: ID= 1 (6214)	2.082	0.009	12.75	50.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.74
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.0860

ADD HYD (4214)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (6214):	2.08	0.009	12.75	50.10
+ ID2= 2 (9214):	8.98	0.628	5.25	51.31
ID = 3 (4214):	11.06	0.631	5.25	51.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0539)	Area (ha)= 12.31
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.52	5.79
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.20
Length (m)=	286.47	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	22.06
over (min)	15.00	15.00

Storage Coeff. (min)=	4.80 (ii)	27.60 (ii)		
Unit Hyd. Tpeak (min)=	15.00	30.00		
Unit Hyd. peak (cms)=	0.11	0.04		
			TOTALS	
PEAK FLOW (cms)=	0.52	0.27	0.793 (iii)	
TIME TO PEAK (hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME (mm)=	61.71	36.93	50.06	
TOTAL RAINFALL (mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT =	0.98	0.59	0.80	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9381)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=1.587				
#of Inlets= 1				
Total(cms)= 1.6				
TOTAL HYD.(ID= 1):	12.31	0.79	5.25	50.06
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	12.31	0.79	5.25	50.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6381)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 15.0 min	0.0000	0.0000	0.0140	0.4484
	0.0100	0.1881	0.1560	0.5370
	0.0110	0.2208	0.7460	0.6320
	0.0120	0.2905	1.5870	0.7334
	0.0130	0.3662	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9381)	12.310	0.793	5.25	50.06
OUTFLOW: ID= 1 (6381)	12.310	0.099	7.75	49.67

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.49
TIME SHIFT OF PEAK FLOW (min)=150.00
MAXIMUM STORAGE USED (ha.m.)= 0.5017

ADD HYD (4381)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				

*** W A R N I N G : HYDROGRAPH 9381 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6381):	12.31	0.099	7.75	49.67

+ ID2= 2 (9381):	0.00	0.000	0.00	0.00
ID = 3 (4381):	12.31	0.099	7.75	49.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1699)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4214):	11.06	0.631	5.25	51.08
+ ID2= 2 (4381):	12.31	0.099	7.75	49.67
ID = 3 (1699):	23.37	0.643	5.25	50.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2699)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0699):	49.10	1.607	5.25	22.89
+ ID2= 2 (1699):	23.37	0.643	5.25	50.34
ID = 3 (2699):	72.47	2.250	5.25	31.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0535) | Area (ha)= 43.13
ID= 1 DT=15.0 min | Total Imp(%)= 58.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	25.02	18.11
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.60
Length	(m)=	536.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	27.10
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.69	0.87	2.477 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	37.77	49.50
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.60	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9282)
Inlet Cap.=5.313
#of Inlets= 1
Total(cms)= 5.3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	43.13	2.48	5.25	49.50
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	43.13	2.48	5.25	49.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6282)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0900	0.5455
0.0350	0.1299	0.6640	0.6004
0.0540	0.2338	1.8780	0.6553
0.0680	0.3377	3.4510	0.7101
0.0800	0.4416	5.3130	0.7650

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9282)	43.130	2.477	5.25	49.50
OUTFLOW: ID= 1 (6282)	43.130	2.441	5.25	49.48

PEAK FLOW REDUCTION [Qout/Qin](%)= 98.52
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.6766

ADD HYD (4282)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9282 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6282):	43.13	2.441	5.25	49.48
+ ID2= 2 (9282):	0.00	0.000	0.00	0.00
ID = 3 (4282):	43.13	2.441	5.25	49.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0541) | Area (ha)= 35.37
ID= 1 DT=15.0 min | Total Imp(%)= 52.00 Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.39	16.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	11.30

Length	(m)=	485.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	29.64
over (min)		15.00	15.00
Storage Coeff. (min)=		5.40 (ii)	33.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	1.16	1.04	2.200 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	41.59	49.84
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.66	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9281)
Inlet Cap.=7.470
#of Inlets= 1
Total(cms)= 7.5

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	35.37	2.20	5.25	49.84
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	35.37	2.20	5.25	49.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6281)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2800	0.5448
0.0200	0.8450	0.7000	0.6092
0.0300	0.2238	2.1800	0.6713
0.0400	0.3704	4.5300	0.7352
0.0500	0.4902	7.4700	0.8009

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9281)	35.370	2.200	5.25	49.84
OUTFLOW: ID= 1 (6281)	35.370	5.104	5.50	49.54

PEAK FLOW REDUCTION [Qout/Qin](%)=231.96
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.9435

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.
**** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.

ADD HYD (4281)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9281 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6281):	35.37	5.104	5.50	49.54
+ ID2= 2 (9281):	0.00	0.000	0.00	0.00
ID = 3 (4281):	35.37	5.104	5.50	49.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2535)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4281):	35.37	5.104	5.50	49.54
+ ID2= 2 (4282):	43.13	2.441	5.25	49.48
ID = 3 (2535):	78.50	7.037	5.50	49.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2541)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2535):	78.50	7.037	5.50	49.50
+ ID2= 2 (2699):	72.47	2.250	5.25	31.74
ID = 3 (2541):	150.97	8.815	5.50	40.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1130)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2541):	150.97	8.815	5.50	40.98
+ ID2= 2 (9001):	0.00	0.000	0.00	0.00
ID = 3 (1130):	150.97	8.815	5.50	40.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0532) | Area (ha)= 8.69
ID= 1 DT=15.0 min | Total Imp(%)= 27.00 Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.35	6.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30

```
Length            (m)=     240.69        40.00
Mannings n          =      0.013        0.250

Max.Eff.Inten.(mm/hr)=      28.84        20.08
          over (min)        15.00        30.00
Storage Coeff.  (min)=       5.40 (ii)   31.80 (ii)
Unit Hyd. Tpeak (min)=      15.00        30.00
Unit Hyd. peak  (cms)=       0.11         0.04
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.15         0.25        0.392 (iii)
TIME TO PEAK    (hrs)=       5.25         5.50         5.25
RUNOFF VOLUME    (mm)=      61.71        30.53        37.08
TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
RUNOFF COEFFICIENT   =       0.98         0.49         0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  81.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2532) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0532):      8.69    0.392     5.25    37.08
      + ID2= 2 (1130):   150.97    8.815     5.50    40.98
        ================================================
        ID = 3 (2532):   159.66    9.110     5.50    40.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| DUHYD     (9000) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1): 159.66      9.11      5.50   40.77
    ================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3): 159.66      9.11      5.50   40.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (6000) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.5300     11.9290
                          0.6800     2.1800   |   1.8100     17.4390
                          1.1800     6.8490   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
    INFLOW : ID= 2 (9000)    159.660      9.110      5.50     40.77
```



```
OUTFLOW: ID= 1 (6000)    159.660      0.811      9.25      40.76

              PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.90
              TIME SHIFT OF PEAK FLOW         (min)=225.00
              MAXIMUM  STORAGE   USED       (ha.m.)=  3.4417
```

```
--------------------
| ADD HYD   (4000) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9000 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6000):   159.66   0.811     9.25    40.76
      + ID2= 2 (9000):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4000):   159.66   0.811     9.25    40.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| NASHYD    (0542) |   Area    (ha)=   5.19   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

    Unit Hyd Qpeak  (cms)=   1.153

    PEAK FLOW       (cms)=   0.181 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  20.245
    TOTAL RAINFALL   (mm)=  62.710
    RUNOFF COEFFICIENT   =   0.323

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2542) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0542):      5.19    0.181     5.25    20.25
      + ID2= 2 (4000):   159.66    0.811     9.25    40.76
        ================================================
        ID = 3 (2542):   164.85    0.821     9.25    40.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (0130) |   Area    (ha)=  99.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  38.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      46.97        52.97
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         4.50
    Length            (m)=     816.25        40.00
```



```
Mannings n          =      0.013        0.250

Max.Eff.Inten.(mm/hr)=      28.84        26.46
          over (min)        15.00        30.00
Storage Coeff.  (min)=      10.20 (ii)   59.40 (ii)
Unit Hyd. Tpeak (min)=      15.00        60.00
Unit Hyd. peak  (cms)=       0.09         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=       3.04         2.08        4.597 (iii)
TIME TO PEAK    (hrs)=       5.25         5.75         5.25
RUNOFF VOLUME    (mm)=      61.71        38.32        47.21
TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
RUNOFF COEFFICIENT   =       0.98         0.61         0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2130) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0130):     99.94   4.597     5.25    47.21
      + ID2= 2 (2542):   164.85   0.821     9.25    40.12
        ================================================
        ID = 3 (2130):   264.79   5.069     5.25    42.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5550) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5550.0) ------>
              Distance      Elevation      Manning
                  0.00         209.58       0.1000
                  3.56         209.62       0.1000
                 42.74         208.52       0.1000
                 77.30         208.87       0.1000
                107.41         207.79       0.1000
                124.03         207.40    0.1000 /0.0440  Main Channel
                150.79         206.87       0.0440       Main Channel
                152.45         206.85       0.0440       Main Channel
                162.04         206.90       0.0440       Main Channel
                164.71         206.92       0.0440       Main Channel
                184.43         207.42       0.0440       Main Channel
                186.09         207.46    0.0440 /0.1000  Main Channel
                213.15         208.26       0.1000
                241.57         209.72       0.1000
                256.40         208.62       0.1000
                290.72         210.48       0.1000
                292.65         210.48       0.1000
                306.25         210.74       0.1000
                413.63         210.84       0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
```



```
  DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
   (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
  0.14   206.99    .251E+04        0.8         0.39      55.21
  0.28   207.13    .762E+04        3.6         0.61      35.24
  0.41   207.26    .149E+05        9.0         0.78      27.54
  0.55   207.40    .244E+05       17.6         0.93      23.15
  0.70   207.55    .368E+05       32.8         1.15      18.69
  0.84   207.69    .512E+05       52.9         1.34      16.15
  0.99   207.84    .677E+05       77.2         1.48      14.61
  1.13   207.98    .860E+05      106.0         1.60      13.53
  1.28   208.13    .106E+06      139.0         1.70      12.71
  1.42   208.27    .128E+06      176.2         1.79      12.07
  1.57   208.42    .151E+06      218.0         1.87      11.52
  1.71   208.56    .175E+06      262.8         1.94      11.12
  1.86   208.71    .204E+06      310.0         1.97      10.97
  2.00   208.85    .239E+06      363.7         1.97      10.94
  2.15   209.00    .278E+06      426.8         1.99      10.85
  2.29   209.14    .319E+06      496.3         2.01      10.72
  2.44   209.29    .363E+06      571.9         2.04      10.58
  2.58   209.43    .409E+06      653.6         2.07      10.44
  2.73   209.58    .458E+06      741.6         2.10      10.29

                          <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (2130)  264.79     5.07    5.25  42.79      0.31      0.65
    OUTFLOW: ID= 1 (5550)  264.79     4.12    5.50  42.79      0.29      0.63
```

```
--------------------
| CALIB            |
| STANDHYD  (0550) |   Area    (ha)=  48.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  30.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      16.41        31.85
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         4.80
    Length            (m)=     567.22        40.00
    Mannings n          =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      28.84        21.28
              over (min)        15.00        30.00
    Storage Coeff.  (min)=       7.80 (ii)   47.40 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.10         0.02
                                                  *TOTALS*
    PEAK FLOW       (cms)=       1.16         1.10        2.121 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.50         5.25
    RUNOFF VOLUME    (mm)=      61.71        33.22        41.77
    TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
    RUNOFF COEFFICIENT   =       0.98         0.53         0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  84.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2550)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0550):		48.26	2.121	5.25	41.77
+ ID2= 2 (5550):		264.79	4.120	5.50	42.79
ID = 3 (2550):		313.05	5.904	5.25	42.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5144) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5144.0) ------>

Distance	Elevation	Manning	
0.00	208.27	0.1000	
28.32	207.87	0.1000	
28.56	207.85	0.1000	
31.58	206.89	0.1000	
40.26	204.20	0.1000 /0.0440	Main Channel
43.45	203.21	0.0440	Main Channel
48.11	205.04	0.0440 /0.1000	Main Channel
55.33	207.89	0.1000	
67.35	208.20	0.1000	
92.04	207.79	0.1000	
193.51	208.52	0.1000	
218.35	209.53	0.1000	
291.67	210.56	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.46	.100E+03	0.0	0.24	39.00
0.50	203.71	.402E+03	0.3	0.39	24.57
0.74	203.95	.904E+03	0.8	0.51	18.75
0.99	204.20	.161E+04	1.7	0.61	15.48
1.26	204.47	.261E+04	3.5	0.75	12.60
1.53	204.74	.385E+04	5.8	0.85	11.12
1.80	205.01	.534E+04	8.7	0.93	10.18
2.08	205.29	.706E+04	12.9	1.04	9.13
2.35	205.56	.903E+04	17.9	1.12	8.43
2.62	205.83	.112E+05	23.6	1.19	7.94
2.89	206.10	.137E+05	30.2	1.25	7.56
3.16	206.37	.164E+05	37.5	1.30	7.27
3.43	206.64	.193E+05	45.8	1.35	7.03
3.70	206.91	.225E+05	54.8	1.39	6.83
3.97	207.18	.259E+05	64.8	1.42	6.66
4.25	207.46	.295E+05	75.7	1.46	6.51
4.52	207.73	.334E+05	87.5	1.49	6.37
4.79	208.00	.405E+05	93.1	1.31	7.25
5.06	208.27	.594E+05	108.4	1.04	9.14

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2550)	313.05	5.90	5.25	42.63	1.54	0.86
OUTFLOW: ID= 1 (5144)	313.05	5.74	5.50	42.63	1.53	0.85

CALIB | STANDHYD (0144) | ID= 1 DT=15.0 min | Area (ha)= 57.15 | Total Imp(%)= 78.00 | Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	44.58	12.57
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	617.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	26.85
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	58.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.52 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	61.71
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2144)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0144):		57.15	3.933	5.25	57.85
+ ID2= 2 (5144):		313.05	5.736	5.50	42.63
ID = 3 (2144):		370.20	9.201	5.25	44.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0133) | ID= 1 DT=15.0 min | Area (ha)= 124.55 | Total Imp(%)= 52.00 | Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.77	59.78
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	911.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	29.01
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00

Unit Hyd. peak	(cms)=	0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	5.558 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	49.89
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | STANDHYD (0157) | ID= 1 DT=15.0 min | Area (ha)= 123.16 | Total Imp(%)= 55.00 | Dir. Conn.(%)= 46.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.74	55.42
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	906.13	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	28.76
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	82.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	5.733 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	50.64
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2157)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0133):		124.55	5.558	5.25	49.89
+ ID2= 2 (0157):		123.16	5.733	5.25	50.64
ID = 3 (2157):		247.71	11.290	5.25	50.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0156) | ID= 1 DT=15.0 min | Area (ha)= 110.69 | Total Imp(%)= 64.00 | Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.84	39.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80
Length	(m)=	859.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	30.84
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	5.933 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	53.99
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2156)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0156):		110.69	5.933	5.25	53.99
+ ID2= 2 (2157):		247.71	11.290	5.25	50.26
ID = 3 (2156):		358.40	17.224	5.25	51.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5166) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5166.0) ------>

Distance	Elevation	Manning	
0.00	217.55	0.1000	
11.14	217.28	0.1000	
32.85	217.25	0.1000	
39.83	217.02	0.1000	
53.80	215.11	0.1000	
167.72	214.15	0.1000	
197.58	214.84	0.1000	
250.68	213.38	0.1000 /0.0440	Main Channel
255.86	213.24	0.0440	Main Channel
258.84	213.31	0.0440	Main Channel
259.52	213.31	0.0440	Main Channel

265.88	213.29	0.0440	Main Channel	
268.98	213.36	0.0440 /0.1000	Main Channel	
364.18	213.80	0.1000		
385.22	213.65	0.1000		
407.72	214.38	0.1000		
418.33	214.17	0.1000		
471.33	215.45	0.1000		
543.86	215.79	0.1000		
581.28	217.51	0.1000		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	213.36	.284E+03	0.2	0.18	24.77
0.34	213.58	.297E+04	3.3	0.30	15.16
0.56	213.80	.944E+04	11.3	0.33	13.96
0.78	214.02	.190E+05	28.3	0.40	11.22
0.99	214.23	.297E+05	51.0	0.47	9.71
1.21	214.45	.438E+05	81.1	0.50	9.01
1.43	214.67	.613E+05	123.3	0.55	8.28
1.65	214.89	.818E+05	176.9	0.59	7.71
1.87	215.11	.105E+06	243.4	0.63	7.17
2.09	215.33	.129E+06	325.5	0.69	6.61
2.30	215.54	.154E+06	409.3	0.72	6.28
2.52	215.76	.182E+06	496.1	0.74	6.11
2.74	215.98	.211E+06	620.0	0.80	5.68
2.96	216.20	.241E+06	759.1	0.86	5.30
3.18	216.42	.272E+06	910.1	0.91	4.97
3.40	216.64	.302E+06	1072.7	0.97	4.70
3.61	216.85	.333E+06	1246.5	1.02	4.46
3.83	217.07	.365E+06	1429.4	1.07	4.25
4.05	217.29	.397E+06	1584.2	1.09	4.18

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2156)	358.40	17.22	5.25	51.41	0.63	0.35
OUTFLOW: ID= 1 (5166)	358.40	16.08	5.25	51.41	0.62	0.34

CALIB	
STANDHYD (0166)	Area (ha)= 11.81
ID= 1 DT=15.0 min	Total Imp(%)= 83.00 Dir. Conn.(%)= 83.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.80	2.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.50
Length (m)=	280.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	25.47
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.79	0.10 0.876 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	61.71	44.29 58.75
TOTAL RAINFALL (mm)=	62.71	62.71 62.71

RUNOFF COEFFICIENT =	0.98	0.71	0.94	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2166)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0166):	11.81	0.876	5.25	58.75
+ ID2= 2 (5166):	358.40	16.079	5.25	51.41
ID = 3 (2166):	370.21	16.955	5.25	51.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5160)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5160.0) ------>

Distance	Elevation	Manning		
0.00	220.97	0.1000		
17.68	215.64	0.1000		
29.90	215.85	0.1000		
34.23	215.87	0.1000		
296.26	212.66	0.1000		
299.34	211.63	0.1000 /0.0440	Main Channel	
304.29	210.00	0.0440	Main Channel	
306.02	209.43	0.0440	Main Channel	
310.37	211.42	0.0440 /0.1000	Main Channel	
313.87	213.06	0.1000		
653.61	215.18	0.1000		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	209.71	.349E+02	0.1	0.37	7.47
0.57	210.00	.139E+03	0.5	0.59	4.70
0.85	210.28	.314E+03	1.5	0.77	3.59
1.14	210.57	.558E+03	3.1	0.93	2.96
1.42	210.85	.872E+03	5.7	1.08	2.55
1.71	211.14	.126E+04	9.3	1.22	2.26
1.99	211.42	.171E+04	14.0	1.35	2.04
2.30	211.73	.229E+04	21.6	1.56	1.77
2.62	212.05	.295E+04	31.5	1.76	1.56
2.93	212.36	.370E+04	43.1	1.92	1.43
3.24	212.67	.453E+04	56.3	2.05	1.34
3.56	212.99	.614E+04	71.7	1.93	1.43
3.87	213.30	.985E+04	92.0	1.54	1.79
4.18	213.61	.174E+05	125.0	1.19	2.32
4.50	213.93	.289E+05	175.6	1.00	2.75
4.81	214.24	.443E+05	248.2	0.93	2.98
5.12	214.55	.637E+05	346.9	0.90	3.06
5.44	214.87	.870E+05	475.7	0.90	3.05

5.75	215.18	.114E+06	638.0	0.92	2.98	

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2166)	370.21	16.96	5.25	51.65	2.11	1.42
OUTFLOW: ID= 1 (5160)	370.21	16.76	5.25	51.65	2.11	1.42

CALIB	
STANDHYD (0160)	Area (ha)= 41.13
ID= 1 DT=15.0 min	Total Imp(%)= 62.00 Dir. Conn.(%)= 62.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.50	15.63
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.70
Length (m)=	523.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	23.41
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	2.04	0.65 2.628 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	61.71	39.65 53.33
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.63 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2160)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0160):	41.13	2.628	5.25	53.33
+ ID2= 2 (5160):	370.21	16.763	5.25	51.65
ID = 3 (2160):	411.34	19.391	5.25	51.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5164)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5164.0) ------>

Distance	Elevation	Manning
0.00	212.78	0.1000

18.70	212.77	0.1000		
200.84	210.24	0.1000		
234.88	210.16	0.1000		
258.11	210.46	0.1000		
258.43	210.47	0.1000		
263.50	208.74	0.1000 /0.0440	Main Channel	
269.32	206.81	0.0440	Main Channel	
277.54	208.63	0.0440 /0.1000	Main Channel	
291.76	210.46	0.1000		
323.24	210.56	0.1000		
387.30	209.40	0.1000		
387.95	209.38	0.1000		
408.71	210.26	0.1000		
538.36	212.18	0.1000		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	207.07	.240E+03	0.1	0.34	45.94
0.52	207.33	.959E+03	0.6	0.54	28.94
0.78	207.59	.216E+04	1.6	0.71	22.08
1.04	207.85	.384E+04	3.5	0.86	18.23
1.30	208.11	.600E+04	6.4	1.00	15.71
1.56	208.37	.863E+04	10.3	1.13	13.91
1.82	208.63	.118E+05	15.6	1.25	12.55
2.12	208.93	.160E+05	24.8	1.46	10.76
2.41	209.22	.212E+05	36.3	1.62	9.71
2.71	209.52	.278E+05	49.7	1.68	9.33
3.00	209.81	.409E+05	66.9	1.54	10.19
3.30	210.11	.613E+05	89.7	1.38	11.40
3.60	210.41	.993E+05	119.8	1.14	13.82
3.89	210.70	.165E+06	166.6	0.95	16.52
4.19	211.00	.246E+06	238.9	0.91	17.18
4.48	211.29	.339E+06	330.8	0.92	17.08
4.78	211.59	.443E+06	443.5	0.94	16.66
5.07	211.88	.559E+06	578.0	0.97	16.12
5.37	212.18	.686E+06	735.6	1.01	15.55

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2160)	411.34	19.39	5.25	51.82	1.94	1.33
OUTFLOW: ID= 1 (5164)	411.34	18.17	5.50	51.81	1.90	1.30

CALIB	
STANDHYD (0164)	Area (ha)= 45.17
ID= 1 DT=15.0 min	Total Imp(%)= 69.00 Dir. Conn.(%)= 69.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	31.17	14.00
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.20
Length (m)=	548.76	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	24.78
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

				TOTALS	
PEAK FLOW	(cms)=	2.50	0.60	3.037	(iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25	
RUNOFF VOLUME	(mm)=	61.71	42.66	55.80	
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT	=	0.98	0.68	0.89	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2164)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0164):	45.17	3.037	5.25	55.80
+ ID2= 2 (5164):	411.34	18.171	5.50	51.81
ID = 3 (2164):	456.51	21.182	5.25	52.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0154) | Area (ha)= 31.75
ID= 1 DT=15.0 min | Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.37	12.38
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.90
Length	(m)=	460.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	24.09
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

				TOTALS	
PEAK FLOW	(cms)=	1.55	0.54	2.043	(iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25	
RUNOFF VOLUME	(mm)=	61.71	41.12	53.68	
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT	=	0.98	0.66	0.86	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1159)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	31.75	2.043	5.25	53.68
+ ID2= 2 (2164):	456.51	21.182	5.25	52.21
ID = 3 (1159):	488.26	23.225	5.25	52.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5159)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5159.0) ------>

Distance	Elevation	Manning	
0.00	214.26	0.1000	
15.15	209.75	0.1000	
214.62	207.44	0.1000	
237.60	208.06	0.1000	
238.63	207.69	0.1000 /0.0440	Main Channel
243.51	206.03	0.0440	Main Channel
248.17	207.75	0.0440 /0.1000	Main Channel
253.75	209.16	0.1000	
368.44	208.65	0.1000	
396.47	209.34	0.1000	
401.21	210.91	0.1000	
408.62	210.88	0.1000	
414.76	209.90	0.1000	
416.35	209.56	0.1000	
419.98	210.43	0.1000	
428.66	212.47	0.1000	
428.84	212.42	0.1000	
434.05	211.02	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	206.27	.421E+02	0.1	0.36	12.23
0.47	206.50	.169E+03	0.4	0.57	7.71
0.71	206.74	.379E+03	1.1	0.75	5.88
0.95	206.98	.674E+03	2.3	0.91	4.85
1.19	207.22	.105E+04	4.2	1.06	4.18
1.42	207.45	.152E+04	6.8	1.19	3.71
1.66	207.69	.309E+04	11.0	0.94	4.70
1.94	207.97	.738E+04	21.4	0.77	5.74
2.21	208.24	.141E+05	39.7	0.74	5.94
2.49	208.52	.228E+05	66.4	0.77	5.72
2.77	208.80	.341E+05	102.4	0.80	5.55
3.05	209.08	.521E+05	154.2	0.79	5.63
3.32	209.35	.762E+05	230.1	0.80	5.52
3.60	209.63	.103E+06	330.8	0.85	5.17
3.88	209.91	.131E+06	461.9	0.94	4.72
4.16	210.19	.159E+06	620.4	1.03	4.28
4.43	210.46	.188E+06	798.9	1.12	3.93
4.71	210.74	.218E+06	996.5	1.21	3.64
4.99	211.02	.248E+06	1205.6	1.29	3.42

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

INFLOW : ID= 2 (1159)	488.26	23.22	5.25	52.31	1.96	0.77
OUTFLOW: ID= 1 (5159)	488.26	21.81	5.50	52.31	1.94	0.77

CALIB
STANDHYD (0159) | Area (ha)= 10.94
ID= 1 DT=15.0 min | Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.42	2.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	270.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	26.14
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

				TOTALS	
PEAK FLOW	(cms)=	0.67	0.14	0.813	(iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME	(mm)=	61.71	46.01	58.10	
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT	=	0.98	0.73	0.93	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2159)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0159):	10.94	0.813	5.25	58.10
+ ID2= 2 (5159):	488.26	21.814	5.50	52.31
ID = 3 (2159):	499.20	22.579	5.25	52.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1151)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2144):	370.20	9.201	5.25	44.98
+ ID2= 2 (2159):	499.20	22.579	5.25	52.43
ID = 3 (1151):	869.40	31.781	5.25	49.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5151)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5151.0) ------>

Distance	Elevation	Manning	
0.00	212.00	0.1000	
50.00	204.31	0.1000	
134.63	203.45	0.1000	
205.73	202.20	0.1000	
253.61	202.65	0.1000	
253.97	202.65	0.1000	
254.84	202.67	0.1000	
258.44	201.10	0.1000 /0.0160	Main Channel
264.70	199.68	0.0160	Main Channel
267.15	200.66	0.0160 /0.1000	Main Channel
273.37	202.49	0.1000	
291.37	202.23	0.1000	
375.68	203.79	0.1000	
411.05	210.16	0.1000	
440.50	211.13	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	200.17	.139E+04	1.8	2.11	13.18
0.98	200.66	.554E+04	11.1	3.36	8.30
1.60	201.28	.149E+05	43.4	4.85	5.74
2.21	201.89	.283E+05	101.2	5.98	4.65
2.83	202.51	.660E+05	179.5	4.54	6.13
3.44	203.12	.221E+06	329.9	2.50	11.15
4.06	203.74	.451E+06	567.3	2.10	13.24
4.68	204.36	.760E+06	929.7	2.04	13.63
5.29	204.97	.110E+07	1451.7	2.20	12.66
5.91	205.59	.145E+07	2082.2	2.39	11.63
6.52	206.20	.181E+07	2813.7	2.60	10.73
7.14	206.82	.218E+07	3641.2	2.80	9.96
7.75	207.43	.255E+07	4561.1	2.99	9.32
8.37	208.05	.293E+07	5570.6	3.18	8.77
8.99	208.67	.332E+07	6667.7	3.36	8.29
9.60	209.28	.371E+07	7850.6	3.53	7.89
10.22	209.90	.412E+07	9118.1	3.70	7.53
10.83	210.51	.453E+07	10363.7	3.82	7.29
11.45	211.13	.497E+07	11638.8	3.91	7.11

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1151)	869.40	31.78	5.25	49.26	1.37	4.18
OUTFLOW: ID= 1 (5151)	869.40	31.30	5.50	49.26	1.36	4.16

CALIB
STANDHYD (0151) | Area (ha)= 74.96
ID= 1 DT=15.0 min | Total Imp(%)= 72.00 Dir. Conn.(%)= 72.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	53.97	20.99
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60

```
Length            (m)=     706.92        40.00
Mannings n          =      0.013        0.250

Max.Eff.Inten.(mm/hr)=      28.84        24.78
          over (min)        15.00        30.00
Storage Coeff.  (min)=      10.80 (ii)   64.80 (ii)
Unit Hyd. Tpeak (min)=      15.00        60.00
Unit Hyd. peak  (cms)=       0.09         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=       4.31         0.76        4.893 (iii)
TIME TO PEAK    (hrs)=       5.25         5.75         5.25
RUNOFF VOLUME    (mm)=      61.71        42.66        56.38
TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
RUNOFF COEFFICIENT   =       0.98         0.68         0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2151) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0151):    74.96   4.893     5.25    56.38
      + ID2= 2 (5151):   869.40  31.300     5.50    49.26
        ================================================
        ID = 3 (2151):   944.36  35.193     5.25    49.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0093) |   Area    (ha)= 175.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  42.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      89.49        85.99
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.30
     Length            (m)=    1081.60        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        27.57
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.20 (ii)   77.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                  *TOTALS*
     PEAK FLOW       (cms)=       5.86         3.06        7.721 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=      61.71        39.73        48.96
     TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
     RUNOFF COEFFICIENT   =       0.98         0.63         0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN (5549) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5549.0) ------>
             Distance      Elevation       Manning
                 0.00         227.98        0.1000
                41.86         226.96        0.1000
                67.38         227.16        0.1000
               115.79         225.66        0.1000
               158.71         225.52        0.1000
               214.74         223.93        0.1000
               246.25         223.89        0.1000
               247.96         223.81        0.1000
               263.08         220.73    0.1000 /0.0160  Main Channel
               265.84         219.85        0.0160      Main Channel
               269.95         220.94    0.0160 /0.1000  Main Channel
               278.51         223.27        0.1000
               327.48         223.31        0.1000
               332.73         223.20        0.1000
               383.18         224.76        0.1000
               395.33         224.82        0.1000
               445.70         224.10        0.1000
               465.54         224.23        0.1000
               609.26         227.27        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.29   220.14    .215E+03        0.4         1.20       10.10
      0.59   220.44    .862E+03        2.3         1.90        6.36
      0.88   220.73    .194E+04        6.7         2.49        4.86
      1.29   221.14    .426E+04       19.9         3.38        3.57
      1.70   221.55    .763E+04       40.6         3.86        3.13
      2.11   221.96    .120E+05       67.6         4.07        2.97
      2.51   222.36    .175E+05      100.9         4.18        2.89
      2.92   222.77    .240E+05      140.3         4.24        2.85
      3.33   223.18    .315E+05      186.1         4.28        2.82
      3.74   223.59    .537E+05      239.9         3.24        3.73
      4.15   224.00    .867E+05      307.4         2.57        4.70
      4.56   224.41    .141E+06      403.2         2.08        5.81
      4.97   224.82    .218E+06      536.2         1.78        6.79
      5.38   225.23    .315E+06      732.9         1.69        7.17
      5.78   225.63    .423E+06      952.6         1.63        7.41
      6.19   226.04    .551E+06     1248.0         1.64        7.36
      6.60   226.45    .689E+06     1596.8         1.68        7.19
      7.01   226.86    .836E+06     1995.8         1.73        6.98
      7.42   227.27    .998E+06     2405.0         1.75        6.91

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (0093)  175.48     7.72    5.25   48.96      0.91      2.54
OUTFLOW: ID= 1 (5549)  175.48     7.54    5.25   48.96      0.91      2.53
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--------------------
| CALIB            |
| STANDHYD  (0549) |   Area    (ha)=  32.18
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  40.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.09        16.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=     463.18        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        28.76
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.80 (ii)   45.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.02
                                                  *TOTALS*
     PEAK FLOW       (cms)=       1.03         0.81        1.763 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=      61.71        41.22        49.41
     TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
     RUNOFF COEFFICIENT   =       0.98         0.66         0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2549) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0549):    32.18   1.763     5.25    49.41
      + ID2= 2 (5549):   175.48   7.545     5.25    48.96
        ================================================
        ID = 3 (2549):   207.66   9.307     5.25    49.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0531) |   Area    (ha)=  79.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  29.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.80        51.62
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.20
     Length            (m)=     727.64        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        23.48
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   57.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
```



```
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                  *TOTALS*
     PEAK FLOW       (cms)=       1.84         1.80        3.179 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75         5.25
     RUNOFF VOLUME    (mm)=      61.71        35.98        43.44
     TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
     RUNOFF COEFFICIENT   =       0.98         0.57         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1123) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0531):    79.42   3.179     5.25    43.44
      + ID2= 2 (2549):   207.66   9.307     5.25    49.03
        ================================================
        ID = 3 (1123):   287.08  12.486     5.25    47.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5123) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5123.0) ------>
             Distance      Elevation       Manning
                 0.00         221.63        0.1000
                49.32         221.56        0.1000
               108.84         221.01        0.1000
               120.64         220.69        0.1000
               151.95         218.35        0.1000
               162.10         216.92        0.1000
               166.38         215.80    0.1000 /0.0160  Main Channel
               169.01         215.15        0.0160      Main Channel
               172.24         215.79    0.0160 /0.1000  Main Channel
               191.35         219.36        0.1000
               202.67         220.68        0.1000
               243.44         220.80        0.1000
               288.84         220.47        0.1000
               300.34         220.10        0.1000
               334.49         221.22        0.1000
               348.80         221.25        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.32   215.47    .344E+03        0.9         2.00        6.15
      0.64   215.79    .138E+04        5.9         3.18        3.87
      0.96   216.11    .311E+04       19.0         4.52        2.72
      1.28   216.43    .554E+04       38.2         5.09        2.42
      1.60   216.75    .867E+04       63.0         5.37        2.29
      1.92   217.07    .125E+05       93.3         5.51        2.24
      2.25   217.40    .173E+05      129.4         5.53        2.23
```

2.57	217.72	.230E+05	171.5	5.50	2.24
2.89	218.04	.297E+05	219.7	5.47	2.25
3.21	218.36	.373E+05	274.3	5.43	2.27
3.53	218.68	.461E+05	334.3	5.35	2.30
3.85	219.00	.564E+05	402.0	5.27	2.34
4.17	219.32	.681E+05	477.6	5.18	2.38
4.49	219.64	.813E+05	560.0	5.09	2.42
4.82	219.97	.961E+05	651.4	5.01	2.46
5.14	220.29	.113E+06	734.6	4.78	2.57
5.46	220.61	.138E+06	824.5	4.43	2.78
5.78	220.93	.180E+06	935.3	3.84	3.20
6.10	221.25	.235E+06	1080.9	3.40	3.62

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1123)	287.08	12.49	5.25	47.49	0.80	3.74
OUTFLOW: ID= 1 (5123)	287.08	12.28	5.25	47.49	0.80	3.71

CALIB	
STANDHYD (0123)	Area (ha)= 21.65
ID= 1 DT=15.0 min	Total Imp(%)= 42.00 Dir. Conn.(%)= 33.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.09	12.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	379.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	26.02
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	40.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.57	0.59 1.099 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	61.71	38.11 45.90
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.61 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2123)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0123):	21.65	1.099	5.25	45.90
+ ID2= 2 (5123):	287.08	12.278	5.25	47.49
ID = 3 (2123):	308.73	13.378	5.25	47.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5445)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5445.0) ------>

Distance	Elevation	Manning	
0.00	217.15	0.1000	
23.77	216.85	0.1000	
57.10	215.44	0.1000	
113.41	215.01	0.1000	
116.54	215.05	0.1000	
139.11	215.26	0.1000	
185.92	215.20	0.1000	
230.25	214.45	0.1000	
235.73	214.29	0.1000	
267.98	213.04	0.1000 /0.0160	Main Channel
269.89	212.75	0.0160	Main Channel
271.26	212.92	0.0160 /0.1000	Main Channel
292.87	215.83	0.1000	
310.23	215.75	0.1000	
315.65	215.41	0.1000	
331.32	215.86	0.1000	
358.01	217.44	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	212.92	.531E+02	0.3	1.32	3.16
0.39	213.14	.305E+03	2.6	2.17	1.93
0.62	213.37	.935E+03	7.7	2.06	2.03
0.84	213.59	.198E+04	15.6	1.97	2.12
1.06	213.81	.343E+04	26.6	1.94	2.15
1.28	214.03	.530E+04	41.0	1.94	2.16
1.51	214.26	.758E+04	59.2	1.96	2.14
1.73	214.48	.103E+05	80.7	1.96	2.13
1.95	214.70	.138E+05	105.6	1.93	2.17
2.17	214.92	.180E+05	136.9	1.90	2.20
2.40	215.15	.237E+05	164.7	1.75	2.39
2.62	215.37	.341E+05	206.2	1.52	2.75
2.84	215.59	.473E+05	280.9	1.49	2.81
3.06	215.81	.617E+05	372.5	1.51	2.76
3.29	216.04	.777E+05	494.0	1.60	2.62
3.51	216.26	.942E+05	634.4	1.69	2.48
3.73	216.48	.111E+06	791.6	1.79	2.34
3.95	216.70	.129E+06	965.2	1.88	2.22
4.18	216.93	.147E+06	1146.8	1.96	2.13

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2123)	308.73	13.38	5.25	47.38	0.78	2.00
OUTFLOW: ID= 1 (5445)	308.73	13.11	5.25	47.38	0.77	2.00

CALIB	
STANDHYD (0445)	Area (ha)= 47.14
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.98	22.16
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	560.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	31.19
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	1.58	1.19 2.655 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	61.71	44.30 51.61
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.71 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2445)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0445):	47.14	2.655	5.25	51.61
+ ID2= 2 (5445):	308.73	13.113	5.25	47.38
ID = 3 (2445):	355.87	15.768	5.25	47.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5121)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5121.0) ------>

Distance	Elevation	Manning	
0.00	209.51	0.1000	
18.50	208.32	0.1000	
51.25	205.70	0.1000	
100.36	204.89	0.1000	
124.00	203.76	0.1000	
172.44	203.13	0.1000	
180.24	202.88	0.1000	
186.88	202.01	0.1000 /0.0440	Main Channel
194.59	201.00	0.0440	Main Channel
200.49	202.11	0.0440 /0.1000	Main Channel
208.49	203.60	0.1000	
211.23	203.87	0.1000	
250.29	205.16	0.1000	
290.65	205.13	0.1000	
356.36	205.76	0.1000	

385.25	205.85	0.1000
434.54	206.45	0.1000
484.26	205.90	0.1000
505.84	206.94	0.1000
561.50	207.35	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	201.25	.658E+03	0.2	0.57	46.37
0.50	201.50	.263E+04	1.5	0.91	29.21
0.76	201.76	.592E+04	4.4	1.19	22.29
1.01	202.01	.105E+05	9.5	1.44	18.40
1.37	202.37	.193E+05	23.3	1.93	13.76
1.72	202.72	.306E+05	43.1	2.25	11.83
2.08	203.08	.453E+05	68.5	2.41	11.03
2.43	203.43	.703E+05	101.3	2.30	11.58
2.79	203.79	.112E+06	147.5	2.10	12.65
3.15	204.15	.166E+06	211.7	2.04	13.05
3.50	204.50	.230E+06	293.6	2.04	13.04
3.86	204.86	.304E+06	394.5	2.07	12.85
4.21	205.21	.397E+06	489.6	1.97	13.52
4.57	205.57	.538E+06	637.4	1.89	14.06
4.93	205.93	.714E+06	835.4	1.87	14.24
5.28	206.28	.931E+06	1091.8	1.87	14.21
5.64	206.64	.118E+07	1428.0	1.92	13.83
5.99	206.99	.145E+07	1832.3	2.02	13.18
6.35	207.35	.174E+07	2254.3	2.07	12.83

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2445)	355.87	15.77	5.25	47.94	1.17	1.63
OUTFLOW: ID= 1 (5121)	355.87	14.75	5.50	47.94	1.14	1.60

CALIB	
STANDHYD (0121)	Area (ha)= 133.85
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 49.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	73.62	60.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	944.63	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	27.44
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	73.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	5.23	2.21 6.597 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	61.71	41.65 51.48
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.66 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2121)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0121):		133.85	6.597	5.25	51.48
	+ ID2= 2 (5121):		355.87	14.749	5.50	47.94
	ID = 3 (2121):		489.72	20.880	5.25	48.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5136)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5136.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.816E+02	0.0	0.27	52.78
0.20	195.20	.326E+03	0.2	0.42	33.25
0.29	195.29	.734E+03	0.5	0.56	25.37
0.39	195.39	.130E+04	1.0	0.68	20.88
0.49	195.49	.203E+04	1.9	0.79	17.97
0.61	195.61	.310E+04	3.6	0.99	14.22
0.74	195.74	.428E+04	5.9	1.16	12.15
0.86	195.86	.557E+04	8.6	1.31	10.82
0.98	195.98	.698E+04	12.0	1.46	9.68
1.11	196.11	.865E+04	16.0	1.57	9.01
1.23	196.23	.108E+05	20.6	1.62	8.74
1.35	196.35	.134E+05	25.9	1.64	8.63
1.48	196.48	.166E+05	32.0	1.64	8.61
1.60	196.60	.202E+05	38.9	1.64	8.63
1.73	196.73	.245E+05	46.4	1.61	8.80
1.85	196.85	.299E+05	55.2	1.57	9.02
1.97	196.97	.362E+05	65.3	1.53	9.25

2.10	197.10	.436E+05	76.7	1.49	9.48
2.22	197.22	.521E+05	89.7	1.46	9.68

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (2121)	489.72	20.88	5.25	48.91	1.24	1.62
OUTFLOW:	ID= 1 (5136)	489.72	20.04	5.50	48.90	1.22	1.61

CALIB	STANDHYD (0136)	ID= 1 DT=15.0 min	Area (ha)= 79.16	Total Imp(%)= 52.00	Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	41.16	38.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	726.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	29.08
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	2.72 1.55 3.692 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	61.71 42.37 50.69
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.98 0.68 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2136)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0136):		79.16	3.692	5.25	50.69
	+ ID2= 2 (5136):		489.72	20.043	5.50	48.90
	ID = 3 (2136):		568.88	23.215	5.25	49.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1149)	1 + 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2136):		568.88	23.215	5.25	49.15

+ ID2= 2 (2151):		944.36	35.193	5.25	49.83
ID = 3 (1149):		1513.24	58.408	5.25	49.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5149)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5149.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.366E+02	0.0	0.27	23.37
0.20	195.20	.146E+03	0.2	0.43	14.72
0.29	195.29	.329E+03	0.5	0.56	11.24
0.39	195.39	.585E+03	1.1	0.68	9.25
0.49	195.49	.911E+03	1.9	0.80	7.96
0.61	195.61	.139E+04	3.7	1.01	6.30
0.74	195.74	.192E+04	5.9	1.18	5.38
0.86	195.86	.250E+04	8.7	1.32	4.79
0.98	195.98	.313E+04	12.2	1.48	4.29
1.11	196.11	.388E+04	16.2	1.59	3.99
1.23	196.23	.485E+04	20.9	1.64	3.87
1.35	196.35	.603E+04	26.3	1.66	3.82
1.48	196.48	.742E+04	32.4	1.66	3.81
1.60	196.60	.904E+04	39.4	1.66	3.82
1.73	196.73	.110E+05	47.0	1.63	3.90
1.85	196.85	.134E+05	55.9	1.59	3.99
1.97	196.97	.163E+05	66.1	1.55	4.10
2.10	197.10	.196E+05	77.7	1.51	4.20
2.22	197.22	.234E+05	90.9	1.48	4.29

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1149)	1513.24	58.41	5.25	49.57	1.88	1.58
OUTFLOW:	ID= 1 (5149)	1513.24	57.72	5.50	49.57	1.87	1.58

CALIB

STANDHYD (0149)	ID= 1 DT=15.0 min	Area (ha)= 3.06	Total Imp(%)= 34.00	Dir. Conn.(%)= 29.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.04	2.02
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.80
Length	(m)=	142.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	22.35
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.07 0.11 0.186 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	61.71 34.57 42.44
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.98 0.55 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2149)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0149):		3.06	0.186	5.25	42.44
	+ ID2= 2 (5149):		1513.24	57.718	5.50	49.57
	ID = 3 (2149):		1516.30	57.809	5.50	49.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1150)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2149):		1516.30	57.809	5.50	49.56
	+ ID2= 2 (2721):		1772.50	14.077	9.00	33.55
	ID = 3 (1150):		3288.80	70.265	5.50	40.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5150)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5150.0) ------>

Distance	Elevation	Manning

0.00	193.23	0.1000	
0.00	194.50	0.1000	
210.65	190.50	0.1000	
223.18	188.00	0.1000 /0.0440	Main Channel
226.63	187.00	0.0440	Main Channel
230.00	186.50	0.0440	Main Channel
233.00	186.50	0.0440	Main Channel
237.18	187.00	0.0440	Main Channel
241.05	188.00	0.0440 /0.1000	Main Channel
252.73	190.50	0.1000	
267.79	191.00	0.1000	
282.60	194.00	0.1000	
291.93	194.50	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	186.80	.773E+03	0.9	0.58	14.02
0.60	187.10	.219E+04	4.0	0.89	9.18
0.90	187.40	.401E+04	9.6	1.18	6.93
1.20	187.70	.615E+04	17.8	1.41	5.78
1.50	188.00	.862E+04	28.5	1.62	5.04
1.87	188.37	.122E+05	48.8	1.96	4.17
2.25	188.75	.165E+05	73.9	2.20	3.71
2.62	189.12	.214E+05	104.0	2.38	3.43
2.99	189.49	.270E+05	139.0	2.52	3.24
3.37	189.87	.332E+05	179.2	2.64	3.09
3.74	190.24	.401E+05	224.6	2.74	2.98
4.11	190.61	.479E+05	271.1	2.77	2.95
4.49	190.99	.602E+05	323.8	2.63	3.10
4.86	191.36	.773E+05	394.7	2.50	3.26
5.24	191.74	.984E+05	479.5	2.39	3.42
5.61	192.11	.123E+06	579.5	2.30	3.55
5.98	192.48	.152E+06	696.2	2.24	3.65
6.36	192.86	.185E+06	830.9	2.20	3.71
6.73	193.23	.222E+06	985.0	2.17	3.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1150)	3288.80	70.26	5.50	40.93	2.19	2.16
OUTFLOW: ID= 1 (5150)	3288.80	70.74	5.50	40.93	2.20	2.16

CALIB	
STANDHYD (0150)	Area (ha)= 55.43
ID= 1 DT=15.0 min	Total Imp(%)= 73.00 Dir. Conn.(%)= 73.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.46	14.97
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	607.89	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	24.78
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	57.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS

PEAK FLOW	(cms)=	3.24	0.58	3.681 (iii)		
TIME TO PEAK	(hrs)=	5.25	5.75	5.25		
RUNOFF VOLUME	(mm)=	61.71	42.66	56.57		
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71		
RUNOFF COEFFICIENT	=	0.98	0.68	0.90		

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2150)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0150):	55.43	3.681	5.25	56.57
	+ ID2= 2 (5150):	3288.80	70.740	5.50	40.93
	ID = 3 (2150):	3344.23	72.677	5.50	41.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5175)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5175.0) ------>

Distance	Elevation	Manning	
0.00	190.19	0.1000	
183.72	188.50	0.1000	
199.34	185.08	0.1000	
204.64	184.92	0.1000	
226.50	184.89	0.1000	
232.59	184.66	0.1000	
236.19	184.34	0.1000	
237.52	184.12	0.1000 /0.0440	Main Channel
237.54	182.90	0.0440	Main Channel
242.00	182.90	0.0440	Main Channel
242.55	184.03	0.0440 /0.1000	Main Channel
249.56	184.50	0.1000	
284.14	185.34	0.1000	
284.72	187.50	0.1000	
288.13	188.00	0.1000	
319.42	187.98	0.1000	
319.74	187.98	0.1000	
332.36	187.82	0.1000	
357.39	187.66	0.1000	
357.40	190.19	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	183.28	.193E+04	1.5	0.87	21.55
0.75	183.65	.393E+04	4.5	1.27	14.71
1.13	184.03	.602E+04	8.3	1.56	12.03
1.52	184.41	.975E+04	14.2	1.63	11.46
1.90	184.80	.190E+05	23.1	1.36	13.72

2.29	185.19	.457E+05	41.1	1.01	18.50
2.67	185.57	.824E+05	76.1	1.04	18.03
3.06	185.96	.120E+06	124.9	1.17	16.07
3.44	186.34	.159E+06	184.9	1.30	14.36
3.83	186.73	.199E+06	255.1	1.44	13.00
4.21	187.11	.239E+06	335.0	1.57	11.92
4.60	187.50	.281E+06	424.1	1.70	11.04
4.98	187.88	.328E+06	465.5	1.60	11.73
5.37	188.27	.397E+06	553.5	1.56	11.97
5.75	188.65	.474E+06	659.3	1.56	11.98
6.14	189.04	.565E+06	767.5	1.53	12.27
6.52	189.42	.674E+06	931.4	1.55	12.07
6.91	189.81	.802E+06	1138.5	1.60	11.74
7.29	190.19	.947E+06	1387.0	1.64	11.38

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2150)	3344.23	72.68	5.50	41.19	2.63	1.04
OUTFLOW: ID= 1 (5175)	3344.23	67.22	5.75	41.19	2.57	1.03

CALIB	
STANDHYD (0175)	Area (ha)= 60.91
ID= 1 DT=15.0 min	Total Imp(%)= 69.00 Dir. Conn.(%)= 69.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	42.03	18.88
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	637.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	23.41
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	3.36	0.68	3.878 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	61.71	39.65	54.87
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.63	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2175)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0175):	60.91	3.878	5.25	54.87
	+ ID2= 2 (5175):	3344.23	67.215	5.75	41.19

ID = 3 (2175):	3405.14	68.951	5.75	41.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0128)	Area (ha)= 191.08
ID= 1 DT=15.0 min	Total Imp(%)= 56.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	107.00	84.08
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	1128.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	28.92
over (min)		15.00	30.00
Storage Coeff. (min)=		15.60 (ii)	93.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01
			TOTALS
PEAK FLOW	(cms)=	7.40	2.89	8.901 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	61.71	43.39	52.37
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.69	0.84

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2128)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0128):	191.08	8.901	5.25	52.37
	+ ID2= 2 (2175):	3405.14	68.951	5.75	41.43
	ID = 3 (2128):	3596.22	74.250	5.75	42.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 24.12
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.85	13.27
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	8.60
Length	(m)=	401.00	40.00
Mannings n	=	0.013	0.250

```
Max.Eff.Inten.(mm/hr)=      28.84        22.06
          over (min)       15.00        15.00
Storage Coeff.  (min)=      5.40 (ii)   31.80 (ii)
Unit Hyd. Tpeak (min)=     15.00        30.00
Unit Hyd. peak  (cms)=      0.11         0.04
                                              *TOTALS*
PEAK FLOW      (cms)=       0.87         0.59          1.459 (iii)
TIME TO PEAK   (hrs)=       5.25         5.25          5.25
RUNOFF VOLUME   (mm)=      61.71        36.93         48.08
TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
RUNOFF COEFFICIENT  =       0.98         0.59          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  88.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9476) |
| Inlet Cap.=0.030 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.12      1.46      5.25   48.08
     ==========================================================
     MAJOR SYS.(ID= 2):  21.73      1.43      5.25   48.08
     MINOR SYS.(ID= 3):   2.39      0.03      2.50   48.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6476) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.0300      0.1280

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9476)      2.389     0.030      2.50      48.08
     OUTFLOW: ID= 1 (6476)      2.389     0.017     12.50      47.63

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.91
                  TIME SHIFT OF PEAK FLOW          (min)=600.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0742

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (4476) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6476):     2.39   0.017    12.50    47.63
       + ID2= 2 (9476):    21.73   1.429     5.25    48.08
         ================================================
         ID = 3 (4476):    24.12   1.436     5.25    48.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (1171) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2128):  3596.22  74.250     5.75    42.02
       + ID2= 2 (4476):    24.12   1.436     5.25    48.03
         ================================================
         ID = 3 (1171):  3620.34  74.929     5.75    42.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5171) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                  <------ DATA FOR SECTION (5171.0) ------>
                 Distance      Elevation       Manning
                    0.00        182.62        0.1000
                   70.19        179.50        0.1000
                  139.11        179.00    0.1000 /0.0440  Main Channel
                  140.08        178.61        0.0440      Main Channel
                  140.35        177.50        0.0440      Main Channel
                  146.00        177.50        0.0440      Main Channel
                  146.96        178.83        0.0440      Main Channel
                  148.70        178.92        0.0440      Main Channel
                  148.90        179.00    0.0440 /0.1000  Main Channel
                  169.23        179.25        0.1000
                  181.85        182.00        0.1000
                  283.06        182.00        0.1000
                  330.41        180.56        0.1000
                  373.02        181.50        0.1000
                  398.28        181.61        0.1000
                  428.84        182.54        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.25    177.75    .105E+04        0.9         0.61      19.95
       0.50    178.00    .214E+04        2.7         0.92      13.14
       0.75    178.25    .328E+04        5.2         1.16      10.44
       1.00    178.50    .446E+04        8.3         1.36       8.93
       1.25    178.75    .570E+04       11.7         1.50       8.08
       1.50    179.00    .723E+04       14.6         1.46       8.27
       1.77    179.27    .151E+05       23.2         1.12      10.82
       2.04    179.54    .322E+05       39.5         0.89      13.61
       2.32    179.82    .530E+05       65.3         0.90      13.52
       2.59    180.09    .753E+05       98.9         0.95      12.69
       2.86    180.36    .990E+05      139.6         1.03      11.81
       3.13    180.63    .124E+06      184.2         1.08      11.25
       3.41    180.91    .154E+06      232.9         1.10      11.03
       3.68    181.18    .190E+06      294.7         1.13      10.73
       3.95    181.45    .231E+06      368.9         1.16      10.44
       4.22    181.72    .280E+06      452.1         1.17      10.33
       4.50    182.00    .336E+06      559.3         1.21      10.02
       4.77    182.27    .416E+06      668.9         1.17      10.36
       5.04    182.54    .499E+06      833.8         1.21       9.97

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX VEL
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```
                               (ha)    (cms)   (hrs)   (mm)       (m)       (m/s)
     INFLOW : ID= 2 (1171) 3620.34    74.93    5.75  42.06      2.39       0.91
     OUTFLOW: ID= 1 (5171) 3620.34    73.17    6.00  42.06      2.38       0.91


--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   0.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.53
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.50
     Length            (m)=      65.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.38
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                               *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.02          0.027 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      61.71        30.11         35.77
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.48          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  11.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.99         9.05
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.50
     Length            (m)=     271.29        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.38
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                               *TOTALS*
     PEAK FLOW       (cms)=       0.16         0.31          0.465 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      61.71        30.11         35.80
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
```



```
     RUNOFF COEFFICIENT   =       0.98         0.48          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0339) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    11.04   0.465     5.25    35.80
       + ID2= 2 (****):     0.65   0.027     5.25    35.77
         ================================================
         ID = 3 (0339):    11.69   0.493     5.25    35.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   5.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.97         4.43
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.50
     Length            (m)=     189.74        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.38
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                               *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.15          0.228 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      61.71        30.11         35.80
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.48          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0342) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0339):    11.69   0.493     5.25    35.80
       + ID2= 2 (****):     5.40   0.228     5.25    35.80
         ==========================================
         ID = 3 (0342):    17.09   0.720     5.25    35.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------
| ADD HYD   (2171) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):    17.09   0.720     5.25    35.80
       + ID2= 2 (5171):  3620.34  73.169     6.00    42.06
         ==========================================
         ID = 3 (2171):  3637.43  73.571     6.00    42.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------
| CALIB             |
| STANDHYD  (0659)  |   Area    (ha)=  24.81
|ID= 1 DT=15.0 min  |   Total Imp(%)=  47.00   Dir. Conn.(%)=  47.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     11.66         13.15
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          6.20
     Length            (m)=    406.69         40.00
     Mannings n          =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         22.73
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      6.00 (ii)    35.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.10          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.93          0.58      1.517 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25      5.25
     RUNOFF VOLUME    (mm)=     61.71         38.25     49.28
     TOTAL RAINFALL   (mm)=     62.71         62.71     62.71
     RUNOFF COEFFICIENT   =      0.98          0.61      0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------
| DUHYD     (9475) |
| Inlet Cap.=0.060 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
```



```
    TOTAL HYD.(ID= 1):  24.81      1.52      5.25   49.28
    ==============================================
    MAJOR SYS.(ID= 2):  20.58      1.46      5.25   49.28
    MINOR SYS.(ID= 3):   4.23      0.06      2.50   49.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------
| RESERVOIR (6475) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)    (ha.m.)   |   (cms)    (ha.m.)
                          0.0000    0.0000   |   0.0600    0.2570

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9475)     4.234     0.060      2.50      49.28
    OUTFLOW: ID= 1 (6475)     4.234     0.031     12.25      49.03

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.87
               TIME SHIFT OF PEAK FLOW         (min)=585.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.1338

-------------------
| ADD HYD   (4475) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6475):    4.23   0.031    12.25    49.03
       + ID2= 2 (9475):   20.58   1.457     5.25    49.28
         ==========================================
         ID = 3 (4475):   24.81   1.470     5.25    49.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=   0.70
|ID= 1 DT=15.0 min  |   Total Imp(%)=  61.00   Dir. Conn.(%)=  61.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.43          0.27
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          2.90
     Length            (m)=     68.31         40.00
     Mannings n          =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         22.73
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     11.40 (ii)    68.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00         75.00
     Unit Hyd. peak  (cms)=      0.08          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.03          0.01      0.039 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.00      5.25
     RUNOFF VOLUME    (mm)=     61.71         38.25     52.50
     TOTAL RAINFALL   (mm)=     62.71         62.71     62.71
     RUNOFF COEFFICIENT   =      0.98          0.61      0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=   0.32
|ID= 1 DT=15.0 min  |   Total Imp(%)=  61.00   Dir. Conn.(%)=  61.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.20          0.12
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          2.90
     Length            (m)=     46.19         40.00
     Mannings n          =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         22.73
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     11.40 (ii)    68.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00         75.00
     Unit Hyd. peak  (cms)=      0.08          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.02          0.00      0.018 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.00      5.25
     RUNOFF VOLUME    (mm)=     61.71         38.25     52.44
     TOTAL RAINFALL   (mm)=     62.71         62.71     62.71
     RUNOFF COEFFICIENT   =      0.98          0.61      0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)= 100.13
|ID= 1 DT=15.0 min  |   Total Imp(%)=  61.00   Dir. Conn.(%)=  61.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     61.08         39.05
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          2.90
     Length            (m)=    817.03         40.00
     Mannings n          =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         22.73
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     11.40 (ii)    68.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00         75.00
     Unit Hyd. peak  (cms)=      0.08          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      4.88          1.20      5.601 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.00      5.25
     RUNOFF VOLUME    (mm)=     61.71         38.25     52.56
     TOTAL RAINFALL   (mm)=     62.71         62.71     62.71
```



```
     RUNOFF COEFFICIENT   =      0.98          0.61          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------
| ADD HYD   (0400) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):   100.13   5.601     5.25    52.56
       + ID2= 2 (****):     0.32   0.018     5.25    52.44
         ==========================================
         ID = 3 (0400):   100.45   5.618     5.25    52.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------
| ADD HYD   (0401) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0400):   100.45   5.618     5.25    52.56
       + ID2= 2 (****):     0.70   0.039     5.25    52.50
         ==========================================
         ID = 3 (0401):   101.15   5.658     5.25    52.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------
| ADD HYD   (2655) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0401):   101.15   5.658     5.25    52.56
       + ID2= 2 (4475):    24.81   1.470     5.25    49.24
         ==========================================
         ID = 3 (2655):   125.96   7.128     5.25    51.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------
| ADD HYD   (1179) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2171):  3637.43  73.571     6.00    42.03
       + ID2= 2 (2655):   125.96   7.128     5.25    51.91
         ==========================================
         ID = 3 (1179):  3763.39  76.855     6.00    42.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5179) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (5179.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
19.81	179.88	0.1000	
80.23	175.31	0.1000	
87.64	175.00	0.1000	
94.94	174.57	0.1000	
96.72	174.50	0.1000 /0.0440	Main Channel
98.15	174.00	0.0440	Main Channel
106.22	174.15	0.0440	Main Channel
107.82	174.50	0.0440 /0.1000	Main Channel
109.71	175.00	0.1000	
183.40	175.01	0.1000	
204.12	175.50	0.1000	
218.61	176.50	0.1000	
246.72	177.50	0.1000	
258.61	177.66	0.1000	
277.61	177.68	0.1000	
284.71	177.58	0.1000	
296.45	177.54	0.1000	
401.58	180.45	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	174.25	.162E+04	0.6	0.40	44.60
0.50	174.50	.432E+04	2.7	0.67	26.29
0.82	174.82	.947E+04	8.1	0.91	19.51
1.15	175.15	.285E+05	17.9	0.67	26.63
1.47	175.47	.682E+05	40.2	0.63	28.27
1.79	175.79	.113E+06	74.8	0.70	25.16
2.12	176.12	.161E+06	119.9	0.79	22.34
2.44	176.44	.212E+06	175.1	0.88	20.14
2.76	176.76	.266E+06	237.8	0.95	18.64
3.09	177.09	.325E+06	310.2	1.01	17.47
3.41	177.41	.389E+06	393.0	1.07	16.49
3.74	177.74	.463E+06	442.2	1.01	17.46
4.06	178.06	.554E+06	559.8	1.07	16.48
4.38	178.38	.650E+06	692.2	1.13	15.64
4.71	178.71	.751E+06	839.8	1.19	14.91
5.03	179.03	.858E+06	1002.8	1.24	14.26
5.35	179.35	.971E+06	1181.8	1.29	13.69
5.68	179.68	.109E+07	1377.0	1.34	13.18
6.00	180.00	.121E+07	1555.4	1.36	13.00

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1179)	3763.39	76.85	6.00	42.36	1.81	0.71
OUTFLOW: ID= 1 (5179)	3763.39	72.67	6.25	42.36	1.77	0.70

```
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   1.25
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.29	0.69
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	80.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

	TOTALS
PEAK FLOW (cms)=	0.041 (iii)
TIME TO PEAK (hrs)=	5.25
RUNOFF VOLUME (mm)=	40.27
TOTAL RAINFALL (mm)=	62.71
RUNOFF COEFFICIENT =	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.38	0.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	91.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

	TOTALS
PEAK FLOW (cms)=	0.053 (iii)
TIME TO PEAK (hrs)=	5.25
RUNOFF VOLUME (mm)=	40.28
TOTAL RAINFALL (mm)=	62.71
RUNOFF COEFFICIENT =	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  37.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	11.40	26.59
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	503.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

	TOTALS
PEAK FLOW (cms)=	1.607 (iii)
TIME TO PEAK (hrs)=	5.25
RUNOFF VOLUME (mm)=	40.30
TOTAL RAINFALL (mm)=	62.71
RUNOFF COEFFICIENT =	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (0347) |
```



```
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	1.25	0.053	5.25	40.28
+ ID2= 2 (****):	0.98	0.041	5.25	40.27
ID = 3 (0347):	2.23	0.094	5.25	40.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  37.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	11.40	26.59
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	503.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

	TOTALS
PEAK FLOW (cms)=	0.91	0.80	1.607 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	61.71	31.13	40.30
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.50	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (0345) |
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0347):	2.23	0.094	5.25	40.28
+ ID2= 2 (****):	37.99	1.607	5.25	40.30
ID = 3 (0345):	40.22	1.701	5.25	40.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ADD HYD   (2179) |
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0345):	40.22	1.701	5.25	40.30
+ ID2= 2 (5179):	3763.39	72.674	6.25	42.36

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID = 3 (2179):	3803.61	73.614	6.25	42.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ROUTE CHN (5429) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
```

<------ DATA FOR SECTION (5429.0) ------>

Distance	Elevation	Manning	
0.00	173.91	0.1110	
0.00	176.00	0.1110	
9.53	173.50	0.1110	
25.59	171.50	0.1110	
90.97	171.00	0.1110	
96.91	170.58	0.1110	
97.41	170.50	0.1110	
98.56	170.14	0.1110 /0.0490	Main Channel
99.04	169.50	0.0490	Main Channel
103.00	169.50	0.0490	Main Channel
103.89	170.28	0.0490 /0.1110	Main Channel
105.84	170.39	0.1110	
106.34	170.41	0.1110	
106.80	170.50	0.1110	
128.20	170.89	0.1110	
130.65	171.00	0.1110	
148.78	175.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	169.82	.693E+03	1.0	0.72	11.79
0.64	170.14	.148E+04	3.1	1.07	7.94
0.98	170.48	.268E+04	6.9	1.31	6.45
1.33	170.83	.614E+04	13.2	1.09	7.74
1.67	171.17	.138E+05	25.1	0.92	9.19
2.02	171.52	.289E+05	47.4	0.83	10.16
2.36	171.86	.480E+05	85.7	0.91	9.34
2.71	172.21	.678E+05	135.8	1.02	8.32
3.05	172.55	.884E+05	196.7	1.13	7.49
3.40	172.90	.110E+06	267.9	1.24	6.82
3.74	173.24	.132E+06	348.8	1.35	6.29
4.09	173.59	.154E+06	440.0	1.45	5.84
4.43	173.93	.177E+06	542.4	1.55	5.45
4.78	174.28	.201E+06	653.2	1.65	5.13
5.12	174.62	.225E+06	772.9	1.74	4.85
5.47	174.97	.250E+06	901.1	1.83	4.62
5.81	175.31	.275E+06	1037.8	1.92	4.41
6.16	175.66	.300E+06	1183.0	2.00	4.23
6.50	176.00	.326E+06	1339.1	2.09	4.06

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2179)	3803.61	73.61	6.25	42.34	2.25	0.88
OUTFLOW: ID= 1 (5429)	3803.61	73.13	6.50	42.34	2.25	0.88

```
--------------------
| CALIB              |
```

```
| STANDHYD  (0429) |   Area    (ha)=  13.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  54.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      7.51         6.39
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.80
     Length            (m)=    304.41        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        22.06
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      5.40 (ii)   32.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.60         0.28      0.883 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=     61.71        36.93      50.31
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.59       0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2429) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0429):    13.90   0.883     5.25    50.31
      + ID2= 2 (5429):  3803.61  73.129     6.50    42.34
        ================================================
        ID = 3 (2429):  3817.51  73.361     6.50    42.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  91.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     52.35        39.49
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.70
     Length            (m)=    782.47        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        23.41
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   71.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      4.18         1.23       4.926 (iii)
```



```
     TIME TO PEAK    (hrs)=      5.25         6.00       5.25
     RUNOFF VOLUME    (mm)=     61.71        39.65      52.22
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.63       0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   1.44
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.82         0.62
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.70
     Length            (m)=     97.98        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        23.41
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   71.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.07         0.02       0.077 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00       5.25
     RUNOFF VOLUME    (mm)=     61.71        39.65      52.20
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.63       0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   6.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      3.76         2.83
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.70
     Length            (m)=    209.60        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        23.41
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   71.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
```



```
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.30         0.09       0.353 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00       5.25
     RUNOFF VOLUME    (mm)=     61.71        39.65      52.22
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.63       0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0408) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):     6.59   0.353     5.25    52.22
      + ID2= 2 (****):     1.44   0.077     5.25    52.20
        ================================================
        ID = 3 (0408):     8.03   0.431     5.25    52.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0409) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0408):     8.03   0.431     5.25    52.21
      + ID2= 2 (****):    91.84   4.926     5.25    52.22
        ================================================
        ID = 3 (0409):    99.87   5.357     5.25    52.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1443) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0409):    99.87   5.357     5.25    52.22
      + ID2= 2 (2429):  3817.51  73.361     6.50    42.36
        ================================================
        ID = 3 (1443):  3917.38  75.463     6.50    42.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5443) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5443.0) ------>
              Distance      Elevation       Manning
                  0.00         173.50        0.1110
```



```
                 17.61         172.50        0.1110
                 27.53         170.50        0.1110
                 72.93         169.50        0.1110
                 74.99         169.29        0.1110
                 75.21         169.27        0.1110
                 79.81         168.50    0.1110 /0.0490  Main Channel
                 79.88         168.48        0.0490      Main Channel
                 80.70         168.00        0.0490      Main Channel
                 82.05         167.90        0.0490      Main Channel
                 83.55         167.90        0.0490      Main Channel
                 85.02         168.50    0.0490 /0.1110  Main Channel
                 86.14         168.83        0.1110
                 86.71         168.98        0.1110
                119.24         170.00        0.1110
                133.40         171.00        0.1110
                147.56         173.96        0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20    168.10    .106E+03       0.5          0.95       3.31
       0.40    168.30    .254E+03       2.0          1.46       2.15
       0.60    168.50    .434E+03       4.2          1.84       1.71
       0.91    168.81    .828E+03      10.5          2.40       1.31
       1.23    169.13    .145E+04      19.6          2.54       1.24
       1.54    169.44    .271E+04      33.2          2.31       1.36
       1.85    169.75    .495E+04      53.2          2.03       1.55
       2.16    170.06    .859E+04      85.8          1.89       1.67
       2.48    170.38    .134E+05     134.7          1.89       1.66
       2.79    170.69    .192E+05     203.3          2.00       1.58
       3.10    171.00    .255E+05     290.7          2.16       1.46
       3.41    171.31    .319E+05     397.9          2.35       1.34
       3.73    171.63    .386E+05     520.4          2.55       1.24
       4.04    171.94    .455E+05     657.6          2.73       1.15
       4.35    172.25    .525E+05     809.1          2.91       1.08
       4.66    172.56    .597E+05     971.5          3.07       1.02
       4.98    172.88    .672E+05    1136.3          3.19       0.99
       5.29    173.19    .752E+05    1316.7          3.31       0.95
       5.60    173.50    .836E+05    1513.2          3.42       0.92

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1443) 3917.38    75.46    6.50  42.62      2.06      1.93
     OUTFLOW: ID= 1 (5443) 3917.38    75.59    6.50  42.62      2.06      1.93

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  58.41
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  59.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     34.46        23.95
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.40
     Length            (m)=    624.02        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        23.41
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.40 (ii)   65.40 (ii)
```

```
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.75         0.80         3.346 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      61.71        39.65         52.66
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.63          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   0.93
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  59.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.55         0.38
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.40
     Length            (m)=      78.74        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        23.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   65.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.01         0.053 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      61.71        39.65         52.63
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.63          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  11.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  59.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.65         4.62
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.40
     Length            (m)=     274.10        40.00
     Mannings n            =      0.013       0.250
```



```
     Max.Eff.Inten.(mm/hr)=      28.84        23.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   65.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.63         0.15         0.646 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      61.71        39.65         52.66
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.63          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0386) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    11.27   0.646     5.25    52.66
       + ID2= 2 (****):     0.93   0.053     5.25    52.63
         ================================================
         ID = 3 (0386):    12.20   0.699     5.25    52.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0385) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0386):    12.20   0.699     5.25    52.66
       + ID2= 2 (****):    58.41   3.346     5.25    52.66
         ================================================
         ID = 3 (0385):    70.61   4.045     5.25    52.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2443) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0385):    70.61   4.045     5.25    52.66
       + ID2= 2 (5443):  3917.38  75.590     6.50    42.62
         ================================================
         ID = 3 (2443):  3987.99  77.022     6.50    42.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5181) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```



```
--------------------
               <------ DATA FOR SECTION (5181.0) ------>
               Distance      Elevation       Manning
                  0.00         171.99        0.1110
                 16.11         168.50        0.1110
                 29.63         167.81        0.1110
                 33.91         167.00    0.1110 /0.0490  Main Channel
                 34.47         166.92        0.0490      Main Channel
                 35.37         166.79        0.0490      Main Channel
                 35.56         166.82        0.0490      Main Channel
                 36.36         167.00    0.0490 /0.1110  Main Channel
                 41.32         168.00        0.1110
                 66.08         168.05        0.1110
                107.13         169.00        0.1110
                117.25         169.50        0.1110
                126.27         171.00        0.1110
                127.87         171.44        0.1110
                128.10         171.50        0.1110
                132.70         172.29        0.1110
                134.72         172.50        0.1110
                136.24         172.85        0.1110
                136.87         173.00        0.1110
                136.98         173.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.21  167.00    .227E+03        0.1         0.31      46.72
        0.47  167.26    .109E+04        0.7         0.55      26.16
        0.74  167.53    .256E+04        1.9         0.65      22.33
        1.00  167.79    .465E+04        3.8         0.71      20.28
        1.26  168.05    .824E+04        5.8         0.61      23.67
        1.52  168.31    .195E+05       11.8         0.53      27.45
        1.79  168.58    .344E+05       21.9         0.55      26.25
        2.05  168.84    .524E+05       36.5         0.60      23.97
        2.31  169.10    .732E+05       56.1         0.66      21.75
        2.57  169.36    .957E+05       81.2         0.73      19.66
        2.84  169.63    .120E+06      111.6         0.81      17.87
        3.10  169.89    .144E+06      147.4         0.88      16.31
        3.36  170.15    .170E+06      187.6         0.96      15.06
        3.62  170.41    .196E+06      232.1         1.03      14.04
        3.89  170.68    .222E+06      280.8         1.09      13.18
        4.15  170.94    .249E+06      333.6         1.16      12.45
        4.41  171.20    .277E+06      391.3         1.22      11.80
        4.67  171.46    .305E+06      453.4         1.28      11.22
        4.94  171.73    .334E+06      518.3         1.34      10.75

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2443) 3987.99    77.02    6.50  42.79      2.53      0.72
     OUTFLOW: ID= 1 (5181) 3987.99    75.09    6.75  42.79      2.51      0.71


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--------------------
| CALIB              |
| STANDHYD  (0181) |   Area    (ha)= 136.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      97.14        39.68
     Dep. Storage     (mm)=       1.00         4.00
```



```
     Average Slope     (%)=       1.00         2.10
     Length            (m)=     955.06        40.00
     Mannings n            =      0.013       0.250

     Max.Eff.Inten.(mm/hr)=      28.84        24.09
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   82.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        90.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.72         1.18         8.319 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        41.12         55.74
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.66          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2181) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0181):   136.82   8.319     5.25    55.74
       + ID2= 2 (5181):  3987.99  75.085     6.75    43.22
         ================================================
         ID = 3 (2181):  4124.81  77.487     6.75    43.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5204) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5204.0) ------>
               Distance      Elevation       Manning
                  0.00         172.00        0.1110
                 11.08         169.71        0.1110
                 48.53         169.00        0.1110
                 90.99         164.50        0.1110
                111.26         164.00        0.1110
                133.15         164.00        0.1110
                142.64         163.50        0.1110
                145.01         162.66        0.1110
                145.24         162.50    0.1110 /0.0490  Main Channel
                146.03         161.80        0.0490      Main Channel
                152.91         161.80        0.0490      Main Channel
                153.42         162.68    0.0490 /0.1110  Main Channel
                153.67         162.73        0.1110
                154.07         163.00        0.1110
                155.88         163.50        0.1110
                178.24         164.14        0.1110
                184.53         164.50        0.1110
                207.67         165.50        0.1110
                224.19         166.50        0.1110
```

245.67 169.50 0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	162.15	.121E+04	2.5	1.00	8.01
0.70	162.50	.253E+04	8.0	1.52	5.29
1.11	162.91	.426E+04	18.0	2.03	3.96
1.52	163.32	.641E+04	31.6	2.38	3.38
1.94	163.74	.971E+04	48.9	2.43	3.31
2.35	164.15	.187E+05	74.3	1.91	4.20
2.76	164.56	.356E+05	120.7	1.64	4.92
3.17	164.97	.559E+05	188.5	1.63	4.94
3.58	165.38	.789E+05	276.4	1.69	4.76
3.99	165.79	.104E+06	386.3	1.79	4.50
4.41	166.21	.132E+06	517.4	1.89	4.25
4.82	166.62	.162E+06	671.3	2.00	4.02
5.23	167.03	.193E+06	850.6	2.13	3.78
5.64	167.44	.226E+06	1051.0	2.25	3.58
6.05	167.85	.260E+06	1272.3	2.36	3.40
6.46	168.26	.295E+06	1514.8	2.48	3.25
6.88	168.68	.332E+06	1778.5	2.59	3.11
7.29	169.09	.370E+06	2042.5	2.66	3.02
7.70	169.50	.412E+06	2268.8	2.66	3.03

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (2181)	4124.81	77.49	6.75	43.22	2.38	1.89
OUTFLOW: ID= 1 (5204)	4124.81	77.15	6.75	43.22	2.37	1.89

CALIB			
STANDHYD (0204)	Area (ha)= 12.60		
ID= 1 DT=15.0 min	Total Imp(%)= 25.00	Dir. Conn.(%)= 25.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.15	9.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.10
Length	(m)=	289.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.29
over (min)		15.00	15.00
Storage Coeff. (min)=		4.80 (ii)	28.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04
			TOTALS
PEAK FLOW	(cms)=	0.25	0.32	0.577 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	28.20	36.58
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.45	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2204)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0204):	12.60	0.577	5.25	36.58
	+ ID2= 2 (5204):	4124.81	77.153	6.75	43.22
	ID = 3 (2204):	4137.41	77.314	6.75	43.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0742)	Area (ha)= 13.26		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.97	7.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	297.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	20.15
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	0.48	0.28	0.756 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	33.29	46.08
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.53	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9607)				
Inlet Cap.=0.144				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	13.26	0.76	5.25	46.08
MAJOR SYS.(ID= 2):	6.38	0.61	5.25	46.08
MINOR SYS.(ID= 3):	6.88	0.14	3.50	46.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6607)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1440	0.6200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9607)	6.876	0.144	3.50	46.08
OUTFLOW: ID= 1 (6607)	6.876	0.050	9.00	45.92

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.73
TIME SHIFT OF PEAK FLOW (min)=330.00
MAXIMUM STORAGE USED (ha.m.)= 0.2154

ADD HYD (4607)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6607):	6.88	0.050	9.00	45.92
	+ ID2= 2 (9607):	6.38	0.612	5.25	46.08
	ID = 3 (4607):	13.26	0.638	5.25	46.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2742)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2204):	4137.41	77.314	6.75	43.20
	+ ID2= 2 (4607):	13.26	0.638	5.25	46.00
	ID = 3 (2742):	4150.67	77.400	6.75	43.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0636)	Area (ha)= 167.13		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	75.21	91.92
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.40
Length	(m)=	1055.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.46
over (min)		15.00	45.00
Storage Coeff. (min)=		16.80 (ii)	99.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.07	0.01
			TOTALS
PEAK FLOW	(cms)=	5.92	1.76	6.585 (iii)
TIME TO PEAK	(hrs)=	5.25	6.75	5.25

RUNOFF VOLUME	(mm)=	61.71	30.11	44.33
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.48	0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9605)				
Inlet Cap.=0.240				
#of Inlets= 1				
Total(cms)= 0.2	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	167.13	6.59	5.25	44.33
MAJOR SYS.(ID= 2):	143.18	6.35	5.25	44.33
MINOR SYS.(ID= 3):	23.95	0.24	2.50	44.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6605)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2400	1.9400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9605)	23.954	0.240	2.50	44.33
OUTFLOW: ID= 1 (6605)	23.954	0.095	14.50	44.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.48
TIME SHIFT OF PEAK FLOW (min)=720.00
MAXIMUM STORAGE USED (ha.m.)= 0.7660

ADD HYD (4605)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6605):	23.95	0.095	14.50	44.25
	+ ID2= 2 (9605):	143.18	6.345	5.25	44.33
	ID = 3 (4605):	167.13	6.375	5.25	44.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0641)	Area (ha)= 7.45		
ID= 1 DT=15.0 min	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.71	5.74

Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	5.00	
Length	(m)=	222.86	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	17.29	
over (min)		15.00	30.00	
Storage Coeff. (min)=		4.80 (ii)	26.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.11	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.14	0.20	0.339 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	28.20	35.91
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.45	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2641)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0641):	7.45	0.339	5.25	35.91
+ ID2= 2 (4605):	167.13	6.375	5.25	44.32
ID = 3 (2641):	174.58	6.715	5.25	43.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1206)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2641):	174.58	6.715	5.25	43.96
+ ID2= 2 (2742):	4150.67	77.400	6.75	43.21
ID = 3 (1206):	4325.25	80.124	6.75	43.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5206)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5206.0) ------>

Distance	Elevation	Manning
0.00	168.00	0.1110
93.40	167.00	0.1110
125.20	166.00	0.1110
131.90	165.50	0.1110
147.90	162.50	0.1110

154.70	162.00	0.1110		
156.80	162.00	0.1110		
159.70	162.50	0.1110		
181.80	162.50	0.1110		
197.10	161.50	0.1110		
254.30	160.00	0.1110		
256.80	159.00	0.1110 /0.0490	Main Channel	
257.00	158.60	0.0490	Main Channel	
266.00	158.60	0.0490	Main Channel	
266.30	159.00	0.0490 /0.1110	Main Channel	
270.90	160.00	0.1110		
308.40	162.00	0.1110		
338.30	168.50	0.1110		
351.00	169.00	0.1110		
400.10	169.50	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	159.00	.108E+04	3.3	0.88	5.51
0.87	159.47	.263E+04	12.5	1.39	3.49
1.35	159.95	.464E+04	26.9	1.70	2.87
1.82	160.42	.840E+04	46.9	1.63	2.98
2.29	160.89	.159E+05	79.2	1.46	3.34
2.77	161.37	.271E+05	128.0	1.38	3.53
3.24	161.84	.416E+05	199.3	1.40	3.48
3.72	162.32	.587E+05	291.2	1.45	3.36
4.19	162.79	.800E+05	403.7	1.47	3.30
4.66	163.26	.103E+06	565.2	1.60	3.04
5.14	163.74	.127E+06	752.2	1.73	2.82
5.61	164.21	.152E+06	963.8	1.86	2.62
6.08	164.68	.177E+06	1199.2	1.98	2.46
6.56	165.16	.203E+06	1457.9	2.10	2.32
7.03	165.63	.229E+06	1734.7	2.21	2.20
7.51	166.11	.257E+06	2012.4	2.29	2.13
7.98	166.58	.286E+06	2284.4	2.33	2.09
8.45	167.05	.318E+06	2571.2	2.36	2.06
8.93	167.53	.355E+06	2790.7	2.29	2.12

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1206)		4325.25	80.12	6.75	43.24	2.30	1.45
OUTFLOW: ID= 1 (5206)		4325.25	79.66	6.75	43.24	2.30	1.46

CALIB
STANDHYD (0206) | Area (ha)= 4.99
ID= 1 DT=15.0 min | Total Imp(%)= 14.00 Dir. Conn.(%)= 14.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	4.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.50
Length	(m)=	182.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	16.77
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00

Unit Hyd. peak (cms)=		0.11	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.06	0.17	0.229 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	27.31	32.12
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.44	0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2206)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0206):	4.99	0.229	5.25	32.12
+ ID2= 2 (5206):	4325.25	79.658	6.75	43.24
ID = 3 (2206):	4330.24	79.709	6.75	43.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0638) | Area (ha)= 51.20
ID= 1 DT=15.0 min | Total Imp(%)= 84.00 Dir. Conn.(%)= 84.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.01	8.19
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80
Length	(m)=	584.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	26.79
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	3.44	0.34	3.704 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	61.71	47.82	59.49
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.76	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1635)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0638):	51.20	3.704	5.25	59.49
+ ID2= 2 (2206):	4330.24	79.709	6.75	43.23
ID = 3 (1635):	4381.44	80.507	6.75	43.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0642) | Area (ha)= 81.09
ID= 1 DT=15.0 min | Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	47.03	34.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	735.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	22.73
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	3.76	1.08	4.552 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	61.71	38.25	51.86
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.61	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9609)
Inlet Cap.=***** CMS
#of Inlets= 1
Total(cms)= 14.1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	81.09	4.55	5.25	51.86
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	81.09	4.55	5.25	51.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6609)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3680	1.3972
0.1520	0.0433	2.7440	1.7980
0.2370	0.2233	9.7830	2.5193
0.2980	0.5550	12.8700	3.3070
0.3490	1.1433	14.0910	3.8116

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9609)	81.090	4.552	5.25	51.86
OUTFLOW: ID= 1 (6609)	81.090	2.489	5.75	51.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.68
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 1.7618

ADD HYD (4609)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6609):	81.09	2.489	5.75	51.86
+ ID2= 2 (9609):	0.00	0.000	0.00	0.00
ID = 3 (4609):	81.09	2.489	5.75	51.86

*** W A R N I N G : HYDROGRAPH 9609 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2642)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1635):	4381.44	80.507	6.75	43.42
+ ID2= 2 (4609):	81.09	2.489	5.75	51.86
ID = 3 (2642):	4462.53	82.368	6.75	43.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5635)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5635.0) ------>

Distance	Elevation	Manning	
0.00	162.99	0.1110	
23.31	157.07	0.1110	
32.56	156.00	0.1110	
59.26	155.00	0.1110	
62.94	154.00	0.1110	
63.09	153.97	0.1110	
63.13	153.97	0.1110	
63.76	153.82	0.1110 /0.0490	Main Channel

63.87	153.50	0.0490		Main Channel
66.42	153.50	0.0490		Main Channel
67.30	153.81	0.0490 /0.1110		Main Channel
68.02	153.82	0.1110		
68.09	153.82	0.1110		
71.13	155.00	0.1110		
91.29	155.00	0.1110		
108.35	155.11	0.1110		
126.23	155.50	0.1110		
133.49	156.00	0.1110		
156.41	161.00	0.1110		
158.20	161.50	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	153.81	.112E+04	0.7	0.77	25.85
0.71	154.21	.384E+04	3.7	1.13	17.50
1.12	154.62	.780E+04	8.8	1.34	14.81
1.52	155.02	.136E+05	14.9	1.30	15.22
1.93	155.43	.423E+05	32.3	0.91	21.79
2.33	155.83	.835E+05	67.6	0.96	20.59
2.74	156.24	.132E+06	122.0	1.10	18.03
3.14	156.64	.183E+06	193.8	1.26	15.76
3.55	157.05	.237E+06	280.8	1.41	14.09
3.95	157.45	.294E+06	384.2	1.56	12.73
4.36	157.86	.351E+06	501.9	1.70	11.67
4.76	158.26	.411E+06	633.4	1.83	10.81
5.17	158.67	.472E+06	778.3	1.96	10.11
5.57	159.07	.535E+06	936.5	2.08	9.52
5.98	159.48	.599E+06	1107.8	2.20	9.02
6.38	159.88	.666E+06	1292.3	2.31	8.58
6.79	160.29	.733E+06	1489.8	2.42	8.20
7.19	160.69	.803E+06	1700.4	2.52	7.87
7.60	161.10	.874E+06	1924.8	2.62	7.57

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2642)	4462.53	82.37	6.75	43.57	2.44	1.00
OUTFLOW: ID= 1 (5635)	4462.53	80.64	7.25	43.57	2.43	0.99

CALIB
STANDHYD (0635)
ID= 1 DT=15.0 min

Area (ha)= 73.01
Total Imp(%)= 39.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.47	44.54
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	697.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.96
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	63.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.28 1.16 3.097 (iii)

TIME TO PEAK	(hrs)=	5.25 6.00	5.25
RUNOFF VOLUME	(mm)=	61.71 31.13	43.05
TOTAL RAINFALL	(mm)=	62.71 62.71	62.71
RUNOFF COEFFICIENT	=	0.98 0.50	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2635)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0635):	73.01	3.097	5.25	43.05
+ ID2= 2 (5635):	4462.53	80.636	7.25	43.57
ID = 3 (2635):	4535.54	81.713	7.25	43.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0186)
ID= 1 DT=15.0 min

Area (ha)= 388.73
Total Imp(%)= 44.00 Dir. Conn.(%)= 44.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	171.04	217.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	1609.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.96
over (min)		15.00	45.00
Storage Coeff. (min)=		19.20 (ii)	112.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.06	0.01

		TOTALS
PEAK FLOW	(cms)=	13.32 4.05 14.839 (iii)
TIME TO PEAK	(hrs)=	5.25 6.75 5.25
RUNOFF VOLUME	(mm)=	61.71 31.13 44.58
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.98 0.50 0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9611)
Inlet Cap.=1.944
#of Inlets= 1

Total(cms)= 1.9	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	388.73	14.84	5.25	44.58
MAJOR SYS.(ID= 2):	232.72	12.90	5.25	44.58
MINOR SYS.(ID= 3):	156.01	1.94	3.50	44.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6611)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.9440	8.4000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9611)	156.007	1.944	3.50	44.58
OUTFLOW: ID= 1 (6611)	156.007	0.983	12.25	44.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 50.55
TIME SHIFT OF PEAK FLOW (min)=525.00
MAXIMUM STORAGE USED (ha.m.)= 4.2480

ADD HYD (4611)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6611):	156.01	0.983	12.25	44.58
+ ID2= 2 (9611):	232.72	12.895	5.25	44.58
ID = 3 (4611):	388.73	13.282	5.25	44.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1637)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2635):	4535.54	81.713	7.25	43.56
+ ID2= 2 (4611):	388.73	13.282	5.25	44.58
ID = 3 (1637):	4924.27	86.556	7.00	43.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5637)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5637.0) ------>

Distance	Elevation	Manning
0.00	159.54	0.1110
26.71	153.00	0.1110
28.32	152.50	0.1110
28.88	152.18	0.1110

29.32	152.00	0.1110		
29.68	151.83	0.1110		
31.21	151.87	0.1110 /0.0490	Main Channel	
31.97	151.50	0.0490	Main Channel	
36.66	151.50	0.0490	Main Channel	
36.81	151.73	0.0490	Main Channel	
37.62	151.95	0.0490 /0.1110	Main Channel	
37.67	151.96	0.1110		
37.83	152.00	0.1110		
38.03	152.07	0.1110		
39.32	152.50	0.1110		
39.70	152.62	0.1110		
40.47	152.84	0.1110		
41.06	153.00	0.1110		
66.35	154.00	0.1110		
91.54	159.93	0.1110		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	151.87	.213E+04	1.2	0.59	30.61
0.77	152.27	.599E+04	4.8	0.87	20.60
1.18	152.68	.107E+05	10.8	1.08	16.65
1.58	153.08	.167E+05	18.7	1.20	14.91
1.98	153.48	.266E+05	29.4	1.19	15.07
2.39	153.89	.416E+05	44.4	1.15	15.58
2.79	154.29	.607E+05	65.7	1.16	15.41
3.20	154.70	.815E+05	92.5	1.22	14.69
3.60	155.10	.104E+06	124.2	1.29	13.93
4.00	155.50	.128E+06	160.9	1.36	13.21
4.41	155.91	.153E+06	202.4	1.43	12.57
4.81	156.31	.179E+06	249.0	1.49	12.00
5.21	156.71	.207E+06	300.6	1.56	11.50
5.62	157.12	.237E+06	357.3	1.62	11.05
6.02	157.52	.268E+06	419.3	1.68	10.65
6.43	157.93	.300E+06	486.5	1.74	10.29
6.83	158.33	.334E+06	559.2	1.80	9.97
7.23	158.73	.370E+06	637.5	1.86	9.67
7.64	159.14	.407E+06	721.3	1.91	9.40

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1637)	4924.27	86.56	7.00	43.64	3.11	1.21
OUTFLOW: ID= 1 (5637)	4924.27	85.65	7.25	43.64	3.09	1.21

CALIB / STANDHYD (0637) / ID= 1 DT=15.0 min	Area (ha)= 30.59 / Total Imp(%)= 16.00	Dir. Conn.(%)= 16.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.89	25.70
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.50
Length (m)=	451.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	16.77
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	36.00 (ii)

127.48	149.50	0.1110		
210.24	149.92	0.1110		
212.41	150.00	0.1110		
224.55	150.00	0.1110		
334.54	151.50	0.1110		
364.54	157.50	0.1110		
384.84	164.02	0.1110		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	149.13	.527E+04	4.4	0.63	19.84
1.10	149.70	.148E+05	16.1	0.82	15.33
1.67	150.27	.628E+05	47.3	0.57	22.13
2.23	150.83	.140E+06	112.6	0.61	20.66
2.80	151.40	.237E+06	212.9	0.68	18.54
3.37	151.97	.349E+06	364.8	0.79	15.94
3.94	152.54	.465E+06	556.7	0.90	13.92
4.51	153.11	.584E+06	785.4	1.02	12.40
5.07	153.67	.706E+06	1047.1	1.12	11.24
5.64	154.24	.831E+06	1340.6	1.22	10.33
6.21	154.81	.959E+06	1648.4	1.30	9.70
6.78	155.38	.110E+07	1991.0	1.37	9.17
7.34	155.94	.124E+07	2379.5	1.45	8.67
7.91	156.51	.138E+07	2806.9	1.53	8.22
8.48	157.08	.153E+07	3272.6	1.61	7.81
9.05	157.65	.168E+07	3771.6	1.69	7.45
9.62	158.22	.184E+07	4307.0	1.77	7.11
10.18	158.78	.199E+07	4873.0	1.85	6.82
10.75	159.35	.215E+07	5469.0	1.92	6.55

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1717)	*******	174.10	7.25	37.09	2.58	0.65
OUTFLOW: ID= 1 (5717)	*******	171.88	7.50	37.09	2.57	0.65

CALIB / STANDHYD (0717) / ID= 1 DT=15.0 min	Area (ha)= 33.60 / Total Imp(%)= 17.00	Dir. Conn.(%)= 17.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.71	27.89
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.70
Length (m)=	473.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	16.27
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	36.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.46	0.83 (iii) 1.260
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	61.71	26.44 32.44
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.42 0.52

Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.39	0.80 1.164 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	61.71	27.31 32.81
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.44 0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2637) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0637):	30.59	1.164	5.25	32.81
+ ID2= 2 (5637):	4924.27	85.652	7.25	43.64
ID = 3 (2637):	4954.86	85.986	7.25	43.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1717) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2237):	10472.55	88.289	7.50	34.02
+ ID2= 2 (2637):	4954.86	85.986	7.25	43.58
ID = 3 (1717):	15427.41	174.097	7.25	37.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5717) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5717.0) ------>

Distance	Elevation	Manning		
0.00	159.92	0.1110		
16.17	156.24	0.1110		
31.63	155.13	0.1110		
53.62	154.50	0.1110		
65.20	152.50	0.1110		
91.81	150.00	0.1110		
110.61	150.00	0.1110		
111.90	149.13	0.1110 /0.0490	Main Channel	
112.55	148.60	0.0490	Main Channel	
125.01	148.60	0.0490	Main Channel	
125.79	149.17	0.0490 /0.1110	Main Channel	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2717) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0717):	33.60	1.260	5.25	32.44
+ ID2= 2 (5717):	15427.41	171.880	7.50	37.09
ID = 3 (2717):	15461.01	172.178	7.50	37.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0257) / ID= 1 DT=15.0 min	Area (ha)= 75.57 / Total Imp(%)= 83.00	Dir. Conn.(%)= 83.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	62.72	12.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.50
Length (m)=	709.79	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	26.14
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	4.99	0.46 5.284 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	61.71	46.01 59.04
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.73 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2257) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0257):	75.57	5.284	5.25	59.04

```
       + ID2= 2 (2717): 15461.01 172.178     7.50    37.08
         ================================================
         ID = 3 (2257): 15536.58 173.013     7.50    37.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (5240.0) ------>
              Distance      Elevation       Manning
                  0.00         156.50        0.1110
                 20.51         149.00        0.1110
                 31.95         149.00        0.1110
                 39.82         148.00        0.1110
                 48.42         148.00        0.1110
                 51.87         147.50        0.1110
                 73.08         147.00        0.1110
                 76.22         146.00    0.1110 /0.0490  Main Channel
                 77.04         145.00        0.0490      Main Channel
                 87.93         145.00        0.0490      Main Channel
                 88.30         146.00    0.0490 /0.1110  Main Channel
                 89.26         146.52        0.1110
                 90.21         147.00        0.1110
                114.82         147.00        0.1110
                123.73         146.85        0.1110
                126.70         147.00        0.1110
                143.61         152.00        0.1110
                155.99         159.00        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.50   145.50    .727E+04       5.6          1.01      21.49
      1.00   146.00    .149E+05      17.6          1.53      14.15
      1.62   146.62    .259E+05      40.8          2.05      10.57
      2.24   147.24    .531E+05      74.9          1.83      11.81
      2.85   147.85    .113E+06     140.3          1.61      13.45
      3.47   148.47    .186E+06     235.4          1.65      13.14
      4.09   149.09    .266E+06     354.8          1.73      12.51
      4.71   149.71    .359E+06     517.8          1.87      11.55
      5.32   150.32    .455E+06     710.3          2.03      10.67
      5.94   150.94    .553E+06     930.7          2.19       9.91
      6.56   151.56    .655E+06    1178.2          2.34       9.26
      7.18   152.18    .760E+06    1453.5          2.49       8.71
      7.79   152.79    .867E+06    1758.1          2.64       8.22
      8.41   153.41    .976E+06    2087.9          2.78       7.79
      9.03   154.03    .109E+07    2442.5          2.92       7.42
      9.65   154.65    .120E+07    2821.5          3.05       7.10
     10.26   155.26    .132E+07    3224.5          3.18       6.81
     10.88   155.88    .144E+07    3651.5          3.30       6.55
     11.50   156.50    .156E+07    4102.3          3.42       6.32

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (2257) *******   173.01    7.50  37.19      3.07      1.62
    OUTFLOW: ID= 1 (5240) *******   172.14    7.75  37.19      3.05      1.62


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| CALIB             |
| STANDHYD  (0240)  |   Area    (ha)=  49.43
|ID= 1 DT=15.0 min  |   Total Imp(%)=  35.00   Dir. Conn.(%)=  35.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     17.30         32.13
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          8.70
     Length            (m)=    574.05         40.00
     Mannings n          =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         17.83
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      6.60 (ii)    39.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.10          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.39          0.98          2.242 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=     61.71         29.14          40.54
     TOTAL RAINFALL   (mm)=     62.71         62.71          62.71
     RUNOFF COEFFICIENT   =      0.98          0.46           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2240) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0240):    49.43   2.242     5.25     40.54
      + ID2= 2 (5240): 15536.58 172.145     7.75     37.19
        ================================================
        ID = 3 (2240): 15586.01 172.576     7.75     37.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0634)  |   Area    (ha)= 320.52
|ID= 1 DT=15.0 min  |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    115.39        205.13
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          2.10
     Length            (m)=   1461.78         40.00
     Mannings n          =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         17.83
               over (min)       15.00         45.00
     Storage Coeff.  (min)=     18.00 (ii)   106.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        105.00
     Unit Hyd. peak  (cms)=      0.06          0.01
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                                                        *TOTALS*
     PEAK FLOW       (cms)=      9.03          3.66         10.396 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.75          5.25
     RUNOFF VOLUME    (mm)=     61.71         29.14         40.86
     TOTAL RAINFALL   (mm)=     62.71         62.71         62.71
     RUNOFF COEFFICIENT   =      0.98          0.46          0.65


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (9604) |
| Inlet Cap.=1.303 |
| #of Inlets=    1 |
| Total(cms)=  1.3 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 320.52     10.40      5.25   40.86
     ================================================
     MAJOR SYS.(ID= 2): 201.05      9.09      5.25   40.86
     MINOR SYS.(ID= 3): 119.47      1.30      3.50   40.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6604) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.3030      5.6300

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9604)    119.473     1.303     3.50      40.86
     OUTFLOW: ID= 1 (6604)    119.473     0.688    12.50      40.86

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.77
                   TIME SHIFT OF PEAK FLOW        (min)=540.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  2.9724

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-------------------
| ADD HYD   (4604) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6604):   119.47   0.688    12.50     40.86
      + ID2= 2 (9604):   201.05   9.093     5.25     40.86
        ================================================
        ID = 3 (4604):   320.52   9.355     5.25     40.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
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-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2240): 15586.01 172.576     7.75     37.20
      + ID2= 2 (4604):   320.52   9.355     5.25     40.86
        ================================================
        ID = 3 (1264): 15906.53 175.708     7.75     37.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5264) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5264.0) ------>
              Distance      Elevation       Manning
                  0.00         159.01        0.1110
                 18.68         154.00        0.1110
                 32.14         153.50        0.1110
                 59.08         147.50        0.1110
                 71.63         147.50        0.1110
                 77.74         146.50        0.1110
                 81.24         145.00    0.1110 /0.0490  Main Channel
                 81.73         143.80        0.0490      Main Channel
                 88.41         143.80        0.0490      Main Channel
                 89.20         145.00    0.0490 /0.1110  Main Channel
                101.11         147.50        0.1110
                105.58         148.00        0.1110
                134.97         150.00        0.1110
                141.87         151.00        0.1110
                157.92         151.30        0.1110
                158.71         151.50        0.1110
                160.99         151.50        0.1110
                169.62         154.50        0.1110
                171.70         155.00        0.1110
                177.64         156.04        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.60   144.40    .305E+04       3.2          0.77      15.68
      1.20   145.00    .637E+04      10.0          1.14      10.64
      1.85   145.65    .112E+05      21.9          1.42       8.51
      2.50   146.30    .182E+05      38.8          1.55       7.83
      3.15   146.95    .277E+05      61.0          1.60       7.56
      3.80   147.60    .413E+05      88.5          1.55       7.78
      4.45   148.25    .639E+05     129.3          1.47       8.24
      5.10   148.90    .920E+05     183.3          1.44       8.37
      5.75   149.55    .126E+06     252.5          1.45       8.32
      6.40   150.20    .166E+06     339.8          1.49       8.13
      7.04   150.84    .210E+06     447.2          1.55       7.81
      7.69   151.49    .260E+06     556.6          1.55       7.80
      8.34   152.14    .318E+06     709.7          1.62       7.47
      8.99   152.79    .378E+06     886.6          1.70       7.10
      9.64   153.44    .440E+06    1083.6          1.79       6.77
     10.29   154.09    .507E+06    1263.9          1.81       6.69
     10.94   154.74    .579E+06    1512.2          1.90       6.38
     11.59   155.39    .653E+06    1776.3          1.97       6.13
     12.24   156.04    .730E+06    2060.1          2.05       5.91

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (1264) *******   175.71    7.75  37.27      5.01      1.45
```

OUTFLOW: ID= 1 (5264) ******* 174.94 8.00 37.27 5.00 1.45

CALIB					
STANDHYD (0264)	Area (ha)= 37.54				
ID= 1 DT=15.0 min	Total Imp(%)= 21.00	Dir. Conn.(%)= 21.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.88	29.66
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.60
Length	(m)=	500.27	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	15.78
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.63	0.78	1.310 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	25.61	33.19
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.41	0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2264)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0264):	37.54	1.310	5.25	33.19
+	ID2= 2 (5264):	15906.53	174.942	8.00	37.27
	ID = 3 (2264):	15944.07	175.216	8.00	37.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0631)	Area (ha)= 49.79				
ID= 1 DT=15.0 min	Total Imp(%)= 18.00	Dir. Conn.(%)= 18.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.96	40.83
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	576.14	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	15.30

over (min)		15.00	30.00		
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)		
Unit Hyd. Tpeak (min)=		15.00	45.00		
Unit Hyd. peak (cms)=		0.09	0.02		
				TOTALS	
PEAK FLOW	(cms)=	0.72	0.97	1.531 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME	(mm)=	61.71	24.81	31.45	
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT	=	0.98	0.40	0.50	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9606)				
Inlet Cap.=0.099				
#of Inlets= 1				
Total(cms)= 0.1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	49.79	1.53	5.25	31.45
MAJOR SYS.(ID= 2):	38.49	1.43	5.25	31.45
MINOR SYS.(ID= 3):	11.30	0.10	3.50	31.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6606)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.0990	0.4270

		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
INFLOW :	ID= 2 (9606)	11.299	0.099	3.50	31.45
OUTFLOW:	ID= 1 (6606)	11.299	0.052	12.50	31.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 52.64
TIME SHIFT OF PEAK FLOW (min)=540.00
MAXIMUM STORAGE USED (ha.m.)= 0.2249

ADD HYD (4606)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6606):	11.30	0.052	12.50	31.36
+	ID2= 2 (9606):	38.49	1.432	5.25	31.45
	ID = 3 (4606):	49.79	1.453	5.25	31.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3264)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2264):	15944.07	175.216	8.00	37.26
+	ID2= 2 (4606):	49.79	1.453	5.25	31.43
	ID = 3 (3264):	15993.86	175.539	8.00	37.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0276)	Area (ha)= 265.62				
ID= 1 DT=15.0 min	Total Imp(%)= 77.00	Dir. Conn.(%)= 77.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	204.53	61.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	1330.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	24.78
over (min)		15.00	30.00
Storage Coeff. (min)=		16.80 (ii)	97.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	16.09	1.71	16.832 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	61.71	42.66	57.33
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.68	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0438)	Area (ha)= 65.06				
ID= 1 DT=15.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.79	16.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	658.58	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	24.09
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	67.20 (ii)

Unit Hyd. Tpeak (min)=		15.00	60.00		
Unit Hyd. peak (cms)=		0.08	0.02		
				TOTALS	
PEAK FLOW	(cms)=	3.90	0.56	4.314 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME	(mm)=	61.71	41.12	56.56	
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT	=	0.98	0.66	0.90	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1435)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0276):	265.62	16.832	5.25	57.33
+	ID2= 2 (0438):	65.06	4.314	5.25	56.56
	ID = 3 (1435):	330.68	21.146	5.25	57.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0435)	Area (ha)= 78.03				
ID= 1 DT=15.0 min	Total Imp(%)= 72.00	Dir. Conn.(%)= 72.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	56.18	21.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	721.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	23.41
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	72.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	4.48	0.68	4.895 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	61.71	39.65	55.53
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.63	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (2435) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0435):    78.03   4.895     5.25    55.53
      + ID2= 2 (1435):   330.68  21.146     5.25    57.18
        ================================================
        ID = 3 (2435):   408.71  26.040     5.25    56.86

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (1616) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2435):   408.71  26.040     5.25    56.86
      + ID2= 2 (3264): 15993.86 175.539     8.00    37.25
        ================================================
        ID = 3 (1616): 16402.57 179.772     7.75    37.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (0632) |   Area    (ha)=  43.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.23        34.71
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.00
     Length            (m)=     541.23        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        17.29
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   52.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.74         0.87         1.367 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      61.71        28.20         35.24
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.45          0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| DUHYD     (9603) |
| Inlet Cap.=***** |
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```
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.94      1.37      5.25   35.24
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.94      1.37      5.25   35.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| RESERVOIR (6603) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7000      2.4800

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9603)     43.940     1.367      5.25      35.24
     OUTFLOW: ID= 1 (6603)     43.940     0.291      8.50      35.22

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.28
               TIME SHIFT OF PEAK FLOW         (min)=195.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.0313
```

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--------------------
| ADD HYD   (4603) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9603 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6603):    43.94   0.291     8.50    35.22
      + ID2= 2 (9603):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4603):    43.94   0.291     8.50    35.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| CALIB            |
| STANDHYD  (0633) |   Area    (ha)=  19.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.88        15.50
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=     359.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.31         0.51          0.761 (iii)
```



```
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      61.71        31.13         37.24
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.50          0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| DUHYD     (9602) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  19.38      0.76      5.25   37.24
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  19.38      0.76      5.25   37.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| RESERVOIR (6602) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.8000      0.4900

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9602)     19.380     0.761      5.25      37.24
     OUTFLOW: ID= 1 (6602)     19.380     0.405      6.50      37.24

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.19
               TIME SHIFT OF PEAK FLOW         (min)= 75.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.2493
```

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--------------------
| ADD HYD   (4602) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9602 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6602):    19.38   0.405     6.50    37.24
      + ID2= 2 (9602):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4602):    19.38   0.405     6.50    37.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



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--------------------
| CALIB            |
| STANDHYD  (0630) |   Area    (ha)= 120.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  27.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      32.57        88.07
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.60
     Length            (m)=     896.81        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   74.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.60         2.09          3.767 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        31.13         39.38
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.50          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| DUHYD     (9601) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 120.64      3.77      5.25   39.38
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 120.64      3.77      5.25   39.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR (6601) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.0000      3.5700

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9601)    120.640     3.767      5.25      39.38
     OUTFLOW: ID= 1 (6601)    120.640     1.351      8.00      39.38

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.87
               TIME SHIFT OF PEAK FLOW         (min)=165.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.4135
```

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---------------------------------------------------------------------------------

--------------------
| ADD HYD   (4601) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9601 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6601):   120.64   1.351     8.00    39.38
        + ID2= 2 (9601):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4601):   120.64   1.351     8.00    39.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2601) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4601):   120.64   1.351     8.00    39.38
        + ID2= 2 (4602):    19.38   0.405     6.50    37.24
          ================================================
          ID = 3 (2601):   140.02   1.682     7.50    39.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1602) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2601):   140.02   1.682     7.50    39.08
        + ID2= 2 (4603):    43.94   0.291     8.50    35.22
          ================================================
          ID = 3 (1602):   183.96   1.959     7.50    38.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1603) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1602):   183.96   1.959     7.50    38.16
        + ID2= 2 (1616): 16402.57 179.772     7.75    37.73
          ================================================
          ID = 3 (1603): 16586.53 181.729     7.75    37.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5616) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5616.0) ------>
              Distance      Elevation       Manning
                  0.00         155.00        0.1110
```



```
                  50.69         148.87        0.1110
                  67.28         145.00        0.1110
                  75.68         144.20        0.1110
                  78.03         143.38        0.1110
                  78.57         143.00    0.1110 /0.0490  Main Channel
                  78.71         141.40        0.0490      Main Channel
                  91.20         141.40        0.0490      Main Channel
                  92.33         143.00    0.0490 /0.1110  Main Channel
                  93.98         143.50        0.1110
                 211.31         144.60        0.1110
                 232.18         145.00        0.1110
                 242.93         145.50        0.1110
                 278.58         153.02        0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.53   141.93    .821E+04       4.9          0.72      27.93
       1.07   142.47    .167E+05      15.1          1.10      18.40
       1.60   143.00    .254E+05      29.0          1.38      14.62
       2.23   143.63    .380E+05      51.7          1.64      12.28
       2.85   144.25    .869E+05      87.9          1.22      16.49
       3.48   144.88    .187E+06     155.9          1.01      20.03
       4.10   145.50    .316E+06     268.0          1.03      19.65
       4.73   146.13    .453E+06     422.4          1.13      17.87
       5.36   146.76    .594E+06     610.6          1.24      16.22
       5.98   147.38    .740E+06     830.5          1.36      14.85
       6.61   148.01    .890E+06    1080.9          1.47      13.72
       7.24   148.64    .104E+07    1361.0          1.58      12.79
       7.86   149.26    .120E+07    1667.3          1.68      12.02
       8.49   149.89    .137E+07    2001.7          1.77      11.39
       9.11   150.51    .154E+07    2366.3          1.86      10.84
       9.74   151.14    .172E+07    2760.9          1.95      10.36
      10.37   151.77    .190E+07    3185.8          2.03       9.94
      10.99   152.39    .209E+07    3641.0          2.11       9.56
      11.62   153.02    .229E+07    4127.0          2.19       9.23

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1603) ********   181.73    7.75  37.74      3.62      1.01
OUTFLOW: ID= 1 (5616) *******   179.74    8.25  37.74      3.61      1.01

---------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0616) |   Area    (ha)= 105.56
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      55.95        49.61
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.00
     Length            (m)=     838.89        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.77
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   55.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
```



```
     PEAK FLOW       (cms)=       4.48         1.52          5.599 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      61.71        34.45         48.90
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.55          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2616) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0616):   105.56   5.599     5.25    48.90
        + ID2= 2 (5616): 16586.53 179.742     8.25    37.74
          ================================================
          ID = 3 (2616): 16692.09 180.660     8.25    37.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0293) |   Area    (ha)= 152.56
|ID= 1 DT=15.0 min |   Total Imp(%)=  79.00   Dir. Conn.(%)=  79.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     120.52        32.04
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.40
     Length            (m)=    1008.50        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        24.78
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.58         1.02         10.199 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71        42.66         57.71
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.68          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (1300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0293):   152.56  10.199     5.25    57.71
        + ID2= 2 (2616): 16692.09 180.660     8.25    37.81
          ================================================
          ID = 3 (1300): 16844.65 182.016     8.25    37.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5300) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5300.0) ------>
              Distance      Elevation       Manning
                  0.00         144.96        0.1110
                 34.18         134.00        0.1110
                 50.16         133.00        0.1110
                 68.52         132.51        0.1110
                 90.08         132.00        0.1110
                110.50         131.00        0.1110
                111.48         131.00    0.1110 /0.0490  Main Channel
                114.14         130.50        0.0490      Main Channel
                123.12         130.50        0.0490      Main Channel
                124.57         131.00    0.0490 /0.1110  Main Channel
                124.89         131.00        0.1110
                133.94         145.00        0.1110
                152.13         145.00        0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   131.00    .181E+05       4.0          0.73      75.07
       1.23   131.73    .716E+05      23.7          1.09      50.39
       1.97   132.47    .170E+06      60.5          1.17      46.89
       2.70   133.20    .337E+06     124.6          1.21      45.12
       3.44   133.94    .544E+06     220.9          1.33      41.04
       4.17   134.67    .770E+06     352.8          1.51      36.40
       4.91   135.41    .100E+07     512.5          1.68      32.64
       5.64   136.14    .124E+07     697.6          1.84      29.71
       6.38   136.88    .149E+07     907.0          2.00      27.38
       7.11   137.61    .174E+07    1139.9          2.15      25.49
       7.85   138.35    .200E+07    1395.8          2.29      23.92
       8.58   139.08    .227E+07    1674.1          2.42      22.60
       9.32   139.82    .254E+07    1974.6          2.55      21.47
      10.05   140.55    .282E+07    2297.1          2.67      20.49
      10.79   141.29    .311E+07    2641.3          2.79      19.63
      11.52   142.02    .340E+07    3007.1          2.90      18.86
      12.26   142.76    .370E+07    3394.4          3.01      18.18
      12.99   143.49    .401E+07    3803.3          3.12      17.57
      13.73   144.23    .432E+07    4233.6          3.22      17.02

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1300) ********   182.02    8.25  37.99      3.14      1.28
OUTFLOW: ID= 1 (5300) ********   175.50    8.75  37.99      3.09      1.27


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```
| CALIB                |
| STANDHYD  (0300)     |   Area    (ha)= 140.00
|ID= 1 DT=15.0 min     |   Total Imp(%)=  39.00   Dir. Conn.(%)=  36.00
-----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       54.60         85.40
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          8.20
     Length            (m)=      966.09         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         19.75
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.60 (ii)    54.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.03          2.46          5.824 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75          5.25
     RUNOFF VOLUME    (mm)=      61.71         30.96         42.03
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.98          0.49          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2300) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0300):   140.00   5.824     5.25    42.03
       + ID2= 2 (5300): 16844.65 175.499     8.75    37.99
         ================================================
         ID = 3 (2300): 16984.65 176.350     8.75    38.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB                |
| STANDHYD  (0614)     |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min     |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       14.00          2.47
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.30
     Length            (m)=      331.36         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         26.14
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       7.20 (ii)    42.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                          *TOTALS*
```



```
     PEAK FLOW       (cms)=       1.12          0.12          1.233 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      61.71         46.01          59.35
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.73           0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9614) |
| Inlet Cap.=4.124 |
| #of Inlets=    1 |
| Total(cms)=  4.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  16.47      1.23      5.25   59.35
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  16.47      1.23      5.25   59.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB                |
| STANDHYD  (0728)     |   Area    (ha)=  12.10
|ID= 1 DT=15.0 min     |   Total Imp(%)=  68.00   Dir. Conn.(%)=  68.00
-----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        8.23          3.87
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.10
     Length            (m)=      284.02         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         24.09
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       5.40 (ii)    33.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.66          0.19          0.851 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71         41.12          55.12
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.66           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2728) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0728):    12.10   0.851     5.25    55.12
       + ID2= 2 (9614):    16.47   1.233     5.25    59.35
         ================================================
         ID = 3 (2728):    28.57   2.083     5.25    57.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9270) |
| Inlet Cap.=8.836 |
| #of Inlets=    1 |
| Total(cms)=  8.8 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  28.57      2.08      5.25   57.56
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  28.57      2.08      5.25   57.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.5480     0.8200
                          0.0870     0.6030   |   4.3140     0.8520
                          0.2750     0.6330   |   5.1300     0.8840
                          0.6180     0.6640   |   5.9920     0.9160
                          1.0600     0.6950   |   6.8990     0.9480
                          1.5840     0.7260   |   7.8470     0.9800
                          2.1780     0.7570   |   8.8360     1.0120
                          2.8350     0.7890   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9270)     28.570     2.083     5.25       57.56
     OUTFLOW: ID= 1 (6270)     28.570     1.910     5.25       57.50

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 91.68
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.7508

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--------------------
| ADD HYD   (4270) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9270 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6270):    28.57   1.910     5.25    57.50
       + ID2= 2 (9270):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4270):    28.57   1.910     5.25    57.50
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1427) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2300): 16984.65 176.350     8.75    38.02
       + ID2= 2 (4270):    28.57   1.910     5.25    57.50
         ================================================
         ID = 3 (1427): 17013.22 176.521     8.75    38.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB                |
| STANDHYD  (0606)     |   Area    (ha)=  53.10
|ID= 1 DT=15.0 min     |   Total Imp(%)=  55.00   Dir. Conn.(%)=  55.00
-----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       29.20         23.89
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          3.80
     Length            (m)=      594.98         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         21.41
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.00 (ii)    52.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.34          0.81          3.041 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME    (mm)=      61.71         35.66          49.99
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.57           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9269) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  53.10      3.04      5.25   49.99
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  53.10      3.04      5.25   49.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |  0.3230     1.1320
                          0.0860     0.3350   |  3.0230     1.4270
                          0.1240     0.6920   |  8.0750     1.7920
                          0.1530     1.0380   |  9.7660     1.9010

                                 AREA     QPEAK     TPEAK      R.V.
                                 (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9269)     53.100     3.041      5.25     49.99
     OUTFLOW: ID= 1 (6269)     53.100     1.667      5.50     49.97

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.80
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.2840

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--------------------
| ADD HYD   (4269) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9269 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6269):    53.10   1.667     5.50    49.97
       + ID2= 2 (9269):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4269):    53.10   1.667     5.50    49.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2606) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1427): 17013.22 176.521     8.75    38.06
       + ID2= 2 (4269):    53.10   1.667     5.50    49.97
         ================================================
         ID = 3 (2606): 17066.32 176.876     8.75    38.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5427) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5427.0) ------>
              Distance      Elevation       Manning
                 0.00         130.04        0.1110
                10.57         125.00        0.1110
                81.38         125.00        0.1110
               102.44         125.68        0.1110
               131.41         124.00        0.1110
               136.25         123.00        0.1110
               143.40         123.00    0.1110 /0.0490  Main Channel
               144.00         122.20        0.0490      Main Channel
```



```
               150.83         122.20        0.0490      Main Channel
               153.56         123.00    0.0490 /0.1110  Main Channel
               154.90         123.00        0.1110
               156.48         124.00        0.1110
               164.24         125.00        0.1110
               200.91         125.50        0.1110
               246.89         125.00        0.1110
               283.84         125.00        0.1110
               303.71         126.00        0.1110
               334.11         130.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)         (m/s)      (min)
       0.40    122.60    .199E+04        2.1          0.69      15.73
       0.80    123.00    .441E+04        7.0          1.02      10.56
       1.21    123.41    .975E+04       16.7          1.11       9.71
       1.62    123.82    .158E+05       30.7          1.26       8.56
       2.04    124.24    .229E+05       47.9          1.36       7.96
       2.45    124.65    .325E+05       69.8          1.39       7.77
       2.86    125.06    .493E+05       86.0          1.13       9.55
       3.27    125.47    .108E+06      147.0          0.88      12.25
       3.68    125.88    .184E+06      253.0          0.89      12.15
       4.09    126.29    .263E+06      398.4          0.98      11.02
       4.51    126.71    .344E+06      576.0          1.09       9.94
       4.92    127.12    .425E+06      782.8          1.20       9.04
       5.33    127.53    .507E+06     1017.2          1.30       8.31
       5.74    127.94    .591E+06     1277.8          1.40       7.70
       6.15    128.35    .675E+06     1563.6          1.50       7.19
       6.56    128.76    .760E+06     1873.9          1.60       6.76
       6.98    129.18    .847E+06     2207.9          1.69       6.39
       7.39    129.59    .935E+06     2565.3          1.78       6.07
       7.80    130.00    .102E+07     2945.4          1.87       5.79

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2606) *******   176.88    8.75  38.09      3.39      0.88
     OUTFLOW: ID= 1 (5427) *******   176.21    9.00  38.09      3.38      0.88

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--------------------
| CALIB            |
| STANDHYD  (0427) |   Area    (ha)=  22.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  17.00   Dir. Conn.(%)=  14.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        3.83         18.69
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          5.60
     Length            (m)=      387.47         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       28.84         16.20
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    36.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.25          0.56          0.790 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=       61.71         25.42         30.50
```



```
     TOTAL RAINFALL   (mm)=       62.71         62.71          62.71
     RUNOFF COEFFICIENT   =        0.98          0.41           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2427) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0427):    22.52   0.790     5.25    30.50
       + ID2= 2 (5427): 17066.32 176.214     9.00    38.09
         ================================================
         ID = 3 (2427): 17088.84 176.292     9.00    38.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0312) |   Area    (ha)= 233.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  38.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      107.58        126.29
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.90
     Length            (m)=     1248.65         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       28.84         25.13
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       15.00 (ii)    88.20 (ii)
     Unit Hyd. Tpeak (min)=       15.00         90.00
     Unit Hyd. peak  (cms)=        0.07          0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=        7.04          3.70          8.848 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.50          5.25
     RUNOFF VOLUME    (mm)=       61.71         36.83         46.28
     TOTAL RAINFALL   (mm)=       62.71         62.71         62.71
     RUNOFF COEFFICIENT   =        0.98          0.59          0.74


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1341) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0312):    233.87   8.848     5.25    46.28
       + ID2= 2 (2427): 17088.84 176.292     9.00    38.08
         ================================================
         ID = 3 (1341): 17322.71 178.239     9.00    38.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5341) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5341.0) ------>
              Distance      Elevation       Manning
                 0.00         129.00        0.1110
                19.97         122.00        0.1110
                43.39         121.83        0.1110
                70.95         121.00        0.1110
                78.38         122.00        0.1110
               110.84         122.00        0.1110
               127.33         120.00        0.1110
               127.83         120.00    0.1110 /0.0490  Main Channel
               128.71         118.60        0.0490      Main Channel
               147.85         118.60        0.0490      Main Channel
               147.86         120.00    0.0490 /0.1110  Main Channel
               148.30         120.00        0.1110
               149.10         120.67        0.1110
               154.79         121.69        0.1110
               172.71         122.26        0.1110
               194.33         126.00        0.1110
               343.54         129.42        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)         (m/s)      (min)
       0.47    119.07    .628E+04        3.7          0.41      28.15
       0.93    119.53    .127E+05       11.6          0.64      18.23
       1.40    120.00    .191E+05       22.3          0.81      14.29
       1.96    120.56    .284E+05       39.9          0.98      11.86
       2.53    121.12    .403E+05       62.0          1.07      10.83
       3.09    121.69    .615E+05       90.7          1.03      11.29
       3.65    122.25    .106E+06      130.5          0.86      13.58
       4.21    122.81    .167E+06      196.4          0.82      14.21
       4.78    123.38    .231E+06      279.4          0.85      13.75
       5.34    123.94    .296E+06      378.0          0.89      13.03
       5.90    124.50    .362E+06      491.4          0.95      12.29
       6.46    125.06    .431E+06      619.1          1.00      11.61
       7.03    125.63    .502E+06      760.5          1.06      11.00
       7.59    126.19    .575E+06      906.8          1.10      10.57
       8.15    126.75    .656E+06     1059.7          1.13      10.32
       8.71    127.31    .748E+06     1236.5          1.15      10.08
       9.28    127.88    .850E+06     1435.7          1.18       9.87
       9.84    128.44    .962E+06     1657.4          1.20       9.68
      10.40    129.00    .108E+07     1902.7          1.22       9.50

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1341) *******   178.24    9.00  38.19      4.06      0.83
     OUTFLOW: ID= 1 (5341) *******   176.80    9.25  38.19      4.03      0.83
```

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--------------------
| CALIB              |
| STANDHYD  (0341) |   Area    (ha)=  71.87
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  32.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      28.03         43.84
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.00
     Length            (m)=     692.19         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         22.84
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.60 (ii)    55.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.84          1.48          2.933 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75          5.25
     RUNOFF VOLUME    (mm)=      61.71         34.09         42.93
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.98          0.54          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2341) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0341):    71.87   2.933     5.25    42.93
       + ID2= 2 (5341): 17322.71 176.804     9.25    38.19
         ================================================
         ID = 3 (2341): 17394.58 177.180     9.25    38.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5328.0) ------>
              Distance      Elevation       Manning
                 0.00         122.83        0.1110
                38.42         122.00        0.1110
                76.21         122.00        0.1110
                99.10         119.00        0.1110
               111.79         118.00        0.1110
               116.05         117.00        0.1110
               120.04         117.00    0.1110 /0.0490  Main Channel
               121.01         116.40        0.0490      Main Channel
               129.65         116.40        0.0490      Main Channel
               129.67         117.00    0.0490 /0.1110  Main Channel
```



```
     130.14        117.00        0.1110
     130.87        118.00        0.1110
     139.94        119.00        0.1110
     157.92        118.89        0.1110
     175.26        119.00        0.1110
     192.73        119.00        0.1110
     216.81        119.91        0.1110
     239.98        121.57        0.1110
     256.21        122.00        0.1110
     324.25        122.00        0.1110

        <--------------------- TRAVEL TIME TABLE ---------------------->
         DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
         0.20    116.60    .235E+04        1.2          0.66      33.87
         0.40    116.80    .478E+04        3.6          1.01      21.95
         0.60    117.00    .731E+04        7.1          1.29      17.19
         0.91    117.31    .135E+05       15.3          1.51      14.73
         1.22    117.62    .204E+05       26.4          1.73      12.86
         1.54    117.94    .278E+05       40.1          1.92      11.57
         1.85    118.25    .367E+05       55.9          2.03      10.94
         2.16    118.56    .483E+05       75.3          2.08      10.70
         2.47    118.87    .628E+05       98.7          2.10      10.60
         2.79    119.19    .962E+05      129.5          1.80      12.38
         3.10    119.50    .140E+06      176.6          1.68      13.22
         3.41    119.81    .188E+06      235.3          1.67      13.34
         3.72    120.12    .241E+06      306.8          1.70      13.08
         4.04    120.44    .296E+06      390.4          1.76      12.64
         4.35    120.75    .354E+06      485.2          1.83      12.17
         4.66    121.06    .415E+06      591.3          1.90      11.70
         4.97    121.37    .479E+06      708.7          1.97      11.26
         5.29    121.69    .546E+06      831.7          2.03      10.93
         5.60    122.00    .618E+06      958.2          2.07      10.74

                              <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2341) *******   177.18    9.25  38.21      3.10      1.68
     OUTFLOW: ID= 1 (5328) *******   175.95    9.50  38.21      3.09      1.68

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--------------------
| CALIB              |
| STANDHYD  (0328) |   Area    (ha)= 240.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  49.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     134.40        105.60
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.80
     Length            (m)=    1264.91         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         26.83
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      15.00 (ii)    88.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         90.00
     Unit Hyd. peak  (cms)=       0.07          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.31          3.35         10.991 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.50          5.25
     RUNOFF VOLUME    (mm)=      61.71         39.39         50.33
```



```
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.98          0.63          0.80

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2328) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   240.00  10.991     5.25    50.33
       + ID2= 2 (5328): 17394.58 175.953     9.50    38.21
         ================================================
         ID = 3 (2328): 17634.58 177.407     9.50    38.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0274) |   Area    (ha)=  98.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.32         41.50
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.50
     Length            (m)=     811.66         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         22.06
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    70.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.57          1.20          5.289 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71         36.93         51.30
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.98          0.59          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0287) |   Area    (ha)= 145.43
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  51.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
```



```
     Surface Area     (ha)=      74.17         71.26
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.40
     Length            (m)=     984.65         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         19.54
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.80 (ii)    80.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.89          1.69          6.836 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.25          5.25
     RUNOFF VOLUME    (mm)=      61.71         32.19         47.24
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.98          0.51          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1301) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):    98.82   5.289     5.25    51.30
       + ID2= 2 (0287):   145.43   6.836     5.25    47.24
         ================================================
         ID = 3 (1301):   244.25  12.125     5.25    48.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0301) |   Area    (ha)=  32.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  17.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.78         25.52
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.90
     Length            (m)=     464.04         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         18.65
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       7.80 (ii)    44.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.44          0.77          1.112 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75          5.25
     RUNOFF VOLUME    (mm)=      61.71         29.07         34.62
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.98          0.46          0.55
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2301)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0301):	32.30	1.112	5.25	34.62
	+ ID2= 2 (1301):	244.25	12.125	5.25	48.88
	ID = 3 (2301):	276.55	13.237	5.25	47.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0683)	Area	(ha)= 98.00	
ID= 1 DT=15.0 min	Total Imp(%)=	57.00	Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.86	42.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	808.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	23.43
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	4.38	1.39 5.405 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	61.71	38.64 51.56
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.62 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0263)	Area	(ha)= 112.72	
ID= 1 DT=15.0 min	Total Imp(%)=	20.00	Dir. Conn.(%)= 16.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.54	90.18
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.20
Length	(m)=	866.87	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.09
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.44	2.27 3.042 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	61.71	28.16 33.53
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.45 0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2263)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0263):	112.72	3.042	5.25	33.53
	+ ID2= 2 (0683):	98.00	5.405	5.25	51.56
	ID = 3 (2263):	210.72	8.446	5.25	41.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1428)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2263):	210.72	8.446	5.25	41.91
	+ ID2= 2 (2301):	276.55	13.237	5.25	47.22
	ID = 3 (1428):	487.27	21.683	5.25	44.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5428)		
IN= 2---> OUT= 1	Routing time step (min)'=	15.00

<------ DATA FOR SECTION (5428.0) ------>

Distance	Elevation	Manning
0.00	138.98	0.1110

32.39	138.00	0.1110	
48.96	135.08	0.1110	
48.99	135.08	0.1110	
49.39	135.00	0.1110	
58.21	134.38	0.1110	
80.35	133.30	0.1110 /0.0490	Main Channel
85.70	132.80	0.0490	Main Channel
88.03	132.80	0.0490	Main Channel
90.50	133.26	0.0490 /0.1110	Main Channel
97.60	134.00	0.1110	
112.23	135.00	0.1110	
113.23	135.00	0.1110	
127.46	137.03	0.1110	
133.90	137.78	0.1110	
136.01	138.00	0.1110	
139.38	138.17	0.1110	
153.22	139.00	0.1110	
157.75	139.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	133.03	.593E+03	0.3	0.31	33.11
0.46	133.26	.171E+04	1.3	0.46	22.49
0.80	133.60	.470E+04	4.9	0.64	16.06
1.13	133.93	.980E+04	11.1	0.70	14.66
1.47	134.27	.171E+05	20.4	0.74	13.98
1.81	134.61	.268E+05	33.4	0.77	13.36
2.14	134.94	.385E+05	50.4	0.81	12.73
2.48	135.28	.520E+05	72.5	0.86	11.95
2.82	135.62	.664E+05	99.1	0.92	11.16
3.15	135.95	.817E+05	129.9	0.98	10.48
3.49	136.29	.979E+05	164.7	1.04	9.91
3.82	136.62	.115E+06	203.6	1.09	9.41
4.16	136.96	.133E+06	246.6	1.14	8.99
4.50	137.30	.152E+06	293.4	1.19	8.63
4.83	137.63	.172E+06	344.5	1.24	8.31
5.17	137.97	.193E+06	399.7	1.28	8.03
5.51	138.31	.216E+06	441.5	1.26	8.14
5.84	138.64	.242E+06	492.5	1.25	8.20
6.18	138.98	.272E+06	553.1	1.25	8.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1428)	487.27	21.68	5.25	44.92	1.50	0.74
OUTFLOW: ID= 1 (5428)	487.27	19.88	5.25	44.92	1.45	0.73

CALIB			
STANDHYD (0428)	Area	(ha)= 43.25	
ID= 1 DT=15.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.92	20.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.20
Length	(m)=	536.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	30.49

over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	51.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.45	1.05 2.392 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	61.71	42.95 50.83
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.68 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2428)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0428):	43.25	2.392	5.25	50.83
	+ ID2= 2 (5428):	487.27	19.878	5.25	44.92
	ID = 3 (2428):	530.52	22.270	5.25	45.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5309)		
IN= 2---> OUT= 1	Routing time step (min)'=	15.00

<------ DATA FOR SECTION (5309.0) ------>

Distance	Elevation	Manning	
0.00	135.01	0.1110	
88.30	132.00	0.1110	
91.73	132.10	0.1110	
100.02	131.00	0.1110	
103.43	130.00	0.1110 /0.0490	Main Channel
105.04	128.50	0.0490	Main Channel
106.10	128.50	0.0490	Main Channel
107.39	130.00	0.0490 /0.1110	Main Channel
107.67	130.05	0.1110	
111.76	131.00	0.1110	
120.80	132.00	0.1110	
120.87	132.00	0.1110	
133.03	133.00	0.1110	
148.52	134.00	0.1110	
172.34	134.99	0.1110	
172.97	134.99	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	128.80	.529E+03	0.2	0.59	37.05
0.60	129.10	.129E+04	0.8	0.83	26.15
0.90	129.40	.227E+04	1.8	1.02	21.39
1.20	129.70	.348E+04	3.1	1.18	18.51

1.50	130.00	.492E+04	5.0	1.32	16.50
1.86	130.36	.743E+04	8.6	1.51	14.46
2.21	130.71	.112E+05	13.4	1.55	14.02
2.57	131.07	.163E+05	19.5	1.56	13.97
2.93	131.43	.237E+05	27.3	1.50	14.49
3.28	131.78	.339E+05	37.6	1.45	14.99
3.64	132.14	.475E+05	49.5	1.36	16.01
4.00	132.50	.688E+05	67.2	1.28	17.08
4.35	132.85	.970E+05	91.4	1.23	17.70
4.71	133.21	.132E+06	122.7	1.21	17.95
5.06	133.56	.175E+06	162.7	1.22	17.90
5.42	133.92	.225E+06	212.7	1.24	17.62
5.78	134.28	.283E+06	271.6	1.26	17.34
6.13	134.63	.349E+06	343.0	1.28	16.98
6.49	134.99	.425E+06	427.8	1.32	16.56

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2428)	530.52	22.27	5.25	45.41	2.70	1.54
OUTFLOW: ID= 1 (5309)	530.52	20.54	5.50	45.41	2.62	1.55

CALIB			
STANDHYD (0309)	Area (ha)=	68.51	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	30.83	37.68	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.90	
Length	(m)=	675.82	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	26.82	
over (min)		15.00	30.00	
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	60.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	1.92	1.54	3.088 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	61.71	38.49	46.62
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.61	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2309)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0309):	68.51	3.088	5.25	46.62

	+ ID2= 2 (5309):	530.52	20.540	5.50	45.41
	ID = 3 (2309):	599.03	22.795	5.50	45.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5615)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5615.0) ------>

Distance	Elevation	Manning	
0.00	126.00	0.1110	
5.19	124.23	0.1110	
5.94	124.00	0.1110	
8.92	123.00	0.1110	
9.88	122.62	0.1110	
11.32	122.00	0.1110	
12.54	122.00	0.1110 /0.0490	Main Channel
13.18	121.10	0.0490	Main Channel
14.84	121.10	0.0490	Main Channel
15.91	122.00	0.0490 /0.1110	Main Channel
20.85	123.00	0.1110	
21.91	123.56	0.1110	
25.11	125.00	0.1110	
26.34	125.69	0.1110	
28.50	126.85	0.1110	
28.61	126.92	0.1110	
30.55	128.00	0.1110	
32.32	128.23	0.1110	
34.17	128.53	0.1110	
36.76	129.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	121.33	.431E+03	0.3	0.79	21.69
0.45	121.55	.960E+03	1.1	1.14	14.94
0.67	121.77	.159E+04	2.2	1.40	12.17
0.90	122.00	.231E+04	3.7	1.61	10.55
1.17	122.27	.383E+04	6.6	1.76	9.69
1.43	122.53	.587E+04	10.5	1.83	9.28
1.70	122.80	.845E+04	15.6	1.89	9.01
1.97	123.07	.116E+05	22.0	1.94	8.77
2.23	123.33	.151E+05	29.7	2.01	8.46
2.50	123.60	.189E+05	38.7	2.09	8.15
2.77	123.87	.232E+05	49.1	2.16	7.87
3.03	124.13	.278E+05	60.8	2.23	7.62
3.30	124.40	.328E+05	74.0	2.30	7.39
3.57	124.67	.382E+05	88.7	2.37	7.18
3.83	124.93	.440E+05	105.0	2.44	6.98
4.10	125.20	.501E+05	123.0	2.51	6.79
4.37	125.47	.566E+05	142.7	2.58	6.61
4.63	125.73	.634E+05	164.1	2.65	6.44
4.90	126.00	.706E+05	187.1	2.71	6.29

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2309)	599.03	22.80	5.50	45.54	2.00	1.95
OUTFLOW: ID= 1 (5615)	599.03	22.74	5.50	45.54	1.99	1.95

CALIB			
STANDHYD (0615)	Area (ha)=	31.22	
ID= 1 DT=15.0 min	Total Imp(%)=	34.00	Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	10.61	20.61	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	6.40	
Length	(m)=	456.22	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	22.59	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.60 (ii)	37.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.10	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.68	0.84	1.421 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	33.96	41.45
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.54	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2615)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0615):	31.22	1.421	5.25	41.45
	+ ID2= 2 (5615):	599.03	22.736	5.50	45.54
	ID = 3 (2615):	630.25	23.812	5.50	45.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1335)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2328):	17634.58	177.407	9.50	38.38
	+ ID2= 2 (2615):	630.25	23.812	5.50	45.34
	ID = 3 (1335):	18264.83	181.426	9.25	38.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5335)	

ROUTE CHN (5335)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5335.0) ------>

Distance	Elevation	Manning	
0.00	125.00	0.1110	
40.36	116.00	0.1110	
71.40	114.00	0.1110	
88.94	113.71	0.1110	
106.14	114.00	0.1110	
116.89	114.00	0.1110	
122.13	112.00	0.1110	
122.45	112.00	0.1110	
122.47	112.00	0.1110 /0.0490	Main Channel
122.55	111.50	0.0490	Main Channel
131.77	111.50	0.0490	Main Channel
131.80	112.00	0.0490 /0.1110	Main Channel
132.16	112.00	0.1110	
134.04	113.00	0.1110	
155.71	114.00	0.1110	
250.45	117.00	0.1110	
599.03	117.00	0.1110	
740.01	120.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	111.75	.868E+03	1.2	0.54	11.65
0.50	112.00	.174E+04	3.8	0.83	7.57
0.97	112.47	.370E+04	11.8	1.20	5.21
1.44	112.94	.603E+04	23.5	1.46	4.27
1.91	113.41	.937E+04	38.9	1.56	4.02
2.38	113.88	.154E+05	58.7	1.43	4.37
2.85	114.35	.305E+05	94.5	1.16	5.38
3.32	114.82	.503E+05	150.1	1.12	5.59
3.79	115.29	.740E+05	225.3	1.14	5.47
4.26	115.76	.102E+06	321.5	1.19	5.27
4.74	116.24	.133E+06	443.1	1.25	5.00
5.21	116.71	.168E+06	591.2	1.32	4.72
5.68	117.18	.228E+06	663.8	1.09	5.73
6.15	117.65	.331E+06	985.9	1.12	5.60
6.62	118.12	.439E+06	1389.2	1.19	5.27
7.09	118.59	.551E+06	1868.4	1.27	4.91
7.56	119.06	.667E+06	2420.4	1.36	4.59
8.03	119.53	.787E+06	3043.6	1.45	4.31
8.50	120.00	.912E+06	3736.8	1.54	4.07

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1335)	*******	181.43	9.25	38.62	3.52	1.13
OUTFLOW: ID= 1 (5335)	*******	181.28	9.50	38.62	3.52	1.13

CALIB			
STANDHYD (0335)	Area (ha)=	17.42	
ID= 1 DT=15.0 min	Total Imp(%)=	43.00	Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.49	9.93
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.90

```
Length           (m)=     340.78        40.00
Mannings n         =      0.013        0.250

Max.Eff.Inten.(mm/hr)=     28.84        23.72
          over (min)       15.00        15.00
Storage Coeff.  (min)=      5.40 (ii)   32.40 (ii)
Unit Hyd. Tpeak (min)=     15.00        30.00
Unit Hyd. peak  (cms)=      0.11         0.04
                                              *TOTALS*
PEAK FLOW       (cms)=      0.50         0.47     0.969 (iii)
TIME TO PEAK    (hrs)=      5.25         5.25      5.25
RUNOFF VOLUME    (mm)=     61.71        35.31     44.81
TOTAL RAINFALL   (mm)=     62.71        62.71     62.71
RUNOFF COEFFICIENT   =      0.98         0.56      0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2335) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)   (cms)    (hrs)    (mm)
        ID1= 1 (0335):    17.42   0.969     5.25    44.81
      + ID2= 2 (5335): 18264.83 181.275     9.50    38.62
        ================================================
        ID = 3 (2335): 18282.25 181.322     9.50    38.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0672) |   Area    (ha)= 420.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  52.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     252.45       168.30
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=    1674.81        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        29.46
               over (min)        30.00        30.00
     Storage Coeff.  (min)=      18.00 (ii)  106.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00       105.00
     Unit Hyd. peak  (cms)=       0.06         0.01
                                               *TOTALS*
     PEAK FLOW       (cms)=      17.13         5.36      19.461 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.75       5.25
     RUNOFF VOLUME    (mm)=      61.71        42.53      52.50
     TOTAL RAINFALL   (mm)=      62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.68       0.84


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```



```
          CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9672) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 420.75     19.46      5.25   52.50
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 420.75     19.46      5.25   52.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6672) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   3.0660     11.8000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9672)    420.750     19.461     5.25      52.50
     OUTFLOW: ID= 1 (6672)    420.750      3.678     9.00      52.50

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.90
                TIME SHIFT OF PEAK FLOW          (min)=225.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 14.1566

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4672) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9672 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6672):   420.75   3.678     9.00    52.50
      + ID2= 2 (9672):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4672):   420.75   3.678     9.00    52.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0322) |   Area    (ha)= 139.97
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  46.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      78.38        61.59
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.50
```



```
Length           (m)=     965.99        40.00
Mannings n         =      0.013        0.250

Max.Eff.Inten.(mm/hr)=     28.84        30.29
          over (min)       15.00        30.00
Storage Coeff.  (min)=      13.20 (ii)  79.20 (ii)
Unit Hyd. Tpeak (min)=     15.00        75.00
Unit Hyd. peak  (cms)=      0.08         0.01
                                              *TOTALS*
PEAK FLOW       (cms)=      5.12         2.44      6.642 (iii)
TIME TO PEAK    (hrs)=      5.25         6.00       5.25
RUNOFF VOLUME    (mm)=     61.71        42.87      51.54
TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
RUNOFF COEFFICIENT   =      0.98         0.68       0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2322) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0322):   139.97   6.642     5.25    51.54
      + ID2= 2 (4672):   420.75   3.678     9.00    52.50
        ================================================
        ID = 3 (2322):   560.72   8.569     5.25    52.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1346) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2322):   560.72   8.569     5.25    52.26
      + ID2= 2 (2335): 18282.25 181.322     9.50    38.62
        ================================================
        ID = 3 (1346): 18842.97 185.794     9.50    39.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5346) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5346.0) ------>
             Distance      Elevation      Manning
                 0.00         119.00        0.1110
                 0.00         117.00        0.1110
                13.24         112.00        0.1110
                20.29         111.00        0.1110
                39.56         110.00        0.1110
                39.81         110.00        0.1110
                44.05         109.55        0.1110
```



```
                47.94         109.01        0.1110
                47.99         109.00         0.1110
                48.77         109.00    0.1110 /0.0490  Main Channel
                50.01         108.50         0.0490     Main Channel
                66.15         108.50         0.0490     Main Channel
                68.59         109.00    0.0490 /0.1110  Main Channel
                68.90         109.00         0.1110
                70.88         110.00         0.1110
                80.34         116.00         0.1110
                82.24         117.02         0.1110
                82.27         117.04         0.1110
                86.00         118.64         0.1110
                86.92         119.00         0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50   109.00    .644E+04       12.3         1.37       8.73
       1.03   109.53    .152E+05       45.2         2.13       5.61
       1.55   110.05    .261E+05       95.1         2.61       4.57
       2.08   110.58    .403E+05      162.3         2.88       4.14
       2.61   111.11    .587E+05      250.2         3.05       3.91
       3.13   111.63    .796E+05      361.0         3.25       3.68
       3.66   112.16    .102E+06      492.6         3.46       3.46
       4.18   112.68    .126E+06      645.9         3.68       3.24
       4.71   113.21    .150E+06      817.9         3.90       3.06
       5.24   113.74    .175E+06     1008.2         4.12       2.90
       5.76   114.26    .202E+06     1216.4         4.32       2.76
       6.29   114.79    .228E+06     1442.2         4.52       2.64
       6.82   115.32    .256E+06     1685.5         4.71       2.53
       7.34   115.84    .285E+06     1946.1         4.89       2.44
       7.87   116.37    .314E+06     2223.6         5.07       2.36
       8.39   116.89    .345E+06     2518.3         5.23       2.28
       8.92   117.42    .376E+06     2837.9         5.41       2.21
       9.45   117.95    .407E+06     3175.6         5.58       2.14
       9.97   118.47    .439E+06     3529.2         5.75       2.08

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1346) *******   185.79    9.50  39.03      2.22      2.93
     OUTFLOW: ID= 1 (5346) *******   185.93    9.50  39.03      2.22      2.92


--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0346) |   Area    (ha)=  29.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  68.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.98         9.40
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.40
     Length            (m)=     442.57        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        22.06
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                               *TOTALS*
```

```
PEAK FLOW      (cms)=       1.60         0.37          1.937 (iii)
TIME TO PEAK   (hrs)=       5.25         5.50           5.25
RUNOFF VOLUME   (mm)=      61.71        36.93          53.78
TOTAL RAINFALL  (mm)=      62.71        62.71          62.71
RUNOFF COEFFICIENT  =       0.98         0.59           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
| ADD HYD   (2346) |
|  1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0346):    29.38   1.937     5.25    53.78
      + ID2= 2 (5346): 18842.97 185.925     9.50    39.03
        ================================================
        ID = 3 (2346): 18872.35 186.001     9.50    39.05

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| CALIB            |
| STANDHYD  (0356) |   Area    (ha)=  67.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.34        16.78
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     668.93        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        24.78
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   57.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=       4.03         0.64          4.525 (iii)
     TIME TO PEAK   (hrs)=       5.25         5.75           5.25
     RUNOFF VOLUME   (mm)=      61.71        42.66          56.95
     TOTAL RAINFALL  (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT  =       0.98         0.68           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (1355) |
|  1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0356):    67.12   4.525     5.25    56.95
      + ID2= 2 (2346): 18872.35 186.001     9.50    39.05
        ================================================
        ID = 3 (1355): 18939.47 186.212     9.50    39.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5355) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5355.0) ------>
             Distance      Elevation       Manning
                0.00         113.00        0.1110
               27.22         105.00        0.1110
               79.42         103.00        0.1110
               81.02         102.67    0.1110 /0.0490  Main Channel
               84.17         102.00        0.0490      Main Channel
               84.81         102.00        0.0490      Main Channel
               87.18         101.40        0.0490      Main Channel
               94.91         101.40        0.0490      Main Channel
               97.82         102.00        0.0490      Main Channel
               98.24         102.00        0.0490      Main Channel
               98.77         103.00    0.0490 /0.1110  Main Channel
              100.12         106.88        0.1110
              100.16         107.00        0.1110
              108.13         108.00        0.1110
              111.00         109.00        0.1110
              115.64         112.00        0.1110
              133.82         113.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.42   101.82    .720E+04       3.0         0.73      40.33
       0.85   102.25    .175E+05      10.6         1.08      27.37
       1.27   102.67    .298E+05      23.5         1.40      21.16
       1.92   103.32    .538E+05      55.5         1.83      16.16
       2.56   103.96    .953E+05     102.9         1.92      15.44
       3.21   104.61    .156E+06     169.3         1.92      15.39
       3.85   105.25    .236E+06     260.4         1.96      15.08
       4.50   105.90    .321E+06     378.0         2.09      14.15
       5.14   106.54    .409E+06     516.3         2.24      13.20
       5.79   107.19    .500E+06     674.0         2.39      12.36
       6.44   107.84    .598E+06     851.6         2.53      11.70
       7.08   108.48    .703E+06    1050.5         2.65      11.16
       7.73   109.13    .813E+06    1270.1         2.77      10.67
       8.37   109.77    .927E+06    1510.1         2.89      10.24
       9.02   110.42    .105E+07    1769.8         3.00       9.84
       9.66   111.06    .117E+07    2049.2         3.12       9.49
      10.31   111.71    .129E+07    2348.2         3.22       9.17
      10.95   112.35    .142E+07    2654.6         3.31       8.93
      11.60   113.00    .157E+07    2983.1         3.38       8.76

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (1355) *******   186.21    9.50  39.12      3.33      1.93
    OUTFLOW: ID= 1 (5355) *******   185.33    9.75  39.12      3.32      1.93
```



```
--------------------
| CALIB            |
| STANDHYD  (0355) |   Area    (ha)=  83.93
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  56.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      47.00        36.93
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.50
     Length            (m)=     748.02        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.15
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.40 (ii)   51.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=       3.76         1.17          4.775 (iii)
     TIME TO PEAK   (hrs)=       5.25         5.75           5.25
     RUNOFF VOLUME   (mm)=      61.71        33.29          49.21
     TOTAL RAINFALL  (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT  =       0.98         0.53           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2355) |
|  1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0355):    83.93   4.775     5.25    49.21
      + ID2= 2 (5355): 18939.47 185.333     9.75    39.12
        ================================================
        ID = 3 (2355): 19023.40 185.558     9.75    39.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CALIB            |
| STANDHYD  (0314) |   Area    (ha)= 515.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  62.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     319.34       195.72
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=    1853.03        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        24.31
               over (min)        30.00        30.00
```



```
     Storage Coeff.  (min)=      18.00 (ii)  104.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00       105.00
     Unit Hyd. peak  (cms)=       0.06         0.01
                                                        *TOTALS*
     PEAK FLOW      (cms)=      24.19         5.07         26.294 (iii)
     TIME TO PEAK   (hrs)=       5.25         6.75          5.25
     RUNOFF VOLUME   (mm)=      61.71        39.11         52.67
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.62          0.84


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (2314) |
|  1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9614 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (9314):   515.06  26.294     5.25    52.67
      + ID2= 2 (9614):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (2314):   515.06  26.294     5.25    52.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| CALIB            |
| STANDHYD  (0675) |   Area    (ha)=  71.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  27.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.21        47.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.30
     Length            (m)=     689.06        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.16
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      16.20 (ii)   59.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.07         0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=       1.52         1.33          2.468 (iii)
     TIME TO PEAK   (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME   (mm)=      61.71        29.97         38.54
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.48          0.61


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9153)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	71.22	2.47	5.25	38.54	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	71.22	2.47	5.25	38.54	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6153)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	7.2100	0.1500
	3.5200	0.0800	9.2000	0.2500
	5.8400	0.1100	12.9500	0.3500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9153)	71.220	2.468	5.25	38.54
OUTFLOW: ID= 1 (6153)	71.220	2.377	5.25	38.54

PEAK FLOW REDUCTION [Qout/Qin](%)= 96.32
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0581

ADD HYD (4153)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G : HYDROGRAPH 9153 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (6153):	71.22	2.377	5.25	38.54	
+ ID2= 2 (9153):	0.00	0.000	0.00	0.00	
ID = 3 (4153):	71.22	2.377	5.25	38.54	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9152)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	71.22	2.38	5.25	38.54	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	71.22	2.38	5.25	38.54	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6152)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.0000	1.1800
	0.8000	0.3000	1.9000	1.4000
	0.9000	0.7000	3.5000	1.9100

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9152)	71.220	2.377	5.25	38.54
OUTFLOW: ID= 1 (6152)	71.220	0.967	7.50	38.54

PEAK FLOW REDUCTION [Qout/Qin](%)= 40.70
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 1.0245

ADD HYD (4152)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G : HYDROGRAPH 9152 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (6152):	71.22	0.967	7.50	38.54	
+ ID2= 2 (9152):	0.00	0.000	0.00	0.00	
ID = 3 (4152):	71.22	0.967	7.50	38.54	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1314)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2314):	515.06	26.294	5.25	52.67	
+ ID2= 2 (4152):	71.22	0.967	7.50	38.54	
ID = 3 (1314):	586.28	27.138	5.25	50.95	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0670)	Area (ha)= 43.66		
ID= 1 DT=15.0 min	Total Imp(%)= 70.00	Dir. Conn.(%)= 70.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.56	13.10
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	539.51	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	24.78		
over (min)	15.00	30.00		
Storage Coeff. (min)=	9.60 (ii)	56.40 (ii)		
Unit Hyd. Tpeak (min)=	15.00	60.00		
Unit Hyd. peak (cms)=	0.09	0.02		
			TOTALS	
PEAK FLOW (cms)=	2.45	0.51	2.838 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	61.71	42.66	55.99	
TOTAL RAINFALL (mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT =	0.98	0.68	0.89	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (8607)					
Inlet Cap.=5.000					
#of Inlets= 1					
Total(cms)= 5.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	43.66	2.84	5.25	55.99	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	43.66	2.84	5.25	55.99	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 68.64		
ID= 1 DT=15.0 min	Total Imp(%)= 49.00	Dir. Conn.(%)= 49.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.63	35.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	676.46	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	22.73		
over (min)	15.00	30.00		
Storage Coeff. (min)=	12.60 (ii)	75.00 (ii)		
Unit Hyd. Tpeak (min)=	15.00	75.00		
Unit Hyd. peak (cms)=	0.08	0.02		
			TOTALS	
PEAK FLOW (cms)=	2.68	1.03	3.293 (iii)	
TIME TO PEAK (hrs)=	5.25	6.25	5.25	
RUNOFF VOLUME (mm)=	61.71	38.25	49.75	
TOTAL RAINFALL (mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT =	0.98	0.61	0.79	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 15.80		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	13.43	2.37
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	324.55	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	22.73		
over (min)	15.00	30.00		
Storage Coeff. (min)=	12.60 (ii)	75.00 (ii)		
Unit Hyd. Tpeak (min)=	15.00	75.00		
Unit Hyd. peak (cms)=	0.08	0.02		
			TOTALS	
PEAK FLOW (cms)=	1.07	0.07	1.112 (iii)	
TIME TO PEAK (hrs)=	5.25	6.25	5.25	
RUNOFF VOLUME (mm)=	61.71	38.25	58.19	
TOTAL RAINFALL (mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT =	0.98	0.61	0.93	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	15.80	1.11	5.25	58.19	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	15.80	1.11	5.25	58.19	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6600	1.5800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	15.800	1.112	5.25	58.19
OUTFLOW: ID= 1 (****)	15.800	0.238	6.75	58.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.43
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.5702

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	15.80	0.238	6.75	58.15
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	15.80	0.238	6.75	58.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 44.69		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	37.99	6.70	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.70	
Length (m)=	545.83	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	28.84	22.73	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.60 (ii)	75.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	3.03	0.20	3.144 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	61.71	38.25	58.19
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.61	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	44.69	3.14	5.25	58.19

MAJOR SYS.(ID= 2): 0.00 0.00 0.00 0.00
MINOR SYS.(ID= 3): 44.69 3.14 5.25 58.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.8800	4.4690

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	44.690	3.144	5.25	58.19
OUTFLOW: ID= 1 (****)	44.690	0.677	6.75	58.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.54
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 1.6099

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	44.69	0.677	6.75	58.18
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	44.69	0.677	6.75	58.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	15.80	0.238	6.75	58.15
+ ID2= 2 (****):	44.69	0.677	6.75	58.18
ID = 3 (****):	60.49	0.915	6.75	58.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	68.64	3.293	5.25	49.75
+ ID2= 2 (****):	60.49	0.915	6.75	58.17
ID = 3 (****):	129.13	4.005	5.25	53.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2599)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8607):	43.66	2.838	5.25	55.99
+ ID2= 2 (****):	129.13	4.005	5.25	53.69
ID = 3 (2599):	172.79	6.843	5.25	54.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9964)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	172.79	6.84	5.25	54.27
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	172.79	6.84	5.25	54.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6964)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3000	2.2107
	0.0400	0.1758	0.3200	2.4327
	0.0700	0.3516	0.3400	2.6546
	0.1100	0.5274	0.3500	2.8766
	0.1500	0.7032	0.3700	3.0985
	0.1800	0.8790	0.3800	3.3711
	0.2000	1.1010	0.3900	3.6437
	0.2300	1.3229	0.7400	3.9163
	0.2500	1.5449	0.7600	4.1889
	0.2700	1.7668	0.0000	0.0000
	0.2900	1.9888	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9964)	172.790	6.843	5.25	54.27
OUTFLOW: ID= 1 (6964)	172.790	1.029	10.25	54.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.04
TIME SHIFT OF PEAK FLOW (min)=300.00
MAXIMUM STORAGE USED (ha.m.)= 5.6718

ADD HYD (4964)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9964 <ID= 2> IS DRY.				

*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6964):	172.79	1.029	10.25	54.27
+ ID2= 2 (9964):	0.00	0.000	0.00	0.00
ID = 3 (4964):	172.79	1.029	10.25	54.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 72.09		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	32.44	39.65	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.40	
Length (m)=	693.25	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	28.84	22.06	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.80 (ii)	64.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	2.59	1.23	3.491 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	61.71	36.93	48.08
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.59	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 26.85		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	22.82	4.03	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.40	
Length (m)=	423.08	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	28.84	22.06	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.80 (ii)	64.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	1.82	0.12	1.915 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25

```
 RUNOFF VOLUME    (mm)=      61.71        36.93          57.99
 TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
 RUNOFF COEFFICIENT   =       0.98         0.59           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  26.85      1.92      5.25   57.99
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  26.85      1.92      5.25   57.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1300     2.6850

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     26.850     1.915      5.25      57.99
     OUTFLOW: ID= 1 (****)     26.850     0.409      6.75      57.97

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.37
                    TIME SHIFT OF PEAK FLOW          (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.9735

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (****):    26.85   0.409     6.75    57.97
       + ID2= 2 (****):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (****):    26.85   0.409     6.75    57.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (****) |
```



```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    72.09   3.491     5.25    48.08
       + ID2= 2 (****):    26.85   0.409     6.75    57.97
         ================================================
         ID = 3 (****):    98.94   3.816     5.25    50.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (9963) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  98.94      3.82      5.25   50.76
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  98.94      3.82      5.25   50.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (6963) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1600     1.2340
                         0.0200     0.0978   |   0.1700     1.3620
                         0.0400     0.1956   |   0.1800     1.6181
                         0.0600     0.2934   |   0.1900     1.7409
                         0.0800     0.3911   |   0.2000     1.9865
                         0.0900     0.4889   |   0.4400     2.1093
                         0.1100     0.5867   |   0.4600     2.3550
                         0.1200     0.6845   |   0.4700     2.5275
                         0.1300     0.7823   |   0.4800     2.7000
                         0.1400     0.8801   |   0.0000     0.0000
                         0.1500     1.1059   |   0.0000     0.0000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9963)     98.940     3.816      5.25      50.76
     OUTFLOW: ID= 1 (6963)     98.940     0.562     10.00      50.75

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.74
                    TIME SHIFT OF PEAK FLOW          (min)=285.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.1626

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (4963) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9963 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6963):    98.94   0.562    10.00    50.75
       + ID2= 2 (9963):     0.00   0.000     0.00     0.00
         ================================================
```



```
         ID = 3 (4963):    98.94   0.562    10.00    50.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (1598) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4963):    98.94   0.562    10.00    50.75
       + ID2= 2 (4964):   172.79   1.029    10.25    54.27
         ================================================
         ID = 3 (1598):   271.73   1.591    10.25    52.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5598) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5598.0) ------>
              Distance      Elevation       Manning
                  0.00         178.57        0.1110
                 19.93         178.35        0.1110
                 22.69         178.35        0.1110
                 34.83         178.58        0.1110
                 49.82         178.60        0.1110
                 87.96         179.03        0.1110
                 96.42         177.27    0.1110 /0.0490  Main Channel
                 97.49         177.31        0.0490      Main Channel
                109.98         177.60    0.0490 /0.1110  Main Channel
                112.52         177.61        0.1110
                121.23         177.69        0.1110
                124.63         177.56        0.1110
                134.04         178.00        0.1110
                155.00         178.79        0.1110
                163.70         178.63        0.1110
                200.92         178.57        0.1110
                211.27         178.56        0.1110
                222.53         178.69        0.1110
                241.93         178.51        0.1110
                275.14         178.54        0.1110

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.09  177.36    .149E+03        0.0         0.20      80.33
       0.19  177.46    .675E+03        0.2         0.32      48.76
       0.28  177.55    .159E+04        0.7         0.43      36.60
       0.37  177.64    .314E+04        1.7         0.52      30.31
       0.46  177.73    .586E+04        3.5         0.56      27.95
       0.56  177.83    .896E+04        6.0         0.63      25.06
       0.65  177.92    .123E+05        9.0         0.70      22.66
       0.74  178.01    .158E+05       12.7         0.76      20.79
       0.83  178.10    .195E+05       16.8         0.81      19.37
       0.93  178.20    .236E+05       21.6         0.86      18.22
       1.02  178.29    .278E+05       26.9         0.91      17.27
       1.11  178.38    .325E+05       32.1         0.94      16.85
       1.20  178.47    .385E+05       38.5         0.95      16.65
       1.30  178.57    .474E+05       40.9         0.82      19.32
       1.39  178.66    .642E+05       49.0         0.72      21.84
```



```
       1.48  178.75    .849E+05       63.4         0.71      22.32
       1.57  178.84    .107E+06       81.3         0.72      21.95
       1.67  178.94    .130E+06      102.1         0.74      21.22
       1.76  179.03    .154E+06      125.6         0.77      20.41

                                 <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1598)  271.73     1.59   10.25  52.99      0.36      0.51
     OUTFLOW: ID= 1 (5598)  271.73     1.59   10.75  52.99      0.36      0.50

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (8598) |   Area    (ha)=  75.95
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  52.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       39.49         36.46
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          5.90
     Length            (m)=      711.57         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       28.84         20.77
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        8.40 (ii)    51.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.09          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.16          1.20       4.204 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.75         5.25
     RUNOFF VOLUME    (mm)=       61.71         34.45        48.62
     TOTAL RAINFALL   (mm)=       62.71         62.71        62.71
     RUNOFF COEFFICIENT   =        0.98          0.55         0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2598) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0598):    75.95   4.204     5.25    48.62
       + ID2= 2 (5598):   271.73   1.588    10.75    52.99
         ================================================
         ID = 3 (2598):   347.68   4.565     5.25    52.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5299) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (5299.0) ------>

Distance	Elevation	Manning	
0.00	161.64	0.1110	
34.74	161.51	0.1110	
56.59	160.87	0.1110	
67.95	160.99	0.1110	
90.67	160.84	0.1110	
101.14	160.42	0.1110	
118.03	158.89	0.1110	
128.87	156.59	0.1110 /0.0490	Main Channel
130.10	156.35	0.0490	Main Channel
133.94	156.82	0.0490 /0.1110	Main Channel
146.85	159.32	0.1110	
163.58	161.17	0.1110	
166.21	161.74	0.1110	
176.37	161.83	0.1110	
182.39	161.67	0.1110	
190.74	162.12	0.1110	
232.24	162.94	0.1110	
274.39	164.95	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	156.59	.282E+03	0.2	0.58	21.17
0.51	156.86	.124E+04	1.7	0.99	12.45
0.77	157.12	.278E+04	5.0	1.34	9.20
1.04	157.39	.482E+04	10.1	1.55	7.95
1.30	157.65	.739E+04	17.0	1.70	7.24
1.57	157.92	.105E+05	25.8	1.82	6.76
1.83	158.18	.141E+05	36.6	1.92	6.40
2.10	158.45	.182E+05	49.5	2.01	6.11
2.37	158.72	.228E+05	64.7	2.10	5.87
2.63	158.98	.279E+05	81.8	2.16	5.69
2.90	159.25	.339E+05	100.9	2.20	5.59
3.16	159.51	.407E+05	122.6	2.22	5.53
3.43	159.78	.486E+05	147.6	2.24	5.48
3.70	160.05	.575E+05	176.6	2.27	5.43
3.96	160.31	.674E+05	209.6	2.29	5.36
4.23	160.58	.786E+05	244.4	2.29	5.36
4.49	160.84	.914E+05	283.0	2.28	5.38
4.76	161.11	.111E+06	309.9	2.06	5.96
5.02	161.37	.134E+06	376.8	2.07	5.94

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2598)	347.68	4.56	5.25	52.03	0.73	1.27
OUTFLOW: ID= 1 (5299)	347.68	4.44	5.25	52.03	0.72	1.26

CALIB / STANDHYD (0299)	Area (ha)= 97.19
ID= 1 DT=15.0 min	Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.86	23.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	804.94	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	25.47	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	70.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	5.89	0.83	6.419 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	61.71	44.29	57.53
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.71	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2299)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0299):	97.19	6.419	5.25	57.53
	+ ID2= 2 (5299):	347.68	4.436	5.25	52.03
	ID = 3 (2299):	444.87	10.855	5.25	53.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5303)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5303.0) ------>

Distance	Elevation	Manning	
0.00	153.79	0.1110	
19.01	151.85	0.1110	
37.34	151.82	0.1110	
41.85	151.52	0.1110	
47.90	151.66	0.1110	
87.41	151.69	0.1110	
105.06	149.50	0.1110	
125.35	148.50	0.1110	
125.85	148.42	0.1110 /0.0490	Main Channel
127.68	148.13	0.0490	Main Channel
128.23	147.30	0.0490	Main Channel
130.21	147.30	0.0490	Main Channel
131.55	148.23	0.0490	Main Channel
132.42	148.32	0.0490 /0.1110	Main Channel
137.58	148.90	0.1110	
138.78	149.00	0.1110	
150.21	149.50	0.1110	
156.60	150.50	0.1110	
175.54	151.00	0.1110	
263.18	153.41	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	147.56	.857E+03	0.5	0.81	30.68
0.51	147.81	.192E+04	1.5	1.18	21.08
0.77	148.07	.318E+04	3.1	1.45	17.13
1.02	148.32	.486E+04	4.6	1.42	17.54
1.36	148.66	.944E+04	10.5	1.66	14.97
1.70	149.00	.187E+05	20.4	1.62	15.34
2.04	149.34	.344E+05	35.2	1.53	16.26
2.38	149.68	.568E+05	58.3	1.53	16.23
2.72	150.02	.822E+05	89.6	1.63	15.29
3.06	150.36	.110E+06	128.2	1.74	14.32
3.40	150.70	.141E+06	169.5	1.79	13.91
3.73	151.03	.180E+06	219.3	1.82	13.69
4.07	151.37	.227E+06	281.8	1.86	13.40
4.41	151.71	.285E+06	310.6	1.63	15.27
4.75	152.05	.377E+06	412.0	1.63	15.26
5.09	152.39	.481E+06	550.2	1.71	14.57
5.43	152.73	.593E+06	713.3	1.80	13.85
5.77	153.07	.712E+06	901.5	1.89	13.17
6.11	153.41	.840E+06	1115.6	1.99	12.55

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2299)	444.87	10.85	5.25	53.23	1.37	1.66
OUTFLOW: ID= 1 (5303)	444.87	10.23	5.25	53.23	1.34	1.65

CALIB / STANDHYD (0303)	Area (ha)= 227.30
ID= 1 DT=15.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 65.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	147.75	79.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.00
Length	(m)=	1230.99	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	23.41		
over (min)	15.00	30.00		
Storage Coeff. (min)=	12.60 (ii)	73.80 (ii)		
Unit Hyd. Tpeak (min)=	15.00	75.00		
Unit Hyd. peak (cms)=	0.08	0.02		
				TOTALS
PEAK FLOW (cms)=	11.77	2.45		13.253 (iii)
TIME TO PEAK (hrs)=	5.25	6.25		5.25
RUNOFF VOLUME (mm)=	61.71	39.65		53.99
TOTAL RAINFALL (mm)=	62.71	62.71		62.71
RUNOFF COEFFICIENT =	0.98	0.63		0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2303)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0303):	227.30	13.253	5.25	53.99
	+ ID2= 2 (5303):	444.87	10.227	5.25	53.23
	ID = 3 (2303):	672.17	23.480	5.25	53.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5306)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5306.0) ------>

Distance	Elevation	Manning	
0.00	145.38	0.1110	
57.12	144.00	0.1110	
73.05	143.00	0.1110	
79.09	141.50	0.1110	
80.80	140.20	0.1110 /0.0490	Main Channel
81.66	139.77	0.0490	Main Channel
83.06	139.50	0.0490	Main Channel
84.74	139.32	0.0490	Main Channel
85.03	139.00	0.0490	Main Channel
85.78	139.00	0.0490	Main Channel
87.80	139.39	0.0490	Main Channel
89.94	139.50	0.0490	Main Channel
94.17	140.00	0.0490 /0.1110	Main Channel
97.58	140.50	0.1110	
127.69	142.00	0.1110	
132.10	144.00	0.1110	
141.18	144.50	0.1110	
164.76	144.55	0.1110	
191.51	145.00	0.1110	
226.92	145.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	139.25	.425E+03	0.2	0.50	37.48
0.50	139.50	.153E+04	0.8	0.57	32.75
0.75	139.75	.394E+04	2.9	0.83	22.69
1.00	140.00	.722E+04	6.8	1.06	17.70
1.33	140.33	.126E+05	16.0	1.43	13.15
1.67	140.67	.193E+05	28.8	1.68	11.15
2.00	141.00	.284E+05	45.5	1.80	10.41
2.33	141.33	.402E+05	66.5	1.86	10.08
2.67	141.67	.547E+05	92.2	1.90	9.89
3.00	142.00	.722E+05	123.3	1.92	9.76
3.33	142.33	.915E+05	162.2	1.99	9.40
3.67	142.67	.112E+06	206.6	2.08	9.01
4.00	143.00	.133E+06	256.3	2.17	8.62
4.33	143.33	.155E+06	310.0	2.25	8.34
4.67	143.67	.180E+06	370.0	2.32	8.10
5.00	144.00	.207E+06	436.4	2.37	7.90
5.33	144.33	.239E+06	495.1	2.33	8.03
5.67	144.67	.282E+06	525.8	2.10	8.93
6.00	145.00	.341E+06	609.9	2.01	9.33

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2303)	672.17	23.48	5.25	53.49	1.53	1.56
OUTFLOW: ID= 1 (5306)	672.17	22.43	5.25	53.49	1.50	1.54

CALIB / STANDHYD (0306)	Area (ha)= 195.25	
ID= 1 DT=15.0 min	Total Imp(%)= 79.00	Dir. Conn.(%)= 79.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	154.25	41.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	1140.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	25.47
over (min)		15.00	30.00
Storage Coeff. (min)	=	14.40 (ii)	84.60 (ii)
Unit Hyd. Tpeak (min)	=	15.00	90.00
Unit Hyd. peak (cms)	=	0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	12.24	1.31	12.923 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	61.71	44.29	58.05
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.71	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2306)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0306):	195.25	12.923	5.25	58.05
	+ ID2= 2 (5306):	672.17	22.429	5.25	53.49
	ID = 3 (2306):	867.42	35.352	5.25	54.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5314)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (5314.0) ------>

Distance	Elevation	Manning
0.00	140.46	0.1110
17.34	140.00	0.1110
23.79	140.00	0.1110

36.31	139.52	0.1110	
67.27	139.06	0.1110	
99.03	138.86	0.1110	
131.93	136.23	0.1110 /0.0490	Main Channel
135.37	135.79	0.0490	Main Channel
137.27	135.30	0.0490	Main Channel
139.14	135.30	0.0490	Main Channel
143.23	135.76	0.0490	Main Channel
147.44	136.00	0.0490 /0.1110	Main Channel
161.11	136.74	0.1110	
190.39	137.50	0.1110	
204.58	137.50	0.1110	
211.94	139.50	0.1110	
219.37	139.79	0.1110	
272.20	138.00	0.1110	
297.42	138.00	0.1110	
390.77	140.46	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	135.53	.686E+03	0.4	0.52	28.15
0.47	135.77	.198E+04	1.7	0.76	19.22
0.70	136.00	.418E+04	4.1	0.86	16.87
0.98	136.28	.842E+04	10.9	1.13	12.91
1.26	136.56	.147E+05	21.8	1.30	11.18
1.54	136.84	.231E+05	36.7	1.39	10.49
1.81	137.11	.347E+05	56.1	1.42	10.30
2.09	137.39	.498E+05	81.3	1.43	10.21
2.37	137.67	.700E+05	112.5	1.41	10.37
2.65	137.95	.928E+05	155.2	1.46	9.96
2.93	138.23	.123E+06	195.9	1.39	10.50
3.21	138.51	.161E+06	255.7	1.39	10.47
3.49	138.79	.204E+06	327.5	1.41	10.36
3.77	139.07	.255E+06	399.4	1.37	10.64
4.04	139.34	.318E+06	500.8	1.38	10.59
4.32	139.62	.391E+06	621.2	1.39	10.49
4.60	139.90	.472E+06	768.9	1.43	10.23
4.88	140.18	.559E+06	940.3	1.47	9.91
5.16	140.46	.652E+06	1136.8	1.53	9.55

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2306)		867.42	35.35	5.25	54.52	1.51	1.38
OUTFLOW: ID= 1 (5314)		867.42	33.48	5.25	54.52	1.48	1.37

ADD HYD (3314)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1314):	586.28	27.138	5.25	50.95
	+ ID2= 2 (5314):	867.42	33.477	5.25	54.52
	ID = 3 (3314):	1453.70	60.615	5.25	53.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5349)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (5349.0) ------>

Distance	Elevation	Manning	
0.00	136.55	0.1110	
0.00	135.00	0.1110	
31.90	134.50	0.1110	
37.07	134.28	0.1110	
50.37	134.19	0.1110	
65.47	134.50	0.1110	
85.81	134.00	0.1110	
128.41	131.00	0.1110	
135.25	130.00	0.1110	
136.03	129.98	0.1110 /0.0490	Main Channel
139.71	129.30	0.0490	Main Channel
144.95	129.30	0.0490	Main Channel
145.11	129.76	0.0490 /0.1110	Main Channel
150.30	130.50	0.1110	
165.12	134.00	0.1110	
169.18	134.50	0.1110	
187.64	135.50	0.1110	
226.77	135.49	0.1110	
233.13	135.35	0.1110	
285.67	136.55	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	129.53	.178E+04	0.6	0.41	52.79
0.46	129.76	.396E+04	1.9	0.62	35.44
0.86	130.16	.958E+04	6.3	0.86	25.49
1.26	130.56	.182E+05	13.9	1.00	21.93
1.66	130.96	.294E+05	24.6	1.10	19.93
2.06	131.36	.435E+05	38.4	1.16	18.89
2.46	131.76	.615E+05	56.1	1.20	18.27
2.86	132.16	.834E+05	78.2	1.23	17.77
3.26	132.56	.109E+06	105.0	1.26	17.31
3.66	132.96	.139E+06	137.0	1.30	16.87
4.05	133.35	.172E+06	174.4	1.33	16.44
4.45	133.75	.209E+06	217.8	1.37	16.02
4.85	134.15	.251E+06	263.1	1.38	15.89
5.25	134.55	.312E+06	297.4	1.25	17.51
5.65	134.95	.395E+06	363.3	1.21	18.13
6.05	135.35	.490E+06	459.6	1.23	17.78
6.45	135.75	.609E+06	550.5	1.19	18.43
6.85	136.15	.745E+06	696.6	1.23	17.82
7.25	136.55	.890E+06	863.1	1.27	17.19

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3314)		1453.70	60.61	5.25	53.08	2.54	1.20
OUTFLOW: ID= 1 (5349)		1453.70	53.63	5.50	53.08	2.40	1.19

CALIB / STANDHYD (0349)	Area (ha)= 324.03	
ID= 1 DT=15.0 min	Total Imp(%)= 44.00	Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	142.57	181.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	1469.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	23.78
over (min)		15.00	30.00
Storage Coeff. (min)	=	16.20 (ii)	93.60 (ii)
Unit Hyd. Tpeak (min)	=	15.00	90.00
Unit Hyd. peak (cms)	=	0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	9.45	4.85	11.767 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	61.71	35.35	45.10
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.56	0.72

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2349)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0349):	324.03	11.767	5.25	45.10
	+ ID2= 2 (5349):	1453.70	53.634	5.50	53.08
	ID = 3 (2349):	1777.73	64.372	5.25	51.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5364)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (5364.0) ------>

Distance	Elevation	Manning	
0.00	131.00	0.1110	
136.00	129.99	0.1110	
155.89	129.00	0.1110	
172.09	127.83	0.1110	
181.41	127.29	0.1110	
190.94	127.00	0.1110	
195.38	127.00	0.1110	
195.81	126.76	0.1110	
198.20	126.00	0.1110 /0.0490	Main Channel
200.00	125.00	0.0490	Main Channel
207.00	125.00	0.0490	Main Channel
207.99	126.00	0.0490 /0.1110	Main Channel
210.39	126.42	0.1110	
214.18	126.91	0.1110	
215.71	127.00	0.1110	
249.46	127.00	0.1110	
263.00	128.00	0.1110	
269.13	129.00	0.1110	

275.81	129.51	0.1110
283.52	130.00	0.1110

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	125.25	.202E+04	1.0	0.57	32.17
0.50	125.50	.422E+04	3.3	0.87	21.07
0.75	125.75	.662E+04	6.6	1.10	16.62
1.00	126.00	.922E+04	10.9	1.29	14.13
1.27	126.27	.124E+05	17.1	1.51	12.10
1.53	126.53	.163E+05	24.7	1.66	11.04
1.80	126.80	.211E+05	33.6	1.75	10.45
2.07	127.07	.296E+05	43.4	1.61	11.37
2.33	127.33	.494E+05	60.0	1.33	13.74
2.60	127.60	.721E+05	82.1	1.25	14.64
2.87	127.87	.971E+05	109.3	1.23	14.82
3.13	128.13	.124E+06	142.1	1.25	14.58
3.40	128.40	.153E+06	180.5	1.29	14.15
3.67	128.67	.184E+06	223.9	1.34	13.67
3.93	128.93	.216E+06	272.5	1.39	13.19
4.20	129.20	.249E+06	323.7	1.42	12.85
4.47	129.47	.286E+06	379.6	1.46	12.55
4.73	129.73	.325E+06	440.5	1.49	12.29
5.00	130.00	.367E+06	506.2	1.52	12.08

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2349)	1777.73	64.37	5.25	51.62	2.39	1.31
OUTFLOW: ID= 1 (5364)	1777.73	58.60	5.50	51.62	2.31	1.35

CALIB STANDHYD (0364)	Area (ha)= 187.80		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 41.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	93.90	93.90
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	1118.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	26.76
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	82.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	6.12	3.05	7.653 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	61.71	38.46	47.99
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.61	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2364)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0364):	187.80	7.653	5.25	47.99
+ ID2= 2 (5364):	1777.73	58.604	5.50	51.62
ID = 3 (2364):	1965.53	63.853	5.50	51.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5361)		
IN= 2---> OUT= 1	Routing time step (min)'= 15.00	

<------ DATA FOR SECTION (5361.0) ------>

Distance	Elevation	Manning	
0.00	129.00	0.1110	
0.38	129.00	0.1110	
13.51	128.00	0.1110	
18.25	127.00	0.1110	
41.14	126.00	0.1110	
49.43	125.20	0.1110	
51.30	125.00	0.1110	
54.61	124.00	0.1110	
56.73	124.00	0.1110 /0.0490	Main Channel
61.39	123.80	0.0490	Main Channel
63.13	123.80	0.0490	Main Channel
64.17	124.00	0.0490 /0.1110	Main Channel
65.93	124.00	0.1110	
70.09	124.99	0.1110	
70.11	124.99	0.1110	
70.14	125.00	0.1110	
73.16	125.00	0.1110	
79.53	125.23	0.1110	
104.69	126.00	0.1110	
114.76	128.97	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	124.00	.961E+03	0.4	0.42	41.30
0.46	124.26	.433E+04	2.9	0.71	24.65
0.72	124.52	.823E+04	7.3	0.93	18.67
0.98	124.78	.127E+05	13.5	1.11	15.69
1.25	125.05	.178E+05	20.6	1.21	14.43
1.51	125.31	.256E+05	30.0	1.22	14.25
1.77	125.57	.364E+05	42.4	1.22	14.31
2.03	125.83	.503E+05	58.5	1.22	14.32
2.29	126.09	.672E+05	79.0	1.23	14.16
2.55	126.35	.862E+05	104.9	1.27	13.69
2.82	126.62	.107E+06	135.5	1.32	13.16
3.08	126.88	.130E+06	171.1	1.38	12.65
3.34	127.14	.154E+06	212.9	1.44	12.08
3.60	127.40	.179E+06	260.6	1.52	11.48
3.86	127.66	.205E+06	312.9	1.60	10.93
4.12	127.92	.232E+06	369.6	1.67	10.45

4.39	128.19	.259E+06	428.4	1.73	10.06
4.65	128.45	.287E+06	490.9	1.79	9.74
4.91	128.71	.316E+06	558.1	1.85	9.45

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2364)	1965.53	63.85	5.50	51.28	2.10	1.22
OUTFLOW: ID= 1 (5361)	1965.53	62.07	5.75	51.28	2.08	1.22

CALIB STANDHYD (0361)	Area (ha)= 35.90		
ID= 1 DT=15.0 min	Total Imp(%)= 46.00	Dir. Conn.(%)= 37.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.51	19.39
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	489.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.97
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	47.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.06	0.55	1.526 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	61.71	25.14	38.67
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.40	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2361)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0361):	35.90	1.526	5.25	38.67
+ ID2= 2 (5361):	1965.53	62.071	5.75	51.28
ID = 3 (2361):	2001.43	62.939	5.75	51.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5357)		
IN= 2---> OUT= 1	Routing time step (min)'= 15.00	

<------ DATA FOR SECTION (5357.0) ------>

Distance	Elevation	Manning	
0.00	123.98	0.1110	
7.26	122.14	0.1110	
10.93	121.00	0.1110	
13.86	120.00	0.1110	
18.79	119.00	0.1110	
24.81	118.00	0.1110	
26.76	117.00	0.1110	
28.16	117.00	0.1110 /0.0490	Main Channel
29.00	116.20	0.0490	Main Channel
34.00	116.20	0.0490	Main Channel
34.48	117.00	0.0490 /0.1110	Main Channel
36.38	117.00	0.1110	
39.42	118.00	0.1110	
44.78	119.00	0.1110	
47.65	120.00	0.1110	
50.41	121.00	0.1110	
57.87	121.95	0.1110	
58.40	122.00	0.1110	
58.65	122.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	116.47	.174E+04	0.9	0.64	32.42
0.53	116.73	.363E+04	2.8	0.97	21.46
0.80	117.00	.566E+04	5.5	1.22	17.09
1.11	117.31	.973E+04	10.5	1.35	15.49
1.42	117.62	.144E+05	17.0	1.48	14.11
1.74	117.94	.197E+05	25.1	1.59	13.07
2.05	118.25	.258E+05	34.5	1.67	12.49
2.36	118.56	.334E+05	45.7	1.72	12.15
2.67	118.87	.423E+05	59.1	1.75	11.91
2.99	119.19	.525E+05	75.1	1.79	11.65
3.30	119.50	.637E+05	93.5	1.84	11.35
3.61	119.81	.759E+05	114.3	1.88	11.06
3.92	120.12	.889E+05	137.6	1.94	10.77
4.24	120.44	.103E+06	163.7	1.99	10.46
4.55	120.75	.117E+06	192.3	2.05	10.17
4.86	121.06	.133E+06	222.6	2.10	9.92
5.17	121.37	.149E+06	253.5	2.13	9.79
5.49	121.69	.167E+06	287.6	2.16	9.66
5.80	122.00	.186E+06	324.8	2.19	9.53

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2361)	2001.43	62.94	5.75	51.05	2.75	1.76
OUTFLOW: ID= 1 (5357)	2001.43	62.12	6.00	51.05	2.73	1.76

CALIB STANDHYD (0357)	Area (ha)= 135.25		
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 50.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	77.09	58.16
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	949.56	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	23.58	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.60 (ii)	73.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	5.39	1.76	6.408 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	61.71	33.77	47.74
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.54	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2357)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0357):	135.25	6.408	5.25	47.74
+ ID2= 2 (5357):	2001.43	62.122	6.00	51.05
ID = 3 (2357):	2136.68	65.502	6.00	50.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5363)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5363.0) ------>

Distance	Elevation	Manning	
0.00	116.00	0.1110	
3.24	115.00	0.1110	
7.85	114.00	0.1110	
11.35	113.00	0.1110	
15.57	112.00	0.1110	
15.63	111.99	0.1110	
15.65	111.98	0.1110	
20.70	111.00	0.1110	
22.85	111.00	0.1110 /0.0490	Main Channel
26.11	110.00	0.0490	Main Channel
29.00	110.00	0.0490	Main Channel
29.19	111.00	0.0490 /0.1110	Main Channel
32.26	111.00	0.1110	
35.40	112.00	0.1110	
37.70	112.15	0.1110	
53.24	113.00	0.1110	
53.72	113.00	0.1110	
79.32	114.00	0.1110	
92.95	115.00	0.1110	
115.26	115.98	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	110.25	.368E+03	0.8	0.92	8.07
0.50	110.50	.833E+03	2.5	1.34	5.51
0.75	110.75	.139E+04	5.2	1.66	4.46
1.00	111.00	.205E+04	8.9	1.92	3.85
1.33	111.33	.395E+04	17.7	1.98	3.73
1.66	111.66	.627E+04	29.9	2.12	3.49
2.00	112.00	.898E+04	45.6	2.26	3.28
2.33	112.33	.124E+05	64.0	2.29	3.23
2.66	112.66	.169E+05	87.7	2.31	3.21
2.99	112.99	.225E+05	117.5	2.32	3.19
3.32	113.32	.294E+05	153.2	2.31	3.20
3.66	113.66	.377E+05	197.3	2.32	3.19
3.99	113.99	.475E+05	250.6	2.34	3.16
4.32	114.32	.584E+05	316.2	2.40	3.08
4.65	114.65	.703E+05	391.6	2.47	2.99
4.98	114.98	.830E+05	476.9	2.55	2.90
5.32	115.32	.968E+05	568.4	2.61	2.84
5.65	115.65	.112E+06	671.3	2.66	2.78
5.98	115.98	.128E+06	786.6	2.72	2.72

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2357)	2136.68	65.50	6.00	50.84	2.35	2.29
OUTFLOW: ID= 1 (5363)	2136.68	65.41	6.00	50.84	2.35	2.29

CALIB
STANDHYD (0363) Area (ha)= 99.54
ID= 1 DT=15.0 min Total Imp(%)= 71.00 Dir. Conn.(%)= 68.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	70.67	28.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	814.62	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	25.85	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.60 (ii)	74.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	5.39	0.98	5.990 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	61.71	39.88	54.72
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.64	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2363)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0363):	99.54	5.990	5.25	54.72
+ ID2= 2 (5363):	2136.68	65.414	6.00	50.84
ID = 3 (2363):	2236.22	68.034	6.00	51.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5368)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5368.0) ------>

Distance	Elevation	Manning	
0.00	109.72	0.1110	
5.88	105.92	0.1110	
7.79	105.00	0.1110	
12.32	103.17	0.1110	
12.72	103.00	0.1110	
26.16	103.00	0.1110	
40.07	102.16	0.1110	
41.21	102.13	0.1110	
42.95	102.00	0.1110	
44.48	102.00	0.1110 /0.0490	Main Channel
46.98	101.70	0.0490	Main Channel
51.64	101.70	0.0490	Main Channel
52.36	102.00	0.0490 /0.1110	Main Channel
52.69	102.00	0.1110	
54.36	102.70	0.1110	
55.02	103.00	0.1110	
55.44	103.16	0.1110	
57.25	104.00	0.1110	
67.26	109.40	0.1110	
68.34	109.93	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	102.00	.139E+04	1.7	0.91	13.57
0.71	102.41	.548E+04	9.9	1.33	9.25
1.11	102.81	.119E+05	25.0	1.55	7.96
1.52	103.22	.226E+05	48.0	1.57	7.85
1.93	103.63	.359E+05	85.5	1.76	7.00
2.33	104.03	.498E+05	132.8	1.97	6.24
2.74	104.44	.641E+05	189.4	2.18	5.64
3.14	104.84	.791E+05	254.7	2.38	5.17
3.55	105.25	.945E+05	328.7	2.57	4.79
3.96	105.66	.110E+06	411.1	2.75	4.48
4.36	106.06	.127E+06	501.8	2.92	4.21
4.77	106.47	.144E+06	600.9	3.09	3.98
5.18	106.88	.161E+06	707.8	3.25	3.79
5.58	107.28	.179E+06	822.5	3.40	3.62
5.99	107.69	.197E+06	944.7	3.55	3.47
6.39	108.09	.215E+06	1074.5	3.69	3.34
6.80	108.50	.234E+06	1211.9	3.82	3.22
7.21	108.91	.253E+06	1356.7	3.95	3.11
7.61	109.31	.273E+06	1509.1	4.08	3.02

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2363)	2236.22	68.03	6.00	51.01	1.74	1.66
OUTFLOW: ID= 1 (5368)	2236.22	67.76	6.25	51.01	1.73	1.66

CALIB
STANDHYD (0368) Area (ha)= 23.76
ID= 1 DT=15.0 min Total Imp(%)= 64.00 Dir. Conn.(%)= 64.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	15.21	8.55
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.50
Length (m)=	397.99	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	20.77	
over (min)	15.00	15.00	
Storage Coeff. (min)=	5.40 (ii)	31.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.11	0.04	
			TOTALS
PEAK FLOW (cms)=	1.22	0.35	1.570 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	34.45	51.89
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.55	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2368)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0368):	23.76	1.570	5.25	51.89
+ ID2= 2 (5368):	2236.22	67.761	6.25	51.01
ID = 3 (2368):	2259.98	68.303	6.25	51.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1365)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2355):	19023.40	185.558	9.75	39.16
+ ID2= 2 (2368):	2259.98	68.303	6.25	51.02
ID = 3 (1365):	21283.38	204.557	9.25	40.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5365)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5365.0) ------>

Distance	Elevation	Manning	
0.00	110.00	0.1110	
7.40	110.00	0.1110	
15.33	109.51	0.1110	
47.93	98.00	0.1110	
65.73	98.00	0.1110	
114.24	97.34	0.1110	
131.22	97.00	0.1110	
141.72	95.00	0.1110 /0.0490	Main Channel
142.05	94.60	0.0490	Main Channel
155.43	94.60	0.0490	Main Channel
155.44	95.00	0.0490 /0.1110	Main Channel
161.18	95.00	0.1110	
168.95	96.00	0.1110	
203.06	97.00	0.1110	
211.77	97.00	0.1110	
222.30	108.79	0.1110	
223.07	109.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	95.00	.538E+04	4.5	0.83	19.81
1.14	95.74	.231E+05	29.7	1.27	12.99
1.87	96.47	.508E+05	74.2	1.45	11.41
2.61	97.21	.101E+06	146.9	1.45	11.44
3.35	97.95	.186E+06	275.5	1.47	11.23
4.08	98.68	.306E+06	482.4	1.56	10.57
4.82	99.42	.429E+06	757.2	1.75	9.45
5.56	100.16	.555E+06	1088.0	1.95	8.50
6.29	100.89	.682E+06	1470.4	2.14	7.73
7.03	101.63	.811E+06	1901.3	2.33	7.11
7.77	102.37	.943E+06	2378.5	2.50	6.61
8.51	103.11	.108E+07	2900.2	2.68	6.18
9.24	103.84	.121E+07	3465.1	2.84	5.83
9.98	104.58	.135E+07	4071.9	3.00	5.52
10.72	105.32	.149E+07	4719.8	3.15	5.26
11.45	106.05	.163E+07	5407.9	3.29	5.02
12.19	106.79	.177E+07	6135.7	3.43	4.82
12.93	107.53	.192E+07	6902.4	3.57	4.63
13.66	108.26	.207E+07	7707.8	3.70	4.47

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1365) *******	204.56	9.25	40.42	2.94	1.46
OUTFLOW: ID= 1 (5365) *******	204.24	9.50	40.42	2.94	1.46

CALIB	
STANDHYD (0365)	Area (ha)= 165.69
ID= 1 DT=15.0 min	Total Imp(%)= 59.00 Dir. Conn.(%)= 56.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.76	67.93
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	1051.00	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	21.02
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	7.40	1.83	8.453 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	61.71	32.37	48.80
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.52	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2365)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0365):	165.69	8.453	5.25	48.80
+ ID2= 2 (5365):	21283.38	204.235	9.50	40.42
ID = 3 (2365):	21449.07	204.927	9.50	40.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0671)	Area (ha)= 266.27
ID= 1 DT=15.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	213.02	53.25
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	1332.34	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	23.41
over (min)	15.00	30.00
Storage Coeff. (min)=	14.40 (ii)	84.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01
		TOTALS
PEAK FLOW (cms)=	16.90	1.50	17.651 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	61.71	39.65	57.30

TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.63	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9671)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	266.27	17.65	5.25	57.30
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	266.27	17.65	5.25	57.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6671)
IN= 2---> OUT= 1
DT= 15.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.4020	9.4300

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9671)	266.270	17.651	5.25	57.30
OUTFLOW: ID= 1 (6671)	266.270	3.478	7.25	57.30

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.71
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 9.6589

ADD HYD (4671)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9671 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6671):	266.27	3.478	7.25	57.30
+ ID2= 2 (9671):	0.00	0.000	0.00	0.00
ID = 3 (4671):	266.27	3.478	7.25	57.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1372)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (2365):	21449.07	204.927	9.50	40.49
+ ID2= 2 (4671):	266.27	3.478	7.25	57.30
ID = 3 (1372):	21715.34	208.043	9.50	40.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5372)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5372.0) ------>

Distance	Elevation	Manning	
0.00	105.00	0.1110	
20.51	95.49	0.1110	
91.87	93.94	0.1110	
96.84	93.74	0.1110	
105.67	92.57	0.1110	
106.66	92.00	0.1110 /0.0490	Main Channel
109.09	90.50	0.0490	Main Channel
122.15	90.50	0.0490	Main Channel
123.13	92.00	0.0490 /0.1110	Main Channel
127.73	92.00	0.1110	
158.37	93.00	0.1110	
213.54	94.00	0.1110	
217.83	95.00	0.1110	
233.02	105.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	91.25	.531E+04	25.0	2.40	3.53
1.50	92.00	.113E+05	79.9	3.61	2.35
2.26	92.76	.243E+05	179.6	3.75	2.26
3.03	93.53	.500E+05	338.8	3.44	2.46
3.79	94.29	.949E+05	604.9	3.24	2.62
4.56	95.06	.157E+06	1023.9	3.33	2.55
5.32	95.82	.231E+06	1611.1	3.54	2.39
6.09	96.59	.310E+06	2362.5	3.88	2.18
6.85	97.35	.389E+06	3246.6	4.25	2.00
7.62	98.12	.469E+06	4254.1	4.61	1.84
8.38	98.88	.550E+06	5378.1	4.97	1.71
9.15	99.65	.633E+06	6613.7	5.32	1.59
9.91	100.41	.716E+06	7956.7	5.65	1.50
10.68	101.18	.801E+06	9403.9	5.97	1.42
11.44	101.94	.887E+06	10952.7	6.28	1.35
12.21	102.71	.974E+06	12600.7	6.58	1.29
12.97	103.47	.106E+07	14346.0	6.88	1.23
13.74	104.24	.115E+07	16186.9	7.16	1.18
14.50	105.00	.124E+07	18122.2	7.43	1.14

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1372) *******	208.04	9.50	40.69	2.40	3.69
OUTFLOW: ID= 1 (5372) *******	208.07	9.50	40.69	2.40	3.69

```
| CALIB                |
| STANDHYD  (0372)     |   Area    (ha)=  47.90
|ID= 1 DT=15.0 min     |   Total Imp(%)=  49.00   Dir. Conn.(%)=  41.00
---------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.47        24.43
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.50
     Length            (m)=     565.10        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.97
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   43.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.57         0.84          2.310 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      61.71        29.85         42.91
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.48          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2372) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0372):    47.90   2.310     5.25    42.91
       + ID2= 2 (5372): 21715.34 208.067     9.50    40.69
         ================================================
         ID = 3 (2372): 21763.24 208.209     9.50    40.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5373) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5373.0) ------>
               Distance      Elevation       Manning
                   0.00         101.00        0.1110
                  12.77          94.00        0.1110
                  32.99          89.39        0.1110
                  76.52          87.19        0.1110
                  79.48          87.00        0.1110
                  80.86          86.13        0.1110
                  81.09          86.00        0.1110
                  81.97          86.00    0.1110 /0.0490  Main Channel
                  82.61          85.50        0.0490      Main Channel
                  88.00          85.50        0.0490      Main Channel
                  89.14          86.00    0.0490 /0.1110  Main Channel
                  95.90          86.00        0.1110
```



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                  106.27          87.00        0.1110
                  106.34          87.01        0.1110
                  117.67          87.86        0.1110
                  158.30          88.14        0.1110
                  158.41          88.15        0.1110
                  185.29         101.86        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50     86.00    .231E+04       2.5         0.81      15.12
       1.29     86.79    .137E+05      18.4         0.99      12.36
       2.08     87.58    .328E+05      49.8         1.12      11.00
       2.87     88.37    .764E+05     104.1         1.00      12.24
       3.66     89.16    .143E+06     224.2         1.16      10.62
       4.45     89.95    .217E+06     398.3         1.35       9.10
       5.24     90.74    .295E+06     619.7         1.55       7.94
       6.03     91.53    .376E+06     883.1         1.73       7.10
       6.82     92.32    .460E+06    1187.0         1.90       6.45
       7.61     93.11    .546E+06    1530.0         2.06       5.95
       8.39     93.89    .636E+06    1911.6         2.21       5.54
       9.18     94.68    .728E+06    2340.7         2.37       5.18
       9.97     95.47    .821E+06    2808.2         2.52       4.87
      10.76     96.26    .917E+06    3312.0         2.66       4.61
      11.55     97.05    .101E+07    3851.3         2.80       4.39
      12.34     97.84    .111E+07    4425.6         2.93       4.19
      13.13     98.63    .121E+07    5034.5         3.05       4.02
      13.92     99.42    .132E+07    5677.8         3.18       3.86
      14.71    100.21    .142E+07    6355.0         3.30       3.72

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2372) *******   208.21    9.50  40.70      3.55      1.13
     OUTFLOW: ID= 1 (5373) *******   207.97    9.50  40.70      3.54      1.13

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0373) |   Area    (ha)=  86.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  28.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.17        56.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.10
     Length            (m)=     758.07        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        15.59
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.20 (ii)   58.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.93         1.21          2.757 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      61.71        22.86         33.74
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.36          0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2373) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0373):    86.20   2.757     5.25    33.74
       + ID2= 2 (5373): 21763.24 207.969     9.50    40.70
         ================================================
         ID = 3 (2373): 21849.44 208.266     9.50    40.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5374) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5374.0) ------>
               Distance      Elevation       Manning
                   0.00         98.97        0.1110
                  36.91         86.49        0.1110
                 134.42         84.00    0.1110 /0.0490  Main Channel
                 141.69         83.20        0.0490      Main Channel
                 152.50         83.20        0.0490      Main Channel
                 159.42         84.00    0.0490 /0.1110  Main Channel
                 175.53         98.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.40     83.60    .239E+04       4.2         0.73       9.54
       0.80     84.00    .596E+04      15.3         1.07       6.49
       1.62     84.82    .202E+05      72.8         1.50       4.63
       2.45     85.65    .459E+05     179.3         1.63       4.26
       3.27     86.47    .829E+05     344.5         1.73       4.01
       4.09     87.29    .126E+06     593.4         1.95       3.55
       4.92     88.12    .171E+06     902.7         2.20       3.16
       5.74     88.94    .217E+06    1267.1         2.43       2.85
       6.56     89.76    .264E+06    1683.7         2.66       2.61
       7.39     90.59    .312E+06    2150.3         2.87       2.42
       8.21     91.41    .362E+06    2665.3         3.07       2.26
       9.04     92.24    .412E+06    3227.6         3.26       2.13
       9.86     93.06    .464E+06    3836.1         3.44       2.01
      10.68     93.88    .516E+06    4490.2         3.62       1.92
      11.51     94.71    .570E+06    5189.2         3.79       1.83
      12.33     95.53    .626E+06    5932.8         3.95       1.76
      13.15     96.35    .682E+06    6720.5         4.10       1.69
      13.98     97.18    .739E+06    7552.1         4.25       1.63
      14.80     98.00    .798E+06    8427.5         4.40       1.58

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2373) *******   208.27    9.50  40.67      2.59      1.64
     OUTFLOW: ID= 1 (5374) *******   208.22    9.75  40.67      2.58      1.64
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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0673) |   Area    (ha)= 211.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  58.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     137.64        74.11
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.60
     Length            (m)=    1188.14        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        26.67
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      17.40 (ii)  103.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00       105.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.64         2.11         10.510 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.75          5.25
     RUNOFF VOLUME    (mm)=      61.71        37.57         51.57
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.60          0.82

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9673) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=*****  |          AREA     QPEAK     TPEAK    R.V.
--------------------          (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 211.75     10.51      5.25   51.57
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 211.75     10.51      5.25   51.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6673) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   1.7310     6.2000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9673)    211.750     10.510      5.25      51.57
     OUTFLOW: ID= 1 (6673)    211.750      1.942      8.50      51.57

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.48
```

TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 6.9558

ADD HYD (4673)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (6673):	211.75	1.942	8.50	51.57	
+ ID2= 2 (9673):	0.00	0.000	0.00	0.00	
ID = 3 (4673):	211.75	1.942	8.50	51.57	

*** W A R N I N G : HYDROGRAPH 9673 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1374)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (4673):	211.75	1.942	8.50	51.57	
+ ID2= 2 (5374):	21849.44	208.216	9.75	40.67	
ID = 3 (1374):	22061.19	210.107	9.75	40.77	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0374)	Area (ha)= 32.64		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 35.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	14.69	17.95	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	4.80	
Length	(m)=	466.48	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	21.65	
over (min)		15.00	30.00	
Storage Coeff. (min)=		7.20 (ii)	42.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.10	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.92	0.65	1.489 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	61.71	30.22	41.24
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.48	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2374)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0374):	32.64	1.489	5.25	41.24	
+ ID2= 2 (1374):	22061.19	210.107	9.75	40.77	
ID = 3 (2374):	22093.83	210.192	9.75	40.77	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5396)		
IN= 2---> OUT= 1	Routing time step (min)'= 15.00	

<------ DATA FOR SECTION (5396.0) ------>

Distance	Elevation	Manning	
0.00	97.95	0.1110	
17.75	83.00	0.1110	
23.72	82.08	0.1110	
24.22	82.00	0.1110	
25.33	82.00	0.1110 /0.0490	Main Channel
26.00	81.40	0.0490	Main Channel
33.68	81.40	0.0490	Main Channel
35.87	82.00	0.0490 /0.1110	Main Channel
43.42	82.00	0.1110	
69.25	82.98	0.1110	
140.88	83.00	0.1110	
166.30	97.94	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	82.00	.162E+04	6.3	1.16	4.27
1.44	82.84	.981E+04	41.2	1.24	3.97
2.28	83.68	.373E+05	147.1	1.17	4.23
3.12	84.52	.687E+05	348.9	1.50	3.28
3.96	85.36	.101E+06	621.1	1.83	2.70
4.79	86.19	.133E+06	955.6	2.12	2.32
5.63	87.03	.167E+06	1347.8	2.40	2.06
6.47	87.87	.200E+06	1794.3	2.65	1.86
7.31	88.71	.235E+06	2292.7	2.89	1.71
8.15	89.55	.270E+06	2841.1	3.12	1.58
8.99	90.39	.305E+06	3438.0	3.34	1.48
9.83	91.23	.342E+06	4082.2	3.54	1.39
10.67	92.07	.378E+06	4772.8	3.74	1.32
11.51	92.91	.416E+06	5508.8	3.93	1.26
12.35	93.75	.454E+06	6289.6	4.11	1.20
13.18	94.58	.492E+06	7114.7	4.28	1.15
14.02	95.42	.532E+06	7983.6	4.45	1.11
14.86	96.26	.571E+06	8895.9	4.61	1.07
15.70	97.10	.612E+06	9851.2	4.77	1.04

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2374)	*******	210.19	9.75	40.77	2.54	1.26
OUTFLOW: ID= 1 (5396)	*******	210.29	9.75	40.77	2.53	1.25

CALIB			
STANDHYD (0396)	Area (ha)= 4.65		
ID= 1 DT=15.0 min	Total Imp(%)= 17.00	Dir. Conn.(%)= 15.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.79	3.86	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	16.10	
Length	(m)=	176.07	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	13.68	
over (min)		15.00	15.00	
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.11	0.07	
				TOTALS
PEAK FLOW	(cms)=	0.06	0.13	0.188 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	21.60	27.61
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.34	0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2396)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0396):	4.65	0.188	5.25	27.61	
+ ID2= 2 (5396):	22093.83	210.290	9.75	40.77	
ID = 3 (2396):	22098.48	210.296	9.75	40.77	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0375)	Area (ha)= 52.21		
ID= 1 DT=15.0 min	Total Imp(%)= 20.00	Dir. Conn.(%)= 16.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.44	41.77
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.30
Length	(m)=	589.97	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	10.90		
over (min)	15.00	30.00		
Storage Coeff. (min)=	7.80 (ii)	46.80 (ii)		
Unit Hyd. Tpeak (min)=	15.00	45.00		
Unit Hyd. peak (cms)=	0.10	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.67	0.70	1.237 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	61.71	16.75	23.94	
TOTAL RAINFALL (mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT =	0.98	0.27	0.38	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1376)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0375):	52.21	1.237	5.25	23.94	
+ ID2= 2 (2396):	22098.48	210.296	9.75	40.77	
ID = 3 (1376):	22150.69	210.401	9.75	40.73	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5376)		
IN= 2---> OUT= 1	Routing time step (min)'= 15.00	

<------ DATA FOR SECTION (5376.0) ------>

Distance	Elevation	Manning	
0.00	85.02	0.1110	
7.10	80.04	0.1110	
61.55	79.68	0.1110	
116.38	79.93	0.1110	
143.52	79.00	0.1110	
158.92	78.00	0.1110	
166.66	76.00	0.1110	
167.10	75.50	0.0490	Main Channel
200.00	75.50	0.0490	Main Channel
202.57	76.00	0.0490 /0.1110	Main Channel
207.88	78.85	0.1110	
214.22	80.17	0.1110	
238.13	81.00	0.1110	
277.55	82.00	0.1110	
278.31	83.03	0.1110	
282.09	84.00	0.1110	
288.47	83.19	0.1110	
296.01	84.00	0.1110	
384.91	84.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	75.95	.696E+04	12.6	0.82	9.22
0.89	76.39	.145E+05	41.2	1.30	5.84
1.34	76.84	.225E+05	82.6	1.67	4.54
1.79	77.29	.310E+05	135.2	1.98	3.83
2.24	77.74	.401E+05	198.5	2.25	3.37
2.68	78.18	.498E+05	271.2	2.48	3.06
3.13	78.63	.608E+05	354.3	2.65	2.86
3.58	79.08	.735E+05	448.2	2.77	2.73
4.03	79.53	.888E+05	553.5	2.83	2.68
4.47	79.97	.114E+06	661.9	2.63	2.88
4.92	80.42	.157E+06	829.0	2.40	3.15
5.37	80.87	.202E+06	1031.7	2.32	3.26
5.82	81.32	.250E+06	1266.7	2.30	3.29
6.26	81.76	.302E+06	1534.7	2.31	3.28
6.71	82.21	.357E+06	1840.9	2.35	3.23
7.16	82.66	.412E+06	2183.9	2.41	3.15
7.61	83.11	.468E+06	2556.2	2.48	3.05
8.05	83.55	.525E+06	2944.5	2.55	2.97
8.50	84.00	.584E+06	3359.5	2.61	2.90

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->			<-pipe / channel->	
INFLOW : ID= 2 (1376) *******	210.40	9.75	40.73		2.31	2.28
OUTFLOW: ID= 1 (5376) *******	210.42	9.75	40.73		2.31	2.28

CALIB	
STANDHYD (0376)	Area (ha)= 61.67
ID= 1 DT=15.0 min	Total Imp(%)= 39.00 Dir. Conn.(%)= 33.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.05	37.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.30
Length	(m)=	641.20	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.83
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	46.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.02
			TOTALS
PEAK FLOW (cms)=		1.63	1.13 2.597 (iii)
TIME TO PEAK (hrs)=		5.25	5.75 5.25
RUNOFF VOLUME (mm)=		61.71	28.07 39.17
TOTAL RAINFALL (mm)=		62.71	62.71 62.71
RUNOFF COEFFICIENT =		0.98	0.45 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2376)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0376):	61.67	2.597	5.25	39.17
	+ ID2= 2 (5376):	22150.69	210.423	9.75	40.73
	ID = 3 (2376):	22212.36	210.589	9.75	40.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5395)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5395.0) ------>

Distance	Elevation	Manning	
0.00	80.00	0.0700	
23.38	80.00	0.0700	
28.10	79.57	0.0700	
49.96	79.59	0.0700	
59.82	79.36	0.0700	
73.05	78.62	0.0700	
86.41	78.00	0.0700	
92.93	77.00	0.0700	
131.54	76.00	0.0700	
223.71	75.98	0.0700 /0.0490	Main Channel
232.74	74.00	0.0490	Main Channel
260.75	74.00	0.0490	Main Channel
263.06	76.00	0.0490 /0.0700	Main Channel
265.52	76.00	0.0700	
297.15	77.04	0.0700	
323.06	78.00	0.0700	
327.20	79.00	0.0700	
341.44	79.37	0.0700	
370.62	80.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	74.28	.496E+04	7.0	0.86	11.77
0.57	74.57	.102E+05	22.5	1.34	7.56
0.85	74.85	.157E+05	44.5	1.72	5.88
1.13	75.13	.215E+05	72.6	2.05	4.93
1.41	75.41	.276E+05	106.4	2.35	4.32
1.70	75.70	.339E+05	145.6	2.61	3.88
1.98	75.98	.405E+05	190.4	2.86	3.55
2.31	76.31	.693E+05	278.8	2.45	4.14
2.65	76.65	.103E+06	406.6	2.39	4.24
2.98	76.98	.142E+06	571.0	2.44	4.15
3.32	77.32	.185E+06	780.5	2.57	3.94
3.65	77.65	.229E+06	1027.4	2.72	3.72
3.99	77.99	.276E+06	1310.5	2.88	3.51
4.32	78.32	.325E+06	1625.0	3.04	3.34
4.66	78.66	.376E+06	1974.5	3.19	3.17
4.99	78.99	.428E+06	2362.2	3.35	3.02
5.33	79.33	.483E+06	2754.4	3.46	2.93
5.66	79.66	.544E+06	3054.6	3.41	2.97
6.00	80.00	.613E+06	3561.5	3.53	2.87

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2376) *******	210.59	9.75	40.73		2.06	2.75
OUTFLOW: ID= 1 (5395) *******	210.45	9.75	40.73		2.06	2.75

CALIB	
STANDHYD (0395)	Area (ha)= 36.20
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.67	23.53
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	491.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	21.13
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW (cms)=		0.87	0.83 1.600 (iii)
TIME TO PEAK (hrs)=		5.25	5.50 5.25
RUNOFF VOLUME (mm)=		61.71	32.44 41.22
TOTAL RAINFALL (mm)=		62.71	62.71 62.71
RUNOFF COEFFICIENT =		0.98	0.52 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2395)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0395):	36.20	1.600	5.25	41.22
	+ ID2= 2 (5395):	22212.36	210.446	9.75	40.73
	ID = 3 (2395):	22248.56	210.550	9.75	40.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

** SIMULATION NUMBER: 4 **

READ STORM	Filename: C:\Users\P006437C\AppData\Local\Temp\9f309ab1-fec3-4607-958c-354f894587d2\4202b9d9
Ptotal= 73.10 mm	Comments: 25yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB	
NASHYD (0176)	Area (ha)= 121.04 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.37

Unit Hyd Qpeak (cms)= 3.387

PEAK FLOW (cms)= 2.117 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 25.609
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.350

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0168)	Area (ha)= 103.55 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.80 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.38

Unit Hyd Qpeak (cms)= 2.868

PEAK FLOW (cms)= 1.730 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 24.720
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.338

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0170)	Area (ha)= 31.80 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.10

Unit Hyd Qpeak (cms)= 1.100

PEAK FLOW (cms)= 0.610 (i)
TIME TO PEAK (hrs)= 6.250

RUNOFF VOLUME (mm)= 24.781
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.339

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2176)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0168):	103.55	1.730	6.50	24.72
	+ ID2= 2 (0170):	31.80	0.610	6.25	24.78
	ID = 3 (2176):	135.35	2.329	6.50	24.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1167)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0176):	121.04	2.117	6.50	25.61
	+ ID2= 2 (2176):	135.35	2.329	6.50	24.73
	ID = 3 (1167):	256.39	4.446	6.50	25.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5167)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5167.0) ------>

Distance	Elevation	Manning	
0.00	262.16	0.0930	
17.98	262.04	0.0930	
21.42	262.78	0.0930	
45.50	262.15	0.0930	
50.47	262.37	0.0930	
76.45	262.32	0.0930	
82.50	261.71	0.0930	
84.15	261.00	0.0930 /0.0410	Main Channel
85.06	260.58	0.0410	Main Channel
85.95	260.18	0.0410	Main Channel
87.25	260.94	0.0410 /0.0930	Main Channel
88.72	261.80	0.0930	
126.19	262.11	0.0930	
151.18	262.60	0.0930	
158.48	262.60	0.0930	
162.67	262.66	0.0930	
162.97	262.66	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	260.31	.213E+02	0.0	0.09	118.24
0.25	260.43	.850E+02	0.0	0.15	74.49
0.38	260.56	.191E+03	0.1	0.20	56.84

0.51	260.69	.340E+03	0.1	0.24	46.86
0.63	260.81	.530E+03	0.2	0.28	40.37
0.76	260.94	.763E+03	0.4	0.31	35.75
0.90	261.08	.107E+04	0.6	0.37	30.02
1.04	261.22	.144E+04	0.9	0.42	26.45
1.18	261.36	.185E+04	1.3	0.46	24.26
1.33	261.51	.233E+04	1.7	0.49	22.76
1.47	261.65	.285E+04	2.2	0.52	21.67
1.61	261.79	.345E+04	2.7	0.53	21.01
1.75	261.93	.488E+04	3.3	0.46	24.35
1.89	262.07	.813E+04	4.3	0.35	31.78
2.03	262.21	.143E+05	5.9	0.28	40.27
2.18	262.36	.227E+05	8.3	0.25	45.66
2.32	262.50	.347E+05	12.1	0.23	47.80
2.46	262.64	.483E+05	16.8	0.23	47.89
2.60	262.78	.635E+05	23.6	0.25	44.82

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1167)		256.39	4.45	6.50	25.15	1.91	0.34
OUTFLOW: ID= 1 (5167)		256.39	3.96	7.25	25.14	1.84	0.38

CALIB					
NASHYD (0167)	Area (ha)= 45.12	Curve Number (CN)= 74.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.10	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.67				

Unit Hyd Qpeak (cms)= 2.588

PEAK FLOW (cms)= 1.251 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 26.695
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.365

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2167)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0167):	45.12	1.251	5.50	26.69
	+ ID2= 2 (5167):	256.39	3.958	7.25	25.14
	ID = 3 (2167):	301.51	4.543	7.00	25.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0147)	Area (ha)= 71.89	Curve Number (CN)= 72.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.30	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 1.38				

Unit Hyd Qpeak (cms)= 1.996

PEAK FLOW (cms)= 1.220 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 25.035
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.342

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1153)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0147):	71.89	1.220	6.50	25.04
	+ ID2= 2 (2167):	301.51	4.543	7.00	25.38
	ID = 3 (1153):	373.40	5.747	6.75	25.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5153)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5153.0) ------>

Distance	Elevation	Manning	
0.00	265.12	0.0930	
61.22	264.43	0.0930	
92.80	264.46	0.0930	
229.62	263.26	0.0930	
264.40	263.29	0.0930	
313.73	261.28	0.0930	
323.84	261.53	0.0930	
325.29	261.12	0.0930 /0.0410	Main Channel
327.44	260.56	0.0410	Main Channel
330.20	261.79	0.0410 /0.0930	Main Channel
418.41	263.95	0.0930	
464.80	264.28	0.0930	
495.72	265.14	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	260.75	.661E+02	0.1	0.53	19.62
0.37	260.93	.265E+03	0.4	0.84	12.36
0.56	261.12	.595E+03	1.1	1.10	9.43
0.81	261.37	.140E+04	3.0	1.33	7.83
1.06	261.62	.434E+04	7.3	1.04	9.96
1.31	261.87	.875E+04	15.4	1.10	9.47
1.56	262.12	.154E+05	28.4	1.15	9.00
1.81	262.37	.245E+05	47.4	1.21	8.62
2.06	262.62	.362E+05	73.6	1.27	8.21
2.31	262.87	.505E+05	108.0	1.33	7.79
2.56	263.12	.673E+05	151.7	1.41	7.39
2.81	263.37	.891E+05	180.7	1.27	8.22
3.06	263.62	.120E+06	251.0	1.31	7.96
3.31	263.87	.157E+06	341.6	1.36	7.64
3.56	264.12	.200E+06	442.6	1.38	7.54
3.81	264.37	.254E+06	578.1	1.42	7.31
4.06	264.62	.317E+06	738.9	1.45	7.15
4.31	264.87	.387E+06	966.8	1.56	6.67

4.56	265.12	.462E+06	1227.8	1.66	6.27

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1153)		373.40	5.75	6.75	25.31	0.97	1.13
OUTFLOW: ID= 1 (5153)		373.40	5.72	7.00	25.31	0.97	1.13

CALIB					
NASHYD (0153)	Area (ha)= 34.14	Curve Number (CN)= 72.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.80	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.72				

Unit Hyd Qpeak (cms)= 1.809

PEAK FLOW (cms)= 0.829 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 24.699
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.338

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2153)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0153):	34.14	0.829	5.75	24.70
	+ ID2= 2 (5153):	373.40	5.723	7.00	25.31
	ID = 3 (2153):	407.54	6.219	6.75	25.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0140)	Area (ha)= 157.95	Curve Number (CN)= 73.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.70	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 1.60				

Unit Hyd Qpeak (cms)= 3.782

PEAK FLOW (cms)= 2.499 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 25.545
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.349

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1132)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0140):	157.95	2.499	7.00	25.55

+ ID2= 2 (2153):	407.54	6.219	6.75	25.26
ID = 3 (1132):	565.49	8.710	6.75	25.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5132)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5132.0) ------>

Distance	Elevation	Manning	
0.00	265.71	0.0930	
157.54	260.12	0.0930 /0.0410	Main Channel
162.96	260.04	0.0410	Main Channel
165.46	260.06	0.0410 /0.0930	Main Channel
230.27	261.15	0.0930	
271.12	261.23	0.0930	
301.57	261.74	0.0930	
340.02	262.22	0.0930	
355.40	262.69	0.0930	
390.99	263.30	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.02	260.06	.461E+02	0.0	0.04	507.91
0.19	260.23	.275E+04	0.4	0.17	118.51
0.36	260.40	.850E+04	1.6	0.22	91.47
0.53	260.57	.175E+05	3.7	0.25	79.15
0.70	260.74	.294E+05	6.9	0.28	71.09
0.87	260.91	.444E+05	11.4	0.31	65.09
1.04	261.08	.624E+05	17.2	0.33	60.33
1.21	261.25	.862E+05	22.8	0.32	63.13
1.38	261.42	.118E+06	33.6	0.34	58.33
1.55	261.59	.152E+06	46.8	0.37	54.18
1.73	261.77	.190E+06	62.3	0.39	50.75
1.90	261.94	.231E+06	79.9	0.41	48.16
2.07	262.11	.276E+06	100.2	0.43	45.88
2.24	262.28	.324E+06	124.0	0.46	43.60
2.41	262.45	.375E+06	152.0	0.48	41.16
2.58	262.62	.428E+06	182.8	0.51	39.06
2.75	262.79	.484E+06	215.5	0.53	37.42
2.92	262.96	.542E+06	250.3	0.55	36.09
3.09	263.13	.603E+06	288.3	0.57	34.89

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1132)	565.49	8.71	6.75	25.34	0.77	0.29
OUTFLOW: ID= 1 (5132)	565.49	7.36	8.00	25.33	0.72	0.28

CALIB	NASHYD (0132)	ID= 1 DT=15.0 min	Area (ha)= 78.02	Ia (mm)= 9.60	U.H. Tp(hrs)= 0.87	Curve Number (CN)= 72.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 3.421

PEAK FLOW (cms)= 1.703 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 24.837
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.340

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2132)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0132):	78.02	1.703	6.00	24.84
		+ ID2= 2 (5132):	565.49	7.360	8.00	25.33
		ID = 3 (2132):	643.51	8.151	7.75	25.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0108)	ID= 1 DT=15.0 min	Area (ha)= 82.89	Ia (mm)= 10.70	U.H. Tp(hrs)= 1.34	Curve Number (CN)= 72.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 2.368

PEAK FLOW (cms)= 1.379 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 24.156
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.330

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5118)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5118.0) ------>

Distance	Elevation	Manning	
0.00	264.29	0.0930	
54.59	264.08	0.0930	
195.91	262.32	0.0930	
196.76	262.30	0.0930	
198.83	261.60	0.0930 /0.0410	Main Channel
200.27	261.11	0.0410	Main Channel
204.45	262.14	0.0410 /0.0930	Main Channel
207.10	262.78	0.0930	
228.84	263.27	0.0930	
329.55	263.73	0.0930	
365.52	264.37	0.0930	
372.71	264.35	0.0930	
402.90	265.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	261.27	.156E+03	0.0	0.29	97.17

0.33	261.44	.623E+03	0.2	0.45	61.21
0.49	261.60	.140E+04	0.5	0.60	46.71
0.66	261.77	.253E+04	1.1	0.75	37.05
0.83	261.94	.399E+04	2.1	0.86	32.23
0.99	262.10	.578E+04	3.3	0.96	29.09
1.16	262.27	.790E+04	5.1	1.09	25.62
1.33	262.44	.115E+05	7.3	1.07	26.06
1.50	262.61	.189E+05	10.6	0.93	29.79
1.67	262.78	.304E+05	15.2	0.84	33.30
1.83	262.94	.467E+05	21.4	0.77	36.32
2.00	263.11	.689E+05	30.1	0.73	38.19
2.17	263.28	.970E+05	41.4	0.71	39.04
2.34	263.45	.136E+06	55.7	0.69	40.59
2.51	263.62	.188E+06	75.6	0.67	41.55
2.68	263.79	.255E+06	102.5	0.67	41.44
2.84	263.95	.328E+06	137.5	0.70	39.94
3.01	264.12	.411E+06	176.5	0.72	38.78
3.18	264.29	.505E+06	217.3	0.72	38.70

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0108)	82.89	1.38	6.50	24.16	0.70	0.78
OUTFLOW: ID= 1 (5118)	82.89	1.28	7.25	24.15	0.68	0.77

CALIB	NASHYD (0118)	ID= 1 DT=15.0 min	Area (ha)= 127.26	Ia (mm)= 9.70	U.H. Tp(hrs)= 1.42	Curve Number (CN)= 71.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 3.416

PEAK FLOW (cms)= 2.031 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 24.047
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.329

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2118)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0118):	127.26	2.031	6.75	24.05
		+ ID2= 2 (5118):	82.89	1.285	7.25	24.15
		ID = 3 (2118):	210.15	3.276	6.75	24.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1125)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (2118):	210.15	3.276	6.75	24.09

+ ID2= 2 (2132):	643.51	8.151	7.75	25.27
ID = 3 (1125):	853.66	11.216	7.50	24.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5125)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5125.0) ------>

Distance	Elevation	Manning	
0.00	261.06	0.0930	
112.10	260.66	0.0930	
128.23	260.37	0.0930	
184.04	259.72	0.0930	
217.53	259.61	0.0930	
253.86	259.67	0.0930	
268.78	259.50	0.0930	
310.66	258.59	0.0930	
323.55	258.45	0.0930 /0.0410	Main Channel
324.18	258.37	0.0410	Main Channel
328.71	257.57	0.0410	Main Channel
330.84	258.63	0.0410 /0.0930	Main Channel
332.23	258.70	0.0930	
402.29	261.32	0.0930	
415.98	261.42	0.0930	
435.71	261.26	0.0930	
609.12	263.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	257.75	.817E+02	0.0	0.15	77.13
0.35	257.92	.327E+03	0.1	0.24	48.59
0.53	258.10	.735E+03	0.3	0.31	37.08
0.70	258.27	.131E+04	0.7	0.37	30.61
0.88	258.45	.205E+04	1.3	0.43	26.77
1.07	258.64	.402E+04	2.4	0.41	28.11
1.25	258.82	.772E+04	4.3	0.38	30.28
1.44	259.01	.131E+05	7.0	0.36	31.41
1.63	259.20	.203E+05	10.7	0.36	31.50
1.81	259.38	.292E+05	15.7	0.37	30.98
2.00	259.57	.399E+05	21.8	0.38	30.52
2.19	259.76	.579E+05	27.1	0.32	35.56
2.37	259.94	.822E+05	40.1	0.33	34.21
2.56	260.13	.109E+06	56.1	0.35	32.46
2.74	260.31	.139E+06	75.4	0.37	30.73
2.93	260.50	.171E+06	98.6	0.40	28.93
3.12	260.69	.205E+06	124.1	0.42	27.59
3.30	260.87	.245E+06	146.5	0.41	27.88
3.49	261.06	.292E+06	175.3	0.41	27.76

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1125)	853.66	11.22	7.50	24.98	1.64	0.36
OUTFLOW: ID= 1 (5125)	853.66	10.62	8.00	24.98	1.62	0.36

CALIB					
NASHYD (0125)	Area (ha)= 52.22	Curve Number (CN)= 72.0			
ID= 1 DT=15.0 min	Ia (mm)= 10.60	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.95				

Unit Hyd Qpeak (cms)= 2.093

PEAK FLOW (cms)= 1.059 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 24.213
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.331

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2125)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0125):	52.22	1.059	6.00	24.21
+ ID2= 2 (5125):	853.66	10.615	8.00	24.98
ID = 3 (2125):	905.88	11.135	7.75	24.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5107)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5107.0) ------>

Distance	Elevation	Manning	
0.00	259.47	0.0930	
7.84	259.44	0.0930	
11.25	259.57	0.0930	
21.80	259.34	0.0930	
32.98	259.22	0.0930	
41.05	258.44	0.0930	
73.72	258.37	0.0930	
80.66	257.81	0.0930	
83.82	256.91	0.0930 /0.0410	Main Channel
85.86	256.34	0.0410	Main Channel
86.32	256.46	0.0410	Main Channel
88.86	257.10	0.0410 /0.0930	Main Channel
114.39	257.69	0.0930	
138.64	257.87	0.0930	
178.64	259.30	0.0930	
197.11	259.23	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	256.48	.737E+02	0.0	0.20	79.74
0.29	256.62	.296E+03	0.1	0.32	50.29
0.43	256.77	.669E+03	0.3	0.43	38.35
0.57	256.91	.119E+04	0.6	0.52	31.64
0.75	257.09	.205E+04	1.3	0.64	25.38
0.92	257.26	.366E+04	2.5	0.68	24.06
1.10	257.44	.671E+04	4.3	0.63	25.84
1.28	257.62	.112E+05	6.9	0.60	27.04

1.46	257.80	.176E+05	10.1	0.56	29.00
1.63	257.97	.276E+05	15.3	0.54	30.14
1.81	258.15	.392E+05	22.5	0.56	29.03
1.99	258.33	.520E+05	31.4	0.59	27.60
2.17	258.51	.691E+05	41.5	0.59	27.75
2.34	258.68	.898E+05	55.9	0.61	26.80
2.52	258.86	.112E+06	72.8	0.64	25.56
2.70	259.04	.135E+06	92.4	0.67	24.32
2.88	259.22	.159E+06	114.5	0.70	23.15
3.05	259.39	.188E+06	130.8	0.68	23.93
3.23	259.57	.220E+06	159.7	0.71	23.02

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2125)	905.88	11.14	7.75	24.94	1.49	0.56
OUTFLOW: ID= 1 (5107)	905.88	10.75	8.50	24.94	1.48	0.56

CALIB					
NASHYD (0107)	Area (ha)= 121.76	Curve Number (CN)= 70.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.70	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 1.34				

Unit Hyd Qpeak (cms)= 3.460

PEAK FLOW (cms)= 1.948 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 23.333
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.319

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2107)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0107):	121.76	1.948	6.50	23.33
+ ID2= 2 (5107):	905.88	10.747	8.50	24.94
ID = 3 (2107):	1027.64	12.014	8.25	24.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0090)	Area (ha)= 67.74	Curve Number (CN)= 73.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.40	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.85				

Unit Hyd Qpeak (cms)= 3.040

PEAK FLOW (cms)= 1.562 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 25.727
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.352

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5089)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5089.0) ------>

Distance	Elevation	Manning	
0.00	283.61	0.0930	
12.80	283.54	0.0930	
26.10	283.37	0.0930	
32.61	283.02	0.0930	
52.71	281.44	0.0930	
67.48	281.01	0.0930	
83.85	280.06	0.0930	
102.23	279.31	0.0930	
113.08	279.11	0.0930	
117.61	279.05	0.0930 /0.0410	Main Channel
120.37	279.02	0.0410	Main Channel
123.67	277.63	0.0410	Main Channel
124.68	277.19	0.0410	Main Channel
129.65	278.99	0.0410 /0.0930	Main Channel
171.25	280.63	0.0930	
243.68	281.45	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	277.39	.318E+03	0.0	0.35	149.46
0.40	277.59	.127E+04	0.2	0.56	94.15
0.60	277.79	.286E+04	0.7	0.73	71.97
0.80	277.99	.510E+04	1.4	0.88	59.43
1.00	278.19	.798E+04	2.6	1.02	51.20
1.20	278.39	.115E+05	4.2	1.16	45.33
1.40	278.59	.157E+05	6.4	1.28	40.89
1.60	278.79	.205E+05	9.1	1.40	37.40
1.80	278.99	.260E+05	12.5	1.51	34.57
2.00	279.19	.368E+05	16.1	1.37	38.23
2.25	279.44	.637E+05	25.9	1.28	41.02
2.49	279.68	.101E+06	39.5	1.23	42.56
2.74	279.93	.147E+06	57.1	1.22	42.98
2.98	280.17	.203E+06	79.5	1.23	42.60
3.23	280.42	.267E+06	106.9	1.26	41.68
3.48	280.67	.340E+06	138.7	1.28	40.84
3.72	280.91	.428E+06	173.5	1.27	41.10
3.97	281.16	.537E+06	215.6	1.26	41.49
4.21	281.40	.668E+06	266.4	1.25	41.82

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0090)	67.74	1.56	5.75	25.73	0.82	0.90
OUTFLOW: ID= 1 (5089)	67.74	1.18	6.75	25.72	0.73	0.82

CALIB					
NASHYD (0089)	Area (ha)= 167.93	Curve Number (CN)= 67.0			
ID= 1 DT=15.0 min	Ia (mm)= 8.60	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 1.40				

Unit Hyd Qpeak (cms)= 4.572

PEAK FLOW (cms)= 2.454 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 21.940
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.300

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2089)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0089):	167.93	2.454	6.75	21.94
+ ID2= 2 (5089):	67.74	1.180	6.75	25.72
ID = 3 (2089):	235.67	3.634	6.75	23.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5097)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5097.0) ------>

Distance	Elevation	Manning	
0.00	264.00	0.0930	
43.72	263.34	0.0930	
75.36	263.31	0.0930	
120.67	262.08	0.0930	
120.80	262.07	0.0930	
122.58	262.15	0.0930 /0.0410	Main Channel
122.81	262.14	0.0410	Main Channel
125.62	261.93	0.0410	Main Channel
127.06	261.90	0.0410	Main Channel
128.23	262.19	0.0410 /0.0930	Main Channel
129.33	262.51	0.0930	
202.64	264.26	0.0930	
234.87	264.54	0.0930	
274.19	264.72	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	261.98	.109E+03	0.0	0.27	51.95
0.17	262.07	.333E+03	0.2	0.41	33.66
0.25	262.15	.799E+03	0.4	0.44	31.23
0.37	262.27	.199E+04	1.3	0.53	25.99
0.48	262.38	.362E+04	2.6	0.60	23.06
0.60	262.50	.570E+04	4.5	0.66	21.17
0.71	262.61	.840E+04	6.9	0.69	20.19
0.83	262.73	.120E+05	10.2	0.71	19.65
0.94	262.84	.164E+05	14.3	0.72	19.19
1.06	262.96	.218E+05	19.4	0.74	18.70
1.17	263.07	.280E+05	25.6	0.76	18.19
1.29	263.19	.350E+05	33.1	0.79	17.66
1.41	263.31	.430E+05	41.8	0.81	17.14
1.52	263.42	.544E+05	47.8	0.73	18.94

1.64	263.54	.674E+05	61.5	0.76	18.26
1.75	263.65	.817E+05	77.4	0.79	17.59
1.87	263.77	.971E+05	95.5	0.82	16.95
1.98	263.88	.114E+06	116.0	0.85	16.35
2.10	264.00	.132E+06	139.0	0.88	15.78

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2089)	235.67	3.63	6.75	23.03	0.54	0.63
OUTFLOW: ID= 1 (5097)	235.67	3.53	7.00	23.02	0.54	0.63

CALIB					
NASHYD (0097)	Area (ha)=	49.25	Curve Number (CN)=	77.0	
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.39			

Unit Hyd Qpeak (cms)= 1.350

PEAK FLOW (cms)= 0.968 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 28.930
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2097)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0097):	49.25	0.968	6.50	28.93
+ ID2= 2 (5097):	235.67	3.527	7.00	23.02
ID = 3 (2097):	284.92	4.466	7.00	24.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0104)	Area (ha)=	41.86	Curve Number (CN)=	71.0	
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.07			

Unit Hyd Qpeak (cms)= 1.491

PEAK FLOW (cms)= 0.779 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 23.737
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.325

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1102)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0104):	41.86	0.779	6.25	23.74
+ ID2= 2 (2097):	284.92	4.466	7.00	24.05
ID = 3 (1102):	326.78	5.138	6.75	24.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5102)

IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5102.0) ------>

Distance	Elevation	Manning	
0.00	261.12	0.0930	
11.14	260.51	0.0930	
18.45	260.84	0.0930	
41.57	260.07	0.0930	
52.25	260.01	0.0930	
73.74	260.12	0.0930	
117.88	258.92	0.0930	
139.95	258.90	0.0930	
184.09	258.61	0.0930	
194.98	258.41	0.0930	
203.59	258.36	0.0930	
209.59	258.28	0.0930 /0.0410	Main Channel
214.07	258.22	0.0410	Main Channel
217.86	258.29	0.0410 /0.0930	Main Channel
325.90	260.68	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	258.28	.441E+02	0.0	0.10	31.73
0.19	258.41	.434E+03	0.4	0.19	16.32
0.31	258.53	.126E+04	1.5	0.23	13.61
0.44	258.66	.240E+04	3.3	0.26	12.17
0.57	258.79	.409E+04	5.9	0.28	11.51
0.69	258.91	.640E+04	9.5	0.28	11.24
0.82	259.04	.958E+04	15.5	0.31	10.33
0.94	259.16	.130E+05	23.3	0.34	9.32
1.07	259.29	.167E+05	32.7	0.37	8.52
1.20	259.42	.207E+05	43.8	0.40	7.87
1.32	259.54	.248E+05	56.4	0.43	7.34
1.45	259.67	.293E+05	70.7	0.46	6.91
1.58	259.80	.340E+05	86.6	0.48	6.54
1.70	259.92	.389E+05	104.3	0.51	6.22
1.83	260.05	.441E+05	119.1	0.51	6.18
1.95	260.17	.503E+05	136.4	0.52	6.14
2.08	260.30	.567E+05	161.7	0.54	5.85
2.21	260.43	.634E+05	189.1	0.57	5.59
2.33	260.55	.704E+05	217.9	0.59	5.38

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1102)	326.78	5.14	6.75	24.01	0.53	0.27
OUTFLOW: ID= 1 (5102)	326.78	5.08	7.00	24.01	0.53	0.27

CALIB					
NASHYD (0102)	Area (ha)=	2.11	Curve Number (CN)=	72.0	
ID= 1 DT=15.0 min	Ia (mm)=	7.80	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.29			

Unit Hyd Qpeak (cms)= 0.279

PEAK FLOW (cms)= 0.083 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 25.216
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.345

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2102)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	2.11	0.083	5.25	25.22
+ ID2= 2 (5102):	326.78	5.081	7.00	24.01
ID = 3 (2102):	328.89	5.099	7.00	24.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0085)	Area (ha)=	100.60	Curve Number (CN)=	72.0	
ID= 1 DT=15.0 min	Ia (mm)=	9.50	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.58			

Unit Hyd Qpeak (cms)= 2.433

PEAK FLOW (cms)= 1.559 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 24.910
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.341

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1103)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0085):	100.60	1.559	7.00	24.91
+ ID2= 2 (2102):	328.89	5.099	7.00	24.01
ID = 3 (1103):	429.49	6.658	7.00	24.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5103)

IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5103.0) ------>

Distance	Elevation	Manning	
0.00	260.43	0.0930	
64.92	259.80	0.0930	
159.89	259.49	0.0930	
194.21	259.11	0.0930	
200.68	257.93	0.0930	
217.06	258.25	0.0930	
225.28	257.72	0.0930 /0.0410	Main Channel
227.17	257.59	0.0410	Main Channel
228.54	257.71	0.0410 /0.0930	Main Channel
244.04	258.74	0.0930	
267.54	258.84	0.0930	
274.63	259.13	0.0930	
295.89	259.48	0.0930	
310.06	259.61	0.0930	
344.18	260.28	0.0930	
358.34	260.35	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	257.71	.574E+02	0.1	0.27	18.86
0.26	257.85	.281E+03	0.4	0.46	11.20
0.40	257.99	.715E+03	1.2	0.50	10.30
0.54	258.13	.161E+04	2.5	0.48	10.65
0.68	258.27	.302E+04	4.8	0.49	10.40
0.81	258.40	.471E+04	8.5	0.56	9.23
0.95	258.54	.651E+04	13.2	0.62	8.23
1.09	258.68	.844E+04	18.9	0.69	7.46
1.23	258.82	.107E+05	24.0	0.69	7.43
1.37	258.96	.138E+05	32.7	0.73	7.05
1.51	259.10	.172E+05	43.2	0.77	6.61
1.65	259.24	.209E+05	50.6	0.74	6.90
1.79	259.38	.256E+05	61.0	0.73	6.99
1.93	259.52	.312E+05	72.8	0.72	7.14
2.07	259.66	.387E+05	85.1	0.68	7.58
2.20	259.79	.485E+05	106.4	0.67	7.59
2.34	259.93	.598E+05	138.3	0.71	7.20
2.48	260.07	.720E+05	175.6	0.75	6.83
2.62	260.21	.851E+05	218.1	0.79	6.50

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1103)	429.49	6.66	7.00	24.22	0.74	0.52
OUTFLOW: ID= 1 (5103)	429.49	6.62	7.25	24.22	0.74	0.52

CALIB					
NASHYD (0103)	Area (ha)=	13.80	Curve Number (CN)=	71.0	
ID= 1 DT=15.0 min	Ia (mm)=	9.90	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.83			

Unit Hyd Qpeak (cms)= 0.638

PEAK FLOW (cms)= 0.300 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 23.912

TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.327

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2103)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0103):	13.80	0.300	5.75	23.91
+	ID2= 2 (5103):	429.49	6.623	7.25	24.22
	ID = 3 (2103):	443.29	6.799	7.25	24.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1105)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2103):	443.29	6.799	7.25	24.21
+	ID2= 2 (2107):	1027.64	12.014	8.25	24.75
	ID = 3 (1105):	1470.93	18.136	7.75	24.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5105)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5105.0) ------>

Distance	Elevation	Manning	
0.00	259.38	0.0930	
16.48	258.87	0.0930	
29.77	258.00	0.0930	
35.97	256.26	0.0930	
47.95	256.26	0.0930	
63.19	256.50	0.0930	
68.45	254.59	0.0930 /0.0410	Main Channel
69.33	254.24	0.0410	Main Channel
70.76	254.71	0.0410 /0.0930	Main Channel
75.24	256.29	0.0930	
93.49	256.07	0.0930	
111.29	256.77	0.0930	
123.23	257.87	0.0930	
136.75	258.67	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	254.42	.100E+03	0.0	0.17	113.66
0.35	254.59	.401E+03	0.1	0.27	71.60
0.59	254.83	.115E+04	0.4	0.42	46.70
0.83	255.07	.227E+04	1.0	0.51	38.69
1.07	255.31	.378E+04	1.8	0.56	35.01
1.31	255.55	.566E+04	2.9	0.60	32.70
1.55	255.79	.792E+04	4.3	0.63	30.99

1.79	256.03	.106E+05	5.9	0.66	29.62
2.03	256.27	.163E+05	6.9	0.50	39.36
2.27	256.51	.329E+05	11.3	0.41	48.37
2.51	256.75	.535E+05	18.8	0.41	47.54
2.75	256.99	.757E+05	28.9	0.45	43.75
2.99	257.23	.989E+05	41.2	0.49	40.05
3.23	257.47	.123E+06	55.6	0.53	36.92
3.47	257.71	.148E+06	72.0	0.57	34.30
3.71	257.95	.174E+06	90.3	0.61	32.19
3.95	258.19	.202E+06	108.9	0.63	30.93
4.19	258.43	.232E+06	129.4	0.66	29.87
4.43	258.67	.264E+06	152.4	0.68	28.87

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1105)	1470.93	18.14	7.75	24.59	2.49	0.41
OUTFLOW:	ID= 1 (5105)	1470.93	16.55	8.50	24.59	2.44	0.41

CALIB	
NASHYD (0105)	Area (ha)= 54.33 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 10.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.72

Unit Hyd Qpeak (cms)= 2.866

PEAK FLOW (cms)= 1.288 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 24.198
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.331

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2105)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0105):	54.33	1.288	5.75	24.20
+	ID2= 2 (5105):	1470.93	16.547	8.50	24.59
	ID = 3 (2105):	1525.26	16.869	8.50	24.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0072)	Area (ha)= 66.00 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.00

Unit Hyd Qpeak (cms)= 2.508

PEAK FLOW (cms)= 1.244 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 23.329
TOTAL RAINFALL (mm)= 73.100

RUNOFF COEFFICIENT = 0.319

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0062)	Area (ha)= 194.37 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 8.30 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.33

Unit Hyd Qpeak (cms)= 5.578

PEAK FLOW (cms)= 3.256 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 24.178
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.331

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1086)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0062):	194.37	3.256	6.50	24.18
+	ID2= 2 (0072):	66.00	1.244	6.00	23.33
	ID = 3 (1086):	260.37	4.450	6.50	23.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5086)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5086.0) ------>

Distance	Elevation	Manning	
0.00	261.31	0.0930	
3.21	261.36	0.0930	
28.01	261.03	0.0930	
42.51	261.07	0.0930	
53.44	260.90	0.0930	
62.26	260.66	0.0930	
107.79	260.30	0.0930	
123.86	260.33	0.0930	
139.15	260.06	0.0930	
156.49	259.39	0.0930	
173.83	258.81	0.0930 /0.0410	Main Channel
179.12	258.67	0.0410	Main Channel
180.66	258.74	0.0410 /0.0930	Main Channel
197.95	259.63	0.0930	
205.72	259.81	0.0930	
209.98	259.78	0.0930	
318.53	261.21	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.07	258.74	.375E+03	0.0	0.20	216.58

0.21	258.88	.320E+04	0.5	0.43	98.91
0.35	259.02	.847E+04	1.8	0.55	77.87
0.48	259.15	.161E+05	3.9	0.62	69.08
0.62	259.29	.262E+05	6.9	0.67	63.50
0.76	259.43	.387E+05	10.9	0.72	59.26
0.90	259.57	.534E+05	16.0	0.77	55.68
1.04	259.71	.705E+05	22.0	0.80	53.32
1.17	259.84	.917E+05	28.6	0.80	53.38
1.31	259.98	.119E+06	37.8	0.81	52.42
1.45	260.12	.151E+06	48.6	0.82	51.84
1.59	260.26	.190E+06	61.3	0.83	51.51
1.72	260.39	.239E+06	73.2	0.78	54.43
1.86	260.53	.301E+06	93.0	0.79	53.89
2.00	260.67	.372E+06	117.3	0.81	52.88
2.14	260.81	.451E+06	148.5	0.84	50.63
2.28	260.95	.535E+06	183.6	0.88	48.60
2.41	261.08	.628E+06	216.3	0.88	48.38
2.55	261.22	.732E+06	261.9	0.92	46.60

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1086)	260.37	4.45	6.50	23.96	0.51	0.63
OUTFLOW:	ID= 1 (5086)	260.37	3.55	7.50	23.96	0.46	0.60

CALIB	
NASHYD (0086)	Area (ha)= 85.32 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.35

Unit Hyd Qpeak (cms)= 2.416

PEAK FLOW (cms)= 1.440 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 24.594
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.336

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2086)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0086):	85.32	1.440	6.50	24.59
+	ID2= 2 (5086):	260.37	3.554	7.50	23.96
	ID = 3 (2086):	345.69	4.859	7.25	24.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0082)	Area (ha)= 127.96 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.59

Unit Hyd Qpeak (cms)= 3.070

PEAK FLOW (cms)= 1.968 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 24.847
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.340

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
NASHYD (0070)	Area (ha)=	60.11 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.10 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.23

Unit Hyd Qpeak (cms)= 1.871

PEAK FLOW (cms)= 1.038 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 23.800
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.326

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1080)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0070):	60.11	1.038	6.50	23.80
	+ ID2= 2 (0082):	127.96	1.968	7.00	24.85
	ID = 3 (1080):	188.07	2.974	6.75	24.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5080)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5080.0) ------>

Distance	Elevation	Manning	
0.00	265.31	0.0930	
3.12	265.35	0.0930	
51.72	263.31	0.0930	
63.25	263.22	0.0930	
83.29	262.44	0.0930	
98.72	261.99	0.0930 /0.0410	Main Channel
107.79	261.84	0.0410	Main Channel
112.42	261.99	0.0410 /0.0930	Main Channel
182.31	264.06	0.0930	
207.12	264.23	0.0930	
208.20	264.24	0.0930	
230.04	264.24	0.0930	
257.09	264.08	0.0930	
287.23	264.25	0.0930	
339.24	265.08	0.0930	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	261.99	.747E+03	0.3	0.32	38.02
0.33	262.17	.328E+04	2.6	0.58	20.78
0.50	262.34	.737E+04	7.0	0.70	17.43
0.68	262.52	.130E+05	13.8	0.77	15.68
0.86	262.70	.200E+05	23.1	0.84	14.43
1.03	262.87	.283E+05	35.0	0.90	13.48
1.21	263.05	.380E+05	49.8	0.95	12.72
1.39	263.23	.491E+05	67.4	1.00	12.12
1.56	263.40	.624E+05	87.5	1.02	11.89
1.74	263.58	.773E+05	113.3	1.07	11.37
1.92	263.76	.935E+05	143.0	1.11	10.90
2.10	263.94	.111E+06	176.6	1.16	10.47
2.27	264.11	.130E+06	206.5	1.15	10.49
2.45	264.29	.158E+06	233.3	1.07	11.29
2.63	264.47	.193E+06	291.6	1.10	11.01
2.80	264.64	.229E+06	357.8	1.14	10.67
2.98	264.82	.268E+06	431.9	1.17	10.33
3.16	265.00	.308E+06	514.1	1.21	9.99
3.33	265.17	.350E+06	608.3	1.26	9.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1080)	188.07	2.97	6.75	24.51	0.34	0.59
OUTFLOW: ID= 1 (5080)	188.07	2.94	7.00	24.51	0.34	0.59

CALIB		
NASHYD (0080)	Area (ha)=	26.18 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	8.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.78

Unit Hyd Qpeak (cms)= 1.287

PEAK FLOW (cms)= 0.656 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 26.303
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.360

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2080)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0080):	26.18	0.656	5.75	26.30
	+ ID2= 2 (5080):	188.07	2.942	7.00	24.51
	ID = 3 (2080):	214.25	3.383	6.75	24.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1087)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2080):	214.25	3.383	6.75	24.73
	+ ID2= 2 (2086):	345.69	4.859	7.25	24.12
	ID = 3 (1087):	559.94	8.148	7.00	24.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5087)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5087.0) ------>

Distance	Elevation	Manning	
0.00	258.88	0.0930	
8.99	258.76	0.0930	
19.29	256.36	0.0930	
40.77	256.43	0.0930	
45.90	256.36	0.0930	
56.95	256.44	0.0930	
62.65	256.35	0.0930	
72.79	255.95	0.0930 /0.0410	Main Channel
73.78	255.91	0.0410	Main Channel
74.08	256.02	0.0410 /0.0930	Main Channel
84.33	259.59	0.0930	
121.64	260.15	0.0930	
126.24	260.09	0.0930	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.04	255.95	.134E+02	0.0	0.13	77.23
0.26	256.17	.580E+03	0.3	0.33	30.32
0.48	256.39	.217E+04	1.1	0.31	32.40
0.70	256.61	.951E+04	6.0	0.38	26.63
0.92	256.83	.174E+05	15.0	0.53	19.29
1.15	257.06	.254E+05	27.3	0.65	15.51
1.37	257.28	.337E+05	42.6	0.77	13.18
1.59	257.50	.422E+05	60.7	0.88	11.60
1.81	257.72	.509E+05	81.4	0.97	10.43
2.03	257.94	.599E+05	104.6	1.06	9.54
2.25	258.16	.690E+05	130.3	1.15	8.82
2.47	258.38	.783E+05	158.5	1.23	8.24
2.69	258.60	.879E+05	189.0	1.31	7.75
2.91	258.82	.978E+05	213.5	1.33	7.63
3.13	259.04	.109E+06	244.8	1.37	7.41
3.36	259.27	.120E+06	286.5	1.45	6.98
3.58	259.49	.131E+06	330.9	1.54	6.61
3.80	259.71	.143E+06	372.2	1.59	6.40
4.02	259.93	.156E+06	418.6	1.63	6.22

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1087)	559.94	8.15	7.00	24.35	0.76	0.41
OUTFLOW: ID= 1 (5087)	559.94	7.95	7.50	24.35	0.75	0.40

CALIB		
NASHYD (0087)	Area (ha)=	11.14 Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)=	10.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.56

Unit Hyd Qpeak (cms)= 0.761

PEAK FLOW (cms)= 0.283 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 22.411
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.307

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2087)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0087):	11.14	0.283	5.50	22.41
	+ ID2= 2 (5087):	559.94	7.949	7.50	24.35
	ID = 3 (2087):	571.08	8.040	7.50	24.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2087):	571.08	8.040	7.50	24.31
	+ ID2= 2 (2105):	1525.26	16.869	8.50	24.57
	ID = 3 (1084):	2096.34	23.998	8.00	24.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5084)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5084.0) ------>

Distance	Elevation	Manning	
0.00	259.35	0.0930	
3.22	259.33	0.0930	
19.62	255.67	0.0930	
53.75	255.23	0.0930	
140.86	255.25	0.0930	
146.73	253.99	0.0930 /0.0410	Main Channel
148.19	253.66	0.0410	Main Channel
148.47	253.71	0.0410	Main Channel
151.58	254.18	0.0410 /0.0930	Main Channel
159.61	255.34	0.0930	
161.63	255.50	0.0930	
175.11	259.05	0.0930	
185.75	258.95	0.0930	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	253.83	.358E+02	0.0	0.30	13.95
0.33	253.99	.147E+03	0.3	0.48	8.74
0.62	254.28	.530E+03	1.6	0.78	5.37
0.91	254.57	.116E+04	4.5	0.96	4.33
1.21	254.87	.203E+04	8.7	1.07	3.90
1.50	255.16	.315E+04	14.5	1.15	3.63
1.79	255.45	.953E+04	25.6	0.67	6.20
2.08	255.74	.194E+05	52.8	0.68	6.14
2.37	256.03	.300E+05	93.7	0.78	5.33
2.66	256.32	.407E+05	145.5	0.89	4.67
2.96	256.62	.516E+05	207.0	1.00	4.16
3.25	256.91	.627E+05	277.8	1.11	3.76
3.54	257.20	.740E+05	357.4	1.21	3.45
3.83	257.49	.854E+05	445.5	1.31	3.19
4.12	257.78	.970E+05	541.8	1.40	2.98
4.41	258.07	.109E+06	646.1	1.49	2.81
4.71	258.37	.121E+06	758.3	1.57	2.65
5.00	258.66	.133E+06	878.1	1.65	2.52
5.29	258.95	.145E+06	1005.6	1.73	2.41

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1084)	2096.34	24.00	8.00	24.50	1.75	0.72
OUTFLOW: ID= 1 (5084)	2096.34	23.90	8.25	24.50	1.74	0.72

CALIB					
NASHYD	(0084)	Area (ha)= 19.87	Curve Number (CN)= 73.0		
ID= 1 DT=15.0 min		Ia (mm)= 8.40	# of Linear Res.(N)= 3.00		
		U.H. Tp(hrs)= 0.53			

Unit Hyd Qpeak (cms)= 1.435

PEAK FLOW (cms)= 0.613 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 26.305
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.360

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD	(2084)				
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0084):	19.87	0.613	5.50	26.30
	+ ID2= 2 (5084):	2096.34	23.903	8.25	24.50
	ID = 3 (2084):	2116.21	24.020	8.25	24.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD	(0083)	Area (ha)= 50.78	Curve Number (CN)= 69.0		

ID= 1 DT=15.0 min	Ia (mm)= 9.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.05	

Unit Hyd Qpeak (cms)= 1.852

PEAK FLOW (cms)= 0.905 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 22.521
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.308

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD	(1076)				
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0083):	50.78	0.905	8.25	22.52
	+ ID2= 2 (2084):	2116.21	24.020	8.25	24.52
	ID = 3 (1076):	2166.99	24.456	8.25	24.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN	(5076)		
IN= 2---> OUT= 1		Routing time step (min)'= 15.00	

<------ DATA FOR SECTION (5076.0) ------> Distance	Elevation	Manning	
0.00	260.17	0.0930	
14.24	259.77	0.0930	
43.01	255.21	0.0930	
58.26	254.66	0.0930 /0.0410	Main Channel
63.42	253.10	0.0410	Main Channel
66.04	253.09	0.0410	Main Channel
70.21	254.56	0.0410 /0.0930	Main Channel
123.72	254.97	0.0930	
148.22	259.84	0.0930	
150.20	260.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	253.38	.521E+03	0.3	0.33	26.27
0.59	253.68	.132E+04	1.2	0.48	17.88
0.88	253.97	.240E+04	2.8	0.60	14.31
1.18	254.27	.374E+04	5.1	0.70	12.19
1.47	254.56	.536E+04	8.3	0.80	10.75
1.86	254.95	.134E+05	16.5	0.63	13.59
2.25	255.34	.293E+05	33.0	0.58	14.78
2.64	255.73	.464E+05	57.0	0.63	13.58
3.03	256.12	.644E+05	87.3	0.70	12.31
3.42	256.51	.833E+05	123.5	0.76	11.24
3.81	256.90	.103E+06	165.6	0.83	10.38
4.19	257.28	.124E+06	213.3	0.89	9.67
4.58	257.67	.145E+06	266.7	0.94	9.08
4.97	258.06	.168E+06	325.6	1.00	8.59
5.36	258.45	.191E+06	390.2	1.05	8.16
5.75	258.84	.215E+06	460.3	1.10	7.79

6.14	259.23	.240E+06	536.1	1.15	7.47
6.53	259.62	.266E+06	617.6	1.19	7.19
6.92	260.01	.294E+06	691.2	1.21	7.08

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1076)	2166.99	24.46	8.25	24.47	2.05	0.61
OUTFLOW: ID= 1 (5076)	2166.99	24.16	8.50	24.47	2.04	0.61

CALIB					
NASHYD	(0076)	Area (ha)= 22.96	Curve Number (CN)= 69.0		
ID= 1 DT=15.0 min		Ia (mm)= 10.60	# of Linear Res.(N)= 3.00		
		U.H. Tp(hrs)= 0.44			

Unit Hyd Qpeak (cms)= 2.011

PEAK FLOW (cms)= 0.640 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 21.973
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.301

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD	(2076)				
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0076):	22.96	0.640	5.25	21.97
	+ ID2= 2 (5076):	2166.99	24.163	8.50	24.47
	ID = 3 (2076):	2189.95	24.258	8.50	24.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD	(0071)	Area (ha)= 79.26	Curve Number (CN)= 72.0		
ID= 1 DT=15.0 min		Ia (mm)= 9.60	# of Linear Res.(N)= 3.00		
		U.H. Tp(hrs)= 1.35			

Unit Hyd Qpeak (cms)= 2.247

PEAK FLOW (cms)= 1.354 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 24.846
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.340

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD	(1063)				
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0071):	79.26	1.354	6.50	24.85
+ ID2= 2 (2076):	2189.95	24.258	8.50	24.44
ID = 3 (1063):	2269.21	25.067	8.50	24.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN	(5063)		
IN= 2---> OUT= 1		Routing time step (min)'= 15.00	

<------ DATA FOR SECTION (5063.0) ------> Distance	Elevation	Manning	
0.00	260.53	0.0930	
7.93	260.16	0.0930	
25.92	255.95	0.0930	
48.02	251.95	0.0930	
74.10	251.57	0.0930 /0.0410	Main Channel
75.60	250.50	0.0410	Main Channel
79.20	250.50	0.0410	Main Channel
81.24	251.63	0.0410 /0.0930	Main Channel
112.21	252.04	0.0930	
134.13	254.75	0.0930	
150.69	255.82	0.0930	
162.81	257.37	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	250.86	.284E+04	0.6	0.38	84.04
0.71	251.21	.647E+04	1.9	0.56	57.07
1.07	251.57	.109E+05	3.9	0.69	45.95
1.43	251.93	.310E+05	8.2	0.50	63.18
1.80	252.30	.758E+05	18.0	0.45	70.25
2.16	252.66	.125E+06	32.8	0.50	63.38
2.52	253.02	.177E+06	52.0	0.56	56.78
2.88	253.38	.233E+06	75.3	0.62	51.53
3.24	253.74	.292E+06	102.7	0.67	47.38
3.61	254.11	.355E+06	134.2	0.72	44.04
3.97	254.47	.421E+06	169.8	0.77	41.30
4.33	254.83	.490E+06	208.9	0.81	39.11
4.69	255.19	.565E+06	250.5	0.85	37.56
5.06	255.56	.644E+06	296.8	0.88	36.16
5.42	255.92	.729E+06	349.0	0.92	34.80
5.78	256.28	.817E+06	409.2	0.96	33.29
6.14	256.64	.909E+06	474.1	1.00	31.94
6.51	257.01	.100E+07	543.9	1.04	30.74
6.87	257.37	.110E+07	618.4	1.07	29.67

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1063)	2269.21	25.07	8.50	24.46	1.97	0.48
OUTFLOW: ID= 1 (5063)	2269.21	22.29	9.50	24.46	1.90	0.47

CALIB					
NASHYD	(0063)	Area (ha)= 109.84	Curve Number (CN)= 74.0		
ID= 1 DT=15.0 min		Ia (mm)= 8.90	# of Linear Res.(N)= 3.00		

U.H. Tp(hrs)= 0.82

Unit Hyd Qpeak (cms)= 5.123

PEAK FLOW (cms)= 2.727 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 26.846
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.367

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2063)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0063):	109.84	2.727	5.75	26.85
	+ ID2= 2 (5063):	2269.21	22.288	9.50	24.46
	ID = 3 (2063):	2379.05	22.705	9.50	24.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0035)	ID= 1 DT=15.0 min

Area (ha)= 49.86 Curve Number (CN)= 72.0
Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.90

Unit Hyd Qpeak (cms)= 2.121

PEAK FLOW (cms)= 1.062 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 24.587
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.336

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0018)	ID= 1 DT=15.0 min

Area (ha)= 165.67 Curve Number (CN)= 70.0
Ia (mm)= 8.30 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.18

Unit Hyd Qpeak (cms)= 5.349

PEAK FLOW (cms)= 2.967 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 24.177
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.331

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (1055) |

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0018):	165.67	2.967	6.25	24.18
+ ID2= 2 (0035):	49.86	1.062	6.00	24.59
ID = 3 (1055):	215.53	3.995	6.25	24.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5055)	IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5055.0) ------>

Distance	Elevation	Manning	
0.00	280.19	0.0930	
87.50	278.82	0.0930	
98.89	278.56	0.0930	
123.84	277.27	0.0930	
130.09	276.61	0.0930 /0.0410	Main Channel
131.71	276.44	0.0410	Main Channel
141.16	276.65	0.0410 /0.0930	Main Channel
152.62	277.02	0.0930	
168.18	278.51	0.0930	
229.80	279.24	0.0930	
279.45	279.08	0.0930	
352.04	279.93	0.0930	
414.67	279.67	0.0930	
506.68	280.29	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	276.61	.333E+04	0.3	0.36	194.87
0.36	276.80	.142E+05	2.2	0.66	106.21
0.55	276.99	.311E+05	6.0	0.82	86.49
0.74	277.18	.531E+05	11.7	0.93	75.45
0.92	277.36	.783E+05	19.2	1.04	67.84
1.11	277.55	.108E+06	28.6	1.12	62.81
1.30	277.74	.142E+06	40.0	1.19	59.08
1.49	277.93	.180E+06	53.5	1.26	56.15
1.68	278.12	.223E+06	69.2	1.31	53.73
1.87	278.31	.270E+06	87.2	1.36	51.68
2.05	278.49	.322E+06	107.7	1.41	49.89
2.24	278.68	.384E+06	123.7	1.36	51.76
2.43	278.87	.465E+06	145.3	1.32	53.33
2.62	279.06	.567E+06	172.7	1.29	54.76
2.81	279.25	.716E+06	195.8	1.16	60.92
3.00	279.44	.913E+06	246.9	1.14	61.62
3.18	279.62	.113E+07	307.9	1.15	61.33
3.37	279.81	.139E+07	362.7	1.10	63.96
3.56	280.00	.173E+07	441.2	1.08	65.24

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1055)	215.53	4.00	6.25	24.27	0.45	0.73
OUTFLOW: ID= 1 (5055)	215.53	2.76	7.50	24.27	0.38	0.68

| ADD HYD (1055) |

CALIB	NASHYD (0055)	ID= 1 DT=15.0 min

Area (ha)= 149.76 Curve Number (CN)= 71.0
Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.53

Unit Hyd Qpeak (cms)= 3.748

PEAK FLOW (cms)= 2.255 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 23.740
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.325

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2055)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0055):	149.76	2.255	6.75	23.74
	+ ID2= 2 (5055):	215.53	2.756	7.50	24.27
	ID = 3 (2055):	365.29	4.927	7.25	24.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0054)	ID= 1 DT=15.0 min

Area (ha)= 59.63 Curve Number (CN)= 73.0
Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.14

Unit Hyd Qpeak (cms)= 1.994

PEAK FLOW (cms)= 1.167 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 25.735
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.352

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1053)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0054):	59.63	1.167	6.25	25.74
	+ ID2= 2 (2055):	365.29	4.927	7.25	24.05
	ID = 3 (1053):	424.92	5.929	7.00	24.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5053)	IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5053.0) ------>

Distance	Elevation	Manning	
0.00	259.86	0.0930	
30.23	255.77	0.0930 /0.0410	Main Channel
32.12	255.61	0.0410	Main Channel
33.86	255.81	0.0410 /0.0930	Main Channel
75.21	261.86	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	255.77	.644E+02	0.1	0.19	21.35
0.38	255.99	.322E+03	0.5	0.37	10.94
0.59	256.20	.742E+03	1.4	0.45	9.00
0.81	256.42	.132E+04	2.7	0.51	8.07
1.02	256.63	.207E+04	4.6	0.55	7.47
1.24	256.85	.297E+04	7.1	0.58	7.01
1.45	257.06	.404E+04	10.1	0.62	6.64
1.67	257.28	.527E+04	13.9	0.65	6.33
1.88	257.49	.666E+04	18.3	0.67	6.06
2.10	257.71	.821E+04	23.5	0.70	5.82
2.31	257.92	.992E+04	29.5	0.73	5.61
2.53	258.14	.118E+05	36.3	0.76	5.41
2.74	258.35	.138E+05	44.1	0.78	5.23
2.96	258.57	.160E+05	52.7	0.81	5.07
3.17	258.78	.184E+05	62.3	0.83	4.92
3.39	259.00	.209E+05	72.9	0.86	4.78
3.60	259.21	.236E+05	84.6	0.88	4.65
3.82	259.43	.264E+05	97.3	0.90	4.53
4.03	259.64	.295E+05	111.1	0.93	4.42

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1053)	424.92	5.93	7.00	24.29	1.14	0.57
OUTFLOW: ID= 1 (5053)	424.92	5.89	7.25	24.29	1.13	0.57

CALIB	NASHYD (0053)	ID= 1 DT=15.0 min

Area (ha)= 5.96 Curve Number (CN)= 72.0
Ia (mm)= 9.90 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.35

Unit Hyd Qpeak (cms)= 0.652

PEAK FLOW (cms)= 0.211 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 24.290
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.332

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2053)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0053):	5.96	0.211	5.25	24.29
	+ ID2= 2 (5053):	424.92	5.890	7.25	24.29

ID = 3 (2053):	430.88	5.940	7.25	24.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0020)	Area	(ha)=	80.57	Curve Number (CN)=	71.0
ID= 1 DT=15.0 min	Ia	(mm)=	10.20	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		1.12		

Unit Hyd Qpeak (cms)= 2.738

PEAK FLOW	(cms)=	1.459 (i)
TIME TO PEAK	(hrs)=	6.250
RUNOFF VOLUME	(mm)=	23.737
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.325

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0011)	Area	(ha)=	91.04	Curve Number (CN)=	73.0
ID= 1 DT=15.0 min	Ia	(mm)=	9.60	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		1.42		

Unit Hyd Qpeak (cms)= 2.445

PEAK FLOW	(cms)=	1.553 (i)
TIME TO PEAK	(hrs)=	6.750
RUNOFF VOLUME	(mm)=	25.609
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.350

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1021)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0011):	91.04	1.553	6.75	25.61
+ ID2= 2 (0020):	80.57	1.459	6.25	23.74
ID = 3 (1021):	171.61	2.987	6.50	24.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5021)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5021.0) ------>

Distance	Elevation	Manning	
0.00	276.23	0.0930	
23.73	276.03	0.0930	
36.85	275.23	0.0930	
61.59	270.42	0.0930	
76.89	269.69	0.0930	
79.38	269.35	0.0930 /0.0410	Main Channel
82.08	268.91	0.0410	Main Channel
83.34	269.30	0.0410 /0.0930	Main Channel
84.93	269.79	0.0930	
98.02	269.97	0.0930	
107.38	271.99	0.0930	
117.80	275.64	0.0930	
136.41	276.14	0.0930	
138.19	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	269.11	.350E+03	0.1	0.48	67.98
0.39	269.30	.140E+04	0.5	0.77	42.82
0.80	269.71	.602E+04	3.9	1.29	25.50
1.21	270.12	.223E+05	12.1	1.07	30.66
1.61	270.52	.510E+05	30.1	1.16	28.18
2.02	270.93	.842E+05	58.1	1.36	24.18
2.43	271.34	.121E+06	94.6	1.54	21.28
2.84	271.75	.160E+06	139.5	1.71	19.16
3.24	272.15	.203E+06	193.4	1.87	17.51
3.65	272.56	.249E+06	256.5	2.03	16.17
4.06	272.97	.297E+06	328.1	2.17	15.08
4.47	273.38	.348E+06	408.4	2.31	14.19
4.87	273.78	.401E+06	497.5	2.44	13.44
5.28	274.19	.457E+06	595.6	2.56	12.79
5.69	274.60	.516E+06	702.7	2.68	12.23
6.10	275.01	.577E+06	819.1	2.79	11.74
6.50	275.41	.641E+06	934.0	2.87	11.44
6.91	275.82	.712E+06	1009.8	2.79	11.76
7.32	276.23	.803E+06	1016.7	2.49	13.16

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1021)	171.61	2.99	6.50	24.73	0.68	1.08
OUTFLOW:	ID= 1 (5021)	171.61	2.84	7.00	24.73	0.67	1.05

CALIB					
NASHYD (0021)	Area	(ha)=	68.90	Curve Number (CN)=	78.0
ID= 1 DT=15.0 min	Ia	(mm)=	7.20	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.75		

Unit Hyd Qpeak (cms)= 3.490

PEAK FLOW	(cms)=	2.132 (i)
TIME TO PEAK	(hrs)=	5.750
RUNOFF VOLUME	(mm)=	31.550
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.432

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2021)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0021):	68.90	2.132	5.75	31.55
+ ID2= 2 (5021):	171.61	2.838	7.00	24.73
ID = 3 (2021):	240.51	4.285	6.50	26.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0042)	Area	(ha)=	109.13	Curve Number (CN)=	73.0
ID= 1 DT=15.0 min	Ia	(mm)=	9.40	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		1.32		

Unit Hyd Qpeak (cms)= 3.160

PEAK FLOW	(cms)=	1.964 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	25.737
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.352

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1052)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0042):	109.13	1.964	6.50	25.74
+ ID2= 2 (2021):	240.51	4.285	6.50	26.68
ID = 3 (1052):	349.64	6.248	6.50	26.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5052)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5052.0) ------>

Distance	Elevation	Manning	
0.00	266.73	0.0930	
17.65	266.70	0.0930	
30.84	260.87	0.0930 /0.0410	Main Channel
33.16	260.30	0.0410	Main Channel
33.54	260.21	0.0410	Main Channel
34.62	260.23	0.0410	Main Channel
40.02	260.43	0.0410 /0.0930	Main Channel
79.73	260.97	0.0930	
92.56	266.14	0.0930	
101.74	266.11	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	260.43	.103E+04	0.4	0.49	40.73
0.52	260.73	.781E+04	4.3	0.66	30.29
0.82	261.03	.227E+05	14.6	0.77	25.83
1.12	261.33	.405E+05	33.4	0.98	20.21

1.42	261.63	.589E+05	58.5	1.18	16.79
1.71	261.92	.778E+05	89.1	1.37	14.55
2.01	262.22	.972E+05	125.0	1.53	12.95
2.31	262.52	.117E+06	166.0	1.69	11.76
2.61	262.82	.137E+06	211.7	1.84	10.82
2.91	263.12	.158E+06	262.2	1.97	10.07
3.21	263.42	.180E+06	317.2	2.11	9.44
3.51	263.72	.202E+06	376.8	2.23	8.92
3.81	264.02	.224E+06	440.8	2.35	8.47
4.11	264.32	.247E+06	509.2	2.46	8.08
4.41	264.62	.270E+06	582.0	2.57	7.74
4.70	264.91	.294E+06	659.2	2.67	7.44
5.00	265.21	.319E+06	740.6	2.77	7.17
5.30	265.51	.344E+06	826.4	2.87	6.93
5.60	265.81	.369E+06	916.5	2.96	6.71

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1052)	349.64	6.25	6.50	26.39	0.58	0.68
OUTFLOW:	ID= 1 (5052)	349.64	5.90	7.00	26.39	0.57	0.67

CALIB					
NASHYD (0052)	Area	(ha)=	37.91	Curve Number (CN)=	73.0
ID= 1 DT=15.0 min	Ia	(mm)=	9.20	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.84		

Unit Hyd Qpeak (cms)= 1.718

PEAK FLOW	(cms)=	0.885 (i)
TIME TO PEAK	(hrs)=	5.750
RUNOFF VOLUME	(mm)=	25.855
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.354

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2052)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0052):	37.91	0.885	5.75	25.86
+ ID2= 2 (5052):	349.64	5.898	7.00	26.39
ID = 3 (2052):	387.55	6.494	6.75	26.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1050)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2052):	387.55	6.494	6.75	26.34
+ ID2= 2 (2053):	430.88	5.940	7.25	24.29
ID = 3 (1050):	818.43	12.422	7.00	25.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5050)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5050.0) ------>

Distance	Elevation	Manning	
0.00	259.67	0.0930	
13.92	256.13	0.0930	
17.59	256.29	0.0930	
21.12	255.95	0.0930	
30.78	255.82	0.0930	
33.55	255.60	0.0930	
35.41	255.31	0.0930	
42.56	254.71	0.0930 /0.0410	Main Channel
44.43	254.55	0.0410	Main Channel
44.75	254.59	0.0410	Main Channel
49.70	255.17	0.0410 /0.0930	Main Channel
61.41	256.32	0.0930	
62.19	256.25	0.0930	
64.00	256.45	0.0930	
73.57	258.88	0.0930	
75.52	259.01	0.0930	
83.84	260.70	0.0930	
88.87	260.76	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	254.71	.591E+02	0.1	0.31	12.48
0.42	254.97	.414E+03	1.0	0.56	6.87
0.68	255.23	.109E+04	3.4	0.72	5.32
0.94	255.49	.209E+04	8.0	0.89	4.32
1.20	255.75	.336E+04	14.5	1.00	3.86
1.47	256.02	.523E+04	22.5	0.99	3.87
1.73	256.28	.775E+04	34.4	1.02	3.76
1.99	256.54	.108E+05	51.1	1.09	3.52
2.25	256.80	.140E+05	71.5	1.18	3.26
2.51	257.06	.173E+05	95.2	1.27	3.03
2.77	257.32	.208E+05	122.0	1.36	2.84
3.03	257.58	.243E+05	151.8	1.44	2.67
3.29	257.84	.280E+05	184.5	1.52	2.53
3.55	258.10	.318E+05	220.3	1.60	2.41
3.81	258.36	.358E+05	259.0	1.67	2.30
4.08	258.63	.398E+05	300.7	1.74	2.21
4.34	258.89	.440E+05	345.1	1.81	2.13
4.60	259.15	.484E+05	390.3	1.86	2.07
4.86	259.41	.530E+05	441.0	1.92	2.00

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1050)	818.43	12.42	7.00	25.26	1.12	0.96
OUTFLOW: ID= 1 (5050)	818.43	12.41	7.00	25.26	1.12	0.96

CALIB	
NASHYD (0050)	Area (ha)= 7.41 Curve Number (CN)= 72.0

ID= 1 DT=15.0 min	Ia (mm)= 9.80 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.46

Unit Hyd Qpeak (cms)= 0.615

PEAK FLOW (cms)= 0.225 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 24.591
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.336

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2050)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0050):	7.41	0.225	5.25	24.59
	+ ID2= 2 (5050):	818.43	12.414	7.00	25.26
	ID = 3 (2050):	825.84	12.489	7.00	25.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0007)	Area (ha)= 178.66 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.46

Unit Hyd Qpeak (cms)= 4.684

PEAK FLOW (cms)= 2.774 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 23.740
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.325

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5009)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5009.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
17.97	284.61	0.0930	
25.53	284.49	0.0930	
30.68	284.43	0.0930	
35.54	284.45	0.0930	
41.74	284.38	0.0930 /0.0410	Main Channel
43.34	284.37	0.0410	Main Channel
43.57	284.36	0.0410	Main Channel
43.90	284.36	0.0410	Main Channel
45.20	284.36	0.0410	Main Channel
47.00	284.36	0.0410 /0.0930	Main Channel
57.95	284.80	0.0930	
74.16	285.17	0.0930	

94.21	285.41	0.0930
108.93	285.51	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	284.41	.601E+02	0.0	0.14	25.46
0.09	284.45	.195E+03	0.2	0.17	21.00
0.14	284.50	.428E+03	0.4	0.19	18.59
0.19	284.55	.706E+03	0.7	0.22	16.30
0.23	284.59	.103E+04	1.2	0.24	14.64
0.28	284.64	.138E+04	1.7	0.27	13.25
0.33	284.69	.177E+04	2.4	0.30	12.12
0.37	284.73	.217E+04	3.2	0.32	11.22
0.42	284.78	.261E+04	4.1	0.34	10.50
0.47	284.83	.307E+04	5.1	0.36	9.94
0.52	284.88	.356E+04	6.3	0.38	9.48
0.56	284.92	.409E+04	7.5	0.39	9.08
0.61	284.97	.465E+04	8.9	0.41	8.73
0.66	285.02	.524E+04	10.4	0.42	8.43
0.70	285.06	.587E+04	12.0	0.44	8.15
0.75	285.11	.653E+04	13.8	0.45	7.90
0.80	285.16	.723E+04	15.7	0.47	7.68
0.84	285.20	.796E+04	17.7	0.48	7.51
0.89	285.25	.875E+04	19.8	0.49	7.37

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0007)	178.66	2.77	6.75	23.74	0.35	0.30
OUTFLOW: ID= 1 (5009)	178.66	2.75	7.00	23.74	0.35	0.30

CALIB			
NASHYD (0009)	Area (ha)= 57.35	Curve Number (CN)= 74.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.98		

Unit Hyd Qpeak (cms)= 2.228

PEAK FLOW (cms)= 1.279 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 26.854
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.367

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2009)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0009):	57.35	1.279	6.00	26.85
	+ ID2= 2 (5009):	178.66	2.753	7.00	23.74
	ID = 3 (2009):	236.01	3.852	6.50	24.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5012)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5012.0) ------>

Distance	Elevation	Manning	
0.00	286.59	0.0930	
7.35	286.54	0.0930	
182.68	282.59	0.0930 /0.0410	Main Channel
188.50	282.42	0.0410	Main Channel
196.35	282.37	0.0410	Main Channel
198.54	282.38	0.0410	Main Channel
198.86	282.39	0.0410	Main Channel
204.09	282.60	0.0410 /0.0930	Main Channel
220.42	283.20	0.0930	
227.76	283.19	0.0930	
249.45	283.60	0.0930	
276.70	284.52	0.0930	
280.20	284.62	0.0930	
338.90	285.99	0.0930	
430.49	286.70	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	282.59	.133E+05	1.7	0.54	133.55
0.43	282.80	.395E+05	7.7	0.85	85.15
0.64	283.01	.795E+05	18.1	0.99	73.15
0.85	283.22	.134E+06	32.8	1.06	68.25
1.06	283.43	.212E+06	53.6	1.10	65.80
1.27	283.64	.308E+06	81.1	1.14	63.31
1.48	283.85	.420E+06	116.0	1.20	60.37
1.69	284.06	.546E+06	158.0	1.26	57.61
1.90	284.27	.687E+06	207.6	1.31	55.13
2.11	284.48	.841E+06	265.1	1.37	52.91
2.33	284.70	.101E+07	329.9	1.42	51.07
2.54	284.91	.120E+07	402.8	1.46	49.51
2.75	285.12	.140E+07	485.2	1.51	48.06
2.96	285.33	.162E+07	577.5	1.55	46.71
3.17	285.54	.185E+07	680.1	1.59	45.45
3.38	285.75	.211E+07	793.5	1.63	44.27
3.59	285.96	.238E+07	918.1	1.68	43.16
3.80	286.17	.267E+07	1036.2	1.68	42.94
4.01	286.38	.300E+07	1169.3	1.69	42.70

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2009)	236.01	3.85	6.50	24.50	0.30	0.62
OUTFLOW: ID= 1 (5012)	236.01	2.54	8.25	24.49	0.25	0.57

CALIB			
NASHYD (0012)	Area (ha)= 183.34	Curve Number (CN)= 75.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.22		

Unit Hyd Qpeak (cms)= 5.735

PEAK FLOW (cms)= 3.750 (i)

```
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  27.887
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.381

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (2012) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0012):   183.34   3.750     6.50    27.89
       + ID2= 2 (5012):   236.01   2.538     8.25    24.49
         ================================================
         ID = 3 (2012):   419.35   5.476     7.00    25.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0032) |   Area    (ha)=  49.09   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.40   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.97

     Unit Hyd Qpeak  (cms)=   1.937

     PEAK FLOW       (cms)=   1.055 (i)
     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  25.732
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.352

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (1040) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0032):    49.09   1.055     6.00    25.73
       + ID2= 2 (2012):   419.35   5.476     7.00    25.98
         ================================================
         ID = 3 (1040):   468.44   6.349     6.75    25.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (5040) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (5040.0) ------>
            Distance      Elevation        Manning
                0.00         263.73         0.0930
                3.80         263.50         0.0930
               15.09         260.45         0.0930
               19.73         260.13         0.0930
               24.77         259.11         0.0930
               29.24         257.72         0.0930
```



```
               39.41         256.76         0.0930
               45.12         255.96    0.0930 /0.0410  Main Channel
               45.71         255.95         0.0410      Main Channel
               46.66         255.94         0.0410      Main Channel
               47.79         255.93         0.0410      Main Channel
               48.07         255.95         0.0410      Main Channel
               49.01         256.02         0.0410      Main Channel
               49.66         256.06    0.0410 /0.0930  Main Channel
               50.09         256.08         0.0930
               66.82         257.59         0.0930
               68.76         257.78         0.0930
               85.17         263.07         0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.03   255.96    .201E+02        0.0          0.13      49.56
        0.40   256.33    .103E+04        2.0          0.75       8.68
        0.78   256.71    .305E+04        7.5          0.95       6.80
        1.15   257.08    .613E+04       16.9          1.07       6.03
        1.53   257.46    .104E+05       31.3          1.17       5.53
        1.90   257.83    .158E+05       52.0          1.28       5.06
        2.28   258.21    .218E+05       80.4          1.43       4.52
        2.65   258.58    .281E+05      114.3          1.58       4.10
        3.02   258.95    .348E+05      153.7          1.72       3.78
        3.40   259.33    .419E+05      197.9          1.84       3.53
        3.77   259.70    .493E+05      247.2          1.95       3.33
        4.15   260.08    .573E+05      302.2          2.05       3.16
        4.52   260.45    .658E+05      356.5          2.11       3.08
        4.89   260.82    .750E+05      426.3          2.21       2.93
        5.27   261.20    .846E+05      502.3          2.31       2.81
        5.64   261.57    .945E+05      584.5          2.41       2.69
        6.02   261.95    .105E+06      673.1          2.50       2.60
        6.39   262.32    .116E+06      768.0          2.59       2.51
        6.77   262.70    .127E+06      869.4          2.67       2.43

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1040)  468.44     6.35    6.75  25.95      0.70      0.90
     OUTFLOW: ID= 1 (5040)  468.44     6.34    6.75  25.95      0.70      0.90
```

```
-------------------
| CALIB            |
| NASHYD    (0040) |   Area    (ha)=   5.95   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.797

     PEAK FLOW       (cms)=   0.244 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  26.087
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.357

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| ADD HYD   (2040) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0040):     5.95   0.244     5.25    26.09
       + ID2= 2 (5040):   468.44   6.342     6.75    25.95
         ================================================
         ID = 3 (2040):   474.39   6.400     6.75    25.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ADD HYD   (1043) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2040):   474.39   6.400     6.75    25.95
       + ID2= 2 (2050):   825.84  12.489     7.00    25.25
         ================================================
         ID = 3 (1043):  1300.23  18.865     7.00    25.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| ROUTE CHN (5043) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (5043.0) ------>
            Distance      Elevation        Manning
                0.00         258.27         0.0930
                9.62         255.23         0.0930
               22.15         254.22         0.0930
               41.61         253.70    0.0930 /0.0410  Main Channel
               42.11         253.67         0.0410      Main Channel
               44.98         252.56         0.0410      Main Channel
               45.13         252.60         0.0410      Main Channel
               47.49         253.41    0.0410 /0.0930  Main Channel
               50.17         253.96         0.0930
               52.43         253.89         0.0930
               55.10         253.86         0.0930
               58.88         253.98         0.0930
               61.24         253.95         0.0930
              105.33         254.48         0.0930
              118.27         258.71         0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.28   252.84    .132E+03        0.1          0.25      38.42
        0.57   253.13    .519E+03        0.4          0.39      24.35
        0.85   253.41    .116E+04        1.0          0.51      18.63
        1.15   253.71    .219E+04        2.4          0.62      15.46
        1.46   254.02    .541E+04        5.0          0.53      17.97
        1.76   254.32    .150E+05       10.9          0.42      23.00
        2.06   254.62    .295E+05       22.1          0.43      22.31
        2.37   254.93    .454E+05       38.6          0.49      19.62
        2.67   255.23    .622E+05       59.5          0.55      17.40
        2.98   255.54    .795E+05       85.3          0.62      15.52
        3.28   255.84    .971E+05      115.1          0.68      14.06
        3.58   256.14    .115E+06      148.5          0.74      12.91
        3.89   256.45    .133E+06      185.5          0.80      11.98
        4.19   256.75    .152E+06      226.0          0.86      11.20
```



```
        4.49   257.05    .171E+06      269.9          0.91      10.55
        4.80   257.36    .190E+06      317.2          0.96       9.99
        5.10   257.66    .210E+06      367.7          1.01       9.51
        5.41   257.97    .230E+06      421.4          1.06       9.09
        5.71   258.27    .250E+06      478.3          1.10       8.71

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1043) 1300.23    18.86    7.00  25.51      1.98      0.43
     OUTFLOW: ID= 1 (5043) 1300.23    18.09    7.50  25.51      1.96      0.43
```

```
-------------------
| CALIB            |
| NASHYD    (0043) |   Area    (ha)=  12.70   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.41

     Unit Hyd Qpeak  (cms)=   1.195

     PEAK FLOW       (cms)=   0.439 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  25.648
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.351

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD   (2043) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0043):    12.70   0.439     5.25    25.65
       + ID2= 2 (5043):  1300.23  18.090     7.50    25.51
         ================================================
         ID = 3 (2043):  1312.93  18.189     7.50    25.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
| CALIB            |
| NASHYD    (0014) |   Area    (ha)=  82.92   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.27

     Unit Hyd Qpeak  (cms)=   2.502

     PEAK FLOW       (cms)=   1.665 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  27.887
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.381

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ROUTE CHN (5013) |
```

| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5013.0) ------>

Distance	Elevation	Manning	
0.00	275.77	0.0930	
14.35	275.60	0.0930	
43.06	272.29	0.0930	
99.28	270.53	0.0930	
104.12	270.24	0.0930	
107.91	270.08	0.0930	
113.53	269.94	0.0930 /0.0410	Main Channel
117.24	269.85	0.0410	Main Channel
117.42	269.85	0.0410	Main Channel
122.48	269.97	0.0410 /0.0930	Main Channel
149.76	270.95	0.0930	
171.23	275.18	0.0930	
223.54	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	269.94	.752E+03	0.1	0.29	124.05
0.40	270.25	.123E+05	4.2	0.71	49.57
0.70	270.55	.339E+05	14.4	0.90	39.14
1.01	270.86	.661E+05	31.5	1.01	34.91
1.32	271.17	.109E+06	58.4	1.14	31.11
1.62	271.47	.160E+06	95.2	1.27	27.97
1.93	271.78	.218E+06	141.7	1.38	25.60
2.24	272.09	.283E+06	198.6	1.49	23.75
2.54	272.39	.356E+06	268.4	1.60	22.08
2.85	272.70	.432E+06	352.8	1.74	20.41
3.16	273.01	.511E+06	447.7	1.86	19.02
3.47	273.32	.593E+06	553.0	1.98	17.87
3.77	273.62	.677E+06	668.6	2.10	16.89
4.08	273.93	.765E+06	794.4	2.21	16.05
4.39	274.24	.855E+06	930.4	2.31	15.31
4.69	274.54	.948E+06	1076.7	2.41	14.67
5.00	274.85	.104E+07	1233.2	2.51	14.10
5.31	275.16	.114E+07	1400.1	2.61	13.59
5.61	275.46	.125E+07	1528.9	2.61	13.58

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0014)	82.92	1.67	6.50	27.89	0.21	0.37
OUTFLOW: ID= 1 (5013)	82.92	1.15	7.75	27.88	0.17	0.34

CALIB			
NASHYD (0013)	Area (ha)= 118.75	Curve Number (CN)= 72.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.20		

Unit Hyd Qpeak (cms)= 3.792

PEAK FLOW (cms)= 2.167 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 24.782
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.339

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2013)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0013):	118.75	2.167	6.50	24.78
	+ ID2= 2 (5013):	82.92	1.150	7.75	27.88
	ID = 3 (2013):	201.67	3.054	6.75	26.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0002)	Area (ha)= 141.56	Curve Number (CN)= 72.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.27		

Unit Hyd Qpeak (cms)= 4.261

PEAK FLOW (cms)= 2.491 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 24.657
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.337

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0003)	Area (ha)= 57.29	Curve Number (CN)= 72.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.86		

Unit Hyd Qpeak (cms)= 2.533

PEAK FLOW (cms)= 1.245 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 24.648
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.337

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1006)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0002):	141.56	2.491	6.50	24.66
	+ ID2= 2 (0003):	57.29	1.245	5.75	24.65
	ID = 3 (1006):	198.85	3.642	6.25	24.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5006)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5006.0) ------>

Distance	Elevation	Manning	
0.00	287.32	0.0930	
23.48	286.69	0.0930	
44.41	286.64	0.0930	
58.95	286.40	0.0930	
73.88	284.37	0.0930 /0.0410	Main Channel
84.88	284.02	0.0410	Main Channel
87.92	283.91	0.0410	Main Channel
95.02	284.40	0.0410 /0.0930	Main Channel
111.06	285.99	0.0930	
138.74	286.46	0.0930	
172.31	287.17	0.0930	
211.16	287.27	0.0930	
236.90	287.59	0.0930	
267.08	287.45	0.0930	
312.04	288.42	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	284.06	.461E+03	0.1	0.24	63.72
0.31	284.22	.190E+04	0.8	0.38	40.19
0.46	284.37	.434E+04	2.4	0.50	30.58
0.64	284.55	.816E+04	6.4	0.73	21.22
0.83	284.74	.125E+05	12.1	0.89	17.25
1.01	284.92	.175E+05	19.4	1.03	15.03
1.20	285.11	.229E+05	28.1	1.13	13.60
1.38	285.29	.290E+05	38.4	1.23	12.58
1.57	285.48	.355E+05	50.1	1.30	11.82
1.75	285.66	.427E+05	63.4	1.37	11.21
1.94	285.85	.503E+05	78.2	1.44	10.73
2.12	286.03	.586E+05	94.1	1.49	10.38
2.30	286.21	.684E+05	110.8	1.50	10.30
2.49	286.40	.804E+05	130.2	1.50	10.29
2.67	286.58	.952E+05	150.2	1.46	10.56
2.86	286.77	.115E+06	173.2	1.39	11.06
3.04	286.95	.139E+06	203.8	1.36	11.36
3.23	287.14	.166E+06	238.3	1.33	11.58
3.41	287.32	.198E+06	269.7	1.26	12.23

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1006)	198.85	3.64	6.25	24.65	0.52	0.56
OUTFLOW: ID= 1 (5006)	198.85	3.45	6.75	24.65	0.51	0.55

CALIB			
NASHYD (0006)	Area (ha)= 26.09	Curve Number (CN)= 70.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.30	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.65		

Unit Hyd Qpeak (cms)= 1.533

PEAK FLOW (cms)= 0.659 (i)
TIME TO PEAK (hrs)= 5.500

RUNOFF VOLUME (mm)= 24.146
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.330

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2006)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0006):	26.09	0.659	5.50	24.15
	+ ID2= 2 (5006):	198.85	3.454	6.75	24.65
	ID = 3 (2006):	224.94	3.862	6.50	24.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0001)	Area (ha)= 255.18	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.71		

Unit Hyd Qpeak (cms)= 5.686

PEAK FLOW (cms)= 3.868 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 25.610
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.350

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1008)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0001):	255.18	3.868	7.00	25.61
	+ ID2= 2 (2006):	224.94	3.862	6.50	24.59
	ID = 3 (1008):	480.12	7.635	6.75	25.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5008)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5008.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
5.09	285.37	0.0930	
133.83	283.19	0.0930	
146.67	282.58	0.0930	
159.56	277.24	0.0930	
181.65	275.77	0.0930 /0.0410	Main Channel
184.90	275.43	0.0410	Main Channel

185.21	275.45	0.0410	Main Channel
187.80	275.63	0.0410	Main Channel
191.31	275.97	0.0410 /0.0930	Main Channel
209.70	278.15	0.0930	
221.15	281.88	0.0930	
261.53	283.57	0.0930	
304.31	284.15	0.0930	
337.36	284.93	0.0930	
377.51	285.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	275.77	.187E+04	0.8	0.58	40.13
0.85	276.28	.116E+05	8.7	1.05	22.11
1.35	276.78	.296E+05	26.7	1.25	18.51
1.86	277.29	.559E+05	56.0	1.39	16.65
2.36	277.79	.880E+05	99.4	1.57	14.74
2.87	278.30	.124E+06	155.5	1.74	13.27
3.37	278.80	.162E+06	224.4	1.92	12.03
3.88	279.31	.202E+06	304.6	2.09	11.06
4.38	279.81	.244E+06	395.9	2.25	10.28
4.89	280.32	.288E+06	498.0	2.40	9.64
5.39	280.82	.334E+06	611.1	2.54	9.11
5.90	281.33	.382E+06	735.0	2.67	8.66
6.40	281.83	.432E+06	869.8	2.79	8.28
6.91	282.34	.487E+06	982.8	2.80	8.25
7.41	282.84	.552E+06	1089.7	2.74	8.44
7.92	283.35	.633E+06	1183.0	2.59	8.91
8.42	283.85	.742E+06	1270.3	2.37	9.74
8.93	284.36	.897E+06	1446.3	2.24	10.33
9.43	284.86	.109E+07	1711.6	2.18	10.60

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1008)	480.12	7.63	6.75	25.13	0.78	0.94
OUTFLOW: ID= 1 (5008)	480.12	7.56	7.00	25.13	0.77	0.93

CALIB	
NASHYD (0008)	Area (ha)= 39.23 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 10.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70

Unit Hyd Qpeak (cms)= 2.153

PEAK FLOW (cms)= 0.883 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 22.712
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.311

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2008)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

341.39	283.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	277.60	.885E+03	0.1	0.24	223.44
0.39	277.89	.204E+05	2.8	0.44	123.11
0.67	278.17	.572E+05	10.5	0.59	91.21
0.96	278.46	.103E+06	23.8	0.74	72.31
1.24	278.74	.154E+06	42.1	0.88	61.07
1.53	279.03	.210E+06	65.0	1.00	53.76
1.81	279.31	.270E+06	92.7	1.11	48.56
2.10	279.60	.336E+06	125.3	1.21	44.64
2.39	279.89	.406E+06	162.7	1.30	41.55
2.67	280.17	.480E+06	205.2	1.38	39.03
2.96	280.46	.560E+06	252.8	1.46	36.93
3.24	280.74	.645E+06	305.8	1.53	35.14
3.53	281.03	.734E+06	364.2	1.60	33.59
3.82	281.32	.828E+06	428.2	1.67	32.23
4.10	281.60	.927E+06	497.9	1.73	31.02
4.39	281.89	.103E+07	569.1	1.78	30.21
4.67	282.17	.114E+07	642.6	1.81	29.66
4.96	282.46	.127E+07	698.4	1.78	30.27
5.24	282.74	.143E+07	715.3	1.62	33.24

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1017)	552.09	8.56	7.00	25.00	0.60	0.54
OUTFLOW: ID= 1 (5017)	552.09	6.05	8.25	25.00	0.51	0.49

CALIB	
NASHYD (0017)	Area (ha)= 148.68 Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)= 8.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.11

Unit Hyd Qpeak (cms)= 5.125

PEAK FLOW (cms)= 2.672 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 23.347
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.319

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2017)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0017):	148.68	2.672	6.25	23.35
+ ID2= 2 (5017):	552.09	6.051	8.25	25.00
ID = 3 (2017):	700.77	7.528	7.75	24.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0008)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0008):	39.23	0.883	5.75	22.71
+ ID2= 2 (5008):	480.12	7.560	7.00	25.13
ID = 3 (2008):	519.35	8.049	7.00	24.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0010)	Area (ha)= 32.74 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.85

Unit Hyd Qpeak (cms)= 1.473

PEAK FLOW (cms)= 0.761 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 25.856
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.354

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1017)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	32.74	0.761	5.75	25.86
+ ID2= 2 (2008):	519.35	8.049	7.00	24.95
ID = 3 (1017):	552.09	8.564	7.00	25.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5017)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5017.0) ------>

Distance	Elevation	Manning	
0.00	284.04	0.0930	
46.21	283.58	0.0930	
60.07	282.83	0.0930	
78.57	282.39	0.0930	
85.85	282.05	0.0930	
121.94	278.24	0.0930	
123.09	278.18	0.0930	
129.01	277.91	0.0930	
139.25	277.70	0.0930	
148.64	277.62	0.0930	
150.40	277.60	0.0930 /0.0410	Main Channel
153.11	277.50	0.0410	Main Channel
156.99	277.64	0.0410 /0.0930	Main Channel
169.99	278.18	0.0930	
199.99	281.62	0.0930	
209.74	282.18	0.0930	
218.36	282.39	0.0930	
234.68	282.62	0.0930	
330.59	282.90	0.0930	

ADD HYD (1033)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2013):	201.67	3.054	6.75	26.06
+ ID2= 2 (2017):	700.77	7.528	7.75	24.65
ID = 3 (1033):	902.44	10.264	7.50	24.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5033)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5033.0) ------>

Distance	Elevation	Manning	
0.00	262.20	0.0930	
7.96	260.93	0.0930	
28.15	259.22	0.0930	
39.76	257.39	0.0930	
55.06	257.09	0.0930	
63.73	256.73	0.0930	
75.56	256.77	0.0930	
86.35	257.05	0.0930 /0.0410	Main Channel
88.50	256.67	0.0410	Main Channel
89.43	256.54	0.0410	Main Channel
90.89	256.33	0.0410	Main Channel
92.64	256.68	0.0410	Main Channel
94.27	257.00	0.0410 /0.0930	Main Channel
113.17	257.17	0.0930	
126.05	259.64	0.0930	
159.89	261.07	0.0930	
170.84	262.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	256.55	.142E+03	0.1	0.35	22.74
0.45	256.78	.731E+03	0.7	0.45	17.70
0.67	257.00	.357E+04	3.0	0.40	19.98
0.98	257.31	.121E+05	12.3	0.49	16.35
1.30	257.63	.234E+05	30.9	0.63	12.60
1.61	257.94	.352E+05	57.0	0.77	10.29
1.93	258.26	.476E+05	89.8	0.90	8.85
2.24	258.57	.606E+05	128.7	1.01	7.85
2.56	258.89	.741E+05	173.7	1.12	7.11
2.87	259.20	.882E+05	224.6	1.22	6.54
3.18	259.51	.103E+06	279.2	1.30	6.14
3.50	259.83	.119E+06	335.2	1.35	5.89
3.81	260.14	.136E+06	396.3	1.39	5.71
4.13	260.46	.155E+06	466.0	1.44	5.54
4.44	260.77	.175E+06	544.3	1.48	5.37
4.76	261.09	.198E+06	634.2	1.53	5.19
5.07	261.40	.221E+06	740.3	1.60	4.98
5.39	261.72	.245E+06	854.6	1.66	4.78
5.70	262.03	.270E+06	977.2	1.73	4.61

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)

```
INFLOW : ID= 2 (1033)  902.44    10.26    7.50  24.96      0.92      0.46
OUTFLOW: ID= 1 (5033)  902.44    10.18    7.75  24.96      0.91      0.46


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--------------------
| CALIB            |
| NASHYD    (0033) |   Area    (ha)=  14.99   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   1.118

     PEAK FLOW       (cms)=   0.437 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  24.635
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.337

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2033) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0033):    14.99   0.437     5.50    24.63
       + ID2= 2 (5033):   902.44  10.178     7.75    24.96
         ================================================
         ID = 3 (2033):   917.43  10.285     7.75    24.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0034) |   Area    (ha)=  66.29   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   1.917

     PEAK FLOW       (cms)=   1.247 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  26.859
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.367

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1037) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0034):    66.29   1.247     6.50    26.86
       + ID2= 2 (2033):   917.43  10.285     7.75    24.96
         ================================================
         ID = 3 (1037):   983.72  11.246     7.75    25.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (5037) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5037.0) ------>
              Distance      Elevation       Manning
                 0.00        260.96        0.0930
                 3.52        260.75        0.0930
                32.87        255.52        0.0930
                40.76        254.86    0.0930 /0.0410  Main Channel
                42.91        253.65        0.0410      Main Channel
                48.59        254.84    0.0410 /0.0930  Main Channel
                80.76        254.83        0.0930
                96.56        255.53        0.0930
               112.29        261.81        0.0930
               119.25        261.97        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30   253.95    .102E+03       0.1         0.40      14.86
      0.60   254.25    .410E+03       0.7         0.63       9.36
      0.89   254.54    .922E+03       2.2         0.82       7.14
      1.19   254.84    .170E+04       4.6         0.97       6.10
      1.60   255.25    .848E+04      16.3         0.68       8.67
      2.01   255.66    .172E+05      38.2         0.78       7.50
      2.41   256.06    .268E+05      70.6         0.93       6.32
      2.82   256.47    .368E+05     111.6         1.07       5.50
      3.23   256.88    .474E+05     160.7         1.20       4.91
      3.64   257.29    .584E+05     217.8         1.32       4.47
      4.05   257.70    .699E+05     282.6         1.43       4.12
      4.45   258.10    .818E+05     355.1         1.53       3.84
      4.86   258.51    .943E+05     435.2         1.63       3.61
      5.27   258.92    .107E+06     522.9         1.72       3.42
      5.68   259.33    .121E+06     618.3         1.81       3.25
      6.09   259.74    .134E+06     721.4         1.90       3.11
      6.49   260.14    .149E+06     832.2         1.98       2.98
      6.90   260.55    .164E+06     950.8         2.05       2.87
      7.31   260.96    .179E+06    1070.9         2.11       2.79

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1037)  983.72    11.25    7.75  25.09      1.42      0.78
OUTFLOW: ID= 1 (5037)  983.72    11.20    7.75  25.09      1.42      0.78


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0037) |   Area    (ha)=  10.16   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.50   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.36

     Unit Hyd Qpeak  (cms)=   1.090

     PEAK FLOW       (cms)=   0.406 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  27.569
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.377
```



```
     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2037) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0037):    10.16   0.406     5.25    27.57
       + ID2= 2 (5037):   983.72  11.204     7.75    25.09
         ================================================
         ID = 3 (2037):   993.88  11.269     7.75    25.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1049) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2037):   993.88  11.269     7.75    25.11
       + ID2= 2 (2043):  1312.93  18.189     7.50    25.51
         ================================================
         ID = 3 (1049):  2306.81  29.329     7.50    25.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5049) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5049.0) ------>
              Distance      Elevation       Manning
                 0.00        263.74        0.0930
                50.53        263.28        0.0930
                63.03        262.47        0.0930
                87.97        255.04        0.0930
                98.77        253.73    0.0930 /0.0410  Main Channel
               108.22        253.09        0.0410      Main Channel
               111.56        253.07        0.0410      Main Channel
               112.80        253.14        0.0410      Main Channel
               114.25        253.67    0.0410 /0.0930  Main Channel
               116.67        254.81        0.0930
               143.69        255.06        0.0930
               162.94        255.55        0.0930
               197.87        263.69        0.0930
               207.51        264.45        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30   253.37    .221E+04       0.5         0.27      69.99
      0.60   253.67    .629E+04       2.2         0.40      47.02
      1.19   254.26    .184E+05      11.1         0.68      27.66
      1.78   254.85    .348E+05      25.8         0.84      22.46
      2.38   255.45    .732E+05      49.7         0.77      24.52
      2.97   256.04    .125E+06      87.5         0.79      23.92
      3.56   256.63    .181E+06     136.9         0.86      22.04
      4.15   257.22    .240E+06     197.0         0.93      20.28
      4.75   257.82    .301E+06     267.3         1.01      18.79
```



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      5.34   258.41    .366E+06     347.6         1.08      17.55
      5.93   259.00    .434E+06     437.8         1.15      16.52
      6.52   259.59    .505E+06     537.8         1.21      15.64
      7.12   260.19    .579E+06     647.6         1.27      14.89
      7.71   260.78    .655E+06     767.3         1.33      14.24
      8.30   261.37    .735E+06     896.9         1.38      13.66
      8.89   261.96    .818E+06    1036.6         1.44      13.16
      9.49   262.56    .904E+06    1183.2         1.48      12.74
     10.08   263.15    .997E+06    1325.9         1.51      12.53
     10.67   263.74    .111E+07    1426.8         1.46      12.94

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1049) 2306.81    29.33    7.50  25.34      1.87      0.83
OUTFLOW: ID= 1 (5049) 2306.81    28.44    8.00  25.34      1.85      0.83


--------------------------------------------------------------------------------
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| CALIB            |
| NASHYD    (0049) |   Area    (ha)=  30.46   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.10   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.60

     Unit Hyd Qpeak  (cms)=   1.949

     PEAK FLOW       (cms)=   0.904 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  26.677
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.365

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2049) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0049):    30.46   0.904     5.50    26.68
       + ID2= 2 (5049):  2306.81  28.443     8.00    25.34
         ================================================
         ID = 3 (2049):  2337.27  28.661     8.00    25.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1039) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2049):  2337.27  28.661     8.00    25.36
       + ID2= 2 (2063):  2379.05  22.705     9.50    24.57
         ================================================
         ID = 3 (1039):  4716.32  48.794     8.50    24.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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ROUTE CHN (5039)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5039.0) ------>

Distance	Elevation	Manning	
0.00	260.00	0.0930	
105.82	257.72	0.0930	
137.40	257.00	0.0930	
163.69	256.37	0.0930	
237.19	256.95	0.0930	
283.24	256.00	0.0930	
335.42	256.00	0.0930	
341.91	256.25	0.0930	
370.46	254.68	0.0930	
405.46	252.00	0.0930	
421.66	251.26	0.0930 /0.0410	Main Channel
425.14	251.00	0.0410	Main Channel
430.43	250.00	0.0410	Main Channel
434.15	250.00	0.0410	Main Channel
436.43	250.89	0.0410 /0.0930	Main Channel
443.70	251.29	0.0930	
472.16	252.35	0.0930	
485.36	252.50	0.0930	
501.02	253.82	0.0930	
541.72	263.04	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	250.44	.417E+04	0.0	0.39	73.75
0.89	250.89	.110E+05	3.6	0.57	50.45
1.43	251.43	.282E+05	10.5	0.64	44.71
1.96	251.96	.672E+05	25.6	0.65	43.77
2.50	252.50	.129E+06	49.3	0.65	43.75
3.03	253.03	.215E+06	87.2	0.70	41.04
3.57	253.57	.313E+06	137.1	0.75	38.00
4.11	254.11	.422E+06	200.2	0.81	35.13
4.64	254.64	.541E+06	276.8	0.88	32.56
5.18	255.18	.669E+06	364.3	0.93	30.60
5.71	255.71	.808E+06	465.2	0.99	28.96
6.25	256.25	.985E+06	546.0	0.95	30.06
6.78	256.78	.124E+07	671.8	0.93	30.86
7.32	257.32	.159E+07	859.8	0.93	30.80
7.86	257.86	.196E+07	1093.1	0.96	29.92
8.39	258.39	.236E+07	1360.3	0.99	28.92
8.93	258.93	.278E+07	1662.5	1.02	27.90
9.46	259.46	.323E+07	2000.4	1.06	26.92
10.00	260.00	.370E+07	2374.8	1.10	25.99

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1039)	4716.32	48.79	8.50	24.96	2.49	0.65
OUTFLOW: ID= 1 (5039)	4716.32	45.77	9.25	24.96	2.42	0.65

CALIB
NASHYD (0039) | ID= 1 DT=15.0 min

Area (ha)= 81.93 Curve Number (CN)= 71.0
Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.75

Unit Hyd Qpeak (cms)= 4.145

PEAK FLOW (cms)= 1.861 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 23.723
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.325

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2039)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0039):	81.93	1.861	5.75	23.72
+ ID2= 2 (5039):	4716.32	45.774	9.25	24.96
ID = 3 (2039):	4798.25	46.084	9.25	24.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0454) | ID= 1 DT=15.0 min

Area (ha)= 15.15
Total Imp(%)= 55.00 Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.33	6.82
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	317.80	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	37.84
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	9.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.09

		TOTALS
PEAK FLOW (cms)=	0.61	0.71	1.317 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	53.04	61.24
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.73	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9119)
Inlet Cap.=2.458
#of Inlets= 1
Total(cms)= 2.5

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	15.15	1.32	5.25	61.24
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	15.15	1.32	5.25	61.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6119)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.7140	0.1930
0.0220	0.0770	1.0810	0.2120
0.0300	0.1400	1.4980	0.2320
0.1630	0.1580	2.4580	0.2560
0.4020	0.1760	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9119)	15.150	1.317	5.25	61.24
OUTFLOW: ID= 1 (6119)	15.150	1.299	5.25	61.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 98.61
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.2233

ADD HYD (4119)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9119 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6119):	15.15	1.299	5.25	61.18
+ ID2= 2 (9119):	0.00	0.000	0.00	0.00
ID = 3 (4119):	15.15	1.299	5.25	61.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3039)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2039):	4798.25	46.084	9.25	24.94
+ ID2= 2 (4119):	15.15	1.299	5.25	61.18
ID = 3 (3039):	4813.40	46.150	9.25	25.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0029) | ID= 1 DT=15.0 min

Area (ha)= 90.39 Curve Number (CN)= 69.0
Ia (mm)= 8.80 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.87

Unit Hyd Qpeak (cms)= 3.955

PEAK FLOW (cms)= 1.829 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 23.163
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.317

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1038)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0029):	90.39	1.829	6.00	23.16
+ ID2= 2 (3039):	4813.40	46.150	9.25	25.05
ID = 3 (1038):	4903.79	46.572	9.00	25.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5038)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5038.0) ------>

Distance	Elevation	Manning	
0.00	264.96	0.0930	
17.37	263.50	0.0930	
57.10	253.15	0.0930	
82.21	251.50	0.0930	
173.97	249.50	0.0930	
230.01	246.00	0.0930	
254.43	246.00	0.0930	
281.97	245.79	0.0930	
286.56	245.45	0.0930	
287.80	245.00	0.0930 /0.0410	Main Channel
288.00	244.50	0.0410	Main Channel
292.35	244.50	0.0410	Main Channel
292.94	245.00	0.0410 /0.0930	Main Channel
315.83	257.40	0.0930	
330.45	261.99	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.00	.228E+04	1.3	0.53	30.29
1.39	245.89	.101E+05	8.0	0.77	20.93
2.29	246.79	.679E+05	38.7	0.55	29.25
3.18	247.68	.143E+06	101.6	0.69	23.38
4.08	248.58	.231E+06	194.8	0.81	19.76
4.97	249.47	.333E+06	319.4	0.92	17.38
5.87	250.37	.460E+06	449.5	0.94	17.04
6.76	251.26	.623E+06	634.5	0.98	16.36
7.65	252.15	.817E+06	913.9	1.08	14.89
8.55	253.05	.102E+07	1260.8	1.18	13.54
9.44	253.94	.124E+07	1690.1	1.31	12.24
10.34	254.84	.146E+07	2176.8	1.43	11.20
11.23	255.73	.169E+07	2715.7	1.55	10.37

12.12	256.62	.192E+07	3305.4	1.66	9.68
13.02	257.52	.215E+07	3944.1	1.76	9.11
13.91	258.41	.239E+07	4628.0	1.86	8.62
14.81	259.31	.264E+07	5361.6	1.95	8.21
15.70	260.20	.289E+07	6144.6	2.04	7.84
16.60	261.10	.315E+07	6976.6	2.13	7.52

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1038)	4903.79	46.57	9.00	25.02	2.40	0.56
OUTFLOW: ID= 1 (5038)	4903.79	45.41	9.50	25.02	2.38	0.56

CALIB			
NASHYD (0038)	Area (ha)= 18.88	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.20	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.42		

Unit Hyd Qpeak (cms)= 1.701

PEAK FLOW (cms)= 0.637 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 25.681
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.351

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2038)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0038):	18.88	0.637	5.25	25.68
+ ID2= 2 (5038):	4903.79	45.409	9.50	25.02
ID = 3 (2038):	4922.67	45.453	9.50	25.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0023)	Area (ha)= 185.77	Curve Number (CN)= 75.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.25		

Unit Hyd Qpeak (cms)= 5.685

PEAK FLOW (cms)= 3.759 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 27.887
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.381

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1051)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0023):	185.77	3.759	6.50	27.89
+ ID2= 2 (2038):	4922.67	45.453	9.50	25.02
ID = 3 (1051):	5108.44	46.631	9.50	25.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0449)	Area (ha)= 59.38		
ID= 1 DT=15.0 min	Total Imp(%)= 46.00	Dir. Conn.(%)= 36.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	27.31	32.07
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	629.18	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	32.83
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW	(cms)= 2.00	2.78	4.781 (iii)
TIME TO PEAK	(hrs)= 5.00	5.25	5.25
RUNOFF VOLUME	(mm)= 72.10	47.78	56.54
TOTAL RAINFALL	(mm)= 73.10	73.10	73.10
RUNOFF COEFFICIENT	= 0.99	0.65	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9118)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	59.38	4.78	5.25	56.54	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	59.38	4.78	5.25	56.54	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6118)		
IN= 2---> OUT= 1		
DT= 15.0 min	OUTFLOW	STORAGE

OUTFLOW	STORAGE

(cms)	(ha.m.)	(cms)	(ha.m.)
0.0000	0.0000	17.0000	0.4500
1.1800	0.3000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9118)	59.380	4.781	5.25	56.54
OUTFLOW: ID= 1 (6118)	59.380	5.133	5.25	56.53

PEAK FLOW REDUCTION [Qout/Qin](%)=107.38
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.3533

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (4118)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9118 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6118):	59.38	5.133	5.25	56.53
+ ID2= 2 (9118):	0.00	0.000	0.00	0.00
ID = 3 (4118):	59.38	5.133	5.25	56.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3051)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1051):	5108.44	46.631	9.50	25.12
+ ID2= 2 (4118):	59.38	5.133	5.25	56.53
ID = 3 (3051):	5167.82	46.922	9.50	25.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5051)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5051.0) ------>

Distance	Elevation	Manning
0.00	254.99	0.0930
45.56	252.50	0.0930
55.02	252.50	0.0930
73.97	254.29	0.0930
227.89	251.34	0.0930
260.10	248.27	0.0930
305.08	247.61	0.0930
342.61	243.00	0.0930
370.31	242.00	0.0930
383.77	242.50	0.0930
407.52	242.50	0.0930
427.35	242.00	0.0930

428.40	241.76	0.0930 /0.0410	Main Channel
429.92	241.00	0.0410	Main Channel
437.00	241.00	0.0410	Main Channel
437.12	241.50	0.0410 /0.0930	Main Channel
439.50	242.50	0.0930	
471.55	242.50	0.0930	
491.51	244.88	0.0930	
515.66	256.99	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	241.50	.856E+04	2.7	0.70	53.03
1.21	242.21	.290E+05	13.1	1.01	36.81
1.92	242.92	.174E+06	49.5	0.64	58.53
2.63	243.63	.393E+06	138.4	0.79	47.30
3.34	244.34	.630E+06	269.1	0.96	39.04
4.05	245.05	.886E+06	439.5	1.11	33.60
4.76	245.76	.116E+07	651.0	1.26	29.59
5.47	246.47	.144E+07	898.5	1.40	26.65
6.18	247.18	.173E+07	1181.0	1.53	24.40
6.89	247.89	.204E+07	1436.7	1.58	23.65
7.60	248.60	.241E+07	1738.7	1.62	23.08
8.31	249.31	.280E+07	2162.7	1.73	21.58
9.02	250.02	.321E+07	2629.6	1.84	20.32
9.73	250.73	.363E+07	3139.3	1.94	19.25
10.44	251.44	.406E+07	3663.4	2.02	18.48
11.15	252.15	.454E+07	4085.1	2.01	18.52
11.86	252.86	.509E+07	4492.2	1.98	18.89
12.57	253.57	.574E+07	5031.6	1.96	19.02
13.28	254.28	.648E+07	5692.0	1.97	18.99

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3051)	5167.82	46.92	9.50	25.48	1.87	0.65
OUTFLOW: ID= 1 (5051)	5167.82	43.69	10.75	25.48	1.81	0.68

CALIB			
NASHYD (0051)	Area (ha)= 73.29	Curve Number (CN)= 76.0	
ID= 1 DT=15.0 min	Ia (mm)= 7.80	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

Unit Hyd Qpeak (cms)= 3.971

PEAK FLOW (cms)= 2.163 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 29.275
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.400

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2051)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0051):	73.29	2.163	5.50	29.27

```
       + ID2= 2 (5051):  5167.82  43.689    10.75    25.48
         ================================================
         ID = 3 (2051):  5241.11  43.813    10.75    25.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0067) |   Area    (ha)=  23.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       5.46        18.29
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         2.10
    Length            (m)=     397.91        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      33.63        22.65
              over (min)        15.00        15.00
    Storage Coeff.  (min)=       2.40 (ii)   12.60 (ii)
    Unit Hyd. Tpeak (min)=      15.00        15.00
    Unit Hyd. peak  (cms)=       0.11         0.08
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.47         1.09       1.561 (iii)
    TIME TO PEAK    (hrs)=       5.00         5.25        5.25
    RUNOFF VOLUME    (mm)=      72.10        36.53       44.00
    TOTAL RAINFALL   (mm)=      73.10        73.10       73.10
    RUNOFF COEFFICIENT   =       0.99         0.50        0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2467) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0067):    23.75   1.561     5.25    44.00
       + ID2= 2 (2051):  5241.11  43.813    10.75    25.54
         ================================================
         ID = 3 (2467):  5264.86  43.852    10.75    25.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0467) |   Area    (ha)=  22.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  39.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      10.49        11.83
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         2.70
    Length            (m)=     385.75        40.00
```



```
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      33.63        31.62
              over (min)        15.00        15.00
    Storage Coeff.  (min)=       1.80 (ii)   11.40 (ii)
    Unit Hyd. Tpeak (min)=      15.00        15.00
    Unit Hyd. peak  (cms)=       0.11         0.08
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.81         1.01       1.824 (iii)
    TIME TO PEAK    (hrs)=       5.00         5.25        5.25
    RUNOFF VOLUME    (mm)=      72.10        47.25       56.94
    TOTAL RAINFALL   (mm)=      73.10        73.10       73.10
    RUNOFF COEFFICIENT   =       0.99         0.65        0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9268) |
| Inlet Cap.=0.026 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):  22.32      1.82      5.25   56.94
    ================================================
    MAJOR SYS.(ID= 2):  20.59      1.80      5.25   56.94
    MINOR SYS.(ID= 3):   1.73      0.03      2.50   56.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6268) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.0260     0.3400

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9268)     1.728     0.026      2.50      56.94
    OUTFLOW: ID= 1 (6268)     1.728     0.006     12.50      55.03

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.95
                TIME SHIFT OF PEAK FLOW         (min)=600.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0848

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6268):     1.73   0.006    12.50    55.03
       + ID2= 2 (9268):    20.59   1.798     5.25    56.94
         ================================================
         ID = 3 (4268):    22.32   1.801     5.25    56.79
```



```
    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2467):  5264.86  43.852    10.75    25.62
       + ID2= 2 (4268):    22.32   1.801     5.25    56.79
         ================================================
         ID = 3 (1069):  5287.18  43.874    10.75    25.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5069) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5069.0) ------>
              Distance      Elevation       Manning
                  0.00         249.35        0.0930
                 17.46         245.50        0.0930
                 49.96         240.00        0.0930
                 64.40         240.00        0.0930
                 85.68         240.46        0.0930
                104.52         238.50        0.0930
                119.89         237.61        0.0930
                150.03         237.50        0.0930
                170.81         238.00        0.0930
                198.79         238.00        0.0930
                200.49         236.53    0.0930 /0.0410  Main Channel
                201.16         235.70        0.0410      Main Channel
                211.80         235.70        0.0410      Main Channel
                212.04         236.00    0.0410 /0.0930  Main Channel
                216.53         237.00        0.0930
                222.34         237.50        0.0930
                257.68         237.50        0.0930
                279.63         243.00        0.0930
                328.63         245.49        0.0930
                342.46         247.54        0.0930

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30   236.00    .100E+05        1.7         0.51     100.52
      0.91   236.61    .337E+05       10.8         0.98      52.06
      1.51   237.21    .641E+05       26.6         1.27      40.21
      2.12   237.82    .173E+06       53.5         0.94      54.05
      2.73   238.43    .434E+06      117.6         0.83      61.46
      3.34   239.04    .732E+06      221.2         0.93      55.16
      3.94   239.64    .105E+07      356.8         1.05      48.84
      4.55   240.25    .139E+07      499.3         1.10      46.42
      5.16   240.86    .180E+07      702.2         1.19      42.78
      5.77   241.47    .223E+07      951.9         1.31      39.02
      6.37   242.07    .267E+07     1235.3         1.42      35.97
      6.98   242.68    .312E+07     1551.4         1.53      33.47
      7.59   243.29    .358E+07     1880.6         1.61      31.70
      8.20   243.90    .407E+07     2227.4         1.68      30.42
      8.80   244.50    .458E+07     2614.2         1.75      29.22
      9.41   245.11    .513E+07     3040.8         1.82      28.11
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      10.02   245.72    .570E+07     3522.2          1.89      26.99
      10.63   246.33    .629E+07     4065.9          1.98      25.80
      11.23   246.93    .690E+07     4645.2          2.06      24.74

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1069) 5287.18    43.87   10.75  25.75      1.91      1.04
    OUTFLOW: ID= 1 (5069) 5287.18    42.19   11.75  25.75      1.87      1.06


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0069) |   Area    (ha)= 155.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  25.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      46.63       108.79
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         5.10
    Length            (m)=    1017.91        40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      33.63        26.09
              over (min)        15.00        15.00
    Storage Coeff.  (min)=       3.00 (ii)   16.80 (ii)
    Unit Hyd. Tpeak (min)=      15.00        15.00
    Unit Hyd. peak  (cms)=       0.11         0.07
                                                      *TOTALS*
    PEAK FLOW       (cms)=       3.63         7.29      10.920 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.25        5.25
    RUNOFF VOLUME    (mm)=      72.10        40.80       48.63
    TOTAL RAINFALL   (mm)=      73.10        73.10       73.10
    RUNOFF COEFFICIENT   =       0.99         0.56        0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0069):   155.42  10.920     5.25    48.63
       + ID2= 2 (5069):  5287.18  42.186    11.75    25.75
         ================================================
         ID = 3 (2069):  5442.60  42.460    11.75    26.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0471) |   Area    (ha)=   3.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  30.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.27	2.08
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.40
Length	(m)=	149.44	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	31.57
over (min)		15.00	15.00
Storage Coeff. (min)=		0.60 (ii)	4.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.11

		TOTALS
PEAK FLOW	(cms)=	0.09	0.18	0.276 (iii)
TIME TO PEAK	(hrs)=	4.50	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	48.27	55.42
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.66	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9158)
Inlet Cap.=1.825
#of Inlets= 1
Total(cms)= 1.8

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.35	0.28	5.25	55.42
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.35	0.28	5.25	55.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6158)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0950	0.1100
0.0750	0.0340	1.8250	0.1650

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9158)	3.350	0.276	5.25	55.42
OUTFLOW: ID= 1 (6158)	3.350	0.088	5.50	55.39

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.84
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0825

ADD HYD (****)

1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6158):	3.35	0.088	5.50	55.39
+ ID2= 2 (9158):	0.00	0.000	0.00	0.00
ID = 3 (****):	3.35	0.088	5.50	55.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3069)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2069):	5442.60	42.460	11.75	26.41
+ ID2= 2 (****):	3.35	0.088	5.50	55.39
ID = 3 (3069):	5445.95	42.474	11.75	26.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0078) | Area (ha)= 127.54
ID= 1 DT=15.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 17.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.78	100.76
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	922.10	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	22.84
over (min)		15.00	30.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	2.03	5.60	7.630 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	35.95	42.10
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.49	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

STANDHYD (0475) | Area (ha)= 62.64
ID= 1 DT=15.0 min | Total Imp(%)= 54.00 Dir. Conn.(%)= 44.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.83	28.81
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	646.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	36.11
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.57	2.76	5.330 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	52.41	61.07
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.72	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2475)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0078):	127.54	7.630	5.25	42.10
+ ID2= 2 (0475):	62.64	5.330	5.25	61.07
ID = 3 (2475):	190.18	12.960	5.25	48.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9078)
Inlet Cap.=***** |
#of Inlets= 1
Total(cms)= 14.6

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	190.18	12.96	5.25	48.35
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	190.18	12.96	5.25	48.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0015)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3069):	5445.95	42.474	11.75	26.42
+ ID2= 2 (9078):	190.18	12.960	5.25	48.35
ID = 3 (0015):	5636.13	42.805	11.75	27.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0066) | Area (ha)= 130.40
ID= 1 DT=15.0 min | Total Imp(%)= 48.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.59	67.81
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.60
Length	(m)=	932.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	32.40
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	4.75	5.76	10.507 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	47.59	57.15
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.65	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1101)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	5636.13	42.805	11.75	27.16
+ ID2= 2 (0066):	130.40	10.507	5.25	57.15
ID = 3 (1101):	5766.53	43.053	11.75	27.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5101)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5101.0) ------>

Distance	Elevation	Manning
0.00	241.94	0.0930
8.16	239.50	0.0930
22.34	239.00	0.0930

28.16	235.50	0.0930	
31.19	235.00	0.0930	
45.37	235.00	0.0930	
66.87	235.30	0.0930	
92.82	235.00	0.0930	
128.48	235.00	0.0930	
131.88	234.50	0.0930	
133.09	234.00	0.0930 /0.0410	Main Channel
133.35	233.80	0.0410	Main Channel
143.76	233.80	0.0410	Main Channel
143.82	234.00	0.0410 /0.0930	Main Channel
146.15	235.00	0.0930	
163.07	235.45	0.0930	
172.90	235.85	0.0930	
179.77	238.00	0.0930	
182.39	238.10	0.0930	
202.70	242.63	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	234.00	.288E+04	0.8	0.38	59.38
0.62	234.42	.955E+04	5.5	0.78	29.17
1.04	234.84	.177E+05	13.2	1.02	22.25
1.45	235.25	.536E+05	26.9	0.68	33.23
1.87	235.67	.130E+06	60.9	0.64	35.54
2.29	236.09	.212E+06	113.1	0.73	31.26
2.71	236.51	.296E+06	180.8	0.83	27.30
3.13	236.93	.381E+06	262.0	0.94	24.24
3.54	237.34	.467E+06	355.8	1.04	21.89
3.96	237.76	.555E+06	461.5	1.13	20.04
4.38	238.18	.644E+06	575.5	1.22	18.64
4.80	238.60	.735E+06	703.6	1.30	17.41
5.21	239.01	.828E+06	841.5	1.38	16.39
5.63	239.43	.925E+06	958.9	1.41	16.08
6.05	239.85	.103E+07	1117.1	1.48	15.34
6.47	240.27	.113E+07	1291.9	1.55	14.63
6.89	240.69	.124E+07	1477.9	1.62	13.99
7.30	241.10	.135E+07	1675.0	1.69	13.43
7.72	241.52	.146E+07	1883.1	1.76	12.93

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1101)	5766.53	43.05	11.75	27.84	1.65	0.66
OUTFLOW: ID= 1 (5101)	5766.53	42.42	12.25	27.84	1.65	0.66

CALIB / STANDHYD (0101) / ID= 1 DT=15.0 min	Area (ha)= 133.45	Total Imp(%)= 47.00	Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	62.72	70.73
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	943.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	31.62
over (min)	15.00	15.00

Storage Coeff. (min)=	3.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.06	
			TOTALS
PEAK FLOW (cms)=	4.86	5.77	10.634 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	47.25	56.94
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.65	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2101) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0101):	133.45	10.634	5.25	56.94
+ ID2= 2 (5101):	5766.53	42.423	12.25	27.84
ID = 3 (2101):	5899.98	42.676	12.25	28.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5095) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5095.0) ------>

Distance	Elevation	Manning	
0.00	236.91	0.0930	
17.88	233.09	0.0930	
29.64	231.89	0.0930	
36.51	231.50	0.0930	
36.72	231.50	0.0930	
39.68	230.95	0.0930	
42.58	230.50	0.0930 /0.0410	Main Channel
42.67	229.70	0.0410	Main Channel
42.81	229.70	0.0410	Main Channel
49.66	229.70	0.0410	Main Channel
49.91	230.50	0.0410 /0.0930	Main Channel
53.95	231.00	0.0930	
111.16	232.00	0.0930	
167.36	232.00	0.0930	
183.43	233.00	0.0930	
203.76	237.50	0.0930	
211.96	238.12	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	229.97	.137E+04	1.1	0.56	21.49
0.53	230.23	.275E+04	3.3	0.86	14.11
0.80	230.50	.416E+04	6.2	1.08	11.19
1.20	230.90	.714E+04	12.6	1.28	9.45

1.60	231.30	.134E+05	21.9	1.19	10.18
2.00	231.70	.270E+05	37.2	1.00	12.08
2.40	232.10	.530E+05	59.5	0.82	14.86
2.80	232.50	.957E+05	110.2	0.84	14.47
3.20	232.90	.141E+06	179.2	0.92	13.15
3.60	233.30	.190E+06	268.0	1.03	11.79
4.01	233.71	.239E+06	374.4	1.14	10.64
4.41	234.11	.290E+06	496.3	1.25	9.72
4.81	234.51	.341E+06	633.1	1.35	8.98
5.21	234.91	.394E+06	784.4	1.45	8.37
5.61	235.31	.447E+06	949.8	1.54	7.85
6.01	235.71	.502E+06	1129.0	1.63	7.41
6.41	236.11	.558E+06	1322.0	1.72	7.04
6.81	236.51	.615E+06	1528.3	1.81	6.71
7.21	236.91	.673E+06	1748.1	1.89	6.42

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2101)	5899.98	42.68	12.25	28.50	2.10	0.95
OUTFLOW: ID= 1 (5095)	5899.98	42.42	12.50	28.50	2.10	0.95

CALIB / STANDHYD (0095) / ID= 1 DT=15.0 min	Area (ha)= 84.82	Total Imp(%)= 46.00	Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	39.02	45.80
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.40
Length (m)=	751.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	32.24
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	15.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	3.01	3.89	6.906 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	48.57	57.51
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.66	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2095) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0095):	84.82	6.906	5.25	57.51

ADD HYD (2095) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (5095):	5899.98	42.422	12.50	28.50
ID = 3 (2095):	5984.80	42.504	12.25	28.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0688) / ID= 1 DT=15.0 min	Area (ha)= 43.70	Total Imp(%)= 44.00	Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	19.23	24.47
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	539.75	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	28.76
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	1.59	1.85	3.443 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	44.89	55.50
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.61	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2688) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9078 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (0688):	43.70	3.443	5.25	55.50
+ ID2= 2 (9078):	0.00	0.000	0.00	0.00
ID = 3 (2688):	43.70	3.443	5.25	55.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0476) / ID= 1 DT=15.0 min	Area (ha)= 22.70	Total Imp(%)= 76.00	Dir. Conn.(%)= 76.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.25	5.45

Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.20	
Length	(m)=	389.02	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	29.13	
over (min)		15.00	15.00	
Storage Coeff. (min)=		1.80 (ii)	12.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.11	0.08	
				TOTALS
PEAK FLOW	(cms)=	1.61	0.43	2.041 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	50.68	66.96
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.69	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9331)				
Inlet Cap.=5.900				
#of Inlets= 1				
Total(cms)= 5.9	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	22.70	2.04	5.25	66.96
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	22.70	2.04	5.25	66.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6331)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.2500	0.7550
	0.0400	0.4210	1.6700	0.8120
	0.0800	0.4760	2.3800	0.8680
	0.1700	0.5310	3.3600	0.9250
	0.4100	0.5870	4.5400	0.9820
	0.6500	0.6430	5.9000	1.0400
	0.9500	0.6990	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9331)	22.700	2.041	5.25	66.96
OUTFLOW: ID= 1 (6331)	22.700	1.347	5.50	66.84

PEAK FLOW REDUCTION [Qout/Qin](%)= 65.97
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.7986

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9331 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6331):	22.70	1.347	5.50	66.84
+ ID2= 2 (9331):	0.00	0.000	0.00	0.00
ID = 3 (****):	22.70	1.347	5.50	66.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0689)	Area (ha)= 4.42			
ID= 1 DT=15.0 min	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	1.02	3.40		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	2.70		
Length (m)=	171.66	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	33.63	20.64		
over (min)	15.00	15.00		
Storage Coeff. (min)=	1.20 (ii)	7.20 (ii)		
Unit Hyd. Tpeak (min)=	15.00	15.00		
Unit Hyd. peak (cms)=	0.11	0.10		
			TOTALS	
PEAK FLOW (cms)=	0.09	0.19	0.287 (iii)	
TIME TO PEAK (hrs)=	4.75	5.25	5.25	
RUNOFF VOLUME (mm)=	72.10	33.93	42.70	
TOTAL RAINFALL (mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT =	0.99	0.46	0.58	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2689)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0689):	4.42	0.287	5.25	42.70
+ ID2= 2 (****):	22.70	1.347	5.50	66.84
ID = 3 (2689):	27.12	1.625	5.25	62.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1113)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2688):	43.70	3.443	5.25	55.50
+ ID2= 2 (2689):	27.12	1.625	5.25	62.91
ID = 3 (1113):	70.82	5.068	5.25	58.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5113)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5113.0) ------>

Distance	Elevation	Manning	
0.00	244.57	0.0930	
317.65	242.05	0.0930	
348.79	241.03	0.0930	
378.18	238.00	0.0930	
381.25	236.49	0.0930 /0.0410	Main Channel
381.97	235.89	0.0410	Main Channel
384.32	236.39	0.0410 /0.0930	Main Channel
413.50	241.05	0.0930	
457.83	240.38	0.0930	
497.88	241.26	0.0930	
759.99	241.26	0.0930	
924.92	242.38	0.0930	
990.74	242.50	0.0930	
1030.87	242.13	0.0930	
1081.60	243.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	236.14	.126E+03	0.1	0.48	23.67
0.50	236.39	.504E+03	0.6	0.76	14.91
0.89	236.78	.171E+04	2.9	1.15	9.87
1.28	237.17	.379E+04	7.2	1.30	8.76
1.68	237.57	.674E+04	13.8	1.40	8.12
2.07	237.96	.106E+05	23.1	1.49	7.64
2.46	238.35	.156E+05	34.9	1.53	7.44
2.85	238.74	.223E+05	50.9	1.56	7.29
3.25	239.14	.307E+05	71.8	1.60	7.12
3.64	239.53	.407E+05	98.0	1.65	6.93
4.03	239.92	.525E+05	130.2	1.70	6.71
4.42	240.31	.659E+05	169.0	1.75	6.50
4.82	240.71	.850E+05	186.4	1.50	7.60
5.21	241.10	.117E+06	240.8	1.40	8.13
5.60	241.49	.203E+06	302.7	1.02	11.19
5.99	241.88	.336E+06	517.9	1.05	10.81
6.39	242.28	.490E+06	782.2	1.09	10.44
6.78	242.67	.691E+06	1137.8	1.13	10.12
7.17	243.06	.920E+06	1698.5	1.26	9.03

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1113)	70.82	5.07	5.25	58.34	1.09	1.22
OUTFLOW: ID= 1 (5113)	70.82	4.70	5.25	58.34	1.06	1.21

CALIB				
STANDHYD (0113)	Area (ha)= 12.71			
ID= 1 DT=15.0 min	Total Imp(%)= 52.00	Dir. Conn.(%)= 52.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	6.61	6.10		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	3.50		
Length (m)=	291.09	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	33.63	24.99		
over (min)	15.00	15.00		
Storage Coeff. (min)=	1.80 (ii)	9.00 (ii)		
Unit Hyd. Tpeak (min)=	15.00	15.00		
Unit Hyd. peak (cms)=	0.11	0.09		
			TOTALS	
PEAK FLOW (cms)=	0.62	0.42	1.033 (iii)	
TIME TO PEAK (hrs)=	4.75	5.25	5.25	
RUNOFF VOLUME (mm)=	72.10	41.91	57.61	
TOTAL RAINFALL (mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT =	0.99	0.57	0.79	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2113)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0113):	12.71	1.033	5.25	57.61
+ ID2= 2 (5113):	70.82	4.696	5.25	58.34
ID = 3 (2113):	83.53	5.729	5.25	58.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0120)	Area (ha)= 46.27			
ID= 1 DT=15.0 min	Total Imp(%)= 63.00	Dir. Conn.(%)= 63.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	29.15	17.12		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	2.60		
Length (m)=	555.40	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	33.63	27.73		
over (min)	15.00	15.00		
Storage Coeff. (min)=	2.40 (ii)	14.40 (ii)		

```
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.72         1.26         3.983 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        47.51         63.00
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.65          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1119) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0120):    46.27   3.983     5.25    63.00
       + ID2= 2 (2113):    83.53   5.729     5.25    58.23
         ================================================
         ID = 3 (1119):   129.80   9.712     5.25    59.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5119) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5119.0) ------>
              Distance      Elevation       Manning
                 0.00        240.51        0.0930
                29.89        240.57        0.0930
               116.44        238.41        0.0930
               139.64        232.93    0.0930 /0.0410  Main Channel
               141.61        232.28     0.0410         Main Channel
               145.25        233.93    0.0410 /0.0930  Main Channel
               173.42        238.12        0.0930
               173.87        238.19        0.0930
               270.90        240.57        0.0930
               279.44        240.59        0.0930
               297.64        240.11        0.0930
               300.84        240.11        0.0930
               309.34        240.24        0.0930
               309.90        240.23        0.0930
               315.37        240.29        0.0930
               322.46        240.34        0.0930
               324.59        240.37        0.0930
               337.93        240.53        0.0930
               338.14        240.54        0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.32   232.60    .159E+03       0.1          0.35      27.10
        0.65   232.93    .636E+03       0.6          0.56      17.07
        1.10   233.38    .189E+04       2.6          0.80      12.00
```



```
      1.55   233.83    .390E+04       6.3          0.93      10.35
      2.00   234.28    .683E+04      12.6          1.06       9.01
      2.45   234.73    .110E+05      21.8          1.14       8.43
      2.90   235.18    .165E+05      34.0          1.19       8.08
      3.35   235.63    .232E+05      49.7          1.23       7.79
      3.80   236.08    .313E+05      69.2          1.27       7.53
      4.25   236.53    .406E+05      92.9          1.32       7.28
      4.71   236.99    .511E+05     121.0          1.36       7.05
      5.16   237.44    .630E+05     153.9          1.40       6.83
      5.61   237.89    .761E+05     191.8          1.45       6.62
      6.06   238.34    .908E+05     229.8          1.46       6.58
      6.51   238.79    .111E+06     254.0          1.31       7.30
      6.96   239.24    .141E+06     302.2          1.23       7.78
      7.41   239.69    .180E+06     372.7          1.19       8.06
      7.86   240.14    .229E+06     460.2          1.16       8.30
      8.31   240.59    .297E+06     525.8          1.02       9.42

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1119)  129.80     9.71    5.25  59.93      1.79      1.00
     OUTFLOW: ID= 1 (5119)  129.80     9.23    5.25  59.93      1.76      0.99


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-------------------
| DUHYD     (9033) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)= 26.9 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 129.80      9.23      5.25   59.93
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 129.80      9.23      5.25   59.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6033) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   9.6100      1.9350
                          0.1300     1.4400   |  12.0700      2.0240
                          0.7800     1.5180   |  14.7200      2.1150
                          1.9600     1.5970   |  17.5300      2.2070
                          3.4900     1.6790   |  20.5100      2.3010
                          5.2900     1.7620   |  23.6400      2.3970
                          7.3400     1.8480   |  26.9100      2.4940

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9033)    129.800      9.231      5.25      59.93
     OUTFLOW: ID= 1 (6033)    129.800      8.849      5.25      59.91

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.87
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.9230

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```



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-------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9033 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6033):   129.80   8.849     5.25    59.91
       + ID2= 2 (9033):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (****):   129.80   8.849     5.25    59.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0119) |   Area    (ha)=   7.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  19.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.52         5.72
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.50
     Length            (m)=     219.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        22.03
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       1.20 (ii)    6.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.10
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.13         0.35         0.475 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        35.46         42.42
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.49          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2119) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0119):     7.24   0.475     5.25    42.42
       + ID2= 2 (****):   129.80   8.849     5.25    59.91
         ================================================
         ID = 3 (2119):   137.04   9.325     5.25    58.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| DUHYD     (9529) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 137.04      9.32      5.25   58.98
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 137.04      9.32      5.25   58.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6529) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.0000      0.2720
                          2.0000     0.0946   |   8.0000      0.3631
                          4.0000     0.1999   |  10.0000      0.4677

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9529)    137.040      9.325      5.25      58.98
     OUTFLOW: ID= 1 (6529)    137.040      8.924      5.50      58.98

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.70
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4259

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-------------------
| ADD HYD   (4529) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9529 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6529):   137.04   8.924     5.50    58.98
       + ID2= 2 (9529):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4529):   137.04   8.924     5.50    58.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0484) |   Area    (ha)=  10.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  42.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.46         4.85
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.10
     Length            (m)=     262.17        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        35.98
               over (min)        15.00        15.00
```

```
     Storage Coeff.  (min)=       1.80 (ii)    8.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.40          0.48          0.884 (iii)
     TIME TO PEAK    (hrs)=       4.75          5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10         51.21         59.98
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.99          0.70          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9129) |
| Inlet Cap.=0.021 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  10.31      0.88      5.25   59.98
     ==================================================
     MAJOR SYS.(ID= 2):   9.03      0.86      5.25   59.98
     MINOR SYS.(ID= 3):   1.28      0.02      2.50   59.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6129) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0160     0.0567
                          0.0090     0.0175   |   0.0190     0.0784
                          0.0130     0.0364   |   0.0210     0.1015

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9129)      1.281     0.021      2.50      59.98
     OUTFLOW: ID= 1 (6129)      1.281     0.014     12.25      59.61

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 64.77
                    TIME SHIFT OF PEAK FLOW          (min)=585.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0408

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--------------------
| ADD HYD   (4129) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6129):     1.28   0.014    12.25    59.61
       + ID2= 2 (9129):     9.03   0.863     5.25    59.98
         ================================================
         ID = 3 (4129):    10.31   0.872     5.25    59.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (2484) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4129):    10.31   0.872     5.25    59.94
       + ID2= 2 (4529):   137.04   8.924     5.50    58.98
         ================================================
         ID = 3 (2484):   147.35   9.305     5.25    59.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0485)  |   Area    (ha)=  44.69
|ID= 1 DT=15.0 min  |   Total Imp(%)=  50.00   Dir. Conn.(%)=  49.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.34         22.34
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          1.70
     Length            (m)=     545.83         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         25.68
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       3.00 (ii)    16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.05          1.49          3.532 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10         42.30         56.90
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.99          0.58          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2485) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0485):    44.69   3.532     5.25    56.90
       + ID2= 2 (2484):   147.35   9.305     5.25    59.05
         ================================================
         ID = 3 (2485):   192.04  12.837     5.25    58.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1122) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2095):  5984.80  42.504    12.25    28.91
       + ID2= 2 (2485):   192.04  12.837     5.25    58.55
         ================================================
         ID = 3 (1122):  6176.84  52.481     5.25    29.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5122) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5122.0) ------>
             Distance      Elevation       Manning
                0.00         235.73        0.0930
               17.92         231.50        0.0930
               24.58         231.00        0.0930
               44.00         230.55        0.0930
              142.67         231.50        0.0930
              150.22         231.50        0.0930
              174.16         231.28        0.0930
              192.63         231.06        0.0930
              194.24         231.00        0.0930
              196.93         230.16        0.0930
              197.38         230.00    0.0930 /0.0410  Main Channel
              197.43         229.98        0.0410      Main Channel
              197.57         229.00        0.0410      Main Channel
              205.27         229.00        0.0410      Main Channel
              205.34         229.94        0.0410      Main Channel
              205.54         230.00    0.0410 /0.0930  Main Channel
              229.92         238.50        0.0930

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.33   229.33    .126E+04        1.5         0.58      14.12
      0.67   229.67    .254E+04        4.5         0.87       9.33
      1.00   230.00    .383E+04        8.5         1.08       7.54
      1.36   230.36    .544E+04       14.4         1.30       6.28
      1.72   230.72    .843E+04       22.0         1.28       6.38
      2.07   231.07    .197E+05       35.4         0.88       9.28
      2.43   231.43    .424E+05       59.9         0.69      11.80
      2.79   231.79    .757E+05      107.8         0.70      11.70
      3.15   232.15    .110E+06      175.4         0.78      10.45
      3.51   232.51    .145E+06      258.4         0.88       9.33
      3.87   232.87    .180E+06      355.7         0.97       8.42
      4.22   233.22    .215E+06      466.3         1.06       7.70
      4.58   233.58    .251E+06      589.7         1.15       7.10
      4.94   233.94    .288E+06      725.4         1.23       6.61
      5.30   234.30    .325E+06      873.0         1.32       6.20
      5.66   234.66    .362E+06     1032.1         1.40       5.85
      6.01   235.01    .400E+06     1202.5         1.47       5.54
      6.37   235.37    .438E+06     1384.0         1.55       5.28
      6.73   235.73    .477E+06     1576.4         1.62       5.04

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1122) 6176.84    52.48    5.25  29.83      2.32      0.74
     OUTFLOW: ID= 1 (5122) 6176.84    47.33    5.50  29.83      2.25      0.78
```



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--------------------
| CALIB             |
| STANDHYD  (0122)  |   Area    (ha)=  30.63
|ID= 1 DT=15.0 min  |   Total Imp(%)=  32.00   Dir. Conn.(%)=  26.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.80         20.83
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.30
     Length            (m)=     451.88         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         26.66
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       1.80 (ii)    12.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.74          1.48          2.227 (iii)
     TIME TO PEAK    (hrs)=       5.00          5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10         41.11         49.17
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.99          0.56          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2122) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0122):    30.63   2.227     5.25    49.17
       + ID2= 2 (5122):  6176.84  47.333     5.50    29.83
         ================================================
         ID = 3 (2122):  6207.47  48.292     5.50    29.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5112) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5112.0) ------>
             Distance      Elevation       Manning
                0.00         235.91        0.0930
                5.76         235.56        0.0930
              118.08         233.00        0.0930
              121.46         233.00        0.0930
              158.56         231.55        0.0930
              190.22         229.04        0.0930
              190.34         229.04        0.0930
              212.62         228.00        0.0930
```

225.02	227.50	0.0930	
226.84	227.00	0.0930 /0.0410	Main Channel
227.92	226.50	0.0410	Main Channel
232.46	226.50	0.0410	Main Channel
232.95	226.98	0.0410 /0.0930	Main Channel
237.55	228.00	0.0930	
247.07	228.50	0.0930	
255.73	228.80	0.0930	
268.28	229.64	0.0930	
274.49	231.50	0.0930	
283.66	232.45	0.0930	
298.53	235.00	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	226.74	.770E+03	0.5	0.47	23.34
0.48	226.98	.166E+04	1.8	0.70	15.51
0.95	227.45	.411E+04	6.4	1.02	10.61
1.42	227.92	.897E+04	14.3	1.04	10.49
1.90	228.40	.186E+05	27.2	0.95	11.44
2.37	228.87	.346E+05	48.1	0.91	11.99
2.84	229.34	.563E+05	80.7	0.93	11.62
3.31	229.81	.819E+05	125.6	1.00	10.87
3.78	230.28	.110E+06	183.3	1.08	10.03
4.25	230.75	.141E+06	252.3	1.17	9.31
4.73	231.23	.174E+06	333.0	1.25	8.70
5.20	231.70	.209E+06	420.3	1.31	8.30
5.67	232.17	.249E+06	512.6	1.34	8.10
6.14	232.64	.294E+06	623.0	1.38	7.87
6.61	233.11	.344E+06	742.9	1.41	7.72
7.08	233.58	.401E+06	880.3	1.43	7.60
7.56	234.06	.466E+06	1041.7	1.46	7.45
8.03	234.53	.538E+06	1228.2	1.49	7.30
8.50	235.00	.616E+06	1440.8	1.52	7.13

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2122)	6207.47	48.29	5.50	29.93	2.37	0.91
OUTFLOW: ID= 1 (5112)	6207.47	46.04	5.75	29.93	2.32	0.91

CALIB			
STANDHYD (0112)	Area (ha)=	91.24	
ID= 1 DT=15.0 min	Total Imp(%)=	48.00	Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.80	47.44
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.10
Length (m)=	779.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	33.80
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	16.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	3.24	4.20 7.437 (iii)

TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	49.24	57.92
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.67	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2112)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0112):	91.24	7.437	5.25	57.92
+ ID2= 2 (5112):	6207.47	46.042	5.75	29.93
ID = 3 (2112):	6298.71	48.741	5.75	30.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5091)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5091.0) ------>

Distance	Elevation	Manning	
0.00	233.68	0.0930	
57.19	231.45	0.0930	
70.84	229.38	0.0930	
75.11	228.00	0.0930	
76.32	227.82	0.0930	
78.35	227.50	0.0930 /0.0410	Main Channel
79.48	227.23	0.0410	Main Channel
80.40	227.00	0.0410	Main Channel
81.40	226.00	0.0410	Main Channel
87.08	226.00	0.0410	Main Channel
87.20	226.00	0.0410	Main Channel
87.27	226.50	0.0410	Main Channel
88.50	227.47	0.0410	Main Channel
88.62	227.50	0.0410	Main Channel
92.08	227.50	0.0410	Main Channel
93.44	227.80	0.0410	Main Channel
94.43	228.72	0.0410 /0.0930	Main Channel
111.61	232.98	0.0930	
115.31	233.50	0.0930	
134.67	234.81	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	226.38	.167E+04	1.4	0.61	20.11
0.75	226.75	.348E+04	4.3	0.91	13.58
1.12	227.12	.554E+04	8.3	1.10	11.19
1.50	227.50	.808E+04	13.4	1.22	10.07
1.91	227.91	.129E+05	21.9	1.25	9.82
2.32	228.32	.187E+05	36.9	1.46	8.45

2.74	228.74	.250E+05	55.3	1.63	7.54	
3.15	229.15	.321E+05	78.4	1.81	6.83	
3.56	229.56	.401E+05	104.9	1.94	6.37	
3.97	229.97	.493E+05	135.2	2.03	6.08	
4.38	230.38	.599E+05	169.9	2.10	5.88	
4.80	230.80	.718E+05	209.2	2.15	5.72	
5.21	231.21	.851E+05	253.2	2.20	5.60	
5.62	231.62	.999E+05	299.6	2.22	5.56	
6.03	232.03	.118E+06	350.3	2.20	5.61	
6.44	232.44	.140E+06	409.8	2.17	5.69	
6.86	232.86	.165E+06	478.0	2.14	5.76	
7.27	233.27	.195E+06	554.6	2.11	5.85	
7.68	233.68	.228E+06	639.5	2.07	5.95	

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2112)	6298.71	48.74	5.75	30.33	2.59	1.57
OUTFLOW: ID= 1 (5091)	6298.71	48.58	5.75	30.33	2.59	1.56

CALIB			
STANDHYD (0091)	Area (ha)=	180.35	
ID= 1 DT=15.0 min	Total Imp(%)=	47.00	Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	84.76	95.59
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	1096.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	33.00
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	19.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06
		TOTALS
PEAK FLOW (cms)=	6.40	8.05 14.455 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	72.10	48.90 57.72
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.67 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2091)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0091):	180.35	14.455	5.25	57.72
+ ID2= 2 (5091):	6298.71	48.577	5.75	30.33

ID = 3 (2091):	6479.06	57.428	5.25 31.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9023)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)= 17.8	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	6479.06	57.43	5.25	31.10
MAJOR SYS.(ID= 2):	2989.63	39.59	5.25	31.10
MINOR SYS.(ID= 3):	3489.44	17.84	4.50	31.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6023)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	6.0830	0.7376
	0.5140	0.0185	8.6630	1.7454
	1.9040	0.1110	17.8370	3.6437
	3.8440	0.3047	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9023)	3489.436	17.837	4.50	31.10
OUTFLOW: ID= 1 (6023)	3489.436	17.837	13.00	31.10

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)=510.00
MAXIMUM STORAGE USED (ha.m.)= 3.6437

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6023):	3489.44	17.837	13.00	31.10
+ ID2= 2 (9023):	2989.63	39.591	5.25	31.10
ID = 3 (****):	6479.06	55.642	5.25	31.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5530)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5530.0) ------>

Distance	Elevation	Manning
0.00	232.00	0.0930
4.96	232.00	0.0930
7.83	231.50	0.0930
17.85	231.00	0.0930
42.32	226.50	0.0930

90.46	226.50	0.0930		
96.74	225.00	0.0930 /0.0410	Main Channel	
98.31	224.50	0.0410	Main Channel	
108.69	224.50	0.0410	Main Channel	
109.36	225.00	0.0410 /0.0930	Main Channel	
114.19	225.50	0.0930		
117.90	227.00	0.0930		
121.45	227.50	0.0930		
134.20	227.50	0.0930		
149.51	228.94	0.0930		
154.36	229.23	0.0930		
155.62	229.30	0.0930		
155.63	232.00	0.0930		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	224.75	.192E+04	2.5	0.92	12.70
0.50	225.00	.403E+04	8.1	1.41	8.28
0.91	225.41	.850E+04	24.2	1.99	5.86
1.32	225.82	.144E+05	48.1	2.35	4.97
1.74	226.24	.210E+05	79.6	2.66	4.40
2.15	226.65	.335E+05	118.2	2.48	4.72
2.56	227.06	.557E+05	182.5	2.30	5.09
2.97	227.47	.793E+05	264.6	2.34	5.00
3.38	227.88	.108E+06	362.6	2.36	4.96
3.79	228.29	.139E+06	488.9	2.47	4.73
4.21	228.71	.172E+06	634.9	2.60	4.50
4.62	229.12	.206E+06	799.2	2.72	4.30
5.03	229.53	.243E+06	987.9	2.85	4.10
5.44	229.94	.281E+06	1201.3	3.00	3.90
5.85	230.35	.320E+06	1433.6	3.15	3.72
6.26	230.76	.359E+06	1684.2	3.29	3.55
6.68	231.18	.399E+06	1936.0	3.41	3.43
7.09	231.59	.441E+06	2195.5	3.50	3.34
7.50	232.00	.484E+06	2505.8	3.63	3.22

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (****)	6479.06	55.64	5.25	31.10	1.42	2.42
OUTFLOW: ID= 1 (5530)	6479.06	55.47	5.50	31.10	1.42	2.42

CALIB	
STANDHYD (0530)	Area (ha)= 12.46
ID= 1 DT=15.0 min	Total Imp(%)= 33.00 Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.11	8.35
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.00
Length	(m)=	288.21	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.24
over (min)		15.00	15.00
Storage Coeff. (min)=		1.20 (ii)	7.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.10

TOTALS

PEAK FLOW	(cms)=	0.33 0.55 0.879 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 37.47 47.16
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.51 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2530)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0530):	12.46	0.879	5.25	47.16
	+ ID2= 2 (5530):	6479.06	55.475	5.50	31.10
	ID = 3 (2530):	6491.52	55.790	5.50	31.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0114)	Area (ha)= 71.32
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.09	34.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	689.54	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	34.34
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	15.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

TOTALS

PEAK FLOW	(cms)=	2.86	3.11 5.979 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	72.10	50.56 59.82
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.69 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1529)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0114):	71.32	5.979	5.25	59.82
	+ ID2= 2 (2530):	6491.52	55.790	5.50	31.13
	ID = 3 (1529):	6562.84	60.011	5.25	31.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5529)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5529.0) ------>

Distance	Elevation	Manning	
0.00	229.04	0.0930	
7.45	221.83	0.0930 /0.0410	Main Channel
7.73	221.00	0.0410	Main Channel
11.19	221.00	0.0410	Main Channel
14.51	222.00	0.0410 /0.0930	Main Channel
15.34	222.00	0.0930	
16.50	222.50	0.0930	
29.47	222.35	0.0930	
55.40	222.50	0.0930	
76.32	222.50	0.0930	
144.32	223.00	0.0930	
157.97	223.80	0.0930	
163.43	224.00	0.0930	
184.95	224.50	0.0930	
193.87	225.00	0.0930	
197.46	225.00	0.0930	
203.83	225.27	0.0930	
208.01	225.56	0.0930	
214.39	225.78	0.0930	
214.40	229.00	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	221.41	.154E+04	0.8	0.48	30.55
0.83	221.83	.362E+04	2.9	0.69	21.07
1.25	222.25	.652E+04	6.7	0.90	16.23
1.67	222.67	.235E+05	14.4	0.54	27.14
2.10	223.10	.682E+05	36.2	0.46	31.45
2.52	223.52	.121E+06	75.3	0.54	26.85
2.94	223.94	.177E+06	127.4	0.63	23.21
3.36	224.36	.238E+06	188.5	0.69	21.08
3.78	224.78	.305E+06	266.7	0.77	19.08
4.20	225.20	.376E+06	356.2	0.83	17.60
4.63	225.63	.451E+06	463.5	0.90	16.22
5.05	226.05	.529E+06	588.5	0.98	14.97
5.47	226.47	.607E+06	732.6	1.06	13.81
5.89	226.89	.685E+06	889.1	1.14	12.85
6.31	227.31	.764E+06	1057.6	1.21	12.04
6.73	227.73	.843E+06	1237.6	1.29	11.35
7.16	228.16	.922E+06	1428.6	1.36	10.75
7.58	228.58	.100E+07	1630.4	1.43	10.23
8.00	229.00	.108E+07	1842.6	1.50	9.77

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

		(ha)	(cms)	(hrs)	(mm)	(m) (m/s)
INFLOW : ID= 2 (1529)	6562.84	60.01	5.25	31.44	2.35	0.51
OUTFLOW: ID= 1 (5529)	6562.84	52.23	6.25	31.44	2.26	0.49

CALIB	
STANDHYD (0529)	Area (ha)= 41.93
ID= 1 DT=15.0 min	Total Imp(%)= 33.00 Dir. Conn.(%)= 26.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	13.84	28.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.80
Length	(m)=	528.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	27.21
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	12.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

TOTALS

PEAK FLOW	(cms)=	1.02	2.03 3.053 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25 5.25
RUNOFF VOLUME	(mm)=	72.10	41.41 49.39
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.57 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2529)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0529):	41.93	3.053	5.25	49.39
	+ ID2= 2 (5529):	6562.84	52.228	6.25	31.44
	ID = 3 (2529):	6604.77	53.174	6.25	31.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0488)	Area (ha)= 47.77
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.23	20.54
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	564.33	40.00
Mannings n	=	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      33.63        32.65
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      2.40 (ii)   14.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.28         1.79          4.064 (iii)
     TIME TO PEAK    (hrs)=      5.00         5.25          5.25
     RUNOFF VOLUME    (mm)=     72.10        49.85         61.20
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.99         0.68          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (9164) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  47.77      4.06      5.25   61.20
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  47.77      4.06      5.25   61.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (6164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |   0.1280     0.6485
                         0.0360     0.0650   |   0.2220     0.6870
                         0.0470     0.1250   |   0.6040     0.7600
                         0.0620     0.1800   |   1.1450     0.8300
                         0.0750     0.2500   |   1.8080     0.9100
                         0.0850     0.3100   |   2.5730     0.9800
                         0.0950     0.3750   |   3.4270     1.0500
                         0.1030     0.4330   |   4.3630     1.1200
                         0.1110     0.4930   |   5.3730     1.1950
                         0.1180     0.5630   |   0.0000     0.0000
                         0.1250     0.6120   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9164)     47.770     4.064      5.25      61.20
     OUTFLOW: ID= 1 (6164)     47.770     3.715      5.25      61.19

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 91.42
                  TIME SHIFT OF PEAK FLOW          (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.0873

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-------------------
| ADD HYD   (4164) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9164 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6164):    47.77   3.715     5.25    61.19
      + ID2= 2 (9164):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4164):    47.77   3.715     5.25    61.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1486) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2529):  6604.77  53.174     6.25    31.55
      + ID2= 2 (4164):    47.77   3.715     5.25    61.19
        ================================================
        ID = 3 (1486):  6652.54  54.562     6.25    31.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5486) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5486.0) ------>
             Distance      Elevation       Manning
                 0.00         225.00        0.0930
                11.94         222.00        0.0930
                16.06         221.50        0.0930
                41.45         220.50        0.0930
                88.07         220.00        0.0930
                99.13         219.50        0.0930
               102.39         219.00    0.0930 /0.0410  Main Channel
               102.82         218.50       0.0410       Main Channel
               108.08         218.50       0.0410       Main Channel
               108.18         219.00    0.0410 /0.0930  Main Channel
               109.15         219.20        0.0930
               110.60         219.50        0.0930
               116.50         221.36        0.0930
               127.30         226.50        0.0930
               144.83         227.58        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   218.75    .815E+03        0.8         0.62       16.38
      0.50   219.00    .167E+04        2.6         0.93       10.82
      0.85   219.35    .333E+04        6.6         1.20        8.38
      1.21   219.71    .603E+04       12.7         1.27        7.93
      1.56   220.06    .106E+05       21.3         1.22        8.29
      1.91   220.41    .206E+05       34.9         1.02        9.84
      2.26   220.76    .364E+05       59.4         0.99       10.22
      2.62   221.12    .546E+05       93.6         1.04        9.71
      2.97   221.47    .748E+05      137.0         1.11        9.10
```



```
      3.32   221.82    .967E+05      193.1         1.21        8.34
      3.68   222.18    .119E+06      259.4         1.32        7.66
      4.03   222.53    .142E+06      335.2         1.42        7.08
      4.38   222.88    .166E+06      419.5         1.53        6.59
      4.74   223.24    .190E+06      512.1         1.63        6.18
      5.09   223.59    .214E+06      612.7         1.73        5.83
      5.44   223.94    .239E+06      721.2         1.82        5.53
      5.79   224.29    .264E+06      837.5         1.92        5.26
      6.15   224.65    .290E+06      961.5         2.00        5.03
      6.50   225.00    .317E+06     1093.1         2.09        4.83

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1486) 6652.54    54.56    6.25  31.76      2.20      0.99
     OUTFLOW: ID= 1 (5486) 6652.54    54.10    6.25  31.76      2.19      0.99

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-------------------
| CALIB             |
| STANDHYD  (0486)  |   Area    (ha)=  35.14
|ID= 1 DT=15.0 min  |   Total Imp(%)=  47.00   Dir. Conn.(%)=  41.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.52        18.62
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     484.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        29.59
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       1.80 (ii)  12.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.35         1.48          2.827 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        45.30         56.29
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.62          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2486) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0486):    35.14   2.827     5.25    56.29
      + ID2= 2 (5486):  6652.54  54.096     6.25    31.76
        ================================================
        ID = 3 (2486):  6687.68  54.943     6.25    31.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| CALIB             |
| STANDHYD  (0533)  |   Area    (ha)=  61.35
|ID= 1 DT=15.0 min  |   Total Imp(%)=  49.00   Dir. Conn.(%)=  39.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.06        31.29
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.80
     Length            (m)=     639.53        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        33.93
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       2.40 (ii)  15.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.24         2.82          5.051 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        49.29         58.19
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.67          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1165) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0533):    61.35   5.051     5.25    58.19
      + ID2= 2 (2486):  6687.68  54.943     6.25    31.89
        ================================================
        ID = 3 (1165):  6749.03  56.482     6.25    32.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5165) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5165.0) ------>
             Distance      Elevation       Manning
                 0.00         217.93        0.0930
                93.89         215.00        0.0930
               100.20         213.00        0.0930
               110.33         212.37        0.0930
               119.07         212.00        0.0930
               119.29         212.00        0.0930
               131.29         211.51        0.0930
               131.54         211.50    0.0930 /0.0410  Main Channel
               133.06         211.27       0.0410       Main Channel
```

133.84	211.00	0.0410		Main Channel
145.04	211.00	0.0410		Main Channel
145.53	211.37	0.0410 /0.0930		Main Channel
148.07	212.50	0.0930		
159.61	213.50	0.0930		
179.18	214.00	0.0930		
235.23	213.00	0.0930		
247.26	213.00	0.0930		
261.80	214.00	0.0930		
277.22	218.03	0.0930		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	211.18	.179E+04	0.9	0.44	31.48
0.37	211.37	.372E+04	3.0	0.68	20.65
0.76	211.76	.900E+04	10.9	1.01	13.79
1.14	212.14	.175E+05	24.0	1.14	12.17
1.53	212.53	.292E+05	42.8	1.23	11.37
1.91	212.91	.440E+05	67.9	1.29	10.81
2.30	213.30	.675E+05	101.8	1.26	11.05
2.69	213.69	.103E+06	148.9	1.21	11.48
3.07	214.07	.151E+06	213.5	1.18	11.80
3.46	214.46	.205E+06	302.0	1.23	11.31
3.84	214.84	.260E+06	407.0	1.31	10.63
4.23	215.23	.316E+06	516.4	1.37	10.19
4.61	215.61	.376E+06	638.6	1.42	9.81
5.00	216.00	.441E+06	780.7	1.48	9.41
5.39	216.39	.510E+06	941.7	1.54	9.03
5.77	216.77	.584E+06	1121.6	1.61	8.67
6.16	217.16	.662E+06	1320.5	1.67	8.35
6.54	217.54	.744E+06	1538.7	1.73	8.06
6.93	217.93	.832E+06	1776.7	1.79	7.80

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1165)	6749.03	56.48	6.25	32.13	1.74	1.26
OUTFLOW: ID= 1 (5165)	6749.03	55.63	6.50	32.13	1.73	1.26

CALIB STANDHYD (0165) ID= 1 DT=15.0 min	Area (ha)= 101.91 Total Imp(%)= 50.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	50.96	50.96
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	824.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	31.94
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	17.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	4.00	4.22 8.221 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	72.10	47.39 57.77

TOTAL RAINFALL (mm)=	73.10	73.10		73.10
RUNOFF COEFFICIENT =	0.99	0.65		0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2165) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0165):	101.91	8.221	5.25	57.77
+ ID2= 2 (5165):	6749.03	55.635	6.50	32.13
ID = 3 (2165):	6850.94	58.192	6.25	32.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5383) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5383.0) ------>

Distance	Elevation	Manning	
0.00	217.40	0.0930	
9.80	217.00	0.0930	
16.80	215.50	0.0930	
48.20	214.50	0.0930	
66.70	214.50	0.0930	
92.00	211.00	0.0930	
96.20	210.50	0.0930 /0.0410	Main Channel
97.00	210.10	0.0410	Main Channel
107.00	210.10	0.0410	Main Channel
107.50	210.50	0.0410 /0.0930	Main Channel
112.00	211.00	0.0930	
120.50	212.50	0.0930	
131.90	213.00	0.0930	
199.00	213.00	0.0930	
201.70	212.50	0.0930	
214.00	212.00	0.0930	
229.70	212.00	0.0930	
243.80	215.00	0.0930	
270.00	215.00	0.0930	
310.90	216.00	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	210.30	.188E+04	1.1	0.53	28.54
0.40	210.50	.388E+04	3.5	0.82	18.44
0.72	210.82	.804E+04	10.0	1.14	13.34
1.05	211.15	.138E+05	19.8	1.30	11.64
1.37	211.47	.209E+05	32.8	1.43	10.61
1.69	211.79	.292E+05	49.2	1.54	9.89
2.02	212.12	.406E+05	67.1	1.51	10.07
2.34	212.44	.584E+05	93.8	1.46	10.37

2.66	212.76	.801E+05	127.3	1.45	10.49
2.99	213.09	.111E+06	158.3	1.30	11.68
3.31	213.41	.158E+06	222.8	1.28	11.83
3.64	213.74	.206E+06	301.4	1.33	11.41
3.96	214.06	.256E+06	393.0	1.40	10.84
4.28	214.38	.306E+06	497.1	1.48	10.26
4.61	214.71	.362E+06	595.1	1.50	10.13
4.93	215.03	.423E+06	682.5	1.47	10.34
5.25	215.35	.497E+06	819.4	1.50	10.12
5.58	215.68	.578E+06	979.1	1.54	9.84
5.90	216.00	.663E+06	1160.9	1.59	9.52

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2165)	6850.94	58.19	6.25	32.51	1.86	1.52
OUTFLOW: ID= 1 (5383)	6850.94	57.49	6.50	32.51	1.84	1.52

CALIB STANDHYD (0383) ID= 1 DT=15.0 min	Area (ha)= 61.08 Total Imp(%)= 40.00 Dir. Conn.(%)= 31.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.43	36.65
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.60
Length (m)=	638.12	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	30.17
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	1.77	2.92 4.688 (iii)
TIME TO PEAK (hrs)=	5.00	5.25 5.25
RUNOFF VOLUME (mm)=	72.10	44.63 53.15
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.61 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2383) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0383):	61.08	4.688	5.25	53.15
+ ID2= 2 (5383):	6850.94	57.490	6.50	32.51
ID = 3 (2383):	6912.02	58.423	6.50	32.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0177) ID= 1 DT=15.0 min	Area (ha)= 144.80 Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.30	69.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	982.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	34.34
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	5.77	3.11 7.714 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	72.10	50.56 59.82
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.69 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1720) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0177):	144.80	7.714	5.25	59.82
+ ID2= 2 (2383):	6912.02	58.423	6.50	32.70
ID = 3 (1720):	7056.82	63.082	6.25	33.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DIVERT HYD (1800) IN= 1 # OUT= 5

Outflow / Inflow Relationships

Flow 1 (cms)	+ Flow 2 (cms)	+ Flow 3 (cms)	+ Flow 4 (cms)	+ Flow 5 (cms)	= Total (cms)
0.00	0.00	0.00	0.00	0.00	0.00
0.00	******	0.00	0.00	0.00	******

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	7056.82	63.08	6.25	33.25

ID= 2	(2)	:	0.01	0.00	6.25 33.25
ID= 3	(2)	:	7056.82	63.08	6.25 33.25
ID= 4	(2)	:	0.00	0.00	0.00 0.00
ID= 5	(2)	:	0.00	0.00	0.00 0.00
ID= 6	(2)	:	0.00	0.00	0.00 0.00

ROUTE CHN (5800)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5800.0) ------>

Distance	Elevation	Manning	
0.00	214.42	0.0700	
79.28	213.89	0.0700	
120.12	213.16	0.0700	
155.24	211.47	0.0700 /0.0700	Main Channel
158.88	211.30	0.0700	Main Channel
162.95	211.27	0.0700	Main Channel
173.48	211.26	0.0700	Main Channel
221.99	210.58	0.0700	Main Channel
245.42	210.53	0.0700	Main Channel
264.64	210.60	0.0700	Main Channel
283.77	210.98	0.0700	Main Channel
294.38	211.50	0.0700 /0.0700	Main Channel
314.27	212.46	0.0700	
375.00	214.31	0.0700	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	210.72	.117E+05	1.6	0.20	122.43
0.38	210.91	.314E+05	6.6	0.32	78.97
0.56	211.09	.573E+05	15.6	0.41	61.03
0.75	211.28	.884E+05	27.4	0.46	53.77
0.94	211.47	.126E+06	47.3	0.56	44.53
1.14	211.67	.170E+06	76.4	0.68	37.02
1.35	211.88	.216E+06	111.7	0.78	32.20
1.55	212.08	.264E+06	152.9	0.87	28.81
1.75	212.28	.315E+06	200.1	0.95	26.27
1.95	212.48	.369E+06	253.3	1.03	24.29
2.16	212.69	.426E+06	312.4	1.10	22.72
2.36	212.89	.486E+06	377.9	1.17	21.42
2.56	213.09	.549E+06	450.2	1.23	20.33
2.77	213.30	.616E+06	527.6	1.28	19.47
2.97	213.50	.689E+06	612.3	1.33	18.75
3.17	213.70	.767E+06	705.3	1.38	18.12
3.37	213.90	.850E+06	806.4	1.42	17.57
3.58	214.11	.942E+06	911.2	1.45	17.23
3.78	214.31	.105E+07	1029.3	1.48	16.93

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	0.01	0.00	6.25	33.25	0.00	0.20
OUTFLOW: ID= 1 (5800)	0.01	0.00	8.00	33.25	0.00	0.20

ROUTE CHN (5720)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5720.0) ------>

Distance	Elevation	Manning	
0.00	217.21	0.1110	
21.44	216.00	0.1110	
44.42	215.50	0.1110	
50.34	215.00	0.1110	
62.51	209.50	0.1110	
65.10	209.15	0.1110	
66.24	209.00	0.1110 /0.0490	Main Channel
66.50	208.60	0.0490	Main Channel
68.40	208.60	0.0490	Main Channel
68.93	209.00	0.0490 /0.1110	Main Channel
69.89	209.12	0.1110	
72.86	209.50	0.1110	
80.96	213.52	0.1110	
83.23	214.31	0.1110	
86.07	215.00	0.1110	
87.25	215.10	0.1110	
97.04	215.50	0.1110	
101.19	215.50	0.1110	
112.34	215.74	0.1110	
112.52	215.74	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	208.80	.325E+03	0.2	0.46	28.04
0.40	209.00	.710E+03	0.6	0.67	19.10
0.80	209.40	.247E+04	2.5	0.79	16.41
1.19	209.79	.573E+04	6.3	0.86	15.03
1.59	210.19	.954E+04	12.0	0.98	13.20
1.99	210.59	.139E+05	19.5	1.09	11.85
2.38	210.98	.187E+05	28.7	1.19	10.85
2.78	211.38	.241E+05	39.8	1.28	10.08
3.18	211.78	.299E+05	52.7	1.36	9.46
3.57	212.17	.363E+05	67.6	1.44	8.95
3.97	212.57	.432E+05	84.5	1.51	8.52
4.36	212.96	.506E+05	103.6	1.58	8.14
4.76	213.36	.585E+05	124.8	1.65	7.82
5.16	213.76	.670E+05	147.8	1.71	7.55
5.55	214.15	.761E+05	173.1	1.76	7.32
5.95	214.55	.858E+05	200.2	1.81	7.14
6.35	214.95	.962E+05	229.9	1.85	6.98
6.74	215.34	.109E+06	242.9	1.73	7.45
7.14	215.74	.127E+06	242.9	1.48	8.73

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	7056.82	63.08	6.25	33.25	3.45	1.42
OUTFLOW: ID= 1 (5720)	7056.82	62.77	6.50	33.25	3.44	1.41

ADD HYD (2800)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (5720):	7056.82	62.768	6.50	33.25
+ ID2= 2 (5800):	0.01	0.000	8.00	33.25
ID = 3 (2800):	7056.82	62.768	6.50	33.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0720)	Area (ha)= 50.88		
ID= 1 DT=15.0 min	Total Imp(%)= 36.00	Dir. Conn.(%)= 32.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	18.32	32.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	582.41	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	26.46
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.52 1.42 2.774 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	72.10 41.85 51.53
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.57 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2720)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0720):	50.88	2.774	5.25	51.53
+ ID2= 2 (2800):	7056.82	62.768	6.50	33.25
ID = 3 (2720):	7107.70	64.001	6.50	33.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0393)	Area (ha)= 98.98		
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 51.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	56.42	42.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	812.32	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	32.65

over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	67.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	4.70 1.96 5.947 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	72.10 49.85 61.20
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.68 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1394)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0393):	98.98	5.947	5.25	61.20
+ ID2= 2 (2720):	7107.70	64.001	6.50	33.38
ID = 3 (1394):	7206.68	66.785	6.25	33.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5394)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5394.0) ------>

Distance	Elevation	Manning	
0.00	213.16	0.1110	
20.83	211.00	0.1110	
60.38	209.34	0.1110	
86.89	209.00	0.1110	
94.15	208.62	0.1110	
151.69	206.40	0.1110	
157.26	206.00	0.1110	
161.49	205.39	0.1110	
163.96	204.98	0.1110 /0.0490	Main Channel
166.91	204.50	0.0490	Main Channel
174.77	204.50	0.0490	Main Channel
177.78	204.96	0.0490	Main Channel
178.68	205.00	0.0490	Main Channel
178.78	204.99	0.0490 /0.1110	Main Channel
180.81	206.00	0.1110	
203.93	206.50	0.1110	
209.84	206.50	0.1110	
222.90	207.00	0.1110	
250.93	210.92	0.1110	
250.94	213.16	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.24	204.74	.209E+04	0.7	0.33	47.42
0.48	204.98	.486E+04	2.5	0.48	32.36
0.96	205.46	.123E+05	10.4	0.78	19.84
1.44	205.94	.216E+05	22.7	0.97	15.86
1.92	206.42	.372E+05	39.8	0.99	15.55
2.40	206.90	.676E+05	65.8	0.90	17.13
2.89	207.39	.108E+06	104.1	0.89	17.35
3.37	207.87	.156E+06	154.4	0.92	16.88
3.85	208.35	.211E+06	217.1	0.95	16.23
4.33	208.83	.273E+06	293.4	0.99	15.54
4.81	209.31	.344E+06	374.8	1.01	15.30
5.29	209.79	.427E+06	483.1	1.05	14.73
5.77	210.27	.517E+06	608.5	1.09	14.15
6.25	210.75	.613E+06	750.5	1.14	13.61
6.74	211.24	.715E+06	918.2	1.19	12.98
7.22	211.72	.820E+06	1109.3	1.26	12.32
7.70	212.20	.927E+06	1316.7	1.32	11.73
8.18	212.68	.104E+07	1539.9	1.38	11.21
8.66	213.16	.115E+07	1778.7	1.44	10.74

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1394)	7206.68	66.78	6.25	33.77	2.42	0.90
OUTFLOW: ID= 1 (5394)	7206.68	65.02	6.75	33.77	2.39	0.91

CALIB			
STANDHYD (0394)	Area (ha)=	38.01	
ID= 1 DT=15.0 min	Total Imp(%)=	31.00	Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.78	26.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	503.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.95
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW (cms)=		0.89	1.15 1.903 (iii)
TIME TO PEAK (hrs)=		5.25	5.50 5.25
RUNOFF VOLUME (mm)=		72.10	39.92 47.97
TOTAL RAINFALL (mm)=		73.10	73.10 73.10
RUNOFF COEFFICIENT =		0.99	0.55 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2394)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0394):	38.01	1.903	5.25	47.97
	+ ID2= 2 (5394):	7206.68	65.025	6.75	33.77
	ID = 3 (2394):	7244.69	65.825	6.75	33.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5221)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5221.0) ------>

Distance	Elevation	Manning	
0.00	209.40	0.1110	
6.90	205.50	0.1110	
12.79	205.00	0.1110	
50.72	205.00	0.1110	
54.17	204.40	0.1110	
58.47	204.00	0.1110	
68.03	203.71	0.1110	
77.31	203.69	0.1110	
81.46	203.50	0.1110	
86.45	203.56	0.1110	
89.27	202.50	0.1110	
89.61	202.33	0.1110 /0.0490	Main Channel
90.01	201.80	0.0490	Main Channel
100.15	201.80	0.0490	Main Channel
100.63	202.43	0.0490 /0.1110	Main Channel
104.18	204.27	0.1110	
115.16	204.94	0.1110	
119.53	204.93	0.1110	
121.87	205.00	0.1110	
148.39	209.73	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	202.07	.229E+04	1.1	0.40	34.80
0.53	202.33	.467E+04	3.5	0.62	22.52
0.95	202.75	.875E+04	9.3	0.89	15.59
1.36	203.16	.135E+05	17.6	1.09	12.75
1.78	203.58	.191E+05	27.9	1.22	11.42
2.19	203.99	.314E+05	42.1	1.12	12.44
2.61	204.41	.481E+05	61.9	1.08	12.96
3.03	204.83	.679E+05	87.5	1.08	12.95
3.44	205.24	.999E+05	113.6	0.95	14.66
3.86	205.66	.140E+06	161.3	0.96	14.52
4.27	206.07	.182E+06	219.4	1.01	13.86
4.69	206.49	.225E+06	286.6	1.06	13.11
5.10	206.90	.269E+06	362.5	1.13	12.39
5.52	207.32	.315E+06	446.9	1.19	11.73
5.94	207.74	.361E+06	539.4	1.25	11.15
6.35	208.15	.408E+06	640.0	1.31	10.62
6.77	208.57	.456E+06	748.5	1.37	10.16
7.18	208.98	.506E+06	864.8	1.43	9.74
7.60	209.40	.556E+06	988.9	1.49	9.37

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2221)	7374.08	68.23	6.75	34.28	1.95	0.91
OUTFLOW: ID= 1 (5233)	7374.08	67.86	7.00	34.28	1.95	0.91

CALIB			
STANDHYD (0233)	Area (ha)=	60.17	
ID= 1 DT=15.0 min	Total Imp(%)=	44.00	Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.47	33.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.10
Length	(m)=	633.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	33.40
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00

69.39	202.53	0.1110			
79.51	202.50	0.1110			
95.91	202.01	0.1110 /0.0490	Main Channel		
96.32	201.98	0.0490	Main Channel		
100.74	201.58	0.0490	Main Channel		
109.40	201.58	0.0490	Main Channel		
111.17	202.00	0.0490 /0.1110	Main Channel		
111.89	202.15	0.1110			
117.63	203.50	0.1110			
119.63	204.24	0.1110			
122.33	205.00	0.1110			
127.31	205.55	0.1110			
140.44	206.50	0.1110			
170.27	211.50	0.1110			
180.32	212.00	0.1110			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	202.00	.395E+04	2.6	0.51	25.73
0.90	202.48	.130E+05	12.1	0.74	17.85
1.37	202.95	.313E+05	30.7	0.78	17.01
1.85	203.43	.535E+05	59.9	0.89	14.88
2.33	203.91	.772E+05	98.3	1.01	13.09
2.80	204.38	.102E+06	145.0	1.12	11.76
3.28	204.86	.129E+06	199.5	1.23	10.76
3.75	205.33	.157E+06	261.1	1.32	10.02
4.23	205.81	.191E+06	306.9	1.27	10.40
4.71	206.29	.237E+06	388.0	1.30	10.16
5.18	206.76	.285E+06	493.3	1.37	9.63
5.66	207.24	.335E+06	612.1	1.45	9.13
6.14	207.72	.387E+06	742.9	1.52	8.68
6.61	208.19	.440E+06	885.6	1.60	8.29
7.09	208.67	.495E+06	1040.0	1.67	7.94
7.56	209.14	.552E+06	1206.2	1.73	7.62
8.04	209.62	.609E+06	1384.0	1.80	7.34
8.52	210.10	.669E+06	1573.4	1.87	7.09
8.99	210.57	.730E+06	1774.6	1.93	6.86

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2394)	7244.69	65.82	6.75	33.84	2.67	1.08
OUTFLOW: ID= 1 (5221)	7244.69	65.08	7.00	33.84	2.66	1.08

CALIB			
STANDHYD (0221)	Area (ha)=	129.39	
ID= 1 DT=15.0 min	Total Imp(%)=	48.00	Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.11	67.28
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	928.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	33.84
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	75.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW (cms)=		4.69	3.07 6.627 (iii)
TIME TO PEAK (hrs)=		5.25	6.00 5.25
RUNOFF VOLUME (mm)=		72.10	50.35 58.83
TOTAL RAINFALL (mm)=		73.10	73.10 73.10
RUNOFF COEFFICIENT =		0.99	0.69 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2221)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0221):	129.39	6.627	5.25	58.83
	+ ID2= 2 (5221):	7244.69	65.081	7.00	33.84
	ID = 3 (2221):	7374.08	68.234	6.75	34.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5233)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5233.0) ------>

Distance	Elevation	Manning
0.00	211.05	0.1110
13.16	206.00	0.1110
38.98	205.50	0.1110
46.73	205.50	0.1110
58.41	203.00	0.1110

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     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.97         1.83         3.403 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      72.10        50.17         57.85
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.69          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2233) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0233):    60.17   3.403     5.25    57.85
        + ID2= 2 (5233):  7374.08  67.863     7.00    34.28
          ================================================
          ID = 3 (2233):  7434.25  69.245     7.00    34.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5242) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5242.0) ------>
               Distance      Elevation       Manning
                   0.00        206.25        0.1110
                   7.53        204.51        0.1110
                  40.12        201.31        0.1110
                  59.19        200.00        0.1110
                  69.28        199.50        0.1110
                  73.36        199.03    0.1110 /0.0490  Main Channel
                  74.00        198.50        0.0490      Main Channel
                  83.49        198.50        0.0490      Main Channel
                  84.08        199.00    0.0490 /0.1110  Main Channel
                  84.49        199.26        0.1110
                  86.60        200.30        0.1110
                  87.15        200.50        0.1110
                  94.96        201.00        0.1110
                  98.93        201.50        0.1110
                 111.89        204.46        0.1110
                 115.16        205.00        0.1110
                 122.69        207.55        0.1110

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.25   198.75    .233E+04       1.0          0.40      39.67
       0.50   199.00    .480E+04       3.1          0.62      25.72
       0.93   199.43    .995E+04       9.2          0.88      17.97
       1.35   199.85    .176E+05      18.3          0.99      16.00
       1.78   200.28    .289E+05      31.3          1.03      15.39
       2.21   200.71    .434E+05      48.2          1.06      15.01
```



```
       2.63   201.13    .628E+05      70.2          1.07      14.90
       3.06   201.56    .862E+05      98.6          1.09      14.58
       3.49   201.99    .113E+06     133.3          1.13      14.06
       3.91   202.41    .141E+06     174.0          1.17      13.53
       4.34   202.84    .173E+06     220.8          1.22      13.03
       4.76   203.26    .206E+06     273.9          1.26      12.57
       5.19   203.69    .243E+06     333.4          1.31      12.14
       5.62   204.12    .282E+06     399.8          1.35      11.74
       6.04   204.54    .323E+06     473.2          1.39      11.38
       6.47   204.97    .367E+06     557.1          1.45      10.97
       6.90   205.40    .412E+06     650.2          1.50      10.56
       7.32   205.82    .458E+06     750.3          1.56      10.18
       7.75   206.25    .506E+06     857.3          1.61       9.83

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2233) 7434.25    69.25    7.00  34.47      2.61      1.06
     OUTFLOW: ID= 1 (5242) 7434.25    68.53    7.25  34.47      2.59      1.06


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0242) |   Area    (ha)= 144.68
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  44.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      75.23        69.45
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.30
     Length            (m)=     982.11        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        34.32
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   73.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.91         3.29         8.015 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      72.10        51.72         60.68
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.71          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2242) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0242):   144.68   8.015     5.25    60.68
        + ID2= 2 (5242):  7434.25  68.527     7.25    34.47
          ================================================
```



```
          ID = 3 (2242):  7578.93  71.720     7.25    34.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5551) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5551.0) ------>
               Distance      Elevation       Manning
                   0.00        206.24        0.1110
                  25.71        201.81        0.1110
                  46.60        199.50        0.1110
                  67.80        199.50        0.1110
                  74.10        198.50        0.1110
                  97.90        197.50        0.1110
                 132.90        197.50        0.1110
                 138.60        197.00        0.1110
                 146.80        196.50    0.1110 /0.0490  Main Channel
                 150.90        196.00        0.0490      Main Channel
                 160.46        196.00        0.0490      Main Channel
                 161.39        196.31        0.0490      Main Channel
                 161.98        196.50    0.0490 /0.1110  Main Channel
                 163.24        196.92        0.1110
                 163.50        197.00        0.1110
                 165.25        197.50        0.1110
                 193.50        204.00        0.1110

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.25   196.25    .400E+04       1.8          0.65      37.22
       0.50   196.50    .903E+04       6.1          0.98      24.86
       0.94   196.94    .216E+05      21.1          1.43      17.03
       1.38   197.38    .392E+05      44.8          1.67      14.58
       1.82   197.82    .785E+05      80.3          1.49      16.31
       2.26   198.26    .132E+06     136.7          1.52      16.07
       2.71   198.71    .193E+06     212.4          1.61      15.11
       3.15   199.15    .257E+06     307.3          1.75      13.94
       3.59   199.59    .327E+06     395.1          1.76      13.80
       4.03   200.03    .412E+06     531.2          1.88      12.93
       4.47   200.47    .500E+06     686.6          2.00      12.15
       4.91   200.91    .593E+06     861.3          2.12      11.47
       5.35   201.35    .689E+06    1054.9          2.24      10.88
       5.79   201.79    .789E+06    1267.4          2.35      10.37
       6.24   202.24    .892E+06    1504.2          2.46       9.88
       6.68   202.68    .998E+06    1760.2          2.57       9.45
       7.12   203.12    .111E+07    2034.9          2.68       9.07
       7.56   203.56    .122E+07    2328.5          2.79       8.73
       8.00   204.00    .133E+07    2640.8          2.89       8.42

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK  R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)  (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2242) 7578.93    71.72    7.25  34.97      1.72      1.53
     OUTFLOW: ID= 1 (5551) 7578.93    70.78    7.50  34.97      1.70      1.54


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--------------------
| CALIB            |
| NASHYD    (0551) |   Area    (ha)=  27.37   Curve Number   (CN)= 79.1
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```
|ID= 1 DT=15.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.31

     Unit Hyd Qpeak  (cms)=   3.405

     PEAK FLOW       (cms)=   1.351 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  32.233
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.441

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2551) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0551):    27.37   1.351     5.25    32.23
        + ID2= 2 (5551):  7578.93  70.778     7.50    34.97
          ================================================
          ID = 3 (2551):  7606.30  71.001     7.50    34.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0554) |   Area    (ha)=  16.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  39.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.06         8.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.30
     Length            (m)=     327.92        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        36.20
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.60 (ii)   37.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.59         0.57         1.115 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      72.10        52.45         60.11
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.72          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9099) |
| Inlet Cap.=***** |
```

#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	16.13	1.12	5.25	60.11	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	16.13	1.12	5.25	60.11	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6099)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1500	2.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9099)	16.130	1.115	5.25	60.11
OUTFLOW: ID= 1 (6099)	16.130	0.062	9.50	59.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.60
TIME SHIFT OF PEAK FLOW (min)=255.00
MAXIMUM STORAGE USED (ha.m.)= 0.8325

ADD HYD (4099)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G :	HYDROGRAPH 9099 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6099):	16.13	0.062	9.50	59.90	
+ ID2= 2 (9099):	0.00	0.000	0.00	0.00	
ID = 3 (4099):	16.13	0.062	9.50	59.90	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1230)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2551):	7606.30	71.001	7.50	34.96
+ ID2= 2 (4099):	16.13	0.062	9.50	59.90
ID = 3 (1230):	7622.43	71.060	7.50	35.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5230)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5230.0) ------>

Distance	Elevation	Manning

0.00	206.83	0.1110
4.14	206.00	0.1110
22.63	198.67	0.1110
36.40	196.50	0.1110
112.13	195.70	0.1110
118.23	195.50	0.1110
122.94	195.00	0.1110
123.65	194.50	0.1110 /0.0490 Main Channel
123.86	194.36	0.0490 Main Channel
135.37	194.41	0.0490 Main Channel
135.47	194.41	0.0490 Main Channel
135.58	194.50	0.0490 /0.1110 Main Channel
136.38	195.21	0.1110
163.77	196.50	0.1110
176.41	197.50	0.1110
187.00	199.50	0.1110
197.29	200.50	0.1110
222.22	205.14	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	194.50	.102E+04	0.3	0.22	57.77
0.70	195.06	.639E+04	5.8	0.69	18.34
1.26	195.62	.149E+05	16.6	0.84	14.95
1.82	196.18	.395E+05	36.4	0.70	18.12
2.38	196.74	.894E+05	77.0	0.65	19.35
2.94	197.30	.147E+06	141.7	0.73	17.35
3.50	197.86	.210E+06	227.1	0.82	15.39
4.06	198.42	.275E+06	331.5	0.91	13.82
4.62	198.98	.343E+06	455.0	1.00	12.55
5.18	199.54	.412E+06	596.4	1.09	11.52
5.74	200.10	.485E+06	751.0	1.17	10.75
6.30	200.66	.560E+06	924.2	1.25	10.09
6.86	201.22	.637E+06	1117.9	1.33	9.50
7.42	201.78	.716E+06	1327.9	1.40	8.99
7.98	202.34	.797E+06	1554.0	1.47	8.55
8.54	202.90	.880E+06	1796.2	1.54	8.17
9.10	203.46	.965E+06	2054.2	1.61	7.83
9.66	204.02	.105E+07	2328.1	1.67	7.53
10.22	204.58	.114E+07	2617.9	1.74	7.26

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1230)	7622.43	71.06	7.50	35.01	2.30	0.66
OUTFLOW: ID= 1 (5230)	7622.43	69.67	7.75	35.01	2.27	0.66

CALIB			
STANDHYD (0230)	Area (ha)=	73.89	
ID= 1 DT=15.0 min	Total Imp(%)=	28.00	Dir. Conn.(%)= 22.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.69	53.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.40
Length	(m)=	701.85	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	28.55

over (min)		15.00	30.00		
Storage Coeff. (min)=		9.60 (ii)	54.60 (ii)		
Unit Hyd. Tpeak (min)=		15.00	60.00		
Unit Hyd. peak (cms)=		0.09	0.02		
				TOTALS	
PEAK FLOW	(cms)=	1.52	2.34	3.301 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME	(mm)=	72.10	44.78	50.79	
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT	=	0.99	0.61	0.69	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2230)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0230):	73.89	3.301	5.25	50.79
+ ID2= 2 (5230):	7622.43	69.674	7.75	35.01
ID = 3 (2230):	7696.32	70.802	7.75	35.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0561)	Area (ha)=	20.84	
ID= 1 DT=15.0 min	Total Imp(%)=	55.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	11.46	9.38		
Dep. Storage	(mm)=	1.00	4.00		
Average Slope	(%)=	1.00	1.80		
Length	(m)=	372.74	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		33.63	32.36		
over (min)		15.00	30.00		
Storage Coeff. (min)=		8.40 (ii)	49.80 (ii)		
Unit Hyd. Tpeak (min)=		15.00	45.00		
Unit Hyd. peak (cms)=		0.09	0.02		
				TOTALS	
PEAK FLOW	(cms)=	0.97	0.52	1.445 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.50	5.25	
RUNOFF VOLUME	(mm)=	72.10	50.90	61.50	
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT	=	0.99	0.70	0.84	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9561)					
Inlet Cap.=0.850					
#of Inlets= 1					
Total(cms)= 0.9	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	20.84	1.45	5.25	61.50	
MAJOR SYS.(ID= 2):	2.40	0.60	5.25	61.50	
MINOR SYS.(ID= 3):	18.44	0.85	4.50	61.50	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2230):	7696.32	70.802	7.75	35.16
+ ID2= 2 (9561):	18.44	0.850	4.50	61.50
ID = 3 (****):	7714.76	71.063	7.75	35.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5389)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5389.0) ------>

Distance	Elevation	Manning
0.00	199.34	0.1110
3.25	198.31	0.1110
8.26	194.50	0.1110
12.49	192.78	0.1110
35.23	192.57	0.1110
45.14	192.86	0.1110
56.75	192.19	0.1110
64.87	192.00	0.1110
86.92	192.00	0.1110
87.41	191.50	0.1110
87.93	191.00	0.1110
88.41	190.96	0.1110 /0.0490 Main Channel
89.77	190.00	0.0490 Main Channel
93.81	190.00	0.0490 Main Channel
95.69	190.80	0.0490 Main Channel
96.61	191.00	0.0490 /0.1110 Main Channel
98.47	191.50	0.1110
113.20	193.50	0.1110
129.63	197.50	0.1110
129.73	197.53	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	190.32	.222E+04	0.9	0.58	42.60
0.64	190.64	.502E+04	2.9	0.87	28.76
0.96	190.96	.843E+04	5.9	1.05	23.65

1.37	191.37	.142E+05	12.9	1.35	18.41
1.78	191.78	.214E+05	22.3	1.55	16.04
2.19	192.19	.382E+05	35.0	1.37	18.18
2.60	192.60	.702E+05	55.8	1.19	20.95
3.01	193.01	.124E+06	87.2	1.05	23.68
3.42	193.42	.185E+06	135.4	1.09	22.78
3.83	193.83	.248E+06	195.9	1.18	21.14
4.24	194.24	.313E+06	267.3	1.27	19.55
4.66	194.66	.380E+06	349.2	1.37	18.15
5.07	195.07	.448E+06	441.3	1.47	16.93
5.48	195.48	.518E+06	542.9	1.57	15.90
5.89	195.89	.589E+06	653.9	1.66	15.00
6.30	196.30	.661E+06	773.9	1.75	14.23
6.71	196.71	.734E+06	902.9	1.84	13.56
7.12	197.12	.809E+06	1040.7	1.92	12.96
7.53	197.53	.886E+06	1187.4	2.00	12.43

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (****)	7714.76	71.06	7.75	35.23	2.80	1.12
OUTFLOW: ID= 1 (5389)	7714.76	69.56	8.25	35.23	2.78	1.13

CALIB	
STANDHYD (0389)	Area (ha)= 77.16
ID= 1 DT=15.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	18.52	58.64
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.50
Length (m)=	717.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.68
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.73 2.18 3.615 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	72.10 39.42 47.26
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.54 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2389)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0389):	77.16	3.615	5.25	47.26
+ ID2= 2 (5389):	7714.76	69.561	8.25	35.23
ID = 3 (2389):	7791.92	70.346	8.25	35.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5680)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5680.0) ------>

Distance	Elevation	Manning	
0.00	192.05	0.1110	
4.42	191.50	0.1110	
19.11	187.00	0.1110	
24.86	186.33	0.1110	
30.83	186.31	0.1110	
36.85	186.50	0.1110	
56.81	186.50	0.1110	
63.15	186.00	0.1110	
73.63	186.00	0.1110	
74.48	185.90	0.1110 /0.0490	Main Channel
75.36	184.90	0.0490	Main Channel
82.36	184.90	0.0490	Main Channel
83.09	185.85	0.0490 /0.1110	Main Channel
83.24	185.85	0.1110	
96.38	186.50	0.1110	
112.87	191.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	185.22	.230E+04	1.5	0.64	26.12
0.63	185.53	.476E+04	4.6	0.97	17.18
0.95	185.85	.739E+04	9.1	1.22	13.61
1.33	186.23	.150E+05	17.5	1.16	14.35
1.70	186.60	.339E+05	31.6	0.93	17.88
2.08	186.98	.626E+05	58.2	0.93	17.92
2.45	187.35	.925E+05	94.4	1.02	16.33
2.83	187.73	.123E+06	139.1	1.13	14.79
3.20	188.10	.155E+06	191.4	1.23	13.51
3.58	188.48	.188E+06	251.2	1.34	12.47
3.96	188.86	.221E+06	318.1	1.44	11.60
4.33	189.23	.256E+06	392.0	1.53	10.88
4.71	189.61	.291E+06	472.7	1.62	10.27
5.08	189.98	.328E+06	560.2	1.71	9.74
5.46	190.36	.365E+06	654.4	1.79	9.29
5.83	190.73	.403E+06	755.2	1.87	8.89
6.21	191.11	.442E+06	862.6	1.95	8.53
6.58	191.48	.482E+06	976.5	2.03	8.22
6.96	191.86	.523E+06	1088.5	2.08	8.00

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2389)	7791.92	70.35	8.25	35.35	2.20	0.96
OUTFLOW: ID= 1 (5680)	7791.92	69.83	8.50	35.35	2.19	0.96

CALIB	
STANDHYD (0680)	Area (ha)= 29.70
ID= 1 DT=15.0 min	Total Imp(%)= 19.00 Dir. Conn.(%)= 19.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.64	24.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.80
Length (m)=	444.97	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.68
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	34.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.53 1.10 1.621 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	72.10 39.42 45.63
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.54 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2680)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0680):	29.70	1.621	5.25	45.63
+ ID2= 2 (5680):	7791.92	69.832	8.50	35.35
ID = 3 (2680):	7821.62	70.026	8.50	35.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0215)	Area (ha)= 168.73
ID= 1 DT=15.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 52.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.86	70.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.80
Length (m)=	1060.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	34.18
over (min)	15.00	30.00
Storage Coeff. (min)=	15.60 (ii)	91.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00

		TOTALS
Unit Hyd. peak	(cms)=	0.07 0.01
PEAK FLOW	(cms)=	8.09 2.96 9.669 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	72.10 52.89 62.88
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.72 0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5563)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5563.0) ------>

Distance	Elevation	Manning	
0.00	191.36	0.1110	
14.77	191.00	0.1110	
25.44	190.67	0.1110	
80.93	190.90	0.1110	
145.10	190.42	0.1110	
212.09	190.83	0.1110	
285.12	189.56	0.1110	
295.52	188.71	0.1110	
307.38	188.32	0.1110	
307.51	188.31	0.1110	
312.32	188.04	0.1110 /0.0490	Main Channel
317.15	187.12	0.0490	Main Channel
321.73	188.01	0.0490 /0.1110	Main Channel
327.33	189.06	0.1110	
328.00	189.07	0.1110	
347.82	189.58	0.1110	
348.77	189.58	0.1110	
359.57	189.55	0.1110	
452.50	191.17	0.1110	
496.50	191.28	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	187.30	.208E+03	0.1	0.42	50.17
0.36	187.48	.832E+03	0.4	0.67	31.60
0.53	187.65	.187E+04	1.3	0.87	24.12
0.71	187.83	.333E+04	2.8	1.06	19.91
0.89	188.01	.520E+04	5.1	1.23	17.16
1.12	188.24	.862E+04	10.3	1.51	13.96
1.36	188.48	.138E+05	17.5	1.60	13.14
1.59	188.71	.214E+05	27.2	1.61	13.11
1.82	188.94	.309E+05	40.1	1.64	12.84
2.06	189.18	.419E+05	55.2	1.67	12.64
2.29	189.41	.561E+05	74.0	1.66	12.65
2.52	189.64	.755E+05	94.5	1.58	13.32
2.76	189.88	.104E+06	122.0	1.47	14.28
2.99	190.11	.141E+06	158.7	1.42	14.85
3.23	190.35	.186E+06	205.5	1.39	15.10
3.46	190.58	.244E+06	249.0	1.29	16.31
3.69	190.81	.332E+06	310.8	1.18	17.80

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   3.93   191.05    .455E+06     425.1          1.18      17.82
   4.16   191.28    .588E+06     551.2          1.18      17.79

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (0215)  168.73     9.67    5.25  62.88      1.10      1.47
OUTFLOW: ID= 1 (5563)  168.73     9.19    5.25  62.88      1.07      1.43


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--------------------
| CALIB                |
| STANDHYD  (0563)     |   Area    (ha)=  27.61
|ID= 1 DT=15.0 min     |   Total Imp(%)=  37.00   Dir. Conn.(%)=  37.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       10.22        17.39
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         3.90
     Length            (m)=      429.03        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        25.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   42.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.95         0.78          1.652 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      72.10        43.23         53.91
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.59          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2563)   |
|   1 +  2 =  3      |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0563):    27.61   1.652     5.25     53.91
       + ID2= 2 (5563):   168.73   9.190     5.25     62.88
         ================================================
         ID = 3 (2563):   196.34  10.842     5.25     61.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB                |
| STANDHYD  (0565)     |   Area    (ha)=  11.31
|ID= 1 DT=15.0 min     |   Total Imp(%)=  54.00   Dir. Conn.(%)=  54.00
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                              IMPERVIOUS    PERVIOUS (i)
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     Surface Area     (ha)=        6.11         5.20
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         2.20
     Length            (m)=      274.59        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        28.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.57         0.28          0.825 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      72.10        49.06         61.50
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.67          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9290)   |
| Inlet Cap.=*****   |
| #of Inlets=    1   |
| Total(cms)=*****   |      AREA     QPEAK     TPEAK    R.V.
--------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  11.31      0.82      5.25   61.50
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  11.31      0.82      5.25   61.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (6290)   |
| IN= 2---> OUT= 1   |
| DT= 15.0 min       |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000    |  0.6680      0.3357
                           0.0690     0.0792    |  0.9860      0.4276
                           0.2090     0.1615    |  1.3660      0.5226
                           0.4090     0.2471    |  0.0000      0.0000

                                AREA     QPEAK     TPEAK      R.V.
                                 (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9290)     11.310     0.825      5.25      61.50
     OUTFLOW: ID= 1 (6290)     11.310     0.449      5.75      61.48

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.40
               TIME SHIFT OF PEAK FLOW         (min)= 30.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.2615

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| ADD HYD   (4290)   |
|   1 +  2 =  3      |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9290 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6290):    11.31   0.449     5.75    61.48
       + ID2= 2 (9290):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4290):    11.31   0.449     5.75    61.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (3563)   |
|   1 +  2 =  3      |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2563):   196.34  10.842     5.25    61.62
       + ID2= 2 (4290):    11.31   0.449     5.75    61.48
         ================================================
         ID = 3 (3563):   207.65  11.232     5.25    61.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (3680)   |
|   1 +  2 =  3      |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2680):  7821.62  70.026     8.50    35.39
       + ID2= 2 (3563):   207.65  11.232     5.25    61.61
         ================================================
         ID = 3 (3680):  8029.27  72.880     8.25    36.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB                |
| STANDHYD  (****)     |   Area    (ha)=   0.60
|ID= 1 DT=15.0 min     |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.19         0.41
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00        13.50
     Length            (m)=       63.25        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        26.35
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02          0.041 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        44.60         53.10
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.61          0.73
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB                |
| STANDHYD  (****)     |   Area    (ha)=   1.60
|ID= 1 DT=15.0 min     |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.50         1.10
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00        13.50
     Length            (m)=      103.28        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        26.35
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.06          0.109 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        44.60         53.12
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.61          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB                |
| STANDHYD  (****)     |   Area    (ha)=  19.81
|ID= 1 DT=15.0 min     |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        6.14        13.67
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00        13.50
     Length            (m)=      363.41        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        26.35
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.57         0.77          1.345 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
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     RUNOFF VOLUME    (mm)=      72.10        44.60          53.13
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.61           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    19.81   1.345     5.25     53.13
       + ID2= 2 (****):     1.60   0.109     5.25     53.12
         ================================================
         ID = 3 (0405):    21.41   1.454     5.25     53.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0404) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0405):    21.41   1.454     5.25     53.12
       + ID2= 2 (****):     0.60   0.041     5.25     53.10
         ================================================
         ID = 3 (0404):    22.01   1.495     5.25     53.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| DUHYD    (9473) |
| Inlet Cap.=0.059 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  22.01      1.49      5.25   53.12
     ================================================
     MAJOR SYS.(ID= 2):  18.14      1.44      5.25   53.12
     MINOR SYS.(ID= 3):   3.87      0.06      2.50   53.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6473) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.0590      0.2565

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9473)      3.870     0.059      2.50      53.12
```



```
     OUTFLOW: ID= 1 (6473)      3.870      0.030     12.50      52.84

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.49
                   TIME SHIFT OF PEAK FLOW          (min)=600.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1324

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--------------------
| ADD HYD   (4473) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6473):     3.87   0.030    12.50    52.84
       + ID2= 2 (9473):    18.14   1.436     5.25    53.12
         ================================================
         ID = 3 (4473):    22.01   1.449     5.25    53.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1227) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3680):  8029.27  72.880     8.25    36.06
       + ID2= 2 (4473):    22.01   1.449     5.25    53.08
         ================================================
         ID = 3 (1227):  8051.28  73.022     8.25    36.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5227) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5227.0) ------>
               Distance      Elevation       Manning
                   0.00         183.10        0.1110
                   2.58         183.12        0.1110
                  12.20         179.50        0.1110
                  18.00         179.50        0.1110
                  24.51         179.00        0.1110
                  31.60         179.00        0.1110
                  36.79         179.37        0.1110
                  53.69         179.00    0.1110 /0.0490  Main Channel
                  55.00         178.00        0.0490      Main Channel
                  68.00         178.00        0.0490      Main Channel
                  69.17         179.00    0.0490 /0.1110  Main Channel
                  81.13         179.50        0.1110
                 103.11         179.50        0.1110
                 130.08         180.00        0.1110
                 146.16         180.75        0.1110
                 171.96         185.35        0.1110

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.25   178.25    .765E+04       2.3         0.70       54.53
       0.50   178.50    .157E+05       7.4         1.09       35.12
       0.75   178.75    .240E+05      14.6         1.40       27.35
       1.00   179.00    .327E+05      23.7         1.67       23.01
```



```
       1.27   179.27    .552E+05      37.9          1.58      24.27
       1.55   179.55    .952E+05      58.0          1.40      27.36
       1.82   179.82    .159E+06      89.5          1.29      29.60
       2.09   180.09    .232E+06     131.2          1.30      29.46
       2.37   180.37    .310E+06     183.3          1.36      28.21
       2.64   180.64    .393E+06     244.7          1.43      26.77
       2.91   180.91    .479E+06     316.3          1.52      25.24
       3.19   181.19    .567E+06     397.7          1.61      23.76
       3.46   181.46    .656E+06     487.5          1.71      22.43
       3.73   181.73    .747E+06     585.4          1.80      21.26
       4.01   182.01    .839E+06     691.2          1.89      20.23
       4.28   182.28    .933E+06     804.7          1.98      19.32
       4.55   182.55    .103E+07     925.7          2.07      18.50
       4.83   182.83    .112E+07    1054.1          2.16      17.77
       5.10   183.10    .122E+07    1189.9          2.24      17.11

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1227) 8051.28    73.02    8.25  36.11      1.68      1.35
     OUTFLOW: ID= 1 (5227) 8051.28    71.15    9.00  36.11      1.66      1.35

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  91.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       29.38         62.44
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.60
     Length            (m)=     782.39         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       33.63         24.33
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       10.20 (ii)    60.60 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.09          0.02
                                                          *TOTALS*
     PEAK FLOW        (cms)=        2.74          2.17          4.339 (iii)
     TIME TO PEAK     (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME     (mm)=       72.10         40.64          50.71
     TOTAL RAINFALL    (mm)=       73.10         73.10          73.10
     RUNOFF COEFFICIENT   =        0.99          0.56           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   4.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
```



```
     Surface Area     (ha)=        1.38          2.92
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.60
     Length            (m)=     169.31         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       33.63         24.33
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       10.20 (ii)    60.60 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.09          0.02
                                                          *TOTALS*
     PEAK FLOW        (cms)=        0.13          0.10           0.203 (iii)
     TIME TO PEAK     (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME     (mm)=       72.10         40.64          50.70
     TOTAL RAINFALL    (mm)=       73.10         73.10          73.10
     RUNOFF COEFFICIENT   =        0.99          0.56           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  12.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        3.99          8.49
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.60
     Length            (m)=     288.44         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       33.63         24.33
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       10.20 (ii)    60.60 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.09          0.02
                                                          *TOTALS*
     PEAK FLOW        (cms)=        0.37          0.30           0.590 (iii)
     TIME TO PEAK     (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME     (mm)=       72.10         40.64          50.71
     TOTAL RAINFALL    (mm)=       73.10         73.10          73.10
     RUNOFF COEFFICIENT   =        0.99          0.56           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0359) |
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1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	12.48	0.590	5.25	50.71
+ ID2= 2 (****):	4.30	0.203	5.25	50.70
ID = 3 (0359):	16.78	0.793	5.25	50.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0358)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0359):	16.78	0.793	5.25	50.71
+ ID2= 2 (****):	91.82	4.339	5.25	50.71
ID = 3 (0358):	108.60	5.132	5.25	50.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2227)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0358):	108.60	5.132	5.25	50.71
+ ID2= 2 (5227):	8051.28	71.152	9.00	36.11
ID = 3 (2227):	8159.88	71.996	8.75	36.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0197) | Area (ha)= 124.38
ID= 1 DT=15.0 min | Total Imp(%)= 67.00 Dir. Conn.(%)= 62.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	83.33	41.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	910.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	35.17
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	7.16 2.00 8.452 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	72.10 54.59 65.45
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.75 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0183) | Area (ha)= 74.89
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	63.66	11.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	706.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	31.77
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	67.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	5.93 0.55 6.367 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	72.10 57.90 69.97
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.79 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1191)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0183):	74.89	6.367	5.25	69.97
+ ID2= 2 (0197):	124.38	8.452	5.25	65.45
ID = 3 (1191):	199.27	14.820	5.25	67.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5191)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5191.0) ------>

Distance	Elevation	Manning
0.00	206.09	0.1110
41.11	202.34	0.1110
69.44	202.09	0.1110
120.54	202.43	0.1110
159.64	202.06	0.1110

176.80	201.18	0.1110		
193.03	197.88	0.1110		
193.97	197.91	0.1110 /0.0490	Main Channel	
202.84	197.45	0.0490	Main Channel	
207.88	196.02	0.0490 /0.1110	Main Channel	
219.68	198.15	0.1110		
226.18	199.27	0.1110		
252.21	200.52	0.1110		
288.65	200.95	0.1110		
324.33	200.78	0.1110		
336.83	201.55	0.1110		
350.63	201.56	0.1110		
407.58	202.86	0.1110		
457.84	201.67	0.1110		
478.94	202.83	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	196.38	.805E+03	0.2	0.26	88.04
0.72	196.74	.322E+04	1.0	0.42	55.46
1.08	197.10	.724E+04	2.9	0.54	42.32
1.43	197.45	.129E+05	6.1	0.66	35.09
1.79	197.81	.215E+05	10.3	0.66	34.83
2.15	198.17	.344E+05	20.5	0.83	27.92
2.51	198.53	.493E+05	35.2	0.99	23.31
2.87	198.89	.661E+05	53.8	1.13	20.47
3.23	199.25	.848E+05	76.3	1.24	18.53
3.58	199.60	.107E+06	99.7	1.29	17.82
3.94	199.96	.133E+06	128.8	1.34	17.20
4.30	200.32	.164E+06	163.8	1.38	16.67
4.66	200.68	.201E+06	198.9	1.37	16.81
5.02	201.04	.260E+06	234.3	1.24	18.51
5.38	201.40	.337E+06	305.3	1.25	18.42
5.73	201.75	.425E+06	376.5	1.22	18.83
6.09	202.11	.535E+06	456.7	1.18	19.53
6.45	202.47	.701E+06	555.9	1.10	21.03
6.81	202.83	.909E+06	714.3	1.09	21.22

	AREA (ha)	QPEAK (cms)	<---- hydrograph ----> TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1191)	199.27	14.82	5.25	67.15	1.95	0.72
OUTFLOW: ID= 1 (5191)	199.27	12.05	5.25	67.14	1.85	0.68

CALIB
STANDHYD (0191) | Area (ha)= 162.87
ID= 1 DT=15.0 min | Total Imp(%)= 82.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	133.55	29.32
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	1042.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	33.10
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	78.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00

			TOTALS
Unit Hyd. peak	(cms)=	0.08	0.01
PEAK FLOW	(cms)=	12.24	1.35 13.129 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	72.10	56.74 69.18
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.78 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2191)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0191):	162.87	13.129	5.25	69.18
+ ID2= 2 (5191):	199.27	12.053	5.25	67.14
ID = 3 (2191):	362.14	25.182	5.25	68.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5214)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5214.0) ------>

Distance	Elevation	Manning		
0.00	190.50	0.1110		
2.09	189.13	0.1110		
13.57	187.20	0.1110		
23.54	186.97	0.1110 /0.0490	Main Channel	
26.84	186.32	0.0490	Main Channel	
27.21	186.25	0.0490	Main Channel	
31.31	187.11	0.0490 /0.1110	Main Channel	
35.60	187.49	0.1110		
46.65	189.04	0.1110		
49.91	188.81	0.1110		
63.03	189.57	0.1110		
78.54	190.45	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	186.43	.305E+03	0.1	0.37	85.15
0.36	186.61	.121E+04	0.4	0.59	53.70
0.54	186.79	.272E+04	1.1	0.77	41.01
0.72	186.97	.484E+04	2.4	0.93	33.86
0.95	187.20	.104E+05	5.6	1.01	31.17
1.18	187.43	.196E+05	11.1	1.07	29.32
1.42	187.67	.303E+05	18.7	1.17	27.02
1.65	187.90	.424E+05	28.2	1.26	25.01
1.88	188.13	.558E+05	39.8	1.35	23.38
2.11	188.36	.705E+05	53.3	1.43	22.05
2.34	188.59	.866E+05	68.9	1.50	20.94

2.58	188.83	.104E+06	86.4	1.57	20.06
2.81	189.06	.125E+06	104.5	1.58	19.87
3.04	189.29	.148E+06	128.2	1.63	19.28
3.27	189.52	.174E+06	155.0	1.68	18.70
3.50	189.75	.201E+06	184.8	1.73	18.17
3.74	189.99	.231E+06	217.7	1.78	17.68
3.97	190.22	.262E+06	253.8	1.83	17.24
4.20	190.45	.296E+06	293.1	1.87	16.82

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2191)	362.14	25.18	5.25	68.06	1.57	1.23
OUTFLOW: ID= 1 (5214)	362.14	21.33	5.50	68.06	1.48	1.19

CALIB
STANDHYD (0214) | Area (ha)= 38.36
ID= 1 DT=15.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.18	19.18
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.80
Length	(m)=	505.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	27.73
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.79 0.95 2.645 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	72.10 47.51 59.81
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.65 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2214)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0214):	38.36	2.645	5.25	59.81
+ ID2= 2 (5214):	362.14	21.333	5.50	68.06
ID = 3 (2214):	400.50	23.408	5.25	67.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0134) | Area (ha)= 24.26
ID= 1 DT=15.0 min | Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.95	6.31
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	402.16	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	30.50
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.68 0.35 1.992 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	72.10 54.12 67.43
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.74 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9313)
Inlet Cap.=8.700
#of Inlets= 1
Total(cms)= 8.7

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.26	1.99	5.25	67.43
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	24.26	1.99	5.25	67.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6313)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1050	0.6800
0.1030	0.5950	8.7000	0.9200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9313)	24.260	1.992	5.25	67.43
OUTFLOW: ID= 1 (6313)	24.260	2.247	5.25	67.37

PEAK FLOW REDUCTION [Qout/Qin](%)=112.83
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.7518

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (4313)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9313 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6313):	24.26	2.247	5.25	67.37
+ ID2= 2 (9313):	0.00	0.000	0.00	0.00
ID = 3 (4313):	24.26	2.247	5.25	67.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3214)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2214):	400.50	23.408	5.25	67.27
+ ID2= 2 (4313):	24.26	2.247	5.25	67.37
ID = 3 (3214):	424.76	25.655	5.25	67.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0189) | Area (ha)= 116.03
ID= 1 DT=15.0 min | Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	85.86	30.17
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.20
Length	(m)=	879.51	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	30.50
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	8.00 1.41 9.110 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	72.10 54.12 67.43
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.74 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5200)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5200.0) ------>

Distance	Elevation	Manning	
0.00	193.37	0.1110	
17.44	193.51	0.1110	
50.09	193.00	0.1110	
90.09	192.83	0.1110	
121.68	192.17	0.1110	
128.93	192.61	0.1110	
141.32	191.78	0.1110	
147.98	191.88	0.1110	
197.61	189.48	0.1110 /0.0490	Main Channel
204.01	189.06	0.0490	Main Channel
205.40	188.96	0.0490	Main Channel
211.29	189.53	0.0490 /0.1110	Main Channel
222.97	191.23	0.1110	
226.70	191.10	0.1110	
263.00	191.03	0.1110	
355.09	192.45	0.1110	
382.19	192.49	0.1110	
383.02	192.49	0.1110	
396.28	192.31	0.1110	
520.20	195.65	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	189.13	.489E+03	0.1	0.39	56.62
0.35	189.31	.199E+04	0.9	0.62	35.61
0.52	189.48	.451E+04	2.8	0.82	27.13
0.76	189.72	.990E+04	8.6	1.15	19.26
1.01	189.97	.175E+05	17.5	1.33	16.62
1.25	190.21	.272E+05	29.7	1.45	15.26
1.49	190.45	.391E+05	45.3	1.54	14.36
1.74	190.70	.531E+05	64.6	1.62	13.70
1.98	190.94	.693E+05	87.8	1.68	13.16
2.22	191.18	.945E+05	112.8	1.59	13.96
2.47	191.43	.133E+06	151.5	1.51	14.68
2.71	191.67	.179E+06	199.9	1.48	14.95
2.95	191.91	.233E+06	253.7	1.45	15.28
3.19	192.15	.294E+06	326.4	1.47	15.02
3.44	192.40	.365E+06	396.3	1.44	15.34
3.68	192.64	.457E+06	480.9	1.40	15.85
3.92	192.88	.561E+06	600.7	1.42	15.57
4.17	193.13	.680E+06	737.3	1.44	15.37
4.41	193.37	.808E+06	909.7	1.50	14.81

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0189)	116.03	9.11	5.25	67.43	0.78	1.16
OUTFLOW: ID= 1 (5200)	116.03	8.72	5.25	67.42	0.77	1.15

CALIB

```
| STANDHYD  (0200) |   Area    (ha)=  47.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.50         9.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     562.91        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        31.16
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   55.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.59         0.47          3.967 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      72.10        55.97         69.03
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.77          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2200) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0200):    47.53   3.967     5.25     69.03
       + ID2= 2 (5200):   116.03   8.717     5.25     67.42
         ================================================
         ID = 3 (2200):   163.56  12.684     5.25     67.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1650) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2200):   163.56  12.684     5.25     67.89
       + ID2= 2 (3214):   424.76  25.655     5.25     67.27
         ================================================
         ID = 3 (1650):   588.32  38.339     5.25     67.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5650) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (5650.0) ------>
               Distance      Elevation       Manning
```



```
                0.00        186.99        0.1110
                0.62        186.98        0.1110
               54.47        185.71        0.1110
               69.34        182.09    0.1110 /0.0490  Main Channel
               71.18        181.64       0.0490       Main Channel
               73.43        182.23    0.0490 /0.1110  Main Channel
               82.69        184.73        0.1110
               87.60        185.04        0.1110
              110.20        184.66        0.1110
              129.32        184.73        0.1110
              164.79        185.85        0.1110
              170.26        185.86        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.15   181.79    .249E+02        0.0         0.18       26.45
       0.30   181.94    .997E+02        0.1         0.28       16.66
       0.45   182.09    .224E+03        0.3         0.37       12.71
       0.69   182.33    .521E+03        1.0         0.53        8.87
       0.92   182.56    .939E+03        2.1         0.63        7.37
       1.16   182.80    .148E+04        3.7         0.70        6.65
       1.39   183.03    .214E+04        5.7         0.75        6.21
       1.63   183.27    .292E+04        8.3         0.79        5.90
       1.86   183.50    .383E+04       11.3         0.83        5.65
       2.10   183.74    .486E+04       14.9         0.86        5.44
       2.34   183.98    .600E+04       19.0         0.89        5.26
       2.57   184.21    .727E+04       23.7         0.92        5.10
       2.81   184.45    .866E+04       29.1         0.94        4.96
       3.04   184.68    .102E+05       33.4         0.92        5.09
       3.28   184.92    .138E+05       39.5         0.80        5.82
       3.51   185.15    .190E+05       50.2         0.74        6.31
       3.75   185.39    .250E+05       64.4         0.72        6.46
       3.98   185.62    .315E+05       81.4         0.72        6.45
       4.22   185.86    .387E+05       96.4         0.70        6.69

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1650)  588.32    38.34    5.25  67.45      3.23      0.82
     OUTFLOW: ID= 1 (5650)  588.32    35.60    5.25  67.45      3.13      0.87

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-------------------
| CALIB             |
| STANDHYD  (0650) |   Area    (ha)=  10.55
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.59         4.96
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     265.20        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.04
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       5.40 (ii)   33.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.52         0.27          0.794 (iii)
```



```
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        46.03         59.84
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.63          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2650) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0650):    10.55   0.794     5.25     59.84
       + ID2= 2 (5650):   588.32  35.596     5.25     67.45
         ================================================
         ID = 3 (2650):   598.87  36.390     5.25     67.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0187) |   Area    (ha)= 103.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      83.83        19.66
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.10
     Length            (m)=     830.66        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        31.16
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.20 (ii)   76.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       7.78         0.86          8.339 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      72.10        55.97         69.03
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.77          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2187) |
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```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0187):   103.50  8.339     5.25     69.03
       + ID2= 2 (2650):   598.87  36.390     5.25     67.31
         ================================================
         ID = 3 (2187):   702.37  44.729     5.25     67.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0212) |   Area    (ha)=  14.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.38        10.71
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.60
     Length            (m)=     306.49        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.99
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.40 (ii)   31.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.32         0.54          0.857 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        41.91         49.16
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.57          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| DUHYD     (9474) |
| Inlet Cap.=0.031 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  14.09      0.86      5.25   49.16
     ================================================
     MAJOR SYS.(ID= 2):  11.79      0.83      5.25   49.16
     MINOR SYS.(ID= 3):   2.30      0.03      2.50   49.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (6474) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0310     0.1340
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9474)	2.303	0.031	2.50	49.16
OUTFLOW: ID= 1 (6474)	2.303	0.017	12.50	48.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.48
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.0730

ADD HYD (4474)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6474):	2.30	0.017	12.50	48.69
+ ID2= 2 (9474):	11.79	0.826	5.25	49.16
ID = 3 (4474):	14.09	0.832	5.25	49.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1210)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2187):	702.37	44.729	5.25	67.57
+ ID2= 2 (4474):	14.09	0.832	5.25	49.08
ID = 3 (1210):	716.46	45.561	5.25	67.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5210)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5210.0) ------>

Distance	Elevation	Manning	
0.00	186.99	0.1110	
0.62	186.98	0.1110	
54.47	185.71	0.1110	
69.34	182.09	0.1110 /0.0490	Main Channel
71.18	181.64	0.0490	Main Channel
73.43	182.23	0.0490 /0.1110	Main Channel
82.69	184.73	0.1110	
87.60	185.04	0.1110	
110.20	184.66	0.1110	
129.32	184.73	0.1110	
164.79	185.85	0.1110	
170.26	185.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	181.79	.140E+03	0.0	0.24	111.40
0.30	181.94	.561E+03	0.1	0.37	70.18
0.45	182.09	.126E+04	0.4	0.49	53.56
0.69	182.33	.293E+04	1.3	0.70	37.38

0.92	182.56	.528E+04	2.8	0.85	31.04
1.16	182.80	.832E+04	4.9	0.94	28.03
1.39	183.03	.120E+05	7.7	1.00	26.17
1.63	183.27	.164E+05	11.0	1.06	24.84
1.86	183.50	.215E+05	15.1	1.10	23.79
2.10	183.74	.273E+05	19.8	1.15	22.92
2.34	183.98	.338E+05	25.4	1.19	22.17
2.57	184.21	.409E+05	31.7	1.22	21.50
2.81	184.45	.487E+05	38.8	1.26	20.91
3.04	184.68	.573E+05	44.5	1.22	21.46
3.28	184.92	.774E+05	52.7	1.07	24.50
3.51	185.15	.107E+06	67.1	0.99	26.57
3.75	185.39	.140E+06	86.0	0.97	27.21
3.98	185.62	.177E+06	108.6	0.97	27.17
4.22	185.86	.218E+06	128.7	0.93	28.18

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1210)	716.46	45.56	5.25	67.20	3.07	1.20
OUTFLOW: ID= 1 (5210)	716.46	40.13	5.50	67.20	2.86	1.25

CALIB
STANDHYD (****) Area (ha)= 20.85
ID= 1 DT=15.0 min Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.38	16.47
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	372.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.68
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS	
PEAK FLOW (cms)=	0.41	0.59	0.845 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	72.10	39.42	46.28
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.54	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) Area (ha)= 1.40
ID= 1 DT=15.0 min Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

IMPERVIOUS PERVIOUS (i)

Surface Area (ha)=	0.29	1.11		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	3.70		
Length (m)=	96.61	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	33.63	23.68		
over (min)	15.00	30.00		
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)		
Unit Hyd. Tpeak (min)=	15.00	60.00		
Unit Hyd. peak (cms)=	0.09	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.03	0.04	0.057 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	72.10	39.42	46.26	
TOTAL RAINFALL (mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT =	0.99	0.54	0.63	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0352)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	20.85	0.845	5.25	46.28
+ ID2= 2 (****):	1.40	0.057	5.25	46.26
ID = 3 (0352):	22.25	0.902	5.25	46.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) Area (ha)= 32.86
ID= 1 DT=15.0 min Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.90	25.96
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	468.05	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.68
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

			TOTALS
PEAK FLOW (cms)=	0.64	0.93	1.332 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	72.10	39.42	46.28
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.54	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0351)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):	22.25	0.902	5.25	46.28
+ ID2= 2 (****):	32.86	1.332	5.25	46.28
ID = 3 (0351):	55.11	2.234	5.25	46.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2210)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0351):	55.11	2.234	5.25	46.28
+ ID2= 2 (5210):	716.46	40.126	5.50	67.20
ID = 3 (2210):	771.57	41.999	5.50	65.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1431)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2210):	771.57	41.999	5.50	65.71
+ ID2= 2 (2227):	8159.88	71.996	8.75	36.30
ID = 3 (1431):	8931.45	82.154	8.25	38.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5431)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5431.0) ------>

Distance	Elevation	Manning
0.00	176.00	0.1110
18.09	175.90	0.1110
27.45	175.50	0.1110
47.50	172.50	0.1110
67.08	171.89	0.1110
142.45	171.74	0.1110
221.81	171.00	0.1110
241.52	171.00	0.1110

242.37	170.64	0.1110 /0.0490	Main Channel
242.71	170.00	0.0490	Main Channel
253.79	170.00	0.0490	Main Channel
256.58	170.50	0.0490 /0.1110	Main Channel
257.61	170.61	0.1110	
261.77	171.00	0.1110	
278.03	171.50	0.1110	
301.37	172.00	0.1110	
309.55	174.50	0.1110	
324.51	174.87	0.1110	
351.19	174.68	0.1110	
357.20	176.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	170.25	.704E+03	2.0	0.68	5.79
0.50	170.50	.150E+04	6.6	1.04	3.81
0.82	170.82	.273E+04	16.4	1.43	2.78
1.15	171.15	.528E+04	30.8	1.38	2.86
1.47	171.47	.117E+05	55.8	1.14	3.49
1.79	171.79	.218E+05	93.3	1.02	3.90
2.12	172.12	.393E+05	161.6	0.98	4.05
2.44	172.44	.584E+05	263.6	1.07	3.69
2.76	172.76	.781E+05	393.2	1.20	3.31
3.09	173.09	.981E+05	546.6	1.33	2.99
3.41	173.41	.118E+06	721.6	1.45	2.73
3.74	173.74	.139E+06	917.2	1.57	2.52
4.06	174.06	.160E+06	1132.4	1.69	2.35
4.38	174.38	.181E+06	1366.6	1.80	2.20
4.71	174.71	.202E+06	1590.5	1.87	2.12
5.03	175.03	.226E+06	1819.4	1.91	2.07
5.35	175.35	.251E+06	2124.7	2.01	1.97
5.68	175.68	.276E+06	2436.9	2.10	1.89
6.00	176.00	.302E+06	2681.4	2.11	1.88

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1431)	8931.45	82.15	8.25	38.84	1.70	1.05
OUTFLOW: ID= 1 (5431)	8931.45	82.15	8.50	38.84	1.70	1.05

CALIB	
STANDHYD (0431)	Area (ha)= 8.28
ID= 1 DT=15.0 min	Total Imp(%)= 22.00 Dir. Conn.(%)= 22.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.82	6.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	234.95	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	21.81
over (min)	15.00	30.00
Storage Coeff. (min)=	5.40 (ii)	30.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04
		TOTALS
PEAK FLOW (cms)=	0.17	0.28 0.450 (iii)

TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	36.01	43.95
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.49	0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2431)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0431):	8.28	0.450	5.25	43.95
	+ ID2= 2 (5431):	8931.45	82.147	8.50	38.84
	ID = 3 (2431):	8939.73	82.196	8.50	38.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5213)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5213.0) ------>

Distance	Elevation	Manning	
0.00	171.99	0.1110	
10.86	169.00	0.1110	
21.10	168.00	0.1110	
30.39	165.73	0.1110	
64.57	165.00	0.1110	
65.32	164.91	0.1110	
68.94	164.50	0.1110	
71.70	164.50	0.1110 /0.0490	Main Channel
71.83	163.50	0.0490	Main Channel
75.93	163.50	0.0490	Main Channel
76.19	164.48	0.0490 /0.1110	Main Channel
76.80	164.50	0.1110	
78.99	165.50	0.1110	
107.09	166.50	0.1110	
126.24	171.00	0.1110	
133.28	171.50	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	163.83	.319E+04	0.9	0.63	62.42
0.65	164.15	.647E+04	2.5	0.92	42.47
0.98	164.48	.986E+04	4.7	1.13	34.66
1.42	164.92	.201E+05	9.6	1.13	34.67
1.86	165.36	.410E+05	17.2	0.98	39.67
2.30	165.80	.862E+05	31.4	0.85	45.81
2.73	166.24	.152E+06	57.6	0.89	44.08
3.17	166.67	.232E+06	95.3	0.96	40.57
3.61	167.11	.317E+06	144.7	1.07	36.56
4.05	167.55	.407E+06	204.0	1.18	33.22

4.49	167.99	.500E+06	272.8	1.28	30.53
4.93	168.43	.598E+06	346.1	1.36	28.78
5.37	168.87	.702E+06	429.2	1.43	27.27
5.81	169.31	.813E+06	527.3	1.52	25.69
6.24	169.74	.927E+06	637.5	1.61	24.23
6.68	170.18	.104E+07	757.3	1.70	22.98
7.12	170.62	.117E+07	886.9	1.78	21.91
7.56	171.06	.129E+07	1023.7	1.86	21.01
8.00	171.50	.142E+07	1156.8	1.91	20.48

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2431)	8939.73	82.20	8.50	38.85	3.02	0.93
OUTFLOW: ID= 1 (5213)	8939.73	80.85	9.00	38.85	3.00	0.93

CALIB	
STANDHYD (0213)	Area (ha)= 101.69
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	50.85	50.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.80
Length (m)=	823.37	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.66
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	4.74	1.85 6.110 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	72.10	43.23 57.67
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.59 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2213)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0213):	101.69	6.110	5.25	57.67
	+ ID2= 2 (5213):	8939.73	80.848	9.00	38.85
	ID = 3 (2213):	9041.42	81.594	8.75	39.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0559)	Area (ha)= 35.17
ID= 1 DT=15.0 min	Total Imp(%)= 49.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.23	17.94
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	484.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	36.05
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	50.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	1.25	1.12 2.266 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	72.10	52.39 59.88
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.72 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2561)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0559):	35.17	2.266	5.25	59.88
	+ ID2= 2 (9561):	2.40	0.595	5.25	61.50
	ID = 3 (2561):	37.57	2.861	5.25	59.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9105)	
Inlet Cap.=*****	
#of Inlets= 1	
Total(cms)=*****	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	37.57	2.86	5.25	59.98
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	37.57	2.86	5.25	59.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6105)

IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.6400	0.3000	
	0.0990	0.0030	0.8600	0.4700	
	0.2100	0.0050	1.3200	0.7100	
	0.3400	0.0100	1.9000	0.9500	
	0.4600	0.0330	2.5600	1.2000	
	0.5600	0.1330	3.2000	1.4500	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9105)	37.575	2.861	5.25	59.98
OUTFLOW: ID= 1 (6105)	37.575	1.266	6.00	59.98

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.26
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.6838

ADD HYD (4105)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9105 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6105):	37.57	1.266	6.00	59.98
+ ID2= 2 (9105):	0.00	0.000	0.00	0.00
ID = 3 (4105):	37.57	1.266	6.00	59.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 3.04		
ID= 1 DT=15.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.73	2.31	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.60	
Length (m)=	142.36	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	24.33	
over (min)	15.00	15.00	
Storage Coeff. (min)=	3.60 (ii)	22.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.06	
			TOTALS
PEAK FLOW (cms)=	0.07	0.14	0.205 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	40.64	48.19
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.56	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9470)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.04	0.20	5.25	48.19
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.04	0.20	5.25	48.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6470)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0190	0.1800	
	0.0110	0.0490	0.4930	0.2300	
	0.0160	0.1130	2.4340	0.3150	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9470)	3.040	0.205	5.25	48.19
OUTFLOW: ID= 1 (6470)	3.040	0.016	8.50	47.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.84
TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 0.1147

ADD HYD (4470)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9470 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6470):	3.04	0.016	8.50	47.83
+ ID2= 2 (9470):	0.00	0.000	0.00	0.00
ID = 3 (4470):	3.04	0.016	8.50	47.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2568)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4105):	37.57	1.266	6.00	59.98
+ ID2= 2 (4470):	3.04	0.016	8.50	47.83
ID = 3 (2568):	40.61	1.281	6.00	59.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 3.77		
ID= 1 DT=15.0 min	Total Imp(%)= 49.00	Dir. Conn.(%)= 49.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	1.85	1.92	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.90	
Length (m)=	158.53	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	28.43	
over (min)	15.00	15.00	
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.11	0.04	
			TOTALS
PEAK FLOW (cms)=	0.17	0.12	0.295 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	49.06	60.35
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.67	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9471)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.77	0.30	5.25	60.35
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.77	0.30	5.25	60.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6471)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0110	0.1460	
	0.0050	0.0110	0.1620	0.1660	
	0.0090	0.0690	0.9650	0.2080	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9471)	3.770	0.295	5.25	60.35
OUTFLOW: ID= 1 (6471)	3.770	0.086	6.50	60.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.23
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.1565

ADD HYD (4471)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9471 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6471):	3.77	0.086	6.50	60.20
+ ID2= 2 (9471):	0.00	0.000	0.00	0.00
ID = 3 (4471):	3.77	0.086	6.50	60.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2605)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2568):	40.61	1.281	6.00	59.07
+ ID2= 2 (4471):	3.77	0.086	6.50	60.20
ID = 3 (2605):	44.38	1.361	6.25	59.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 128.50		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	57.83	70.68	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.60	
Length (m)=	925.56	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	26.35	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
			TOTALS
PEAK FLOW (cms)=	5.36	2.34	6.742 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	72.10	44.60	56.98
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.61	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	3.04	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.37	1.67
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	142.36	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	26.35
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	0.13	0.06 0.159 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	72.10	44.60 56.96
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.61 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	24.00	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.80	13.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	400.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	26.35
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	1.00	0.44 1.259 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	72.10	44.60 56.97
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.61 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0390)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	24.00	1.259	5.25	56.97
+ ID2= 2 (****):	3.04	0.159	5.25	56.96
ID = 3 (0390):	27.04	1.419	5.25	56.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0391)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0390):	27.04	1.419	5.25	56.97
+ ID2= 2 (****):	128.50	6.742	5.25	56.98
ID = 3 (0391):	155.54	8.160	5.25	56.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2603)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0391):	155.54	8.160	5.25	56.98
+ ID2= 2 (2605):	44.38	1.361	6.25	59.17
ID = 3 (2603):	199.92	9.153	5.25	57.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9961)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	199.92	9.15	5.25	57.46
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	199.92	9.15	5.25	57.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6961)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	5.7000	4.8500
	1.6000	3.9500	6.2000	5.1400
	3.4000	4.2400	7.2000	5.6300
	4.2000	4.4000	23.4500	7.4400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9961)	199.925	9.153	5.25	57.46
OUTFLOW: ID= 1 (6961)	199.925	5.056	6.75	57.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 55.24
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 4.6665

ADD HYD (4961)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9961 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6961):	199.92	5.056	6.75	57.46
+ ID2= 2 (9961):	0.00	0.000	0.00	0.00
ID = 3 (4961):	199.92	5.056	6.75	57.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5602)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5602.0) ------>

Distance	Elevation	Manning	
0.00	188.36	0.1110	
46.99	187.30	0.1110	
162.32	186.72	0.1110	
234.98	185.20	0.1110	
249.46	183.65	0.1110 /0.0490	Main Channel
254.33	182.64	0.0490	Main Channel
258.04	183.49	0.0490	Main Channel
258.31	183.51	0.0490	Main Channel
262.53	182.77	0.0490	Main Channel
262.63	182.75	0.0490	Main Channel
267.86	183.52	0.0490 /0.1110	Main Channel
270.83	183.61	0.1110	
286.95	183.40	0.1110	
289.09	183.46	0.1110	
298.71	185.52	0.1110	
325.92	186.31	0.1110	
406.09	185.45	0.1110	
529.18	187.66	0.1110	
556.31	187.61	0.1110	
804.52	190.22	0.1110	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	182.93	.360E+03	0.3	0.50	19.84
0.59	183.23	.179E+04	2.5	0.84	11.80
0.88	183.52	.478E+04	8.3	1.03	9.61
1.18	183.82	.119E+05	23.5	1.18	8.45
1.49	184.13	.200E+05	46.9	1.40	7.12
1.79	184.43	.289E+05	77.4	1.60	6.23
2.09	184.73	.386E+05	114.7	1.77	5.61
2.39	185.03	.490E+05	158.8	1.93	5.15
2.70	185.34	.604E+05	208.1	2.05	4.84
3.00	185.64	.761E+05	241.2	1.89	5.26
3.30	185.94	.103E+06	300.5	1.73	5.74
3.60	186.24	.143E+06	390.6	1.63	6.12
3.90	186.54	.194E+06	522.2	1.61	6.19
4.21	186.85	.251E+06	675.9	1.61	6.19
4.51	187.15	.321E+06	859.4	1.60	6.22
4.81	187.45	.403E+06	1099.0	1.63	6.11
5.11	187.75	.494E+06	1347.8	1.63	6.11
5.42	188.06	.596E+06	1679.2	1.68	5.92
5.72	188.36	.706E+06	2056.8	1.74	5.72

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (4961)	199.92	5.06	6.75	57.46	0.72	0.92
OUTFLOW: ID= 1 (5602)	199.92	5.05	6.75	57.46	0.71	0.92

CALIB			
STANDHYD (0602)	Area (ha)=	42.99	
ID= 1 DT=15.0 min	Total Imp(%)=	67.00	Dir. Conn.(%)= 67.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.80	14.19
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	535.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.13
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.69	0.67 3.217 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	72.10	50.68 65.03
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.69 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (2602) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0602):    42.99   3.217     5.25    65.03
      + ID2= 2 (5602):   199.92   5.045     6.75    57.46
        ================================================
        ID = 3 (2602):   242.91   5.918     6.75    58.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5271) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5271.0) ------>
             Distance      Elevation       Manning
                 0.00         187.00        0.1110
                 3.39         183.79        0.1110
                10.53         183.00        0.1110
                21.75         182.99        0.1110
                23.53         182.68    0.1110 /0.0490  Main Channel
                33.07         181.08        0.0490      Main Channel
                41.98         183.10    0.0490 /0.1110  Main Channel
                44.71         183.70        0.1110
                62.12         184.09        0.1110
                77.77         183.81        0.1110
               120.17         183.78        0.1110
               169.07         183.98        0.1110
               228.74         185.84        0.1110
               358.41         186.79        0.1110
               420.15         186.79        0.1110
               448.98         187.02        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.27   181.35    .272E+03       0.1        0.36       33.75
       0.53   181.61    .109E+04       0.9        0.58       21.26
       0.80   181.88    .245E+04       2.5        0.76       16.23
       1.07   182.15    .436E+04       5.4        0.92       13.39
       1.33   182.41    .681E+04       9.8        1.07       11.54
       1.60   182.68    .980E+04      16.0        1.20       10.22
       1.93   183.01    .144E+05      27.6        1.41        8.73
       2.26   183.34    .226E+05      44.8        1.46        8.42
       2.60   183.68    .319E+05      67.2        1.55        7.92
       2.93   184.01    .558E+05      97.7        1.29        9.52
       3.26   184.34    .978E+05     149.0        1.12       10.95
       3.59   184.67    .143E+06     217.6        1.12       10.94
       3.93   185.01    .190E+06     301.7        1.17       10.52
       4.26   185.34    .241E+06     400.7        1.23       10.02
       4.59   185.67    .294E+06     514.3        1.29        9.53
       4.92   186.00    .351E+06     627.2        1.32        9.32
       5.26   186.34    .418E+06     746.8        1.32        9.32
       5.59   186.67    .496E+06     891.5        1.33        9.27
       5.92   187.00    .594E+06    1023.1        1.27        9.68

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
```



```
INFLOW : ID= 2 (2602)  242.91     5.92    6.75  58.80      1.10      0.93
OUTFLOW: ID= 1 (5271)  242.91     5.90    6.75  58.80      1.10      0.93

--------------------
| CALIB            |
| STANDHYD  (0271) |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  40.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.03         10.55
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.70
     Length            (m)=     342.34         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         26.35
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    34.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.66          0.55          1.204 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10         44.60         55.60
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.99          0.61          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (2271) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0271):    17.58   1.204     5.25    55.60
      + ID2= 2 (5271):   242.91   5.899     6.75    58.80
        ================================================
        ID = 3 (2271):   260.49   6.220     6.75    58.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 198.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     113.05         85.28
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.10
     Length            (m)=    1149.87         40.00
     Mannings n           =      0.013         0.250
```



```
     Max.Eff.Inten.(mm/hr)=      33.63         29.82
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=      10.47          3.33         12.574 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      72.10         52.36         63.61
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.99          0.72          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  35.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.75          5.25
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.10
     Length            (m)=     483.05         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         29.82
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.76          0.21          2.886 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      72.10         52.36         69.14
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.99          0.72          0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  35.00      2.89      5.25   69.14
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
```



```
     MINOR SYS.(ID= 3):  35.00      2.89      5.25   69.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.2800      1.3790
                          0.3900     0.0010   |   1.3400      1.7290
                          0.8700     0.1580   |   1.4700      2.5690
                          1.0600     0.4640   |   5.1200      2.6000
                          1.2300     1.0530   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     35.000     2.886      5.25      69.14
     OUTFLOW: ID= 1 (****)     35.000     1.146      5.75      69.28

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.70
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7634

--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    35.00   1.146     5.75    69.28
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (****):    35.00   1.146     5.75    69.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  17.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.54          2.56
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.10
     Length            (m)=     337.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         29.82
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.35          0.10          1.410 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      72.10         52.36         69.14
```

```
TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
RUNOFF COEFFICIENT   =       0.99         0.72           0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  92.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

DUHYD (****)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	17.10	1.41	5.25	69.14
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	17.10	1.41	5.25	69.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6300	0.6750
	0.1900	0.0610	0.6600	0.8460
	0.4200	0.0770	0.7200	1.2570
	0.5200	0.2270	2.5000	1.3000
	0.6000	0.5150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.100	1.410	5.25	69.14
OUTFLOW: ID= 1 (****)	17.100	0.566	5.75	69.13

```
PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.16
TIME SHIFT OF PEAK FLOW          (min)= 30.00
MAXIMUM  STORAGE   USED       (ha.m.)=  0.3941
```

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	17.10	0.566	5.75	69.13
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	17.10	0.566	5.75	69.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	35.00	1.146	5.75	69.28
+ ID2= 2 (****):	17.10	0.566	5.75	69.13
ID = 3 (****):	52.10	1.712	5.75	69.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 16.10		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	13.69	2.41
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	327.62	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.82
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	1.27 0.09 1.327 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	72.10 52.36 69.14
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.72 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	16.10	1.33	5.25	69.14
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	16.10	1.33	5.25	69.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.5900	0.6350
	0.1800	0.0610	0.6200	0.7960
	0.4000	0.0730	0.6800	1.1820
	0.4900	0.2140	2.3600	1.2000
	0.5600	0.4850	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	16.100	1.327	5.25	69.14
OUTFLOW: ID= 1 (****)	16.100	0.531	5.75	69.13

```
PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.98
TIME SHIFT OF PEAK FLOW          (min)= 30.00
MAXIMUM  STORAGE   USED       (ha.m.)=  0.3723
```

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	16.10	0.531	5.75	69.13
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	16.10	0.531	5.75	69.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	52.10	1.712	5.75	69.23
+ ID2= 2 (****):	16.10	0.531	5.75	69.13
ID = 3 (****):	68.20	2.242	5.75	69.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 37.00		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.45	5.55
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	496.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.82
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00

		TOTALS
Unit Hyd. peak	(cms)= 0.08	0.01
PEAK FLOW	(cms)=	2.91 0.22 3.051 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	72.10 52.36 69.14
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.72 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	37.00	3.05	5.25	69.14
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	37.00	3.05	5.25	69.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.3600	1.4580
	0.4100	0.0010	1.4200	1.8280
	0.9200	0.1670	1.5600	2.7160
	1.1200	0.4910	5.4000	2.8000
	1.3000	1.1140	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	37.000	3.051	5.25	69.14
OUTFLOW: ID= 1 (****)	37.000	1.211	5.75	69.27

```
PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.69
TIME SHIFT OF PEAK FLOW          (min)= 30.00
MAXIMUM  STORAGE   USED       (ha.m.)=  0.8073
```

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	37.00	1.211	5.75	69.27
+ ID2= 2 (****):	0.00	0.000	0.00	0.00

ID = 3 (****):	37.00	1.211	5.75	69.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	68.20	2.242	5.75	69.21
+ ID2= 2 (****):	37.00	1.211	5.75	69.27
ID = 3 (****):	105.20	3.453	5.75	69.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (****)	Area (ha)= 17.40			
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.79	2.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	340.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.82
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	1.37	0.10 1.435 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	72.10	52.36 69.14
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.72 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	17.40	1.43	5.25	69.14
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	17.40	1.43	5.25	69.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6300	0.6750
	0.1900	0.0610	0.6600	0.8460
	0.4200	0.0770	0.7200	1.2570
	0.5200	0.2270	2.5500	1.3000
	0.6000	0.5150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.400	1.435	5.25	69.14
OUTFLOW: ID= 1 (****)	17.400	0.569	5.75	69.13

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.67
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.4052

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH **** <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (****):	17.40	0.569	5.75	69.13
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	17.40	0.569	5.75	69.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0218)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	105.20	3.453	5.75	69.23
+ ID2= 2 (****):	17.40	0.569	5.75	69.13
ID = 3 (0218):	122.60	4.022	5.75	69.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0218):	122.60	4.022	5.75	69.22
+ ID2= 2 (****):	198.33	12.574	5.25	63.61
ID = 3 (****):	320.93	16.473	5.25	65.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9962)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	320.93	16.47	5.25	65.75
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	320.93	16.47	5.25	65.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6962)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	8.8300	5.8290
	0.7800	0.0930	14.9900	7.2690
	3.3000	1.1140	22.7900	8.7080
	4.6600	3.2000	28.8000	10.2730
	5.2100	4.5150	31.2000	11.8370

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9962)	320.930	16.473	5.25	65.75
OUTFLOW: ID= 1 (6962)	320.930	9.560	6.50	65.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 58.04
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 6.0167

ADD HYD (4962)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9962 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6962):	320.93	9.560	6.50	65.75
+ ID2= 2 (9962):	0.00	0.000	0.00	0.00
ID = 3 (4962):	320.93	9.560	6.50	65.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1273)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2271):	260.49	6.220	6.75	58.58
+ ID2= 2 (4962):	320.93	9.560	6.50	65.75
ID = 3 (1273):	581.42	15.780	6.50	62.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5273)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5273.0) ------>

Distance	Elevation	Manning	
0.00	179.99	0.1110	
18.34	178.57	0.1110	
55.29	178.07	0.1110	
114.00	177.92	0.1110	
155.06	177.41	0.1110	
161.65	174.89	0.1110 /0.0490	Main Channel
164.66	174.75	0.0490	Main Channel
167.51	174.61	0.0490 /0.1110	Main Channel
169.36	174.72	0.1110	
179.42	177.94	0.1110	
271.83	179.31	0.1110	
298.09	178.85	0.1110	
325.92	179.14	0.1110	
444.55	179.57	0.1110	
496.32	180.68	0.1110	
506.76	181.27	0.1110	
526.42	185.07	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	174.89	.871E+03	0.7	0.51	21.75
0.57	175.18	.260E+04	3.9	1.01	11.13
0.85	175.46	.463E+04	9.2	1.34	8.38
1.13	175.74	.697E+04	16.5	1.59	7.05
1.42	176.03	.963E+04	25.7	1.79	6.25
1.70	176.31	.126E+05	36.8	1.96	5.70
1.98	176.59	.159E+05	49.9	2.11	5.30
2.27	176.88	.194E+05	65.0	2.24	4.99
2.55	177.16	.233E+05	82.1	2.36	4.74
2.83	177.44	.275E+05	99.6	2.43	4.61
3.11	177.72	.346E+05	118.3	2.29	4.88
3.40	178.01	.471E+05	137.4	1.96	5.71
3.68	178.29	.741E+05	173.1	1.57	7.13
3.96	178.57	.109E+06	235.8	1.45	7.71
4.25	178.86	.150E+06	326.1	1.46	7.67
4.53	179.14	.200E+06	429.3	1.44	7.75
4.81	179.42	.266E+06	565.0	1.43	7.85
5.10	179.71	.348E+06	760.3	1.47	7.63
5.38	179.99	.435E+06	1005.3	1.55	7.21

	AREA (ha)	QPEAK (cms)	<---- hydrograph ----> TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1273)	581.42	15.78	6.50	62.54	1.11	1.56
OUTFLOW: ID= 1 (5273)	581.42	15.78	6.50	62.54	1.10	1.56

CALIB				
STANDHYD (0273)	Area (ha)= 25.66			
ID= 1 DT=15.0 min	Total Imp(%)= 65.00	Dir. Conn.(%)= 65.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.68	8.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	413.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.82
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.56	0.51	2.034 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	72.10	52.36	65.19
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.72	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2273)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0273):	25.66	2.034	5.25	65.19
+ ID2= 2 (5273):	581.42	15.778	6.50	62.54
ID = 3 (2273):	607.08	16.331	6.50	62.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0272) | Area (ha)= 42.09
ID= 1 DT=15.0 min | Total Imp(%)= 78.00 Dir. Conn.(%)= 78.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.83	9.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.70
Length	(m)=	529.72	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	31.16
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.06	0.45	3.420 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	72.10	55.97	68.55
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10

2.78	172.52	.401E+05	95.2	2.01	7.02
3.06	172.80	.486E+05	111.1	1.93	7.29
3.34	173.08	.652E+05	125.2	1.62	8.68
3.62	173.36	.108E+06	156.2	1.23	11.50
3.90	173.64	.206E+06	216.9	0.89	15.81
4.18	173.92	.330E+06	333.6	0.86	16.48
4.46	174.20	.464E+06	483.8	0.88	15.99
4.74	174.48	.608E+06	675.3	0.94	15.00
5.02	174.76	.761E+06	877.5	0.97	14.46
5.30	175.04	.930E+06	1142.6	1.04	13.56

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2272)		649.17	17.26	6.50	63.04	1.15	1.21
OUTFLOW: ID= 1 (5260)		649.17	17.15	6.75	63.04	1.14	1.20

CALIB
STANDHYD (0260) | Area (ha)= 60.94
ID= 1 DT=15.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	45.70	15.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	637.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	30.50
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.26	0.73	4.838 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	72.10	54.12	67.61
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.74	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2260)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0260):	60.94	4.838	5.25	67.61
+ ID2= 2 (5260):	649.17	17.145	6.75	63.04
ID = 3 (2260):	710.11	19.814	5.25	63.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RUNOFF COEFFICIENT = 0.99 0.77 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2272)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0272):	42.09	3.420	5.25	68.55
+ ID2= 2 (2273):	607.08	16.331	6.50	62.65
ID = 3 (2272):	649.17	17.258	6.50	63.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5260)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5260.0) ------>

Distance	Elevation	Manning	
0.00	175.32	0.1110	
51.36	174.58	0.1110	
87.35	174.75	0.1110	
122.73	174.10	0.1110	
131.56	174.13	0.1110	
202.82	173.44	0.1110	
276.03	173.59	0.1110	
349.20	172.56	0.1110	
376.00	173.21	0.1110	
384.10	170.08	0.1110 /0.0490	Main Channel
390.86	169.74	0.0490	Main Channel
394.42	170.00	0.0490 /0.1110	Main Channel
398.31	170.30	0.1110	
402.54	173.35	0.1110	
447.19	173.02	0.1110	
550.72	173.46	0.1110	
592.93	173.28	0.1110	
680.14	173.52	0.1110	
753.95	175.23	0.1110	
784.10	175.41	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	170.00	.960E+03	0.4	0.39	36.34
0.54	170.28	.382E+04	3.3	0.72	19.54
0.82	170.56	.743E+04	8.5	0.97	14.53
1.10	170.84	.113E+05	15.8	1.18	11.94
1.38	171.12	.155E+05	24.9	1.36	10.36
1.66	171.40	.199E+05	35.7	1.52	9.28
1.94	171.68	.245E+05	48.1	1.66	8.49
2.22	171.96	.295E+05	62.2	1.79	7.89
2.50	172.24	.346E+05	77.9	1.90	7.41

CALIB
STANDHYD (0643) | Area (ha)= 7.16
ID= 1 DT=15.0 min | Total Imp(%)= 48.00 Dir. Conn.(%)= 48.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.44	3.72
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	11.00
Length	(m)=	218.48	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	28.43
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.32	0.27	0.589 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	49.06	60.12
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.67	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9472)
Inlet Cap.=***** *
#of Inlets= 1 *
Total(cms)=***** *

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	7.16	0.59	5.25	60.12
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	7.16	0.59	5.25	60.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6472)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3490	0.9110
0.0190	0.1220	0.4450	0.9620
0.0270	0.2490	1.0700	1.0670
0.1280	0.5180	2.6100	1.2280
0.2430	0.7100	4.0000	1.3380

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9472)	7.160	0.589	5.25	60.12

```
OUTFLOW: ID= 1 (6472)      7.160      0.060      7.75      59.89

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.15
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3363
```

```
| ADD HYD   (4472) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
                             (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9472 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6472):     7.16   0.060     7.75    59.89
        + ID2= 2 (9472):     0.00   0.000     0.00     0.00
          ==============================================
          ID = 3 (4472):     7.16   0.060     7.75    59.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  76.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       18.33        58.05
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         4.70
     Length            (m)=      713.58        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        23.68
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.71         1.81          2.773 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        39.42          47.26
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.54           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   2.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.54         1.70
```



```
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         4.70
     Length            (m)=      122.20        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        23.68
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.05          0.081 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        39.42          47.25
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.54           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  84.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       20.37        64.52
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         4.70
     Length            (m)=      752.29        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        23.68
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.90         2.01          3.082 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        39.42          47.26
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.54           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (0380) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
```



```
                             (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    84.89   3.082     5.25    47.26
        + ID2= 2 (****):     2.24   0.081     5.25    47.25
          ==============================================
          ID = 3 (0380):    87.13   3.163     5.25    47.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (0381) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
                             (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0380):    87.13   3.163     5.25    47.26
        + ID2= 2 (****):    76.38   2.773     5.25    47.26
          ==============================================
          ID = 3 (0381):   163.51   5.936     5.25    47.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (2251) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
                             (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0381):   163.51   5.936     5.25    47.26
        + ID2= 2 (4472):     7.16   0.060     7.75    59.89
          ==============================================
          ID = 3 (2251):   170.67   5.962     5.25    47.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB            |
| STANDHYD  (0709) |   Area    (ha)=   7.69
|ID= 1 DT=15.0 min |   Total Imp(%)=   4.00   Dir. Conn.(%)=   4.00
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.31         7.38
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         2.30
     Length            (m)=      226.42        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        21.22
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   33.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.30          0.324 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      72.10        34.95          36.43
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.48           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
```



```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| DUHYD     (9219) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK     R.V.
                          (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):   7.69      0.32      5.25    36.43
     ==============================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00     0.00
     MINOR SYS.(ID= 3):   7.69      0.32      5.25    36.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (6219) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                          (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.5000     0.0350

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9219)    7.690      0.324      5.25      36.43
     OUTFLOW: ID= 1 (6219)    7.690      0.307      5.50      36.43

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.70
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0216
```

```
| ADD HYD   (4219) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
                             (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9219 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6219):     7.69   0.307     5.50    36.43
        + ID2= 2 (9219):     0.00   0.000     0.00     0.00
          ==============================================
          ID = 3 (4219):     7.69   0.307     5.50    36.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  40.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       14.44        25.67
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         4.10
```

Length (m)=	517.11	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	25.66	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	1.35	0.94	2.038 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	72.10	43.23	53.62
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.59	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 1.17
ID= 1 DT=15.0 min | Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.42	0.75
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	88.32	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.66
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	0.04	0.059 (iii)
TIME TO PEAK (hrs)=	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	53.59
TOTAL RAINFALL (mm)=	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0371)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	40.11	2.038	5.25	53.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1252)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2248):	119.30	5.944	5.25	52.51
+ ID2= 2 (2251):	170.67	5.962	5.25	47.79
ID = 3 (1252):	289.97	11.907	5.25	49.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0252) | Area (ha)= 58.15
ID= 1 DT=15.0 min | Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	44.19	13.96
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.60
Length (m)=	622.63	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	30.50
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	69.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	4.11	0.61	4.509 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	72.10	54.12	67.79
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.74	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2252)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):	58.15	4.509	5.25	67.79
+ ID2= 2 (1252):	289.97	11.907	5.25	49.74
ID = 3 (2252):	348.12	16.416	5.25	52.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

+ ID2= 2 (****):	1.17	0.059	5.25	53.59
ID = 3 (0371):	41.28	2.098	5.25	53.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 70.33
ID= 1 DT=15.0 min | Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.32	45.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	684.74	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.66
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	2.36	1.64	3.574 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	72.10	43.23	53.62
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.59	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0377)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0371):	41.28	2.098	5.25	53.62
+ ID2= 2 (****):	70.33	3.574	5.25	53.62
ID = 3 (0377):	111.61	5.672	5.25	53.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2248)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0377):	111.61	5.672	5.25	53.62
+ ID2= 2 (4219):	7.69	0.307	5.50	36.43
ID = 3 (2248):	119.30	5.944	5.25	52.51

ADD HYD (1261)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2252):	348.12	16.416	5.25	52.75
+ ID2= 2 (2260):	710.11	19.814	5.25	63.43
ID = 3 (1261):	1058.23	36.230	5.25	59.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0261) | Area (ha)= 53.92
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	45.83	8.09
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	599.56	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	31.77
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	4.27	0.41	4.602 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	72.10	57.90	69.97
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.79	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1256)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0261):	53.92	4.602	5.25	69.97
+ ID2= 2 (1261):	1058.23	36.230	5.25	59.92
ID = 3 (1256):	1112.15	40.832	5.25	60.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5256)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5256.0) ---------->

Distance	Elevation	Manning		
0.00	169.02	0.1110		
20.27	168.76	0.1110		
52.65	169.09	0.1110		
62.64	168.83	0.1110		
71.51	165.89	0.1110		
80.77	164.57	0.1110		
89.62	164.27	0.1110 /0.0490	Main Channel	
90.94	164.26	0.0490	Main Channel	
95.82	164.32	0.0490	Main Channel	
100.45	164.36	0.0490 /0.1110	Main Channel	
108.74	168.86	0.1110		
132.94	169.64	0.1110		
157.62	169.90	0.1110		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.01	164.27	.329E+01	0.0	0.07	75.11
0.26	164.52	.997E+03	2.1	0.66	7.75
0.51	164.77	.258E+04	8.6	1.02	5.02
0.76	165.02	.435E+04	18.4	1.31	3.93
1.01	165.27	.629E+04	31.4	1.54	3.34
1.26	165.52	.840E+04	47.4	1.74	2.95
1.51	165.77	.107E+05	66.3	1.91	2.68
1.76	166.02	.131E+05	88.5	2.08	2.47
2.01	166.27	.157E+05	113.9	2.24	2.29
2.26	166.52	.183E+05	142.1	2.39	2.15
2.51	166.77	.210E+05	173.0	2.54	2.02
2.76	167.02	.238E+05	206.6	2.67	1.92
3.01	167.27	.268E+05	242.9	2.80	1.84
3.26	167.52	.298E+05	281.9	2.92	1.76
3.51	167.77	.329E+05	323.6	3.03	1.69
3.76	168.02	.361E+05	367.9	3.14	1.63
4.01	168.27	.393E+05	414.8	3.25	1.58
4.26	168.52	.427E+05	464.5	3.35	1.53
4.51	168.77	.462E+05	509.4	3.40	1.51

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1256)	1112.15	40.83	5.25	60.40	1.16	1.65
OUTFLOW: ID= 1 (5256)	1112.15	40.36	5.25	60.40	1.15	1.64

CALIB STANDHYD (0256) ID= 1 DT=15.0 min	Area (ha)= 20.70	Total Imp(%)= 77.00	Dir. Conn.(%)= 77.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	15.94	4.76
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	371.48	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	31.16
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	43.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	1.49	0.28	1.750 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	55.97	68.39
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.77	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2256) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0256):	20.70	1.750	5.25	68.39
+ ID2= 2 (5256):	1112.15	40.364	5.25	60.40
ID = 3 (2256):	1132.85	42.114	5.25	60.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (****) ID= 1 DT=15.0 min	Area (ha)= 116.17	Total Imp(%)= 74.00	Dir. Conn.(%)= 74.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	85.97	30.20
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.60
Length (m)=	880.04	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	30.50
over (min)	15.00	30.00
Storage Coeff. (min)=	14.40 (ii)	85.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW (cms)=	7.95	1.18	8.591 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	72.10	54.12	67.43
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.74	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (****) ID= 1 DT=15.0 min	Area (ha)= 0.11	Total Imp(%)= 74.00	Dir. Conn.(%)= 74.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.08	0.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.60
Length (m)=	27.08	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	30.50
over (min)	15.00	30.00
Storage Coeff. (min)=	14.40 (ii)	85.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW (cms)=	0.01	0.00	0.008 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	72.10	54.12	67.03
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.74	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0367) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	116.17	8.591	5.25	67.43
+ ID2= 2 (****):	0.11	0.008	5.25	67.03
ID = 3 (0367):	116.28	8.599	5.25	67.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1247) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0367):	116.28	8.599	5.25	67.43
+ ID2= 2 (2256):	1132.85	42.114	5.25	60.55
ID = 3 (1247):	1249.13	50.714	5.25	61.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5247) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5247.0) ------>

Distance	Elevation	Manning		
0.00	164.49	0.1110		
96.53	159.50	0.1110		
96.60	159.50	0.1110		
98.32	159.15	0.1110		
99.07	159.00	0.1110 /0.0490	Main Channel	
101.36	158.57	0.0490	Main Channel	
101.75	158.00	0.0490	Main Channel	
102.83	158.00	0.0490	Main Channel	
104.82	158.00	0.0490	Main Channel	
105.65	158.66	0.0490	Main Channel	
107.41	159.00	0.0490 /0.1110	Main Channel	
109.23	159.35	0.1110		
110.01	159.50	0.1110		
111.19	159.56	0.1110		
111.57	159.58	0.1110		
121.33	160.00	0.1110		
148.53	160.00	0.1110		
158.08	161.00	0.1110		
169.93	164.43	0.1110		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	158.33	.750E+03	0.9	0.78	14.16
0.67	158.67	.166E+04	2.7	1.09	10.15
1.00	159.00	.311E+04	5.5	1.18	9.36
1.34	159.34	.538E+04	12.3	1.52	7.28
1.68	159.68	.874E+04	21.6	1.64	6.76
2.02	160.02	.154E+05	34.0	1.46	7.54
2.36	160.36	.305E+05	57.4	1.25	8.85
2.70	160.70	.478E+05	90.5	1.26	8.79
3.04	161.04	.673E+05	133.4	1.31	8.40
3.38	161.38	.887E+05	186.9	1.40	7.91
3.71	161.71	.112E+06	250.3	1.48	7.45
4.05	162.05	.137E+06	323.8	1.57	7.04
4.39	162.39	.163E+06	407.4	1.65	6.68
4.73	162.73	.192E+06	501.6	1.73	6.37
5.07	163.07	.222E+06	606.4	1.81	6.10
5.41	163.41	.254E+06	722.2	1.89	5.86
5.75	163.75	.287E+06	849.3	1.96	5.64
6.09	164.09	.323E+06	987.9	2.03	5.45
6.43	164.43	.360E+06	1138.4	2.10	5.27

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1247)	1249.13	50.71	5.25	61.19	2.26	1.30
OUTFLOW: ID= 1 (5247)	1249.13	47.33	5.25	61.19	2.22	1.33

CALIB STANDHYD (0247) ID= 1 DT=15.0 min	Area (ha)= 38.02	Total Imp(%)= 64.00	Dir. Conn.(%)= 64.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.33	13.69
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.50
Length (m)=	503.45	40.00
Mannings n =	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      33.63        29.13
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.80 (ii)   45.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.27         0.72          2.923 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      72.10        50.68          64.39
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.69           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2247) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0247):    38.02   2.923     5.25    64.39
       + ID2= 2 (5247):  1249.13  47.327     5.25    61.19
         ================================================
         ID = 3 (2247):  1287.15  50.250     5.25    61.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1226) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2213):  9041.42  81.594     8.75    39.06
       + ID2= 2 (2247):  1287.15  50.250     5.25    61.28
         ================================================
         ID = 3 (1226): 10328.57 105.368     6.50    41.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (5226.0) ------>
                Distance      Elevation       Manning
                    0.00         167.48        0.1110
                    4.33         163.54        0.1110
                   26.47         158.00        0.1110
                   57.29         157.00        0.1110
                   63.27         155.78        0.1110
                   63.95         155.50    0.1110 /0.0490  Main Channel
                   64.81         155.10        0.0490      Main Channel
                   74.07         155.10        0.0490      Main Channel
                   75.37         155.50    0.0490 /0.1110  Main Channel
```



```
                  81.00         157.00        0.1110
                 137.94         159.50        0.1110
                 171.75         168.01        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.40    155.50    .560E+04       3.0         0.72      31.36
        1.03    156.13    .172E+05      16.4         1.29      17.55
        1.66    156.76    .334E+05      38.9         1.58      14.28
        2.29    157.39    .588E+05      70.0         1.61      14.02
        2.92    158.02    .111E+06     119.9         1.46      15.48
        3.55    158.65    .185E+06     198.8         1.45      15.52
        4.18    159.28    .273E+06     304.3         1.51      14.97
        4.81    159.91    .374E+06     443.6         1.61      14.04
        5.44    160.54    .479E+06     613.0         1.73      13.02
        6.07    161.17    .588E+06     808.3         1.86      12.13
        6.71    161.81    .702E+06    1028.8         1.98      11.38
        7.34    162.44    .820E+06    1274.3         2.10      10.73
        7.97    163.07    .943E+06    1544.4         2.22      10.18
        8.60    163.70    .107E+07    1841.5         2.33       9.68
        9.23    164.33    .120E+07    2170.2         2.45       9.21
        9.86    164.96    .133E+07    2522.8         2.57       8.80
       10.49    165.59    .147E+07    2898.9         2.68       8.44
       11.12    166.22    .161E+07    3298.4         2.78       8.11
       11.75    166.85    .175E+07    3721.0         2.89       7.82

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1226) ******   105.37    6.50  41.83      2.74      1.50
     OUTFLOW: ID= 1 (5226) ******   105.00    7.25  41.83      2.72      1.50

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0226)  |   Area    (ha)= 128.50
|ID= 1 DT=15.0 min  |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       64.25         64.25
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.40
     Length            (m)=      925.56         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         26.35
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.80 (ii)    64.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       5.99          2.40          7.774 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=      72.10         44.60          58.35
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.99          0.61           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
```



```
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2226) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0226):   128.50   7.774     5.25    58.35
       + ID2= 2 (5226): 10328.57 105.000     7.25    41.83
         ================================================
         ID = 3 (2226): 10457.07 107.387     7.25    42.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5237) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (5237.0) ------>
                Distance      Elevation       Manning
                    0.00         158.00        0.1110
                   14.00         155.00        0.1110
                   15.00         154.50        0.1110
                   45.00         154.00        0.1110
                   65.00         153.50        0.1110
                   97.00         153.50        0.1110
                  101.00         154.00        0.1110
                  102.00         154.00        0.1110
                  105.00         153.50        0.1110
                  120.00         153.00        0.1110
                  121.00         152.50    0.1110 /0.0490  Main Channel
                  122.00         151.40        0.0490      Main Channel
                  134.00         151.40        0.0490      Main Channel
                  135.00         152.50    0.0490 /0.1110  Main Channel
                  144.00         153.50        0.1110
                  146.00         154.00        0.1110
                  160.00         164.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.28    151.67    .218E+04       1.7         0.51      21.12
        0.55    151.95    .446E+04       5.4         0.79      13.63
        0.83    152.22    .682E+04      10.7         1.01      10.64
        1.10    152.50    .927E+04      17.2         1.20       8.97
        1.47    152.87    .131E+05      28.8         1.43       7.56
        1.83    153.23    .183E+05      43.3         1.53       7.05
        2.20    153.60    .290E+05      61.9         1.39       7.79
        2.57    153.97    .497E+05      90.9         1.18       9.12
        2.93    154.33    .759E+05     130.0         1.11       9.73
        3.30    154.70    .107E+06     183.2         1.11       9.71
        3.67    155.07    .138E+06     249.6         1.17       9.23
        4.03    155.43    .170E+06     325.8         1.24       8.71
        4.40    155.80    .203E+06     411.6         1.31       8.22
        4.77    156.17    .236E+06     506.6         1.39       7.77
        5.13    156.53    .270E+06     610.4         1.47       7.36
        5.50    156.90    .304E+06     722.7         1.54       7.01
        5.87    157.27    .339E+06     843.4         1.61       6.69
        6.23    157.63    .374E+06     972.3         1.69       6.41
```



```
        6.60    158.00    .410E+06    1109.3         1.76       6.15

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2226) *******  107.39    7.25  42.03      2.72      1.15
     OUTFLOW: ID= 1 (5237) *******  107.20    7.25  42.03      2.72      1.15

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0237)  |   Area    (ha)=  15.48
|ID= 1 DT=15.0 min  |   Total Imp(%)=  25.00   Dir. Conn.(%)=  25.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        3.87         11.61
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          5.30
     Length            (m)=      321.25         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         23.04
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       5.40 (ii)    32.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.36          0.52          0.883 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      72.10         38.24          46.71
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.99          0.52           0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2237) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0237):    15.48   0.883     5.25    46.71
       + ID2= 2 (5237): 10457.07 107.200     7.25    42.03
         ================================================
         ID = 3 (2237): 10472.55 107.415     7.25    42.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0447)  |   Area    (ha)= 106.74   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   6.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   6.969
```

```
PEAK FLOW      (cms)=   3.997 (i)
TIME TO PEAK   (hrs)=   5.500
RUNOFF VOLUME   (mm)=  32.779
TOTAL RAINFALL  (mm)=  73.100
RUNOFF COEFFICIENT  =   0.448

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ROUTE CHN (5024) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5024.0) ------>

Distance	Elevation	Manning	
0.00	247.19	0.1000	
52.21	246.15	0.1000	
62.95	246.38	0.1000	
94.83	245.47	0.1000	
131.08	245.92	0.1000	
263.16	244.86	0.1000	
320.30	244.93	0.1000	
355.96	243.82	0.1000	
398.49	243.50	0.1000	
420.89	243.19	0.1000 /0.0440	Main Channel
421.43	243.14	0.0440	Main Channel
424.25	243.19	0.0440 /0.1000	Main Channel
502.84	245.16	0.1000	
552.79	245.54	0.1000	
669.65	247.85	0.1000	
770.08	247.29	0.1000	
869.85	249.34	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	243.19	.204E+03	0.0	0.13	310.61
0.26	243.40	.796E+04	0.8	0.25	159.47
0.47	243.61	.287E+05	3.6	0.31	131.52
0.68	243.82	.673E+05	9.9	0.36	112.91
0.89	244.03	.118E+06	21.9	0.45	90.72
1.10	244.24	.178E+06	38.5	0.52	77.32
1.31	244.45	.246E+06	59.9	0.59	68.34
1.52	244.66	.321E+06	86.4	0.65	61.83
1.73	244.87	.403E+06	112.5	0.68	59.76
1.94	245.08	.527E+06	138.2	0.64	63.51
2.16	245.30	.673E+06	183.9	0.66	60.98
2.37	245.51	.846E+06	238.8	0.69	59.06
2.58	245.72	.105E+07	306.9	0.71	57.14
2.79	245.93	.129E+07	393.3	0.74	54.65
3.00	246.14	.155E+07	515.2	0.81	50.02
3.21	246.35	.182E+07	640.6	0.86	47.28
3.42	246.56	.210E+07	791.7	0.91	44.30
3.63	246.77	.240E+07	960.6	0.97	41.68
3.84	246.98	.271E+07	1145.3	1.03	39.46

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0447)	106.74	4.00	5.50	32.78	0.48	0.31
OUTFLOW: ID= 1 (5024)	106.74	1.72	6.75	32.76	0.33	0.27

```
| CALIB            |
| NASHYD    (0024) |   Area    (ha)= 140.14   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.10   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.56

Unit Hyd Qpeak  (cms)=   9.610

PEAK FLOW      (cms)=   4.713 (i)
TIME TO PEAK   (hrs)=   5.500
RUNOFF VOLUME   (mm)=  29.022
TOTAL RAINFALL  (mm)=  73.100
RUNOFF COEFFICIENT  =   0.397

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (2024) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0024):   140.14   4.713     5.50    29.02
      + ID2= 2 (5024):   106.74   1.721     6.75    32.76
        ================================================
        ID = 3 (2024):   246.88   5.683     5.50    30.64

NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5045) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5045.0) ------>

Distance	Elevation	Manning	
0.00	245.32	0.1000	
48.84	244.35	0.1000	
66.83	244.49	0.1000	
77.60	244.28	0.1000	
92.37	244.53	0.1000	
148.98	243.76	0.1000	
202.60	243.77	0.1000	
250.13	244.20	0.1000	
292.80	243.79	0.1000	
323.01	243.86	0.1000	
373.16	242.22	0.1000 /0.0440	Main Channel
377.19	242.15	0.0440	Main Channel
382.31	242.13	0.0440	Main Channel
387.43	242.26	0.0440 /0.1000	Main Channel
438.88	244.46	0.1000	
489.19	244.67	0.1000	
537.88	243.99	0.1000	
580.30	244.40	0.1000	
602.74	244.26	0.1000	
764.27	245.55	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	242.22	.178E+03	0.3	0.43	9.82

0.25	242.38	.901E+03	3.2	0.90	4.65
0.42	242.55	.199E+04	9.0	1.14	3.67
0.58	242.71	.343E+04	17.7	1.29	3.24
0.74	242.87	.524E+04	29.4	1.41	2.97
0.91	243.04	.741E+04	44.5	1.51	2.78
1.07	243.20	.994E+04	63.0	1.59	2.63
1.23	243.36	.128E+05	85.3	1.67	2.51
1.40	243.53	.161E+05	111.5	1.74	2.40
1.56	243.69	.197E+05	141.8	1.81	2.31
1.72	243.85	.252E+05	158.6	1.58	2.65
1.88	244.01	.348E+05	205.5	1.48	2.82
2.05	244.18	.472E+05	259.7	1.38	3.03
2.21	244.34	.626E+05	336.4	1.35	3.10
2.37	244.50	.822E+05	430.4	1.31	3.18
2.54	244.67	.106E+06	568.2	1.34	3.11
2.70	244.83	.132E+06	747.9	1.42	2.94
2.86	244.99	.159E+06	953.9	1.50	2.78
3.03	245.16	.188E+06	1185.5	1.59	2.64

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2024)	246.88	5.68	5.50	30.64	0.32	0.99
OUTFLOW: ID= 1 (5045)	246.88	5.67	5.75	30.64	0.32	0.99

```
| CALIB            |
| NASHYD    (0045) |   Area    (ha)=  69.60   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.10   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.59

Unit Hyd Qpeak  (cms)=   4.483

PEAK FLOW      (cms)=   2.489 (i)
TIME TO PEAK   (hrs)=   5.500
RUNOFF VOLUME   (mm)=  31.584
TOTAL RAINFALL  (mm)=  73.100
RUNOFF COEFFICIENT  =   0.432

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (2045) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0045):    69.60   2.489     5.50    31.58
      + ID2= 2 (5045):   246.88   5.673     5.75    30.64
        ================================================
        ID = 3 (2045):   316.48   8.045     5.50    30.85

NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB            |
| NASHYD    (0016) |   Area    (ha)= 208.86   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   6.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.80
```



```
Unit Hyd Qpeak  (cms)=   9.972

PEAK FLOW      (cms)=   6.582 (i)
TIME TO PEAK   (hrs)=   5.750
RUNOFF VOLUME   (mm)=  32.977
TOTAL RAINFALL  (mm)=  73.100
RUNOFF COEFFICIENT  =   0.451

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (1048) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0016):   208.86   6.582     5.75    32.98
      + ID2= 2 (2045):   316.48   8.045     5.50    30.85
        ================================================
        ID = 3 (1048):   525.34  14.540     5.75    31.69

NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5048) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5048.0) ------>

Distance	Elevation	Manning	
0.00	243.03	0.1000	
359.76	240.13	0.1000	
503.08	241.12	0.1000	
509.36	239.75	0.1000	
547.35	239.09	0.1000	
550.14	239.02	0.1000	
571.65	237.24	0.1000 /0.0440	Main Channel
573.01	237.04	0.0440	Main Channel
575.59	237.59	0.0440 /0.1000	Main Channel
588.26	239.41	0.1000	
637.64	239.34	0.1000	
713.38	240.34	0.1000	
773.29	240.09	0.1000	
817.41	241.38	0.1000	
880.91	240.96	0.1000	
1218.10	243.31	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	237.24	.152E+03	0.0	0.15	75.62
0.50	237.54	.113E+04	0.4	0.23	46.91
0.81	237.85	.318E+04	1.4	0.30	36.85
1.11	238.15	.640E+04	3.3	0.34	32.68
1.42	238.46	.108E+05	6.0	0.37	29.97
1.72	238.76	.163E+05	9.8	0.39	27.86
2.03	239.07	.231E+05	14.5	0.41	26.52
2.33	239.37	.328E+05	18.1	0.36	30.17
2.64	239.68	.585E+05	28.4	0.32	34.30
2.94	239.98	.918E+05	46.9	0.34	32.63
3.25	240.29	.136E+06	61.5	0.30	36.76
3.55	240.59	.208E+06	94.6	0.30	36.68
3.86	240.90	.300E+06	146.5	0.32	34.13

4.16	241.20	.416E+06	204.2	0.32	33.93
4.47	241.51	.561E+06	293.7	0.35	31.81
4.77	241.81	.724E+06	413.2	0.38	29.19
5.08	242.12	.903E+06	556.1	0.41	27.06
5.38	242.42	.110E+07	723.7	0.43	25.30
5.69	242.73	.131E+07	917.4	0.46	23.82

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1048)	525.34	14.54	5.75	31.69	2.03	0.41
OUTFLOW: ID= 1 (5048)	525.34	12.51	6.00	31.69	1.91	0.41

CALIB		
STANDHYD (0048)	Area (ha)=	61.81
ID= 1 DT=15.0 min	Total Imp(%)=	29.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.92	43.89
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	641.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.87
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.33	1.62 2.517 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	72.10	39.88 47.29
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.55 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2048)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0048):	61.81	2.517	5.25	47.29
	+ ID2= 2 (5048):	525.34	12.507	6.00	31.69
	ID = 3 (2048):	587.15	14.516	6.00	33.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5046)	

IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5046.0) ------>

Distance	Elevation	Manning	
0.00	242.13	0.1000	
21.95	242.56	0.1000	
73.65	242.53	0.1000	
129.75	241.36	0.1000	
150.90	241.54	0.1000	
175.31	240.19	0.1000	
191.36	239.80	0.1000	
206.39	238.06	0.1000	
242.75	238.88	0.1000	
260.87	237.01	0.1000 /0.0440	Main Channel
262.52	236.94	0.0440	Main Channel
262.96	236.99	0.0440 /0.1000	Main Channel
316.06	239.46	0.1000	
411.45	238.61	0.1000	
755.24	241.81	0.1000	
768.93	242.79	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	236.99	.275E+02	0.0	0.13	85.24
0.32	237.26	.115E+04	0.6	0.36	31.89
0.59	237.53	.383E+04	2.5	0.44	25.54
0.86	237.80	.806E+04	6.2	0.52	21.83
1.13	238.07	.138E+05	11.9	0.58	19.41
1.40	238.34	.226E+05	19.8	0.59	19.09
1.67	238.61	.356E+05	32.4	0.62	18.28
1.94	238.88	.583E+05	45.2	0.53	21.51
2.21	239.15	.948E+05	78.6	0.56	20.10
2.48	239.42	.144E+06	129.6	0.61	18.49
2.76	239.70	.203E+06	205.8	0.69	16.41
3.03	239.97	.268E+06	297.8	0.76	14.98
3.30	240.24	.340E+06	408.5	0.82	13.86
3.57	240.51	.419E+06	544.6	0.88	12.81
3.84	240.78	.504E+06	702.1	0.95	11.96
4.11	241.05	.595E+06	882.1	1.01	11.25
4.38	241.32	.693E+06	1085.3	1.07	10.64
4.65	241.59	.800E+06	1271.2	1.08	10.48
4.92	241.86	.916E+06	1530.3	1.14	9.98

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2048)	587.15	14.52	6.00	33.33	1.22	0.59
OUTFLOW: ID= 1 (5046)	587.15	13.82	6.25	33.33	1.20	0.59

CALIB		
STANDHYD (0046)	Area (ha)=	117.70
ID= 1 DT=15.0 min	Total Imp(%)=	37.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.55	74.15
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.20
Length	(m)=	885.81	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		33.63	27.44
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	3.28	2.57 4.787 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	72.10	41.52 50.70
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.57 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2046)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0046):	117.70	4.787	5.25	50.70
	+ ID2= 2 (5046):	587.15	13.823	6.25	33.33
	ID = 3 (2046):	704.85	17.353	6.25	36.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0058)	Area (ha)=	66.21
ID= 1 DT=15.0 min	Total Imp(%)=	50.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.10	33.10
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	664.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	34.77
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	2.40	1.68 3.691 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	72.10	49.64 58.40
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.68 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1065)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0058):	66.21	3.691	5.25	58.40
	+ ID2= 2 (2046):	704.85	17.353	6.25	36.23
	ID = 3 (1065):	771.06	19.565	6.25	38.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5065)		
IN= 2---> OUT= 1	Routing time step (min)'= 15.00	

<------ DATA FOR SECTION (5065.0) ------>

Distance	Elevation	Manning	
0.00	239.31	0.1000	
5.58	239.49	0.1000	
15.91	238.39	0.1000	
40.00	238.08	0.1000	
49.46	237.62	0.1000	
60.68	238.23	0.1000	
78.72	234.07	0.1000	
80.23	233.37	0.1000 /0.0440	Main Channel
81.64	232.65	0.0440	Main Channel
82.98	233.25	0.0440 /0.1000	Main Channel
90.42	235.93	0.1000	
96.97	235.80	0.1000	
141.98	236.43	0.1000	
154.34	236.80	0.1000	
162.27	236.56	0.1000	
167.80	237.32	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	232.95	.996E+02	0.1	0.73	12.12
0.60	233.25	.399E+03	0.9	1.15	7.63
0.97	233.62	.106E+04	3.4	1.71	5.16
1.33	233.98	.207E+04	7.8	1.98	4.44
1.70	234.35	.347E+04	14.0	2.13	4.14
2.07	234.72	.538E+04	22.5	2.21	3.98
2.44	235.09	.780E+04	33.7	2.28	3.86
2.80	235.45	.107E+05	47.7	2.35	3.74
3.17	235.82	.142E+05	63.0	2.35	3.75
3.54	236.19	.220E+05	81.7	1.97	4.48
3.90	236.55	.352E+05	120.0	1.80	4.89
4.27	236.92	.528E+05	176.3	1.76	4.99
4.64	237.29	.723E+05	258.3	1.89	4.67
5.00	237.65	.925E+05	357.0	2.04	4.32
5.37	238.02	.115E+06	459.2	2.12	4.16
5.74	238.39	.141E+06	584.5	2.19	4.02
6.11	238.76	.171E+06	760.2	2.35	3.74
6.47	239.12	.201E+06	958.4	2.52	3.50
6.84	239.49	.233E+06	1168.1	2.65	3.32

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1065)	771.06	19.57	6.25	38.14	1.94	2.18
OUTFLOW: ID= 1 (5065)	771.06	19.57	6.25	38.14	1.94	2.18

CALIB	
STANDHYD (0065)	Area (ha)= 10.36
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.91	4.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.40
Length (m)=	262.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	30.30
over (min)	15.00	15.00
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.51	0.30	0.814 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	47.68	60.62
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.65	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2065)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0065):	10.36	0.814	5.25	60.62
+ ID2= 2 (5065):	771.06	19.571	6.25	38.14
ID = 3 (2065):	781.42	19.857	6.25	38.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0734)	Area (ha)= 28.31 Curve Number (CN)= 80.0
ID= 1 DT=15.0 min	Ia (mm)= 9.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.30

Unit Hyd Qpeak (cms)= 3.653

PEAK FLOW (cms)= 1.381 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 30.957
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.423

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0545)	Area (ha)= 6.45
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.42	3.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	207.36	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	36.69
over (min)	15.00	15.00
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.25	0.26	0.509 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	52.63	60.80
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.72	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9130)				
Inlet Cap.=0.009				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	6.45	0.51	5.25	60.80
MAJOR SYS.(ID= 2):	5.88	0.50	5.25	60.80
MINOR SYS.(ID= 3):	0.57	0.01	2.50	60.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6130)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0090	0.0800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9130)	0.573	0.009	2.50	60.80
OUTFLOW: ID= 1 (6130)	0.573	0.003	12.75	56.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.65
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.0277

ADD HYD (4130)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6130):	0.57	0.003	12.75	56.90
+ ID2= 2 (9130):	5.88	0.500	5.25	60.80
ID = 3 (4130):	6.45	0.501	5.25	60.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2734)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0734):	28.31	1.381	5.25	30.96
+ ID2= 2 (4130):	6.45	0.501	5.25	60.46
ID = 3 (2734):	34.76	1.882	5.25	36.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0741)	Area (ha)= 3.39
ID= 1 DT=15.0 min	Total Imp(%)= 47.00 Dir. Conn.(%)= 44.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.59	1.80
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.50
Length (m)=	150.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	19.07
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	19.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06

		TOTALS
PEAK FLOW (cms)=	0.14	0.08	0.223 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	29.51	48.25
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.40	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2741)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0741):	3.39	0.223	5.25	48.25
+ ID2= 2 (2734):	34.76	1.882	5.25	36.43
ID = 3 (2741):	38.15	2.105	5.25	37.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0041)	Area (ha)= 263.00 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 8.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.52

Unit Hyd Qpeak (cms)= 19.468

PEAK FLOW (cms)= 8.356 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 26.769
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.366

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2041)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0041):	263.00	8.356	5.50	26.77
+ ID2= 2 (2741):	38.15	2.105	5.25	37.48
ID = 3 (2041):	301.15	10.176	5.25	28.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9001)				
Inlet Cap.=0.000				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	301.15	10.18	5.25	28.13
MAJOR SYS.(ID= 2):	301.15	10.18	5.25	28.13
MINOR SYS.(ID= 3):	0.00	0.00	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0064)	Area (ha)= 67.94	Curve Number (CN)= 75.0			
ID= 1 DT=15.0 min	Ia (mm)= 8.50	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.37				

Unit Hyd Qpeak (cms)= 7.071

PEAK FLOW (cms)= 2.680 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 27.610
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.378

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1068)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0064):	67.94	2.680	5.25	27.61
+ ID2= 2 (9001):	301.15	10.176	5.25	28.13
ID = 3 (1068):	369.09	12.856	5.25	28.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5068)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5068.0) ------>

Distance	Elevation	Manning	
0.00	243.69	0.1000	
1.05	244.22	0.1000	
19.37	243.89	0.1000	
41.05	239.31	0.1000	
42.39	239.06	0.1000	
54.90	238.66	0.1000	
104.87	239.47	0.1000	
187.22	239.06	0.1000	
198.63	238.28	0.1000	
214.93	233.81	0.1000 /0.0440	Main Channel
224.74	232.68	0.0440	Main Channel
234.23	233.89	0.0440 /0.1000	Main Channel
244.57	237.42	0.1000	
253.16	237.28	0.1000	
264.49	238.25	0.1000	
303.31	239.05	0.1000	
336.23	238.84	0.1000	
370.20	238.82	0.1000	
618.04	242.11	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.57	233.24	.503E+04	2.0	0.75	42.17
1.13	233.81	.201E+05	12.6	1.20	26.56
1.74	234.42	.447E+05	43.5	1.86	17.13
2.35	235.03	.741E+05	90.1	2.32	13.71

2.97	235.65	.108E+06	151.2	2.67	11.92
3.58	236.26	.147E+06	226.7	2.95	10.80
4.19	236.87	.190E+06	316.7	3.18	10.02
4.80	237.48	.241E+06	415.4	3.29	9.67
5.42	238.10	.310E+06	540.6	3.33	9.55
6.03	238.71	.399E+06	666.7	3.19	9.97
6.64	239.32	.651E+06	821.2	2.41	13.21
7.25	239.93	.110E+07	1176.4	2.04	15.63
7.87	240.55	.162E+07	1669.2	1.97	16.15
8.48	241.16	.219E+07	2289.5	2.00	15.94
9.09	241.77	.282E+07	3040.5	2.06	15.45
9.70	242.38	.350E+07	3971.5	2.17	14.69
10.32	243.00	.419E+07	5093.0	2.32	13.72
10.93	243.61	.489E+07	6341.8	2.48	12.85
11.54	244.22	.560E+07	7596.9	2.59	12.28

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1068)	369.09	12.86	5.25	28.03	1.13	1.20
OUTFLOW: ID= 1 (5068)	369.09	10.41	5.75	28.03	1.01	1.06

CALIB			
STANDHYD (0068)	Area (ha)= 67.87		
ID= 1 DT=15.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 22.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	16.29	51.58	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.70	
Length (m)=	672.66	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	22.67	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.60 (ii)	56.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
		TOTALS	
PEAK FLOW (cms)=	1.39	1.69	2.628 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	72.10	36.54	44.36
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.50	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2068)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0068):	67.87	2.628	5.25	44.36

ADD HYD (2068)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0068):	67.87	2.628	5.25	44.36
+ ID2= 2 (5068):	369.09	10.410	5.75	28.03
ID = 3 (2068):	436.96	12.540	5.75	30.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0075)	Area (ha)= 90.63		
ID= 1 DT=15.0 min	Total Imp(%)= 59.00	Dir. Conn.(%)= 54.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	53.47	37.16	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.00	
Length (m)=	777.30	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	29.90	
over (min)	15.00	30.00	
Storage Coeff. (min)=	11.40 (ii)	66.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.08	0.02	
		TOTALS	
PEAK FLOW (cms)=	4.56	1.58	5.735 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	72.10	45.45	59.84
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.62	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1074)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0075):	90.63	5.735	5.25	59.84
+ ID2= 2 (2068):	436.96	12.540	5.75	30.57
ID = 3 (1074):	527.59	15.838	5.25	35.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5074)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5074.0) ------>

Distance	Elevation	Manning	
0.00	237.79	0.1000	
113.79	235.41	0.1000	
164.89	228.84	0.1000 /0.0440	Main Channel
166.86	228.66	0.0440	Main Channel

168.93	229.03	0.0440 /0.1000	Main Channel
184.89	232.46	0.1000	
190.40	232.85	0.1000	
196.98	234.94	0.1000	
215.36	235.65	0.1000	
232.15	237.32	0.1000	
254.34	236.11	0.1000	
290.72	237.19	0.1000	
335.58	237.37	0.1000	
355.30	236.87	0.1000	
416.53	238.54	0.1000	
454.71	237.66	0.1000	
532.81	237.74	0.1000	
585.25	238.79	0.1000	
633.15	238.27	0.1000	
651.47	238.62	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	228.84	.883E+02	0.1	0.42	13.12
0.70	229.36	.119E+04	3.7	1.03	5.33
1.23	229.89	.342E+04	13.1	1.26	4.34
1.75	230.41	.677E+04	29.3	1.43	3.85
2.27	230.93	.112E+05	53.3	1.56	3.51
2.80	231.46	.168E+05	86.4	1.69	3.25
3.32	231.98	.236E+05	129.4	1.81	3.04
3.85	232.51	.314E+05	182.7	1.92	2.87
4.37	233.03	.408E+05	246.6	1.99	2.76
4.89	233.55	.514E+05	329.5	2.11	2.60
5.42	234.08	.630E+05	426.4	2.23	2.46
5.94	234.60	.756E+05	537.9	2.34	2.34
6.46	235.12	.893E+05	650.4	2.40	2.29
6.99	235.65	.106E+06	732.6	2.28	2.41
7.51	236.17	.128E+06	845.2	2.17	2.53
8.04	236.70	.158E+06	973.3	2.02	2.71
8.56	237.22	.200E+06	1148.0	1.89	2.90
9.08	237.74	.263E+06	1390.2	1.74	3.15
9.61	238.27	.349E+06	1932.2	1.82	3.01

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1074)	527.59	15.84	5.25	35.60	1.32	1.29
OUTFLOW: ID= 1 (5074)	527.59	16.22	5.50	35.60	1.33	1.29

CALIB			
STANDHYD (0074)	Area (ha)= 22.67		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 40.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	11.34	11.34	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.50	
Length (m)=	388.76	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	33.35	
over (min)	15.00	30.00	
Storage Coeff. (min)=	7.20 (ii)	41.40 (ii)	

```
Unit Hyd. Tpeak (min)=      15.00        45.00
Unit Hyd. peak  (cms)=       0.10         0.03
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.85         0.69          1.475 (iii)
TIME TO PEAK    (hrs)=       5.25         5.50          5.25
RUNOFF VOLUME    (mm)=      72.10        48.00         57.64
TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
RUNOFF COEFFICIENT   =       0.99         0.66          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2074) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0074):    22.67   1.475     5.25    57.64
       + ID2= 2 (5074):   527.59  16.216     5.50    35.60
         ================================================
         ID = 3 (2074):   550.26  17.222     5.50    36.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1073) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2065):   781.42  19.857     6.25    38.43
       + ID2= 2 (2074):   550.26  17.222     5.50    36.50
         ================================================
         ID = 3 (1073):  1331.68  35.100     6.00    37.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0073)  |   Area    (ha)=  52.49
|ID= 1 DT=15.0 min  |   Total Imp(%)=  52.00   Dir. Conn.(%)=  44.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.29        25.20
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     591.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        30.74
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   53.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                  *TOTALS*
     PEAK FLOW       (cms)=       2.16         1.21          3.081 (iii)
```



```
TIME TO PEAK    (hrs)=       5.25         5.75          5.25
RUNOFF VOLUME    (mm)=      72.10        44.91         56.87
TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
RUNOFF COEFFICIENT   =       0.99         0.61          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2073) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0073):    52.49   3.081     5.25    56.87
       + ID2= 2 (1073):  1331.68  35.100     6.00    37.64
         ================================================
         ID = 3 (2073):  1384.17  36.907     6.00    38.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| DUHYD     (9013) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):1384.17     36.91      6.00   38.37
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):1384.17     36.91      6.00   38.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6013) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.8550     10.8920
                          0.0000     0.0000   |   4.2540     12.9360
                          0.0400     0.8560   |   4.6190     15.0330
                          0.1500     1.7950   |   4.9570     17.1840
                          0.5660     2.8160   |   5.2730     19.3870
                          0.7780     3.9200   |   5.6900     20.1320
                          0.9440     5.1060   |   9.2940     23.1620
                          1.1480     6.9760   |  13.1840     25.4880
                          1.3740     7.6130   |  17.8240     27.8720
                          3.1710     8.9050   |   0.0000      0.0000
                          3.5640     9.5610   |   0.0000      0.0000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9013)   1384.170     36.907      6.00      38.37
     OUTFLOW: ID= 1 (6013)   1384.170     17.951      8.00      38.36
```



```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 48.64
                TIME SHIFT OF PEAK FLOW        (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 28.0851

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-------------------
| ADD HYD   (4013) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9013 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6013):  1384.17  17.951     8.00    38.36
       + ID2= 2 (9013):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4013):  1384.17  17.951     8.00    38.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5081) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5081.0) ------>
              Distance      Elevation       Manning
                 0.00         225.82        0.1000
                 5.97         224.62        0.1000
                29.57         222.64        0.1000
                40.42         222.57        0.1000
                76.56         222.70        0.1000
                80.13         222.70        0.1000
                86.10         222.50        0.1000
                92.53         222.61        0.1000
                98.56         222.41        0.1000
                98.87         222.40        0.1000
               105.10         222.00   0.1000 /0.0440  Main Channel
               110.31         221.50        0.0440     Main Channel
               112.61         221.67        0.0440     Main Channel
               114.64         221.50        0.0440     Main Channel
               114.83         221.49        0.0440     Main Channel
               116.29         222.00   0.0440 /0.1000  Main Channel
               119.94         222.25        0.1000
               167.66         226.18        0.1000

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.17   221.66    .987E+03        0.2         0.35      87.86
      0.34   221.83    .345E+04        1.2         0.65      47.66
      0.51   222.00    .662E+04        3.1         0.86      35.87
      0.75   222.24    .132E+05        8.0         1.12      27.52
      0.99   222.48    .229E+05       15.2         1.23      25.11
      1.23   222.72    .475E+05       25.7         1.00      30.83
      1.46   222.95    .917E+05       46.2         0.94      33.04
      1.70   223.19    .138E+06       74.5         1.00      30.96
      1.94   223.43    .188E+06      109.8         1.08      28.50
      2.18   223.67    .240E+06      151.7         1.17      26.33
      2.42   223.91    .294E+06      200.1         1.26      24.49
      2.66   224.15    .351E+06      254.8         1.35      22.95
      2.90   224.39    .410E+06      316.0         1.43      21.64
```



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      3.14   224.63    .472E+06      383.6         1.51      20.52
      3.37   224.86    .537E+06      460.0         1.59      19.44
      3.61   225.10    .603E+06      542.8         1.67      18.50
      3.85   225.34    .670E+06      632.0         1.75      17.68
      4.09   225.58    .740E+06      727.6         1.82      16.95
      4.33   225.82    .811E+06      829.6         1.90      16.30

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (4013) 1384.17    17.95    8.00  38.36      1.05      1.16
     OUTFLOW: ID= 1 (5081) 1384.17    17.42    8.50  38.36      1.04      1.17

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| CALIB             |
| STANDHYD  (0081)  |   Area    (ha)= 131.60
|ID= 1 DT=15.0 min  |   Total Imp(%)=  44.00   Dir. Conn.(%)=  36.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.90        73.70
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=     936.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        31.34
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   69.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                  *TOTALS*
     PEAK FLOW       (cms)=       4.41         3.18          6.382 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      72.10        47.12         56.11
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.64          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2081) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0081):   131.60   6.382     5.25    56.11
       + ID2= 2 (5081):  1384.17  17.417     8.50    38.36
         ================================================
         ID = 3 (2081):  1515.77  19.005     8.25    39.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5446) |
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| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5446.0) ------>

Distance	Elevation	Manning	
0.00	217.81	0.1000	
11.08	216.00	0.1000	
36.54	215.00	0.1000	
55.05	214.88	0.1000	
57.65	214.50	0.1000	
65.88	212.00	0.1000 /0.0440	Main Channel
65.89	212.00	0.0440	Main Channel
68.31	211.78	0.0440	Main Channel
71.62	211.62	0.0440	Main Channel
74.08	211.60	0.0440	Main Channel
82.25	211.66	0.0440	Main Channel
86.11	212.00	0.0440	Main Channel
86.23	212.02	0.0440 /0.1000	Main Channel
94.33	213.50	0.1000	
134.71	215.48	0.1000	
170.10	216.00	0.1000	
190.26	216.67	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	211.80	.388E+04	1.2	0.50	56.18
0.40	212.00	.994E+04	4.7	0.79	35.45
0.67	212.27	.199E+05	14.2	1.20	23.33
0.95	212.55	.309E+05	27.8	1.52	18.54
1.22	212.82	.431E+05	45.1	1.77	15.91
1.50	213.50	.564E+05	66.1	1.98	14.22
1.77	213.37	.708E+05	90.5	2.16	13.03
2.05	213.65	.865E+05	118.0	2.30	12.23
2.32	213.92	.105E+06	149.2	2.39	11.75
2.60	214.20	.127E+06	184.8	2.46	11.43
2.87	214.47	.151E+06	224.9	2.51	11.22
3.15	214.75	.179E+06	269.4	2.53	11.09
3.42	215.02	.213E+06	313.7	2.48	11.31
3.70	215.30	.257E+06	372.2	2.44	11.52
3.97	215.57	.308E+06	435.1	2.38	11.79
4.25	215.85	.369E+06	503.4	2.30	12.21
4.52	216.12	.441E+06	588.7	2.25	12.48
4.80	216.40	.519E+06	690.4	2.24	12.53
5.07	216.67	.602E+06	802.7	2.25	12.49

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2081)	1515.77	19.01	8.25	39.90	0.77	1.30
OUTFLOW: ID= 1 (5446)	1515.77	18.82	8.50	39.90	0.77	1.29

CALIB	
STANDHYD (0446)	Area (ha)= 124.88
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 28.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.71	81.17
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.90
Length (m)=	912.43	40.00

Mannings n	=	0.013	0.250			
Max.Eff.Inten.(mm/hr)	=	33.63	28.01			
over (min)		15.00	30.00			
Storage Coeff. (min)	=	11.40 (ii)	66.60 (ii)			
Unit Hyd. Tpeak (min)	=	15.00	60.00			
Unit Hyd. peak (cms)	=	0.08	0.02			
				TOTALS		
PEAK FLOW (cms)	=	3.26	3.17	5.578 (iii)		
TIME TO PEAK (hrs)	=	5.25	6.00	5.25		
RUNOFF VOLUME (mm)	=	72.10	42.67	50.91		
TOTAL RAINFALL (mm)	=	73.10	73.10	73.10		
RUNOFF COEFFICIENT	=	0.99	0.58	0.70		

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2446)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0446):	124.88	5.578	5.25	50.91
+ ID2= 2 (5446):	1515.77	18.822	8.50	39.90
ID = 3 (2446):	1640.65	20.129	8.25	40.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5110)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5110.0) ------>

Distance	Elevation	Manning	
0.00	210.19	0.1000	
21.36	209.50	0.1000	
46.49	206.88	0.1000	
52.44	205.50	0.1000 /0.0440	Main Channel
56.57	203.68	0.0440	Main Channel
58.67	203.50	0.0440	Main Channel
62.44	203.66	0.0440	Main Channel
67.42	205.50	0.0440 /0.1000	Main Channel
71.31	206.50	0.1000	
89.08	207.50	0.1000	
149.36	207.99	0.1000	
149.52	208.00	0.1000	
155.13	208.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.75	.141E+04	0.6	0.64	36.91
0.50	204.00	.384E+04	3.0	1.10	21.46
0.75	204.25	.672E+04	6.8	1.43	16.47
1.00	204.50	.100E+05	12.1	1.71	13.82

1.25	204.75	.138E+05	19.0	1.94	12.13	
1.50	205.00	.180E+05	27.5	2.16	10.93	
1.75	205.25	.226E+05	37.7	2.36	10.01	
2.00	205.50	.277E+05	49.8	2.54	9.28	
2.27	205.77	.339E+05	68.3	2.85	8.28	
2.55	206.05	.410E+05	89.4	3.09	7.64	
2.82	206.32	.489E+05	113.3	3.27	7.20	
3.09	206.59	.578E+05	139.7	3.42	6.90	
3.36	206.86	.687E+05	169.1	3.48	6.77	
3.64	207.14	.822E+05	201.9	3.48	6.78	
3.91	207.41	.985E+05	239.1	3.44	6.86	
4.18	207.68	.120E+06	277.9	3.27	7.20	
4.45	207.95	.155E+06	326.8	2.98	7.91	
4.73	208.23	.200E+06	392.5	2.78	8.48	
5.00	208.50	.247E+06	469.4	2.69	8.75	

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2446)	1640.65	20.13	8.25	40.74	1.28	1.97
OUTFLOW: ID= 1 (5110)	1640.65	20.11	8.50	40.74	1.28	1.97

CALIB	
STANDHYD (0110)	Area (ha)= 86.93
ID= 1 DT=15.0 min	Total Imp(%)= 36.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	31.29	55.64
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	761.27	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	29.62
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	2.43	2.36 4.203 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	72.10	46.30 54.04
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.63 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2110)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0110):	86.93	4.203	5.25	54.04

ID2= 2 (5110):	1640.65	20.112	8.50	40.74
ID = 3 (2110):	1727.58	21.041	8.50	41.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5721)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5721.0) ------>

Distance	Elevation	Manning	
0.00	199.53	0.1000	
12.53	199.00	0.1000	
12.61	199.00	0.1000	
22.51	197.82	0.1000 /0.0440	Main Channel
24.05	197.50	0.0440	Main Channel
30.35	196.57	0.0440	Main Channel
32.97	196.00	0.0440	Main Channel
34.58	195.50	0.0440	Main Channel
38.37	195.83	0.0440	Main Channel
39.72	196.22	0.0440	Main Channel
45.13	197.31	0.0440	Main Channel
49.32	197.68	0.0440 /0.1000	Main Channel
62.29	198.50	0.1000	
76.95	199.00	0.1000	
82.76	199.28	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	195.70	.369E+03	0.1	0.46	46.56
0.40	195.90	.145E+04	0.9	0.77	27.85
0.59	196.09	.297E+04	2.4	1.05	20.39
0.79	196.29	.489E+04	4.8	1.25	17.02
0.99	196.49	.727E+04	8.1	1.43	14.94
1.19	196.69	.102E+05	12.5	1.57	13.56
1.39	196.89	.136E+05	18.2	1.71	12.49
1.59	197.09	.177E+05	25.5	1.84	11.56
1.78	197.28	.223E+05	34.5	1.98	10.77
1.98	197.48	.277E+05	44.4	2.05	10.38
2.18	197.68	.339E+05	57.1	2.15	9.90
2.38	197.88	.411E+05	76.1	2.37	9.00
2.58	198.08	.495E+05	99.1	2.56	8.33
2.78	198.28	.592E+05	125.0	2.70	7.89
2.98	198.48	.701E+05	153.9	2.81	7.59
3.18	198.68	.825E+05	185.7	2.88	7.40
3.38	198.88	.968E+05	221.1	2.92	7.30
3.58	199.08	.113E+06	260.2	2.94	7.24
3.78	199.28	.132E+06	303.3	2.95	7.23

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2110)	1727.58	21.04	8.50	41.41	1.47	1.76
OUTFLOW: ID= 1 (5721)	1727.58	21.01	8.50	41.41	1.46	1.76

CALIB	
STANDHYD (0721)	Area (ha)= 44.92

|ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 31.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.07	27.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	547.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	31.00
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.30	1.38	2.373 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	72.10	48.01	55.48
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.66	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2721)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0721):	44.92	2.373	5.25	55.48
	+ ID2= 2 (5721):	1727.58	21.008	8.50	41.41
	ID = 3 (2721):	1772.50	21.443	8.50	41.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0699)			
ID= 1 DT=15.0 min	Area (ha)=	49.10	Curve Number (CN)= 77.0
	Ia (mm)=	7.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.37	

Unit Hyd Qpeak (cms)= 5.138

PEAK FLOW	(cms)=	2.114 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	29.963
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.410

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0540)		
	Area (ha)=	11.06

|ID= 1 DT=15.0 min | Total Imp(%)= 55.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	4.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	271.54	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	36.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.46	0.35	0.787 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	72.10	52.47	61.30
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.72	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9214)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=0.031					
#of Inlets= 1					
Total(cms)= 0.0		(ha)	(cms)	(hrs)	(mm)
	TOTAL HYD.(ID= 1):	11.06	0.79	5.25	61.30
	MAJOR SYS.(ID= 2):	9.24	0.76	5.25	61.30
	MINOR SYS.(ID= 3):	1.82	0.03	2.50	61.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6214)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0280	0.3760
	0.0230	0.2300	0.0290	0.4150
	0.0240	0.2640	0.0300	0.4560
	0.0260	0.3000	0.0310	0.4990
	0.0270	0.3370	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9214)	1.821	0.031	2.50	61.30
OUTFLOW: ID= 1 (6214)	1.821	0.009	12.75	59.92

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.01
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.0899

ADD HYD (4214)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6214):	1.82	0.009	12.75	59.92
	+ ID2= 2 (9214):	9.24	0.756	5.25	61.30
	ID = 3 (4214):	11.06	0.759	5.25	61.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0539)		
ID= 1 DT=15.0 min	Area (ha)=	12.31
	Total Imp(%)=	53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.52	5.79
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.20
Length	(m)=	286.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	27.04
over (min)		15.00	15.00
Storage Coeff. (min)=		4.80 (ii)	27.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.61	0.34	0.947 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	46.03	59.85
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.63	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9381)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=1.587					
#of Inlets= 1					
Total(cms)= 1.6		(ha)	(cms)	(hrs)	(mm)
	TOTAL HYD.(ID= 1):	12.31	0.95	5.25	59.85
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	12.31	0.95	5.25	59.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6381)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0140	0.4484
	0.0100	0.1881	0.1560	0.5370
	0.0110	0.2208	0.7460	0.6320
	0.0120	0.2905	1.5870	0.7334
	0.0130	0.3662	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9381)	12.310	0.947	5.25	59.85
OUTFLOW: ID= 1 (6381)	12.310	0.196	7.00	59.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.66
TIME SHIFT OF PEAK FLOW (min)=105.00
MAXIMUM STORAGE USED (ha.m.)= 0.5438

ADD HYD (4381)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G : HYDROGRAPH 9381 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
	ID1= 1 (6381):	12.31	0.196	7.00	59.46
	+ ID2= 2 (9381):	0.00	0.000	0.00	0.00
	ID = 3 (4381):	12.31	0.196	7.00	59.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1699)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (4214):	11.06	0.759	5.25	61.08
	+ ID2= 2 (4381):	12.31	0.196	7.00	59.46
	ID = 3 (1699):	23.37	0.772	5.25	60.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2699)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0699):	49.10	2.114	5.25	29.96
	+ ID2= 2 (1699):	23.37	0.772	5.25	60.22
	ID = 3 (2699):	72.47	2.886	5.25	39.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0535)	Area (ha)= 43.13
ID= 1 DT=15.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	25.02	18.11
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.60
Length	(m)=	536.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	33.12
over (min)		15.00	15.00
Storage Coeff. (min)=		7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.97 1.09 2.962 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	72.10 46.92 59.26
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.64 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9282)					
Inlet Cap.=5.313					
#of Inlets= 1					
Total(cms)= 5.3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	43.13	2.96	5.25	59.26	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	43.13	2.96	5.25	59.26	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6282)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0900	0.5455
	0.0350	0.1299	0.6640	0.6004
	0.0540	0.2338	1.8780	0.6553
	0.0680	0.3377	3.4510	0.7101
	0.0800	0.4416	5.3130	0.7650

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9282)	43.130	2.962	5.25	59.26
OUTFLOW: ID= 1 (6282)	43.130	2.864	5.25	59.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 96.70

TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.6940

ADD HYD (4282)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9282 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6282):	43.13	2.864	5.25	59.24
+ ID2= 2 (9282):	0.00	0.000	0.00	0.00
ID = 3 (4282):	43.13	2.864	5.25	59.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0541)	Area (ha)= 35.37				
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 41.00				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.39	16.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	11.30
Length	(m)=	485.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	35.81
over (min)		15.00	15.00
Storage Coeff. (min)=		5.40 (ii)	33.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	1.35 1.28 2.634 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 51.14 59.74
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.70 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9281)					
Inlet Cap.=7.470					
#of Inlets= 1					
Total(cms)= 7.5	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	35.37	2.63	5.25	59.74	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	35.37	2.63	5.25	59.74	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6281)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2800	0.5448
	0.0200	0.8450	0.7000	0.6092
	0.0300	0.2238	2.1800	0.6713
	0.0400	0.3704	4.5300	0.7352
	0.0500	0.4902	7.4700	0.8009

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9281)	35.370	2.634	5.25	59.74
OUTFLOW: ID= 1 (6281)	35.370	5.202	5.25	59.37

PEAK FLOW REDUCTION [Qout/Qin](%)=197.54
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.9859

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.
**** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.

ADD HYD (4281)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9281 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6281):	35.37	5.202	5.25	59.37
+ ID2= 2 (9281):	0.00	0.000	0.00	0.00
ID = 3 (4281):	35.37	5.202	5.25	59.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2535)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4281):	35.37	5.202	5.25	59.37
+ ID2= 2 (4282):	43.13	2.864	5.25	59.24
ID = 3 (2535):	78.50	8.066	5.25	59.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2541)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2535):	78.50	8.066	5.25	59.29

+ ID2= 2 (2699):	72.47	2.886	5.25	39.72
ID = 3 (2541):	150.97	10.952	5.25	49.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1130)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2541):	150.97	10.952	5.25	49.90
+ ID2= 2 (9001):	0.00	0.000	0.00	0.00
ID = 3 (1130):	150.97	10.952	5.25	49.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0532)	Area (ha)= 8.69				
ID= 1 DT=15.0 min	Total Imp(%)= 27.00 Dir. Conn.(%)= 21.00				

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.35	6.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	240.69	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.13
over (min)		15.00	30.00
Storage Coeff. (min)=		5.40 (ii)	31.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.17 0.31 0.485 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 38.70 45.71
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.53 0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2532)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0532):	8.69	0.485	5.25	45.71
+ ID2= 2 (1130):	150.97	10.952	5.25	49.90
ID = 3 (2532):	159.66	11.437	5.25	49.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9000)	Inlet Cap.=*****	#of Inlets= 1	Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):				159.66	11.44	5.25	49.67
MAJOR SYS.(ID= 2):				0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):				159.66	11.44	5.25	49.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6000) | IN= 2---> OUT= 1 | DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.5300	11.9290
	0.6800	2.1800	1.8100	17.4390
	1.1800	6.8490	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9000)	159.660	11.437	5.25	49.67
OUTFLOW: ID= 1 (6000)	159.660	0.919	8.50	49.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.03
TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 4.4125

ADD HYD (4000) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 0000 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6000):	159.66	0.919	8.50	49.66
+ ID2= 2 (9000):	0.00	0.000	0.00	0.00
ID = 3 (4000):	159.66	0.919	8.50	49.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | NASHYD (0542) | ID= 1 DT=15.0 min	Area (ha)= 5.19	Curve Number (CN)= 78.0	Ia (mm)= 7.30	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 0.17

Unit Hyd Qpeak (cms)= 1.153

PEAK FLOW (cms)= 0.233 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 26.391

TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.361

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2542) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0542):	5.19	0.233	5.25	26.39
+ ID2= 2 (4000):	159.66	0.919	8.50	49.66
ID = 3 (2542):	164.85	0.944	8.25	48.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0130) | ID= 1 DT=15.0 min	Area (ha)= 99.94	Total Imp(%)= 47.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	46.97	52.97
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.50
Length	(m)=	816.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	32.29
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	3.54	2.59 5.523 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	72.10	47.54 56.87
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.65 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2130) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0130):	99.94	5.523	5.25	56.87
+ ID2= 2 (2542):	164.85	0.944	8.25	48.93
ID = 3 (2130):	264.79	6.230	5.25	51.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5550) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5550.0) ------>

Distance	Elevation	Manning	
0.00	209.58	0.1000	
3.56	209.62	0.1000	
42.74	208.52	0.1000	
77.30	208.87	0.1000	
107.41	207.79	0.1000	
124.03	207.40	0.1000 /0.0440	Main Channel
150.79	206.87	0.0440	Main Channel
152.45	206.85	0.0440	Main Channel
162.04	206.90	0.0440	Main Channel
164.71	206.92	0.0440	Main Channel
184.43	207.42	0.0440	Main Channel
186.09	207.46	0.0440 /0.1000	Main Channel
213.15	208.26	0.1000	
241.57	209.72	0.1000	
256.40	208.62	0.1000	
290.72	210.48	0.1000	
292.65	210.48	0.1000	
306.25	210.74	0.1000	
413.63	210.84	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	206.99	.251E+04	0.8	0.39	55.21
0.28	207.13	.762E+04	3.6	0.61	35.24
0.41	207.26	.149E+05	9.0	0.78	27.54
0.55	207.40	.244E+05	17.6	0.93	23.15
0.70	207.55	.368E+05	32.8	1.15	18.69
0.84	207.69	.512E+05	52.9	1.34	16.15
0.99	207.84	.677E+05	77.2	1.48	14.61
1.13	207.98	.860E+05	106.0	1.60	13.53
1.28	208.13	.106E+06	139.0	1.70	12.71
1.42	208.27	.128E+06	176.2	1.79	12.07
1.57	208.42	.151E+06	218.0	1.87	11.52
1.71	208.56	.175E+06	262.8	1.94	11.12
1.86	208.71	.204E+06	310.0	1.97	10.97
2.00	208.85	.239E+06	363.7	1.97	10.94
2.15	209.00	.278E+06	426.8	1.99	10.85
2.29	209.14	.319E+06	496.3	2.01	10.72
2.44	209.29	.363E+06	571.9	2.04	10.58
2.58	209.43	.409E+06	653.6	2.07	10.44
2.73	209.58	.458E+06	741.6	2.10	10.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2130)	264.79	6.23	5.25	51.93	0.34	0.68
OUTFLOW: ID= 1 (5550)	264.79	5.03	5.50	51.93	0.31	0.65

CALIB | STANDHYD (0550) | ID= 1 DT=15.0 min	Area (ha)= 48.26	Total Imp(%)= 34.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.41	31.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.80
Length	(m)=	567.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	26.39
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	47.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.02
			TOTALS
PEAK FLOW	(cms)=	1.35	1.39 2.584 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	72.10	41.82 50.90
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.57 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2550) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0550):	48.26	2.584	5.25	50.90
+ ID2= 2 (5550):	264.79	5.026	5.50	51.93
ID = 3 (2550):	313.05	7.290	5.25	51.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5144) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5144.0) ------>

Distance	Elevation	Manning	
0.00	208.27	0.1000	
28.32	207.87	0.1000	
28.56	207.85	0.1000	
31.58	206.89	0.1000	
40.26	204.20	0.1000 /0.0440	Main Channel
43.45	203.21	0.0440	Main Channel
48.11	205.04	0.0440 /0.1000	Main Channel
55.33	207.89	0.1000	
67.35	208.20	0.1000	
92.04	207.79	0.1000	
193.51	208.52	0.1000	
218.35	209.53	0.1000	
291.67	210.56	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.46	.100E+03	0.0	0.24	39.00
0.50	203.71	.402E+03	0.3	0.39	24.57
0.74	203.95	.904E+03	0.8	0.51	18.75
0.99	204.20	.161E+04	1.7	0.61	15.48
1.26	204.47	.261E+04	3.5	0.75	12.60
1.53	204.74	.385E+04	5.8	0.85	11.12
1.80	205.01	.534E+04	8.7	0.93	10.18
2.08	205.29	.706E+04	12.9	1.04	9.13
2.35	205.56	.903E+04	17.9	1.12	8.43
2.62	205.83	.112E+05	23.6	1.19	7.94
2.89	206.10	.137E+05	30.2	1.25	7.56
3.16	206.37	.164E+05	37.5	1.30	7.27
3.43	206.64	.193E+05	45.8	1.35	7.03
3.70	206.91	.225E+05	54.8	1.39	6.83
3.97	207.18	.259E+05	64.8	1.42	6.66
4.25	207.46	.295E+05	75.7	1.46	6.51
4.52	207.73	.334E+05	87.5	1.49	6.37
4.79	208.00	.405E+05	93.1	1.31	7.25
5.06	208.27	.594E+05	108.4	1.04	9.14

		<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)		MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2550)	313.05	7.29	5.25	51.77		1.67	0.89
OUTFLOW: ID= 1 (5144)	313.05	7.03	5.50	51.77		1.65	0.88

CALIB	
STANDHYD (0144)	Area (ha)= 57.15
ID= 1 DT=15.0 min	Total Imp(%)= 78.00 Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	44.58	12.57
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	617.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	32.10
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	58.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.10	0.65	4.618 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	72.10	54.81	68.12
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.75	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2144)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0144):	57.15	4.618	5.25	68.12
	+ ID2= 2 (5144):	313.05	7.035	5.50	51.77
	ID = 3 (2144):	370.20	11.156	5.25	54.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0133)	Area (ha)= 124.55
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.77	59.78
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	911.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	35.08
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	4.85	2.80	6.621 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	72.10	50.86	59.78
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.70	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0157)	Area (ha)= 123.16
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 46.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.74	55.42
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	906.13	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	34.78
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	82.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	5.25	2.50	6.810 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	72.10	50.74	60.57
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.69	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2157)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0133):	124.55	6.621	5.25	59.78
	+ ID2= 2 (0157):	123.16	6.810	5.25	60.57
	ID = 3 (2157):	247.71	13.431	5.25	60.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0156)	Area (ha)= 110.69
ID= 1 DT=15.0 min	Total Imp(%)= 64.00 Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.84	39.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80
Length	(m)=	859.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	36.97
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	5.74	1.97	7.008 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	72.10	53.95	64.11
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.74	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2156)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0156):	110.69	7.008	5.25	64.11
	+ ID2= 2 (2157):	247.71	13.431	5.25	60.17
	ID = 3 (2156):	358.40	20.439	5.25	61.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5166)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5166.0) ------>

Distance	Elevation	Manning	
0.00	217.55	0.1000	
11.14	217.28	0.1000	
32.85	217.25	0.1000	
39.83	217.02	0.1000	
53.80	215.11	0.1000	
167.72	214.15	0.1000	
197.58	214.84	0.1000	
250.68	213.38	0.1000 /0.0440	Main Channel
255.86	213.24	0.0440	Main Channel
258.84	213.31	0.0440	Main Channel
259.52	213.31	0.0440	Main Channel
265.88	213.29	0.0440	Main Channel
268.98	213.36	0.0440 /0.1000	Main Channel
364.18	213.80	0.1000	
385.22	213.65	0.1000	
407.72	214.38	0.1000	
418.33	214.17	0.1000	
471.33	215.45	0.1000	
543.86	215.79	0.1000	
581.28	217.51	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	213.36	.284E+03	0.2	0.18	24.77
0.34	213.58	.297E+04	3.3	0.30	15.16
0.56	213.80	.944E+04	11.3	0.33	13.96
0.78	214.02	.190E+05	28.3	0.40	11.22
0.99	214.23	.297E+05	51.0	0.47	9.71
1.21	214.45	.438E+05	81.1	0.50	9.01
1.43	214.67	.613E+05	123.3	0.55	8.28
1.65	214.89	.818E+05	176.9	0.59	7.71
1.87	215.11	.105E+06	243.4	0.63	7.17
2.09	215.33	.129E+06	325.5	0.69	6.61
2.30	215.54	.154E+06	409.3	0.72	6.28
2.52	215.76	.182E+06	496.1	0.74	6.11
2.74	215.98	.211E+06	620.0	0.80	5.68
2.96	216.20	.241E+06	759.1	0.86	5.30
3.18	216.42	.272E+06	910.1	0.91	4.97
3.40	216.64	.302E+06	1072.7	0.97	4.70
3.61	216.85	.333E+06	1246.5	1.02	4.46
3.83	217.07	.365E+06	1429.4	1.07	4.25
4.05	217.29	.397E+06	1584.2	1.09	4.18

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2156)	358.40	20.44	5.25	61.39	0.67	0.36
OUTFLOW: ID= 1 (5166)	358.40	19.20	5.25	61.39	0.66	0.36

CALIB			
STANDHYD (0166)	Area (ha)= 11.81		
ID= 1 DT=15.0 min	Total Imp(%)= 83.00	Dir. Conn.(%)= 83.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.80	2.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.50
Length (m)=	280.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	30.50
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.92	0.12 1.028 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	72.10	54.12 69.04
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.74 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2166)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0166):	11.81	1.028	5.25	69.04
+ ID2= 2 (5166):	358.40	19.204	5.25	61.39
ID = 3 (2166):	370.21	20.232	5.25	61.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5160)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5160.0) ------>

Distance	Elevation	Manning
0.00	220.97	0.1000
17.68	215.64	0.1000
29.90	215.85	0.1000
34.23	215.87	0.1000

296.26	212.66	0.1000	
299.34	211.63	0.1000 /0.0440	Main Channel
304.29	210.00	0.0440	Main Channel
306.02	209.43	0.0440	Main Channel
310.37	211.42	0.0440 /0.1000	Main Channel
313.87	213.06	0.1000	
653.61	215.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	209.71	.349E+02	0.1	0.37	7.47
0.57	210.00	.139E+03	0.5	0.59	4.70
0.85	210.28	.314E+03	1.5	0.77	3.59
1.14	210.57	.558E+03	3.1	0.93	2.96
1.42	210.85	.872E+03	5.7	1.08	2.55
1.71	211.14	.126E+04	9.3	1.22	2.26
1.99	211.42	.171E+04	14.0	1.35	2.04
2.30	211.73	.229E+04	21.6	1.56	1.77
2.62	212.05	.295E+04	31.5	1.76	1.56
2.93	212.36	.370E+04	43.1	1.92	1.43
3.24	212.67	.453E+04	56.3	2.05	1.34
3.56	212.99	.614E+04	71.7	1.93	1.43
3.87	213.30	.985E+04	92.0	1.54	1.79
4.18	213.61	.174E+05	125.0	1.19	2.32
4.50	213.93	.289E+05	175.6	1.00	2.75
4.81	214.24	.443E+05	248.2	0.93	2.98
5.12	214.55	.637E+05	346.9	0.90	3.06
5.44	214.87	.870E+05	475.7	0.90	3.05
5.75	215.18	.114E+06	638.0	0.92	2.98

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2166)	370.21	20.23	5.25	61.63	2.25	1.52
OUTFLOW: ID= 1 (5160)	370.21	20.05	5.25	61.63	2.24	1.51

CALIB			
STANDHYD (0160)	Area (ha)= 41.13		
ID= 1 DT=15.0 min	Total Imp(%)= 62.00	Dir. Conn.(%)= 62.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.50	15.63
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.70
Length (m)=	523.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	28.43
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	2.38	0.81 3.115 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	72.10	49.06 63.34
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.67 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2160)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0160):	41.13	3.115	5.25	63.34
+ ID2= 2 (5160):	370.21	20.050	5.25	61.63
ID = 3 (2160):	411.34	23.165	5.25	61.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5164)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5164.0) ------>

Distance	Elevation	Manning	
0.00	212.78	0.1000	
18.70	212.77	0.1000	
200.84	210.24	0.1000	
234.88	210.16	0.1000	
258.11	210.46	0.1000	
258.43	210.47	0.1000	
263.50	208.74	0.1000 /0.0440	Main Channel
269.32	206.81	0.0440	Main Channel
277.54	208.63	0.0440 /0.1000	Main Channel
291.76	210.46	0.1000	
323.24	210.56	0.1000	
387.30	209.40	0.1000	
387.95	209.38	0.1000	
408.71	210.26	0.1000	
538.36	212.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	207.07	.240E+03	0.1	0.34	45.94
0.52	207.33	.959E+03	0.6	0.54	28.94
0.78	207.59	.216E+04	1.6	0.71	22.08
1.04	207.85	.384E+04	3.5	0.86	18.23
1.30	208.11	.600E+04	6.4	1.00	15.71
1.56	208.37	.863E+04	10.3	1.13	13.91
1.82	208.63	.118E+05	15.6	1.25	12.55
2.12	208.93	.160E+05	24.8	1.46	10.76
2.41	209.22	.212E+05	36.3	1.62	9.71
2.71	209.52	.278E+05	49.7	1.68	9.33
3.00	209.81	.409E+05	66.9	1.54	10.19
3.30	210.11	.613E+05	89.7	1.38	11.40
3.60	210.41	.993E+05	119.8	1.14	13.82
3.89	210.70	.165E+06	166.6	0.95	16.52
4.19	211.00	.246E+06	238.9	0.91	17.18
4.48	211.29	.339E+06	330.8	0.92	17.08

4.78	211.59	.443E+06	443.5	0.94	16.66
5.07	211.88	.559E+06	578.0	0.97	16.12
5.37	212.18	.686E+06	735.6	1.01	15.55

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2160)	411.34	23.17	5.25	61.80	2.06	1.42
OUTFLOW: ID= 1 (5164)	411.34	21.92	5.25	61.80	2.02	1.38

CALIB			
STANDHYD (0164)	Area (ha)= 45.17		
ID= 1 DT=15.0 min	Total Imp(%)= 69.00	Dir. Conn.(%)= 69.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	31.17	14.00
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.20
Length (m)=	548.76	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	29.82
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	2.91	0.74 3.582 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	72.10	52.36 65.98
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.72 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2164)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0164):	45.17	3.582	5.25	65.98
+ ID2= 2 (5164):	411.34	21.917	5.25	61.80
ID = 3 (2164):	456.51	25.499	5.25	62.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0154)	Area (ha)= 31.75		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.37	12.38
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.90
Length	(m)=	460.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.13
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.81	0.67	2.422 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	72.10	50.68	63.74
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.69	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1159)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	31.75	2.422	5.25	63.74
+ ID2= 2 (2164):	456.51	25.499	5.25	62.32
ID = 3 (1159):	488.26	27.922	5.25	62.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5159)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5159.0) ------>

Distance	Elevation	Manning	
0.00	214.26	0.1000	
15.15	209.75	0.1000	
214.62	207.44	0.1000	
237.60	208.06	0.1000	
238.63	207.69	0.1000 /0.0440	Main Channel
243.51	206.03	0.0440	Main Channel
248.17	207.75	0.0440 /0.1000	Main Channel
253.75	209.16	0.1000	
368.44	208.65	0.1000	
396.47	209.34	0.1000	
401.21	210.91	0.1000	
408.62	210.88	0.1000	
414.76	209.90	0.1000	
416.35	209.56	0.1000	
419.98	210.43	0.1000	
428.66	212.47	0.1000	

428.84	212.42	0.1000
434.05	211.02	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	206.27	.421E+02	0.1	0.36	12.23
0.47	206.50	.169E+03	0.4	0.57	7.71
0.71	206.74	.379E+03	1.1	0.75	5.88
0.95	206.98	.674E+03	2.3	0.91	4.85
1.19	207.22	.105E+04	4.2	1.06	4.18
1.42	207.45	.152E+04	6.8	1.19	3.71
1.66	207.69	.309E+04	11.0	0.94	4.70
1.94	207.97	.738E+04	21.4	0.77	5.74
2.21	208.24	.141E+05	39.7	0.74	5.94
2.49	208.52	.228E+05	66.4	0.77	5.72
2.77	208.80	.341E+05	102.4	0.80	5.55
3.05	209.08	.521E+05	154.2	0.79	5.63
3.32	209.35	.762E+05	230.1	0.80	5.52
3.60	209.63	.103E+06	330.8	0.85	5.17
3.88	209.91	.131E+06	461.9	0.94	4.72
4.16	210.19	.159E+06	620.4	1.03	4.28
4.43	210.46	.188E+06	798.9	1.12	3.93
4.71	210.74	.218E+06	996.5	1.21	3.64
4.99	211.02	.248E+06	1205.6	1.29	3.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1159)	488.26	27.92	5.25	62.32	2.04	0.76
OUTFLOW: ID= 1 (5159)	488.26	26.29	5.50	62.32	2.01	0.76

CALIB
STANDHYD (0159) Area (ha)= 10.94
ID= 1 DT=15.0 min Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.42	2.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	270.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	31.16
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.79	0.17	0.954 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	55.97	68.39
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.77	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2159)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0159):	10.94	0.954	5.25	68.39
+ ID2= 2 (5159):	488.26	26.293	5.50	62.32
ID = 3 (2159):	499.20	27.236	5.25	62.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1151)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2144):	370.20	11.156	5.25	54.29
+ ID2= 2 (2159):	499.20	27.236	5.25	62.45
ID = 3 (1151):	869.40	38.393	5.25	58.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5151)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5151.0) ------>

Distance	Elevation	Manning	
0.00	212.00	0.1000	
50.00	204.31	0.1000	
134.63	203.45	0.1000	
205.73	202.20	0.1000	
253.61	202.65	0.1000	
253.97	202.65	0.1000	
254.84	202.67	0.1000	
258.44	201.10	0.1000 /0.0160	Main Channel
264.70	199.68	0.0160	Main Channel
267.15	200.66	0.0160 /0.1000	Main Channel
273.37	202.49	0.1000	
291.37	202.23	0.1000	
375.68	203.79	0.1000	
411.05	210.16	0.1000	
440.50	211.13	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	200.17	.139E+04	1.8	2.11	13.18
0.98	200.66	.554E+04	11.1	3.36	8.30
1.60	201.28	.149E+05	43.4	4.85	5.74
2.21	201.89	.283E+05	101.2	5.98	4.65
2.83	202.51	.660E+05	179.5	4.54	6.13
3.44	203.12	.221E+06	329.9	2.50	11.15
4.06	203.74	.451E+06	567.3	2.10	13.24
4.68	204.36	.760E+06	929.7	2.04	13.63

5.29	204.97	.110E+07	1451.7	2.20	12.66
5.91	205.59	.145E+07	2082.2	2.39	11.63
6.52	206.20	.181E+07	2813.7	2.60	10.73
7.14	206.82	.218E+07	3641.2	2.80	9.96
7.75	207.43	.255E+07	4561.1	2.99	9.32
8.37	208.05	.293E+07	5570.6	3.18	8.77
8.99	208.67	.332E+07	6667.7	3.36	8.29
9.60	209.28	.371E+07	7850.6	3.53	7.89
10.22	209.90	.412E+07	9118.1	3.70	7.53
10.83	210.51	.453E+07	10363.7	3.82	7.29
11.45	211.13	.497E+07	11638.8	3.91	7.11

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1151)	869.40	38.39	5.25	58.98	1.50	4.54
OUTFLOW: ID= 1 (5151)	869.40	37.94	5.50	58.98	1.49	4.51

CALIB
STANDHYD (0151) Area (ha)= 74.96
ID= 1 DT=15.0 min Total Imp(%)= 72.00 Dir. Conn.(%)= 72.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	53.97	20.99
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	706.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.82
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	5.03	0.94	5.758 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	72.10	52.36	66.57
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.72	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2151)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0151):	74.96	5.758	5.25	66.57
+ ID2= 2 (5151):	869.40	37.943	5.50	58.98
ID = 3 (2151):	944.36	42.693	5.25	59.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0093)	Area (ha)= 175.48		
ID= 1 DT=15.0 min	Total Imp(%)= 51.00	Dir. Conn.(%)= 42.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	89.49	85.99	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.30	
Length (m)=	1081.60	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	33.49	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.20 (ii)	77.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
			TOTALS
PEAK FLOW (cms)=	6.84	3.79	9.203 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	72.10	49.11	58.77
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.67	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5549)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5549.0) ------>

Distance	Elevation	Manning	
0.00	227.98	0.1000	
41.86	226.96	0.1000	
67.38	227.16	0.1000	
115.79	225.66	0.1000	
158.71	225.52	0.1000	
214.74	223.93	0.1000	
246.25	223.89	0.1000	
247.96	223.81	0.1000	
263.08	220.73	0.1000 /0.0160	Main Channel
265.84	219.85	0.0160	Main Channel
269.95	220.94	0.0160 /0.1000	Main Channel
278.51	223.27	0.1000	
327.48	223.31	0.1000	
332.73	223.20	0.1000	
383.18	224.76	0.1000	
395.33	224.82	0.1000	
445.70	224.10	0.1000	
465.54	224.23	0.1000	
609.26	227.27	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	220.14	.215E+03	0.4	1.20	10.10
0.59	220.44	.862E+03	2.3	1.90	6.36
0.88	220.73	.194E+04	6.7	2.49	4.86
1.29	221.14	.426E+04	19.9	3.38	3.57
1.70	221.55	.763E+04	40.6	3.86	3.13
2.11	221.96	.120E+05	67.6	4.07	2.97
2.51	222.36	.175E+05	100.9	4.18	2.89
2.92	222.77	.240E+05	140.3	4.24	2.85
3.33	223.18	.315E+05	186.1	4.28	2.82
3.74	223.59	.537E+05	239.9	3.24	3.73
4.15	224.00	.867E+05	307.4	2.57	4.70
4.56	224.41	.141E+06	403.2	2.08	5.81
4.97	224.82	.218E+06	536.2	1.78	6.79
5.38	225.23	.315E+06	732.9	1.69	7.17
5.78	225.63	.423E+06	952.6	1.63	7.41
6.19	226.04	.551E+06	1248.0	1.64	7.36
6.60	226.45	.689E+06	1596.8	1.68	7.19
7.01	226.86	.836E+06	1995.8	1.73	6.98
7.42	227.27	.998E+06	2405.0	1.75	6.91

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0093)	175.48	9.20	5.25	58.77	0.96	2.62
OUTFLOW: ID= 1 (5549)	175.48	8.99	5.25	58.77	0.95	2.61

CALIB			
STANDHYD (0549)	Area (ha)= 32.18		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 40.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	16.09	16.09	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.60	
Length (m)=	463.18	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	34.78	
over (min)	15.00	30.00	
Storage Coeff. (min)=	7.80 (ii)	45.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.02	
			TOTALS
PEAK FLOW (cms)=	1.20	1.00	2.113 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	50.74	59.28
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.69	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2549)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0549):	32.18	2.113	5.25	59.28
+ ID2= 2 (5549):	175.48	8.987	5.25	58.77
ID = 3 (2549):	207.66	11.100	5.25	58.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0531)	Area (ha)= 79.42		
ID= 1 DT=15.0 min	Total Imp(%)= 35.00	Dir. Conn.(%)= 29.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	27.80	51.62	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	4.20	
Length (m)=	727.64	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	28.87	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.60 (ii)	57.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	2.15	2.26	3.860 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	72.10	44.94	52.82
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.61	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1123)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0531):	79.42	3.860	5.25	52.82
+ ID2= 2 (2549):	207.66	11.100	5.25	58.85
ID = 3 (1123):	287.08	14.960	5.25	57.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5123)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5123.0) ------>

Distance	Elevation	Manning	
0.00	221.63	0.1000	
49.32	221.56	0.1000	
108.94	221.01	0.1000	
120.64	220.69	0.1000	
151.95	218.35	0.1000	
162.10	216.92	0.1000	
166.38	215.80	0.1000 /0.0160	Main Channel
169.01	215.15	0.0160	Main Channel
172.24	215.79	0.0160 /0.1000	Main Channel
191.35	219.36	0.1000	
202.67	220.68	0.1000	
243.44	220.80	0.1000	
288.84	220.47	0.1000	
300.34	220.10	0.1000	
334.49	221.22	0.1000	
348.80	221.25	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	215.47	.344E+03	0.9	2.00	6.15
0.64	215.79	.138E+04	5.9	3.18	3.87
0.96	216.11	.311E+04	19.0	4.52	2.72
1.28	216.43	.554E+04	38.2	5.09	2.42
1.60	216.75	.867E+04	63.0	5.37	2.29
1.92	217.07	.125E+05	93.3	5.51	2.24
2.25	217.40	.173E+05	129.4	5.53	2.23
2.57	217.72	.230E+05	171.5	5.50	2.24
2.89	218.04	.297E+05	219.7	5.47	2.25
3.21	218.36	.373E+05	274.3	5.43	2.27
3.53	218.68	.461E+05	334.3	5.35	2.30
3.85	219.00	.564E+05	402.0	5.27	2.34
4.17	219.32	.681E+05	477.6	5.18	2.38
4.49	219.64	.813E+05	560.0	5.09	2.42
4.82	219.97	.961E+05	651.4	5.01	2.46
5.14	220.29	.113E+06	734.6	4.78	2.57
5.46	220.61	.138E+06	824.5	4.43	2.78
5.78	220.93	.180E+06	935.3	3.84	3.20
6.10	221.25	.235E+06	1080.9	3.40	3.62

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1123)	287.08	14.96	5.25	57.18	0.86	4.00
OUTFLOW: ID= 1 (5123)	287.08	14.71	5.25	57.18	0.85	3.97

CALIB			
STANDHYD (0123)	Area (ha)= 21.65		
ID= 1 DT=15.0 min	Total Imp(%)= 42.00	Dir. Conn.(%)= 33.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.09	12.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	379.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	31.77

over (min)	15.00	30.00	
Storage Coeff. (min)=	7.20 (ii)	40.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	0.67	0.73	1.330 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	47.31	55.49
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.65	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2123)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0123):	21.65	1.330	5.25	55.49	
+ ID2= 2 (5123):	287.08	14.705	5.25	57.18	
ID = 3 (2123):	308.73	16.036	5.25	57.06	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5445)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5445.0) ------>

Distance	Elevation	Manning	
0.00	217.15	0.1000	
23.77	216.85	0.1000	
57.10	215.44	0.1000	
113.41	215.01	0.1000	
116.54	215.05	0.1000	
139.11	215.26	0.1000	
185.92	215.20	0.1000	
230.25	214.45	0.1000	
235.73	214.29	0.1000	
267.98	213.04	0.1000 /0.0160	Main Channel
269.89	212.75	0.0160	Main Channel
271.26	212.92	0.0160 /0.1000	Main Channel
292.87	215.83	0.1000	
310.23	215.75	0.1000	
315.65	215.41	0.1000	
331.32	215.86	0.1000	
358.01	217.44	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	212.92	.531E+02	0.3	1.32	3.16
0.39	213.14	.305E+03	2.6	2.17	1.93
0.62	213.37	.935E+03	7.7	2.06	2.03

0.84	213.59	.198E+04	15.6	1.97	2.12
1.06	213.81	.343E+04	26.6	1.94	2.15
1.28	214.03	.530E+04	41.0	1.94	2.16
1.51	214.26	.758E+04	59.2	1.96	2.14
1.73	214.48	.103E+05	80.7	1.96	2.13
1.95	214.70	.138E+05	105.6	1.93	2.17
2.17	214.92	.180E+05	136.9	1.90	2.20
2.40	215.15	.237E+05	164.7	1.75	2.39
2.62	215.37	.341E+05	206.2	1.52	2.75
2.84	215.59	.473E+05	280.9	1.49	2.81
3.06	215.81	.617E+05	372.5	1.51	2.76
3.29	216.04	.777E+05	494.0	1.60	2.62
3.51	216.26	.942E+05	634.4	1.69	2.48
3.73	216.48	.111E+06	791.6	1.79	2.34
3.95	216.70	.129E+06	965.2	1.88	2.22
4.18	216.93	.147E+06	1146.8	1.96	2.13

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2123)	308.73	16.04	5.25	57.06	0.85	1.97
OUTFLOW: ID= 1 (5445)	308.73	15.72	5.25	57.06	0.84	1.97

CALIB	
STANDHYD (0445)	Area (ha)= 47.14
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.98	22.16
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	560.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	37.39
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.45	3.168 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	72.10	54.10	61.66
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.74	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2445)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0445):	47.14	3.168	5.25	61.66	
+ ID2= 2 (5445):	308.73	15.719	5.25	57.06	
ID = 3 (2445):	355.87	18.887	5.25	57.67	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5121)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5121.0) ------>

Distance	Elevation	Manning	
0.00	209.51	0.1000	
18.50	208.32	0.1000	
51.25	205.70	0.1000	
100.36	204.89	0.1000	
124.00	203.76	0.1000	
172.44	203.13	0.1000	
180.24	202.88	0.1000	
186.88	202.01	0.1000 /0.0440	Main Channel
194.59	201.00	0.0440	Main Channel
200.49	202.11	0.0440 /0.1000	Main Channel
208.49	203.60	0.1000	
211.23	203.87	0.1000	
250.29	205.16	0.1000	
290.65	205.13	0.1000	
356.36	205.76	0.1000	
385.25	205.85	0.1000	
434.54	206.45	0.1000	
484.26	205.90	0.1000	
505.84	206.94	0.1000	
561.50	207.35	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	201.25	.658E+03	0.2	0.57	46.37
0.50	201.50	.263E+04	1.5	0.91	29.21
0.76	201.76	.592E+04	4.4	1.19	22.29
1.01	202.01	.105E+05	9.5	1.44	18.40
1.37	202.37	.193E+05	23.3	1.93	13.76
1.72	202.72	.306E+05	43.1	2.25	11.83
2.08	203.08	.453E+05	68.5	2.41	11.03
2.43	203.43	.703E+05	101.3	2.30	11.58
2.79	203.79	.112E+06	147.5	2.10	12.65
3.15	204.15	.166E+06	211.7	2.04	13.05
3.50	204.50	.230E+06	293.6	2.04	13.04
3.86	204.86	.304E+06	394.5	2.07	12.85
4.21	205.21	.397E+06	489.6	1.97	13.52
4.57	205.57	.538E+06	637.4	1.89	14.06
4.93	205.93	.714E+06	835.4	1.87	14.24
5.28	206.28	.931E+06	1091.8	1.87	14.21
5.64	206.64	.118E+07	1428.0	1.92	13.83
5.99	206.99	.145E+07	1832.3	2.02	13.18
6.35	207.35	.174E+07	2254.3	2.07	12.83

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2445)	355.87	18.89	5.25	57.67	1.25	1.74
OUTFLOW: ID= 1 (5121)	355.87	17.84	5.50	57.67	1.22	1.70

CALIB	
STANDHYD (0121)	Area (ha)= 133.85
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.62	60.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	944.63	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	33.14
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	73.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	6.09	2.73	7.830 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	72.10	51.23	61.46
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.70	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2121)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0121):	133.85	7.830	5.25	61.46	
+ ID2= 2 (5121):	355.87	17.838	5.50	57.67	
ID = 3 (2121):	489.72	25.170	5.25	58.70	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5136)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5136.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel

80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.816E+02	0.0	0.27	52.78
0.20	195.20	.326E+03	0.2	0.42	33.25
0.29	195.29	.734E+03	0.5	0.56	25.37
0.39	195.39	.130E+04	1.0	0.68	20.88
0.49	195.49	.203E+04	1.9	0.79	17.97
0.61	195.61	.310E+04	3.6	0.99	14.22
0.74	195.74	.428E+04	5.9	1.16	12.15
0.86	195.86	.557E+04	8.6	1.31	10.82
0.98	195.98	.698E+04	12.0	1.46	9.68
1.11	196.11	.865E+04	16.0	1.57	9.01
1.23	196.23	.108E+05	20.6	1.62	8.74
1.35	196.35	.134E+05	25.9	1.64	8.63
1.48	196.48	.166E+05	32.0	1.64	8.61
1.60	196.60	.202E+05	38.9	1.64	8.63
1.73	196.73	.245E+05	46.4	1.61	8.80
1.85	196.85	.299E+05	55.2	1.57	9.02
1.97	196.97	.362E+05	65.3	1.53	9.25
2.10	197.10	.436E+05	76.7	1.49	9.48
2.22	197.22	.521E+05	89.7	1.46	9.68

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2121)	489.72	25.17	5.25	58.70	1.34	1.63
OUTFLOW: ID= 1 (5136)	489.72	24.12	5.50	58.70	1.31	1.63

CALIB / STANDHYD (0136) / ID= 1 DT=15.0 min	Area (ha)= 79.16 / Total Imp(%)= 52.00	Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	41.16	38.00
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	726.45	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	35.05
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

	TOTALS
PEAK FLOW (cms)=	3.17	1.90	4.398 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	72.10	52.01	60.65
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.71	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2136) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0136):	79.16	4.398	5.25	60.65
+ ID2= 2 (5136):	489.72	24.119	5.50	58.70
ID = 3 (2136):	568.88	27.774	5.25	58.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1149) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2136):	568.88	27.774	5.25	58.97
+ ID2= 2 (2151):	944.36	42.693	5.25	59.58
ID = 3 (1149):	1513.24	70.467	5.25	59.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5149) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5149.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.366E+02	0.0	0.27	23.37

0.20	195.20	.146E+03	0.2	0.43	14.72	
0.29	195.29	.329E+03	0.5	0.56	11.24	
0.39	195.39	.585E+03	1.1	0.68	9.25	
0.49	195.49	.911E+03	1.9	0.80	7.96	
0.61	195.61	.139E+04	3.7	1.01	6.30	
0.74	195.74	.192E+04	5.9	1.18	5.38	
0.86	195.86	.250E+04	8.7	1.32	4.79	
0.98	195.98	.313E+04	12.2	1.48	4.29	
1.11	196.11	.388E+04	16.2	1.59	3.99	
1.23	196.23	.485E+04	20.9	1.64	3.87	
1.35	196.35	.603E+04	26.3	1.66	3.82	
1.48	196.48	.742E+04	32.4	1.66	3.81	
1.60	196.60	.904E+04	39.4	1.66	3.82	
1.73	196.73	.110E+05	47.0	1.63	3.90	
1.85	196.85	.134E+05	55.9	1.59	3.99	
1.97	196.97	.163E+05	66.1	1.55	4.10	
2.10	197.10	.196E+05	77.7	1.51	4.20	
2.22	197.22	.234E+05	90.9	1.48	4.29	

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1149)	1513.24	70.47	5.25	59.35	2.02	1.53
OUTFLOW: ID= 1 (5149)	1513.24	69.68	5.50	59.35	2.01	1.53

CALIB / STANDHYD (0149) / ID= 1 DT=15.0 min	Area (ha)= 3.06 / Total Imp(%)= 34.00	Dir. Conn.(%)= 29.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.04	2.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.80
Length (m)=	142.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	27.60
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06

	TOTALS
PEAK FLOW (cms)=	0.08	0.14	0.225 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	43.35	51.68
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.59	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2149)

ADD HYD (2149) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0149):	3.06	0.225	5.25	59.34
+ ID2= 2 (5149):	1513.24	69.681	5.50	59.35
ID = 3 (2149):	1516.30	69.792	5.50	59.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1150) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2149):	1516.30	69.792	5.50	59.34
+ ID2= 2 (2721):	1772.50	21.443	8.50	41.77
ID = 3 (1150):	3288.80	85.207	5.50	49.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5150) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5150.0) ------>

Distance	Elevation	Manning	
0.00	193.23	0.1000	
0.00	194.50	0.1000	
210.65	190.50	0.1000	
223.18	188.00	0.1000 /0.0440	Main Channel
226.63	187.00	0.0440	Main Channel
230.00	186.50	0.0440	Main Channel
233.00	186.50	0.0440	Main Channel
237.18	187.00	0.0440	Main Channel
241.05	188.00	0.0440 /0.1000	Main Channel
252.73	190.50	0.1000	
267.79	191.00	0.1000	
282.60	194.00	0.1000	
291.93	194.50	0.1000	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	186.80	.773E+03	0.9	0.58	14.02
0.60	187.10	.219E+04	4.0	0.89	9.18
0.90	187.40	.401E+04	9.6	1.18	6.93
1.20	187.70	.615E+04	17.8	1.41	5.78
1.50	188.00	.862E+04	28.5	1.62	5.04
1.87	188.37	.122E+05	48.8	1.96	4.17
2.25	188.75	.165E+05	73.9	2.20	3.71
2.62	189.12	.214E+05	104.0	2.38	3.43
2.99	189.49	.270E+05	139.0	2.52	3.24
3.37	189.87	.332E+05	179.2	2.64	3.09
3.74	190.24	.401E+05	224.6	2.74	2.98
4.11	190.61	.479E+05	271.1	2.77	2.95
4.49	190.99	.602E+05	323.8	2.63	3.10
4.86	191.36	.773E+05	394.7	2.50	3.26
5.24	191.74	.984E+05	479.5	2.39	3.42
5.61	192.11	.123E+06	579.5	2.30	3.55
5.98	192.48	.152E+06	696.2	2.24	3.65

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   6.36   192.86    .185E+06     830.9          2.20       3.71
   6.73   193.23    .222E+06     985.0          2.17       3.75

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1150) 3288.80    85.21    5.50  49.87      2.39      2.26
OUTFLOW: ID= 1 (5150) 3288.80    85.74    5.50  49.87      2.40      2.27


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--------------------
| CALIB                |
| STANDHYD  (0150) |   Area    (ha)=  55.43
|ID= 1 DT=15.0 min |   Total Imp(%)=  73.00   Dir. Conn.(%)=  73.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.46        14.97
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.80
     Length            (m)=     607.89        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        29.82
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   57.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.78         0.71          4.331 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      72.10        52.36         66.77
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.72          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2150) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0150):    55.43   4.331     5.25     66.77
       + ID2= 2 (5150):  3288.80  85.743     5.50     49.87
         ================================================
         ID = 3 (2150):  3344.23  88.041     5.50     50.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5175) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5175.0) ------>
              Distance      Elevation       Manning
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```
      0.00        190.19        0.1000
    183.72        188.50        0.1000
    199.34        185.08        0.1000
    204.64        184.92        0.1000
    226.50        184.89        0.1000
    232.59        184.66        0.1000
    236.19        184.34        0.1000
    237.52        184.12    0.1000 /0.0440  Main Channel
    237.54        182.90        0.0440      Main Channel
    242.00        182.90        0.0440      Main Channel
    242.55        184.03    0.0440 /0.1000  Main Channel
    249.56        184.50        0.1000
    284.14        185.34        0.1000
    284.72        187.50        0.1000
    288.13        188.00        0.1000
    319.42        187.98        0.1000
    319.74        187.98        0.1000
    332.36        187.82        0.1000
    357.39        187.66        0.1000
    357.40        190.19        0.1000

  <---------- TRAVEL TIME TABLE ---------->
   DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
    (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
   0.38   183.28    .193E+04       1.5          0.87      21.55
   0.75   183.65    .393E+04       4.5          1.27      14.71
   1.13   184.03    .602E+04       8.3          1.56      12.03
   1.52   184.41    .975E+04      14.2          1.63      11.46
   1.90   184.80    .190E+05      23.1          1.36      13.72
   2.29   185.19    .457E+05      41.1          1.01      18.50
   2.67   185.57    .824E+05      76.1          1.04      18.03
   3.06   185.96    .120E+06     124.9          1.17      16.07
   3.44   186.34    .159E+06     184.9          1.30      14.36
   3.83   186.73    .199E+06     255.1          1.44      13.00
   4.21   187.11    .239E+06     335.0          1.57      11.92
   4.60   187.50    .281E+06     424.1          1.70      11.04
   4.98   187.88    .328E+06     465.5          1.60      11.73
   5.37   188.27    .397E+06     553.5          1.56      11.97
   5.75   188.65    .474E+06     659.3          1.56      11.98
   6.14   189.04    .565E+06     767.5          1.53      12.27
   6.52   189.42    .674E+06     931.4          1.55      12.07
   6.91   189.81    .802E+06    1138.5          1.60      11.74
   7.29   190.19    .947E+06    1387.0          1.64      11.38

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (2150) 3344.23    88.04    5.50  50.15      2.76      1.07
OUTFLOW: ID= 1 (5175) 3344.23    81.87    5.75  50.15      2.71      1.05


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--------------------
| CALIB                |
| STANDHYD  (0175) |   Area    (ha)=  60.91
|ID= 1 DT=15.0 min |   Total Imp(%)=  69.00   Dir. Conn.(%)=  69.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      42.03        18.88
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     637.23        40.00
     Mannings n           =      0.013        0.250
```



```
     Max.Eff.Inten.(mm/hr)=      33.63        28.43
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   55.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.92         0.84          4.574 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      72.10        49.06         64.96
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.67          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2175) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0175):    60.91   4.574     5.25     64.96
       + ID2= 2 (5175):  3344.23  81.866     5.75     50.15
         ================================================
         ID = 3 (2175):  3405.14  83.941     5.75     50.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB                |
| STANDHYD  (0128) |   Area    (ha)= 191.08
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  49.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     107.00        84.08
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.90
     Length            (m)=    1128.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        34.75
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      15.60 (ii)   93.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        90.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.63         3.55         10.531 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        53.12         62.42
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.73          0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```



```
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2128) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0128):   191.08  10.531     5.25     62.42
       + ID2= 2 (2175):  3405.14  83.941     5.75     50.41
         ================================================
         ID = 3 (2128):  3596.22  90.306     5.75     51.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB                |
| STANDHYD  (****) |   Area    (ha)=  24.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      10.85        13.27
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         8.60
     Length            (m)=     401.00        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.04
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.40 (ii)   31.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.01         0.74          1.752 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        46.03         57.76
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.63          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9476) |
| Inlet Cap.=0.030 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.12      1.75      5.25   57.76
     ================================================
     MAJOR SYS.(ID= 2):  22.08      1.72      5.25   57.76
     MINOR SYS.(ID= 3):   2.04      0.03      2.50   57.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (6476) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0300     0.1280

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9476)      2.040     0.030      2.50      57.76
     OUTFLOW: ID= 1 (6476)      2.040     0.018     12.50      57.24

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.72
                   TIME SHIFT OF PEAK FLOW         (min)=600.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0753

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4476) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6476):     2.04   0.018    12.50    57.24
       + ID2= 2 (9476):    22.08   1.722     5.25    57.76
         ==========================================
         ID = 3 (4476):    24.12   1.729     5.25    57.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1171) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2128):  3596.22  90.306     5.75    51.05
       + ID2= 2 (4476):    24.12   1.729     5.25    57.72
         ==========================================
         ID = 3 (1171):  3620.34  91.135     5.75    51.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5171) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5171.0) ------>
               Distance      Elevation       Manning
                  0.00        182.62        0.1000
                 70.19        179.50        0.1000
                139.11        179.00    0.1000 /0.0440  Main Channel
                140.08        178.61        0.0440      Main Channel
                140.35        177.50        0.0440      Main Channel
                146.00        177.50        0.0440      Main Channel
                146.96        178.83        0.0440      Main Channel
                148.70        178.92        0.0440      Main Channel
                148.90        179.00    0.0440 /0.1000  Main Channel
                169.23        179.25        0.1000
                181.85        182.00        0.1000
                283.06        182.00        0.1000
                330.41        180.56        0.1000
```



```
               373.02        181.50        0.1000
               398.28        181.61        0.1000
               428.84        182.54        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.25    177.75    .105E+04         0.9         0.61      19.95
       0.50    178.00    .214E+04         2.7         0.92      13.14
       0.75    178.25    .328E+04         5.2         1.16      10.44
       1.00    178.50    .446E+04         8.3         1.36       8.93
       1.25    178.75    .570E+04        11.7         1.50       8.08
       1.50    179.00    .723E+04        14.6         1.46       8.27
       1.77    179.27    .151E+05        23.2         1.12      10.82
       2.04    179.54    .322E+05        39.5         0.89      13.61
       2.32    179.82    .530E+05        65.3         0.90      13.52
       2.59    180.09    .753E+05        98.9         0.95      12.69
       2.86    180.36    .990E+05       139.6         1.03      11.81
       3.13    180.63    .124E+06       184.2         1.08      11.25
       3.41    180.91    .154E+06       232.9         1.10      11.03
       3.68    181.18    .190E+06       294.7         1.13      10.73
       3.95    181.45    .231E+06       368.9         1.16      10.44
       4.22    181.72    .280E+06       452.1         1.17      10.33
       4.50    182.00    .336E+06       559.3         1.21      10.02
       4.77    182.27    .416E+06       668.9         1.17      10.36
       5.04    182.54    .499E+06       833.8         1.21       9.97

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1171) 3620.34    91.13    5.75  51.09      2.53      0.94
     OUTFLOW: ID= 1 (5171) 3620.34    89.00    6.00  51.09      2.51      0.94

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.12          0.53
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.50
     Length            (m)=       65.83         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       33.63         23.04
                 over (min)       15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    35.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.01          0.02          0.034 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=       72.10         38.24         44.30
     TOTAL RAINFALL   (mm)=       73.10         73.10         73.10
     RUNOFF COEFFICIENT   =        0.99          0.52          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
```



```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  11.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        1.99          9.05
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.50
     Length            (m)=      271.29         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       33.63         23.04
                 over (min)       15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    35.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.19          0.40          0.578 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=       72.10         38.24         44.33
     TOTAL RAINFALL   (mm)=       73.10         73.10         73.10
     RUNOFF COEFFICIENT   =        0.99          0.52          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0339) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    11.04   0.578     5.25    44.33
       + ID2= 2 (****):     0.65   0.034     5.25    44.30
         ==========================================
         ID = 3 (0339):    11.69   0.612     5.25    44.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   5.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.97          4.43
     Dep. Storage     (mm)=        1.00          4.00
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```
     Average Slope     (%)=        1.00          4.50
     Length            (m)=      189.74         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       33.63         23.04
                 over (min)       15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    35.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.09          0.19          0.283 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=       72.10         38.24         44.33
     TOTAL RAINFALL   (mm)=       73.10         73.10         73.10
     RUNOFF COEFFICIENT   =        0.99          0.52          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0342) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0339):    11.69   0.612     5.25    44.33
       + ID2= 2 (****):     5.40   0.283     5.25    44.33
         ==========================================
         ID = 3 (0342):    17.09   0.894     5.25    44.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2171) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):    17.09   0.894     5.25    44.33
       + ID2= 2 (5171):  3620.34  88.997     6.00    51.09
         ==========================================
         ID = 3 (2171):  3637.43  89.496     6.00    51.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0659) |   Area    (ha)=  24.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  47.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       11.66         13.15
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          6.20
     Length            (m)=      406.69         40.00
```

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     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.73
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.09         0.73         1.817 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      72.10        47.51        59.07
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.99         0.65         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9475) |
| Inlet Cap.=0.060 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.81      1.82      5.25   59.07
     ==========================================================
     MAJOR SYS.(ID= 2):  21.10      1.76      5.25   59.07
     MINOR SYS.(ID= 3):   3.71      0.06      2.50   59.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6475) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.0600      0.2570

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9475)     3.706     0.060      2.50      59.07
     OUTFLOW: ID= 1 (6475)     3.706     0.033     12.50      58.78

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.72
                TIME SHIFT OF PEAK FLOW          (min)=600.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1411

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--------------------
| ADD HYD   (4475) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6475):     3.71   0.033    12.50    58.78
       + ID2= 2 (9475):    21.10   1.757     5.25    59.07
         ================================================
         ID = 3 (4475):    24.81   1.770     5.25    59.03
```



```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   0.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  61.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.43         0.27
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.90
     Length            (m)=      68.31        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.73
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.01         0.046 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=      72.10        47.51        62.45
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.99         0.65         0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   0.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  61.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20         0.12
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.90
     Length            (m)=      46.19        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.73
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.00         0.021 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=      72.10        47.51        62.40
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.99         0.65         0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```



```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)= 100.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  61.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.08        39.05
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.90
     Length            (m)=     817.03        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.73
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.69         1.49         6.616 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=      72.10        47.51        62.51
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.99         0.65         0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0400) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):   100.13   6.616     5.25    62.51
       + ID2= 2 (****):     0.32   0.021     5.25    62.40
         ================================================
         ID = 3 (0400):   100.45   6.637     5.25    62.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0401) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0400):   100.45   6.637     5.25    62.51
       + ID2= 2 (****):     0.70   0.046     5.25    62.45
         ================================================
         ID = 3 (0401):   101.15   6.683     5.25    62.51
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2655) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0401):   101.15   6.683     5.25    62.51
       + ID2= 2 (4475):    24.81   1.770     5.25    59.03
         ================================================
         ID = 3 (2655):   125.96   8.453     5.25    61.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1179) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2171):  3637.43  89.496     6.00    51.06
       + ID2= 2 (2655):   125.96   8.453     5.25    61.82
         ================================================
         ID = 3 (1179):  3763.39  93.457     6.00    51.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5179) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5179.0) ------>
              Distance      Elevation       Manning
                 0.00         180.00         0.1000
                19.81         179.88         0.1000
                80.23         175.31         0.1000
                87.64         175.00         0.1000
                94.94         174.57         0.1000
                96.72         174.50    0.1000 /0.0440  Main Channel
                98.15         174.00         0.0440      Main Channel
               106.22         174.15         0.0440      Main Channel
               107.82         174.50    0.0440 /0.1000  Main Channel
               109.71         175.00         0.1000
               183.40         175.01         0.1000
               204.12         175.50         0.1000
               218.61         176.50         0.1000
               246.72         177.50         0.1000
               258.61         177.66         0.1000
               277.61         177.68         0.1000
               284.71         177.58         0.1000
               296.45         177.54         0.1000
               401.58         180.45         0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.25   174.25    .162E+04       0.6         0.40       44.60
      0.50   174.50    .432E+04       2.7         0.67       26.29
      0.82   174.82    .947E+04       8.1         0.91       19.51
      1.15   175.15    .285E+05      17.9         0.67       26.63
      1.47   175.47    .682E+05      40.2         0.63       28.27
```

1.79	175.79	.113E+06	74.8	0.70	25.16
2.12	176.12	.161E+06	119.9	0.79	22.34
2.44	176.44	.212E+06	175.1	0.88	20.14
2.76	176.76	.266E+06	237.8	0.95	18.64
3.09	177.09	.325E+06	310.2	1.01	17.47
3.41	177.41	.389E+06	393.0	1.07	16.49
3.74	177.74	.463E+06	442.2	1.01	17.46
4.06	178.06	.554E+06	559.8	1.07	16.48
4.38	178.38	.650E+06	692.2	1.13	15.64
4.71	178.71	.751E+06	839.8	1.19	14.91
5.03	179.03	.858E+06	1002.8	1.24	14.26
5.35	179.35	.971E+06	1181.8	1.29	13.69
5.68	179.68	.109E+07	1377.0	1.34	13.18
6.00	180.00	.121E+07	1555.4	1.36	13.00

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1179)	3763.39	93.46	6.00	51.42	1.93	0.74
OUTFLOW: ID= 1 (5179)	3763.39	88.79	6.25	51.42	1.89	0.73

CALIB	
STANDHYD (****)	Area (ha)= 1.25
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.38	0.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	91.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.68
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	0.04	0.03	0.064 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	39.42	49.20
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.54	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.98
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.29	0.69

Dep. Storage (mm)=		1.00	4.00		
Average Slope (%)=		1.00	3.70		
Length (m)=		80.83	40.00		
Mannings n =		0.013	0.250		
Max.Eff.Inten.(mm/hr)=		33.63	23.68		
over (min)		15.00	30.00		
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)		
Unit Hyd. Tpeak (min)=		15.00	45.00		
Unit Hyd. peak (cms)=		0.09	0.02		
				TOTALS	
PEAK FLOW (cms)=		0.03	0.03	0.051 (iii)	
TIME TO PEAK (hrs)=		5.25	5.50	5.25	
RUNOFF VOLUME (mm)=		72.10	39.42	49.20	
TOTAL RAINFALL (mm)=		73.10	73.10	73.10	
RUNOFF COEFFICIENT =		0.99	0.54	0.67	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0347)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	1.25	0.064	5.25	49.20
+ ID2= 2 (****):	0.98	0.051	5.25	49.20
ID = 3 (0347):	2.23	0.115	5.25	49.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 37.99
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	11.40	26.59
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	503.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.68
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	1.06	1.02	1.960 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	39.42	49.22
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.54	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0345)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0347):	2.23	0.115	5.25	49.20
+ ID2= 2 (****):	37.99	1.960	5.25	49.22
ID = 3 (0345):	40.22	2.075	5.25	49.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2179)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0345):	40.22	2.075	5.25	49.22
+ ID2= 2 (5179):	3763.39	88.788	6.25	51.42
ID = 3 (2179):	3803.61	89.944	6.25	51.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5429)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5429.0) ------>

Distance	Elevation	Manning	
0.00	173.91	0.1110	
0.00	176.00	0.1110	
9.53	173.50	0.1110	
25.59	171.50	0.1110	
90.97	171.00	0.1110	
96.91	170.58	0.1110	
97.41	170.50	0.1110	
98.56	170.14	0.1110 /0.0490	Main Channel
99.04	169.50	0.0490	Main Channel
103.00	169.50	0.0490	Main Channel
103.89	170.28	0.0490 /0.1110	Main Channel
105.84	170.39	0.1110	
106.34	170.41	0.1110	
106.80	170.50	0.1110	
128.20	170.89	0.1110	
130.65	171.00	0.1110	
148.78	175.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	169.82	.693E+03	1.0	0.72	11.79

0.64	170.14	.148E+04	3.1	1.07	7.94
0.98	170.48	.268E+04	6.9	1.31	6.45
1.33	170.83	.614E+04	13.2	1.09	7.74
1.67	171.17	.138E+05	25.1	0.92	9.19
2.02	171.52	.289E+05	47.4	0.83	10.16
2.36	171.86	.480E+05	85.7	0.91	9.34
2.71	172.21	.678E+05	135.8	1.02	8.32
3.05	172.55	.884E+05	196.7	1.13	7.49
3.40	172.90	.110E+06	267.9	1.24	6.82
3.74	173.24	.132E+06	348.8	1.35	6.29
4.09	173.59	.154E+06	440.0	1.45	5.84
4.43	173.93	.177E+06	542.4	1.55	5.45
4.78	174.28	.201E+06	653.2	1.65	5.13
5.12	174.62	.225E+06	772.9	1.74	4.85
5.47	174.97	.250E+06	901.1	1.83	4.62
5.81	175.31	.275E+06	1037.8	1.92	4.41
6.16	175.66	.300E+06	1183.0	2.00	4.23
6.50	176.00	.326E+06	1339.1	2.09	4.06

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2179)	3803.61	89.94	6.25	51.40	2.39	0.91
OUTFLOW: ID= 1 (5429)	3803.61	89.05	6.50	51.40	2.38	0.91

CALIB	
STANDHYD (0429)	Area (ha)= 13.90
ID= 1 DT=15.0 min	Total Imp(%)= 54.00 Dir. Conn.(%)= 54.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	7.51	6.39
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	304.41	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	27.04
over (min)	15.00	15.00
Storage Coeff. (min)=	5.40 (ii)	32.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.70	0.35	1.054 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	46.03	60.11
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.63	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2429)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0429):	13.90	1.054	5.25	60.11
+ ID2= 2 (5429):	3803.61	89.048	6.50	51.40
ID = 3 (2429):	3817.51	89.325	6.50	51.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 91.84
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 57.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	52.35	39.49
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	782.47	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	28.43
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	4.87	1.53 5.828 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	72.10	49.06 62.19
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.67 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 1.44
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 57.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.82	0.62
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	97.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	28.43
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	0.08	0.02 0.091 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25

RUNOFF VOLUME (mm)=	72.10	49.06		62.17
TOTAL RAINFALL (mm)=	73.10	73.10		73.10
RUNOFF COEFFICIENT =	0.99	0.67		0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 6.59
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 57.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.76	2.83
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	209.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	28.43
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	0.35	0.11 0.418 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	72.10	49.06 62.19
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.67 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0408)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	6.59	0.418	5.25	62.19
+ ID2= 2 (****):	1.44	0.091	5.25	62.17
ID = 3 (0408):	8.03	0.510	5.25	62.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0409)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0408):	8.03	0.510	5.25	62.18
+ ID2= 2 (****):	91.84	5.828	5.25	62.19
ID = 3 (0409):	99.87	6.338	5.25	62.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1443)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0409):	99.87	6.338	5.25	62.19
+ ID2= 2 (2429):	3817.51	89.325	6.50	51.43
ID = 3 (1443):	3917.38	92.186	6.25	51.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5443)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5443.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1110	
17.61	172.50	0.1110	
27.53	170.50	0.1110	
72.93	169.50	0.1110	
74.99	169.29	0.1110	
75.21	169.27	0.1110	
79.81	168.50	0.1110 /0.0490	Main Channel
79.88	168.48	0.0490	Main Channel
80.70	168.00	0.0490	Main Channel
82.05	167.90	0.0490	Main Channel
83.55	167.90	0.0490	Main Channel
85.02	168.50	0.0490 /0.1110	Main Channel
86.14	168.83	0.1110	
86.71	168.98	0.1110	
119.24	170.00	0.1110	
133.40	171.00	0.1110	
147.56	173.96	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	168.10	.106E+03	0.5	0.95	3.31
0.40	168.30	.254E+03	2.0	1.46	2.15
0.60	168.50	.434E+03	4.2	1.84	1.71
0.91	168.81	.828E+03	10.5	2.40	1.31
1.23	169.13	.145E+04	19.6	2.54	1.24
1.54	169.44	.271E+04	33.2	2.31	1.36
1.85	169.75	.495E+04	53.2	2.03	1.55
2.16	170.06	.859E+04	85.8	1.89	1.67
2.48	170.38	.134E+05	134.7	1.89	1.66
2.79	170.69	.192E+05	203.3	2.00	1.58
3.10	171.00	.255E+05	290.7	2.16	1.46
3.41	171.31	.319E+05	397.9	2.35	1.34
3.73	171.63	.386E+05	520.4	2.55	1.24
4.04	171.94	.455E+05	657.6	2.73	1.15

4.35	172.25	.525E+05	809.1	2.91 1.08
4.66	172.56	.597E+05	971.5	3.07 1.02
4.98	172.88	.672E+05	1136.3	3.19 0.99
5.29	173.19	.752E+05	1316.7	3.31 0.95
5.60	173.50	.836E+05	1513.2	3.42 0.92

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1443)	3917.38	92.19	6.25	51.71	2.20	1.89
OUTFLOW: ID= 1 (5443)	3917.38	92.21	6.50	51.71	2.20	1.89

CALIB / STANDHYD (****)	Area (ha)= 58.41
ID= 1 DT=15.0 min	Total Imp(%)= 59.00 Dir. Conn.(%)= 59.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	34.46	23.95
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	624.02	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	28.43
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	3.21	0.99 3.963 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	72.10	49.06 62.65
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.67 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 0.93
ID= 1 DT=15.0 min	Total Imp(%)= 59.00 Dir. Conn.(%)= 59.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.38
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	78.74	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	28.43
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00

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Unit Hyd. peak  (cms)=       0.08         0.02
                                                  *TOTALS*
PEAK FLOW      (cms)=       0.05         0.02          0.063 (iii)
TIME TO PEAK   (hrs)=       5.25         5.75           5.25
RUNOFF VOLUME   (mm)=      72.10        49.06          62.62
TOTAL RAINFALL  (mm)=      73.10        73.10          73.10
RUNOFF COEFFICIENT  =       0.99         0.67           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  11.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  59.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=        6.65         4.62
Dep. Storage     (mm)=        1.00         4.00
Average Slope     (%)=        1.00         2.40
Length            (m)=      274.10        40.00
Mannings n             =      0.013        0.250

Max.Eff.Inten.(mm/hr)=       33.63        28.43
          over (min)         15.00        30.00
Storage Coeff.  (min)=      11.40 (ii)   65.40 (ii)
Unit Hyd. Tpeak (min)=      15.00        60.00
Unit Hyd. peak  (cms)=       0.08         0.02
                                                  *TOTALS*
PEAK FLOW      (cms)=       0.62         0.19          0.765 (iii)
TIME TO PEAK   (hrs)=       5.25         5.75           5.25
RUNOFF VOLUME   (mm)=      72.10        49.06          62.65
TOTAL RAINFALL  (mm)=      73.10        73.10          73.10
RUNOFF COEFFICIENT  =       0.99         0.67           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    11.27   0.765     5.25    62.65
      + ID2= 2 (****):     0.93   0.063     5.25    62.62
        ================================================
        ID = 3 (0386):    12.20   0.828     5.25    62.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0385) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):    12.20   0.828     5.25    62.65
      + ID2= 2 (****):    58.41   3.963     5.25    62.65
        ================================================
        ID = 3 (0385):    70.61   4.791     5.25    62.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2443) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0385):    70.61   4.791     5.25    62.65
      + ID2= 2 (5443):  3917.38  92.212     6.50    51.71
        ================================================
        ID = 3 (2443):  3987.99  93.933     6.50    51.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5181) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5181.0) ------>
               Distance      Elevation       Manning
                  0.00         171.99         0.1110
                 16.11         168.50         0.1110
                 29.63         167.81         0.1110
                 33.91         167.00    0.1110 /0.0490  Main Channel
                 34.47         166.92         0.0490      Main Channel
                 35.37         166.79         0.0490      Main Channel
                 35.56         166.82         0.0490      Main Channel
                 36.36         167.00    0.0490 /0.1110  Main Channel
                 41.32         168.00         0.1110
                 66.08         168.05         0.1110
                107.13         169.00         0.1110
                117.25         169.50         0.1110
                126.27         171.00         0.1110
                127.87         171.44         0.1110
                128.10         171.50         0.1110
                132.70         172.29         0.1110
                134.72         172.50         0.1110
                136.24         172.85         0.1110
                136.87         173.00         0.1110
                136.98         173.00         0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.21   167.00    .227E+03       0.1          0.31      46.72
      0.47   167.26    .109E+04       0.7          0.55      26.16
      0.74   167.53    .256E+04       1.9          0.65      22.33
      1.00   167.79    .465E+04       3.8          0.71      20.28
      1.26   168.05    .824E+04       5.8          0.61      23.67
      1.52   168.31    .195E+05      11.8          0.53      27.45
      1.79   168.58    .344E+05      21.9          0.55      26.25
```



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      2.05   168.84    .524E+05      36.5          0.60      23.97
      2.31   169.10    .732E+05      56.1          0.66      21.75
      2.57   169.36    .957E+05      81.2          0.73      19.66
      2.84   169.63    .120E+06     111.6          0.81      17.87
      3.10   169.89    .144E+06     147.4          0.88      16.31
      3.36   170.15    .170E+06     187.6          0.96      15.06
      3.62   170.41    .196E+06     232.1          1.03      14.04
      3.89   170.68    .222E+06     280.8          1.09      13.18
      4.15   170.94    .249E+06     333.6          1.16      12.45
      4.41   171.20    .277E+06     391.3          1.22      11.80
      4.67   171.46    .305E+06     453.4          1.28      11.22
      4.94   171.73    .334E+06     518.3          1.34      10.75

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (2443) 3987.99    93.93    6.50  51.90      2.68      0.76
OUTFLOW: ID= 1 (5181) 3987.99    91.70    6.75  51.90      2.66      0.76


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--------------------
| CALIB            |
| STANDHYD  (0181) |   Area    (ha)= 136.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       97.14        39.68
Dep. Storage     (mm)=        1.00         4.00
Average Slope     (%)=        1.00         2.10
Length            (m)=      955.06        40.00
Mannings n             =      0.013        0.250

Max.Eff.Inten.(mm/hr)=       33.63        29.13
          over (min)         15.00        30.00
Storage Coeff.  (min)=      13.80 (ii)   82.80 (ii)
Unit Hyd. Tpeak (min)=      15.00        90.00
Unit Hyd. peak  (cms)=       0.08         0.01
                                                  *TOTALS*
PEAK FLOW      (cms)=       9.00         1.46          9.770 (iii)
TIME TO PEAK   (hrs)=       5.25         6.25           5.25
RUNOFF VOLUME   (mm)=      72.10        50.68          65.89
TOTAL RAINFALL  (mm)=      73.10        73.10          73.10
RUNOFF COEFFICIENT  =       0.99         0.69           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  91.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2181) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0181):   136.82   9.770     5.25    65.89
      + ID2= 2 (5181):  3987.99  91.702     6.75    51.90
        ================================================
        ID = 3 (2181):  4124.81  94.782     6.50    52.36
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    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5204) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5204.0) ------>
               Distance      Elevation       Manning
                  0.00         172.00         0.1110
                 11.08         169.71         0.1110
                 48.53         169.00         0.1110
                 90.99         164.50         0.1110
                111.26         164.00         0.1110
                133.15         164.00         0.1110
                142.64         163.50         0.1110
                145.01         162.66         0.1110
                145.24         162.50    0.1110 /0.0490  Main Channel
                146.03         161.80         0.0490      Main Channel
                152.91         161.80         0.0490      Main Channel
                153.42         162.68    0.0490 /0.1110  Main Channel
                153.67         162.73         0.1110
                154.07         163.00         0.1110
                155.88         163.50         0.1110
                178.24         164.14         0.1110
                184.53         164.50         0.1110
                207.67         165.50         0.1110
                224.19         166.50         0.1110
                245.67         169.50         0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.35   162.15    .121E+04       2.5          1.00       8.01
      0.70   162.50    .253E+04       8.0          1.52       5.29
      1.11   162.91    .426E+04      18.0          2.03       3.96
      1.52   163.32    .641E+04      31.6          2.38       3.38
      1.94   163.74    .971E+04      48.9          2.43       3.31
      2.35   164.15    .187E+05      74.3          1.91       4.20
      2.76   164.56    .356E+05     120.7          1.64       4.92
      3.17   164.97    .559E+05     188.5          1.63       4.94
      3.58   165.38    .789E+05     276.4          1.69       4.76
      3.99   165.79    .104E+06     386.3          1.79       4.50
      4.41   166.21    .132E+06     517.4          1.89       4.25
      4.82   166.62    .162E+06     671.3          2.00       4.02
      5.23   167.03    .193E+06     850.6          2.13       3.78
      5.64   167.44    .226E+06    1051.0          2.25       3.58
      6.05   167.85    .260E+06    1272.3          2.36       3.40
      6.46   168.26    .295E+06    1514.8          2.48       3.25
      6.88   168.68    .332E+06    1778.5          2.59       3.11
      7.29   169.09    .370E+06    2042.5          2.66       3.02
      7.70   169.50    .412E+06    2268.8          2.66       3.03

                               <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (2181) 4124.81    94.78    6.50  52.36      2.53      1.78
OUTFLOW: ID= 1 (5204) 4124.81    94.62    6.75  52.36      2.53      1.78


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CALIB					
STANDHYD (0204)	Area (ha)= 12.60				
ID= 1 DT=15.0 min	Total Imp(%)= 25.00	Dir. Conn.(%)= 25.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.15	9.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.10
Length	(m)=	289.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	21.81
over (min)		15.00	15.00
Storage Coeff. (min)=		4.80 (ii)	28.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.29 0.42 0.712 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 36.01 45.03
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.49 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2204)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	12.60	0.712	5.25	45.03
+ ID2= 2 (5204):	4124.81	94.621	6.75	52.36
ID = 3 (2204):	4137.41	94.819	6.75	52.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0742)	Area (ha)= 13.26				
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.97	7.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	297.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.99
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

TOTALS

PEAK FLOW	(cms)=	0.56	0.35	0.910 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.50	5.25	
RUNOFF VOLUME	(mm)=	72.10	41.91	55.50	
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT	=	0.99	0.57	0.76	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9607)				
Inlet Cap.=0.144				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	13.26	0.91	5.25	55.50
MAJOR SYS.(ID= 2):	7.16	0.77	5.25	55.50
MINOR SYS.(ID= 3):	6.10	0.14	3.50	55.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6607)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1440	0.6200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9607)	6.095	0.144	3.50	55.50
OUTFLOW: ID= 1 (6607)	6.095	0.053	9.25	55.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 36.77
TIME SHIFT OF PEAK FLOW (min)=345.00
MAXIMUM STORAGE USED (ha.m.)= 0.2281

ADD HYD (4607)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6607):	6.10	0.053	9.25	55.32
+ ID2= 2 (9607):	7.16	0.766	5.25	55.50
ID = 3 (4607):	13.26	0.792	5.25	55.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2742)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2204):	4137.41	94.819	6.75	52.34
+ ID2= 2 (4607):	13.26	0.792	5.25	55.41
ID = 3 (2742):	4150.67	94.946	6.75	52.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0636)	Area (ha)= 167.13				
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	75.21	91.92
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.40
Length	(m)=	1055.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	23.04
over (min)		15.00	45.00
Storage Coeff. (min)=		16.80 (ii)	99.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	6.90 2.24 7.788 (iii)
TIME TO PEAK	(hrs)=	5.25 6.75 5.25
RUNOFF VOLUME	(mm)=	72.10 38.24 53.48
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.52 0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9605)				
Inlet Cap.=0.240				
#of Inlets= 1				
Total(cms)= 0.2	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	167.13	7.79	5.25	53.48
MAJOR SYS.(ID= 2):	146.45	7.55	5.25	53.48
MINOR SYS.(ID= 3):	20.68	0.24	2.50	53.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6605)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2400	1.9400

	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9605)	20.677	0.240	2.50	53.48
OUTFLOW: ID= 1 (6605)	20.677	0.098	14.75	53.38

PEAK FLOW REDUCTION [Qout/Qin](%)= 40.80
TIME SHIFT OF PEAK FLOW (min)=735.00
MAXIMUM STORAGE USED (ha.m.)= 0.7917

ADD HYD (4605)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6605):	20.68	0.098	14.75	53.38
+ ID2= 2 (9605):	146.45	7.548	5.25	53.48
ID = 3 (4605):	167.13	7.580	5.25	53.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0641)	Area (ha)= 7.45				
ID= 1 DT=15.0 min	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.71	5.74
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.00
Length	(m)=	222.86	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	21.81
over (min)		15.00	15.00
Storage Coeff. (min)=		4.80 (ii)	26.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.16 0.26 0.420 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 36.01 44.31
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.49 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2641)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0641):	7.45	0.420	5.25	44.31
+ ID2= 2 (4605):	167.13	7.580	5.25	53.47

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          ID = 3 (2641):   174.58   7.999     5.25    53.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1206) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2641):   174.58   7.999     5.25    53.08
        + ID2= 2 (2742):  4150.67  94.946     6.75    52.35
          ================================================
          ID = 3 (1206):  4325.25  98.355     6.75    52.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5206.0) ------>
               Distance      Elevation       Manning
                   0.00         168.00        0.1110
                  93.40         167.00        0.1110
                 125.20         166.00        0.1110
                 131.90         165.50        0.1110
                 147.90         162.50        0.1110
                 154.70         162.00        0.1110
                 156.80         162.00        0.1110
                 159.70         162.50        0.1110
                 181.80         162.50        0.1110
                 197.10         161.50        0.1110
                 254.30         160.00        0.1110
                 256.80         159.00    0.1110 /0.0490  Main Channel
                 257.00         158.60        0.0490      Main Channel
                 266.00         158.60        0.0490      Main Channel
                 266.30         159.00    0.0490 /0.1110  Main Channel
                 270.90         160.00        0.1110
                 308.40         162.00        0.1110
                 338.30         168.50        0.1110
                 351.00         169.00        0.1110
                 400.10         169.50        0.1110

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.40   159.00    .108E+04       3.3         0.88       5.51
       0.87   159.47    .263E+04      12.5         1.39       3.49
       1.35   159.95    .464E+04      26.9         1.70       2.87
       1.82   160.42    .840E+04      46.9         1.63       2.98
       2.29   160.89    .159E+05      79.2         1.46       3.34
       2.77   161.37    .271E+05     128.0         1.38       3.53
       3.24   161.84    .416E+05     199.3         1.40       3.48
       3.72   162.32    .587E+05     291.2         1.45       3.36
       4.19   162.79    .800E+05     403.7         1.47       3.30
       4.66   163.26    .103E+06     565.2         1.60       3.04
       5.14   163.74    .127E+06     752.2         1.73       2.82
       5.61   164.21    .152E+06     963.8         1.86       2.62
       6.08   164.68    .177E+06    1199.2         1.98       2.46
       6.56   165.16    .203E+06    1457.9         2.10       2.32
       7.03   165.63    .229E+06    1734.7         2.21       2.20
```



```
       7.51   166.11    .257E+06    2012.4         2.29       2.13
       7.98   166.58    .286E+06    2284.4         2.33       2.09
       8.45   167.05    .318E+06    2571.2         2.36       2.06
       8.93   167.53    .355E+06    2790.7         2.29       2.12

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1206) 4325.25    98.35    6.75  52.38      2.48      1.43
     OUTFLOW: ID= 1 (5206) 4325.25    98.28    6.75  52.38      2.48      1.43


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--------------------
| CALIB            |
| STANDHYD  (0206) |   Area    (ha)=   4.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  14.00   Dir. Conn.(%)=  14.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.70         4.29
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         7.50
     Length            (m)=    182.39        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        21.22
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      3.60 (ii)   21.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.07         0.22          0.286 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     72.10        34.95         40.15
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.99         0.48          0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2206) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0206):     4.99   0.286     5.25    40.15
        + ID2= 2 (5206):  4325.25  98.275     6.75    52.38
          ================================================
          ID = 3 (2206):  4330.24  98.339     6.75    52.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
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| STANDHYD  (0638) |   Area    (ha)=  51.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  84.00   Dir. Conn.(%)=  84.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     43.01         8.19
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         1.80
     Length            (m)=    584.24        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        31.77
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.80 (ii)   64.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      4.01         0.41          4.336 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     72.10        57.90         69.83
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.99         0.79          0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  95.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1635) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0638):    51.20   4.336     5.25    69.83
        + ID2= 2 (2206):  4330.24  98.339     6.75    52.37
          ================================================
          ID = 3 (1635):  4381.44  99.277     6.75    52.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0642) |   Area    (ha)=  81.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     47.03        34.06
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.50
     Length            (m)=    735.26        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        27.73
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.40 (ii)   66.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      4.38         1.35          5.394 (iii)
```



```
     TIME TO PEAK    (hrs)=      5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     72.10        47.51         61.77
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.99         0.65          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9609) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)= 14.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  81.09      5.39      5.25   61.77
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  81.09      5.39      5.25   61.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6609) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3680      1.3972
                          0.1520     0.0433   |   2.7440      1.7980
                          0.2370     0.2233   |   9.7830      2.5193
                          0.2980     0.5550   |  12.8700      3.3070
                          0.3490     1.1433   |  14.0910      3.8116

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9609)     81.090      5.394      5.25      61.77
     OUTFLOW: ID= 1 (6609)     81.090      3.768      5.50      61.77

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 69.85
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.9231

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--------------------
| ADD HYD   (4609) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9609 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6609):    81.09   3.768     5.50    61.77
        + ID2= 2 (9609):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4609):    81.09   3.768     5.50    61.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (2642) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1635):  4381.44  99.277     6.75    52.57
      + ID2= 2 (4609):    81.09   3.768     5.50    61.77
        ================================================
        ID = 3 (2642):  4462.53 101.510     6.75    52.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5635) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5635.0) ------>
              Distance      Elevation       Manning
                  0.00         162.99        0.1110
                 23.31         157.07        0.1110
                 32.56         156.00        0.1110
                 59.26         155.00        0.1110
                 62.94         154.00        0.1110
                 63.09         153.97        0.1110
                 63.13         153.97        0.1110
                 63.76         153.82    0.1110 /0.0490  Main Channel
                 63.87         153.50        0.0490      Main Channel
                 66.42         153.50        0.0490      Main Channel
                 67.30         153.81    0.0490 /0.1110  Main Channel
                 68.02         153.82        0.1110
                 68.09         153.82        0.1110
                 71.13         155.00        0.1110
                 91.29         155.00        0.1110
                108.35         155.11        0.1110
                126.23         155.50        0.1110
                133.49         156.00        0.1110
                156.41         161.00        0.1110
                158.20         161.50        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.31   153.81    .112E+04        0.7         0.77      25.85
       0.71   154.21    .384E+04        3.7         1.13      17.50
       1.12   154.62    .780E+04        8.8         1.34      14.81
       1.52   155.02    .136E+05       14.9         1.30      15.22
       1.93   155.43    .423E+05       32.3         0.91      21.79
       2.33   155.83    .835E+05       67.6         0.96      20.59
       2.74   156.24    .132E+06      122.0         1.10      18.03
       3.14   156.64    .183E+06      193.8         1.26      15.76
       3.55   157.05    .237E+06      280.8         1.41      14.09
       3.95   157.45    .294E+06      384.2         1.56      12.73
       4.36   157.86    .351E+06      501.9         1.70      11.67
       4.76   158.26    .411E+06      633.4         1.83      10.81
       5.17   158.67    .472E+06      778.3         1.96      10.11
       5.57   159.07    .535E+06      936.5         2.08       9.52
       5.98   159.48    .599E+06     1107.8         2.20       9.02
       6.38   159.88    .666E+06     1292.3         2.31       8.58
       6.79   160.29    .733E+06     1489.8         2.42       8.20
       7.19   160.69    .803E+06     1700.4         2.52       7.87
```



```
       7.60   161.10    .874E+06     1924.8         2.62       7.57

                                          <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (2642) 4462.53   101.51    6.75  52.74      2.59      1.04
    OUTFLOW: ID= 1 (5635) 4462.53    99.66    7.00  52.74      2.57      1.04

---------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0635) |   Area    (ha)=  73.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  39.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=        28.47         44.54
    Dep. Storage     (mm)=         1.00          4.00
    Average Slope     (%)=         1.00          2.70
    Length            (m)=       697.66         40.00
    Mannings n           =        0.013         0.250

    Max.Eff.Inten.(mm/hr)=        33.63         23.68
              over (min)          15.00         30.00
    Storage Coeff.  (min)=        10.80 (ii)    63.00 (ii)
    Unit Hyd. Tpeak (min)=        15.00         60.00
    Unit Hyd. peak  (cms)=         0.09          0.02
                                                          *TOTALS*
    PEAK FLOW       (cms)=         2.65          1.48        3.724 (iii)
    TIME TO PEAK    (hrs)=         5.25          6.00         5.25
    RUNOFF VOLUME    (mm)=        72.10         39.42        52.17
    TOTAL RAINFALL   (mm)=        73.10         73.10        73.10
    RUNOFF COEFFICIENT   =         0.99          0.54         0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------------------------------------------------------------------

--------------------
| ADD HYD   (2635) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0635):    73.01   3.724     5.25    52.17
      + ID2= 2 (5635):  4462.53  99.660     7.00    52.74
        ================================================
        ID = 3 (2635):  4535.54 101.092     7.00    52.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0186) |   Area    (ha)= 388.73
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  44.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       171.04        217.69
```



```
    Dep. Storage     (mm)=         1.00          4.00
    Average Slope     (%)=         1.00          2.10
    Length            (m)=      1609.82         40.00
    Mannings n           =        0.013         0.250

    Max.Eff.Inten.(mm/hr)=        33.63         23.68
              over (min)          15.00         45.00
    Storage Coeff.  (min)=        19.20 (ii)   112.20 (ii)
    Unit Hyd. Tpeak (min)=        15.00        105.00
    Unit Hyd. peak  (cms)=         0.06          0.01
                                                          *TOTALS*
    PEAK FLOW       (cms)=        15.53          5.15       17.548 (iii)
    TIME TO PEAK    (hrs)=         5.25          6.75         5.25
    RUNOFF VOLUME    (mm)=        72.10         39.42        53.80
    TOTAL RAINFALL   (mm)=        73.10         73.10        73.10
    RUNOFF COEFFICIENT   =         0.99          0.54         0.74


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------------------------------------------------------------------
--------------------
| DUHYD     (9611) |
| Inlet Cap.=1.944 |
| #of Inlets=   1  |
| Total(cms)=  1.9 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1): 388.73     17.55      5.25   53.80
    ================================================
    MAJOR SYS.(ID= 2): 251.02     15.60      5.25   53.80
    MINOR SYS.(ID= 3): 137.71      1.94      3.25   53.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
--------------------
| RESERVOIR (6611) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   1.9440      8.4000

                                 AREA     QPEAK     TPEAK      R.V.
                                 (ha)     (cms)     (hrs)      (mm)
    INFLOW : ID= 2 (9611)     137.708     1.944      3.25      53.80
    OUTFLOW: ID= 1 (6611)     137.708     1.038     12.50      53.79

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.41
                TIME SHIFT OF PEAK FLOW          (min)=555.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  4.4894

---------------------------------------------------------------------------------

--------------------
| ADD HYD   (4611) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6611):   137.71   1.038    12.50    53.79
      + ID2= 2 (9611):   251.02  15.604     5.25    53.80
```



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        ================================================
        ID = 3 (4611):   388.73  16.012     5.25    53.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------

--------------------
| ADD HYD   (1637) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2635):  4535.54 101.092     7.00    52.73
      + ID2= 2 (4611):   388.73  16.012     5.25    53.80
        ================================================
        ID = 3 (1637):  4924.27 107.407     7.00    52.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5637) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5637.0) ------>
              Distance      Elevation       Manning
                  0.00         159.54        0.1110
                 26.71         153.00        0.1110
                 28.32         152.50        0.1110
                 28.88         152.18        0.1110
                 29.32         152.00        0.1110
                 29.68         151.83        0.1110
                 31.21         151.87    0.1110 /0.0490  Main Channel
                 31.97         151.50        0.0490      Main Channel
                 36.66         151.50        0.0490      Main Channel
                 36.81         151.73        0.0490      Main Channel
                 37.62         151.95    0.0490 /0.1110  Main Channel
                 37.67         151.96        0.1110
                 37.83         152.00        0.1110
                 38.03         152.07        0.1110
                 39.32         152.50        0.1110
                 39.70         152.62        0.1110
                 40.47         152.84        0.1110
                 41.06         153.00        0.1110
                 66.35         154.00        0.1110
                 91.54         159.93        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.37   151.87    .213E+04        1.2         0.59      30.61
       0.77   152.27    .599E+04        4.8         0.87      20.60
       1.18   152.68    .107E+05       10.8         1.08      16.65
       1.58   153.08    .167E+05       18.7         1.20      14.91
       1.98   153.48    .266E+05       29.4         1.19      15.07
       2.39   153.89    .416E+05       44.4         1.15      15.58
       2.79   154.29    .607E+05       65.7         1.16      15.41
       3.20   154.70    .815E+05       92.5         1.22      14.69
       3.60   155.10    .104E+06      124.2         1.29      13.93
       4.00   155.50    .128E+06      160.9         1.36      13.21
       4.41   155.91    .153E+06      202.4         1.43      12.57
       4.81   156.31    .179E+06      249.0         1.49      12.00
       5.21   156.71    .207E+06      300.6         1.56      11.50
       5.62   157.12    .237E+06      357.3         1.62      11.05
```

6.02	157.52	.268E+06	419.3	1.68	10.65
6.43	157.93	.300E+06	486.5	1.74	10.29
6.83	158.33	.334E+06	559.2	1.80	9.97
7.23	158.73	.370E+06	637.5	1.86	9.67
7.64	159.14	.407E+06	721.3	1.91	9.40

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1637)	4924.27	107.41	7.00	52.81	3.39	1.25
OUTFLOW: ID= 1 (5637)	4924.27	106.10	7.25	52.81	3.36	1.25

CALIB	
STANDHYD (0637)	Area (ha)= 30.59
ID= 1 DT=15.0 min	Total Imp(%)= 16.00 Dir. Conn.(%)= 16.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.89	25.70
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.50
Length (m)=	451.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	21.22
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	36.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.46	1.02 1.456 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	72.10	34.95 40.89
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.48 0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2637)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0637):	30.59	1.456	5.25	40.89	
+ ID2= 2 (5637):	4924.27	106.098	7.25	52.81	
ID = 3 (2637):	4954.86	106.511	7.25	52.74	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1717)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2237):	10472.55	107.415	7.25	42.04
+ ID2= 2 (2637):	4954.86	106.511	7.25	52.74
ID = 3 (1717):	15427.41	213.926	7.25	45.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5717)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5717.0) ------>

Distance	Elevation	Manning	
0.00	159.92	0.1110	
16.17	156.24	0.1110	
31.63	155.13	0.1110	
53.62	154.50	0.1110	
65.20	152.50	0.1110	
91.81	150.00	0.1110	
110.61	150.00	0.1110	
111.90	149.13	0.1110 /0.0490	Main Channel
112.55	148.60	0.0490	Main Channel
125.01	148.60	0.0490	Main Channel
125.79	149.17	0.0490 /0.1110	Main Channel
127.48	149.50	0.1110	
210.24	149.92	0.1110	
212.41	150.00	0.1110	
224.55	150.00	0.1110	
334.54	151.50	0.1110	
364.54	157.50	0.1110	
384.84	164.02	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	149.13	.527E+04	4.4	0.63	19.84
1.10	149.70	.148E+05	16.1	0.82	15.33
1.67	150.27	.628E+05	47.3	0.57	22.13
2.23	150.83	.140E+06	112.6	0.61	20.66
2.80	151.40	.237E+06	212.9	0.68	18.54
3.37	151.97	.349E+06	364.8	0.79	15.94
3.94	152.54	.465E+06	556.7	0.90	13.92
4.51	153.11	.584E+06	785.4	1.02	12.40
5.07	153.67	.706E+06	1047.1	1.12	11.24
5.64	154.24	.831E+06	1340.6	1.22	10.33
6.21	154.81	.959E+06	1648.4	1.30	9.70
6.78	155.38	.110E+07	1991.0	1.37	9.17
7.34	155.94	.124E+07	2379.5	1.45	8.67
7.91	156.51	.138E+07	2806.9	1.53	8.22
8.48	157.08	.153E+07	3272.6	1.61	7.81
9.05	157.65	.168E+07	3771.6	1.69	7.45
9.62	158.22	.184E+07	4307.0	1.77	7.11
10.18	158.78	.199E+07	4873.0	1.85	6.82
10.75	159.35	.215E+07	5469.0	1.92	6.55

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

INFLOW : ID= 2 (1717) *******	213.93	7.25	45.48	2.81	0.68
OUTFLOW: ID= 1 (5717) *******	211.07	7.50	45.48	2.79	0.68

CALIB	
STANDHYD (0717)	Area (ha)= 33.60
ID= 1 DT=15.0 min	Total Imp(%)= 17.00 Dir. Conn.(%)= 17.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.71	27.89
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.70
Length (m)=	473.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	20.64
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	36.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.53	1.07 1.574 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	72.10	33.93 40.42
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.46 0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2717)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0717):	33.60	1.574	5.25	40.42
+ ID2= 2 (5717):	15427.41	211.070	7.50	45.48
ID = 3 (2717):	15461.01	211.439	7.50	45.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0257)	Area (ha)= 75.57
ID= 1 DT=15.0 min	Total Imp(%)= 83.00 Dir. Conn.(%)= 83.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	62.72	12.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.50
Length (m)=	709.79	40.00

Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	31.16	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.20 (ii)	76.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
			TOTALS
PEAK FLOW (cms)=	5.82	0.56	6.186 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	72.10	55.97	69.36
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.77	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2257)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0257):	75.57	6.186	5.25	69.36
+ ID2= 2 (2717):	15461.01	211.439	7.50	45.47
ID = 3 (2257):	15536.58	212.421	7.50	45.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5240)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5240.0) ------>

Distance	Elevation	Manning	
0.00	156.50	0.1110	
20.51	149.00	0.1110	
31.95	149.00	0.1110	
39.82	148.00	0.1110	
48.42	148.00	0.1110	
51.87	147.50	0.1110	
73.08	147.00	0.1110	
76.22	146.00	0.1110 /0.0490	Main Channel
77.04	145.00	0.0490	Main Channel
87.93	145.00	0.0490	Main Channel
88.30	146.00	0.0490 /0.1110	Main Channel
89.26	146.52	0.1110	
90.21	147.00	0.1110	
114.82	147.00	0.1110	
123.73	146.85	0.1110	
126.70	147.00	0.1110	
143.61	152.00	0.1110	
155.99	159.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.50	145.50	.727E+04	5.6	1.01	21.49
1.00	146.00	.149E+05	17.6	1.53	14.15
1.62	146.62	.259E+05	40.8	2.05	10.57
2.24	147.24	.531E+05	74.9	1.83	11.81
2.85	147.85	.113E+06	140.3	1.61	13.45
3.47	148.47	.186E+06	235.4	1.65	13.14
4.09	149.09	.266E+06	354.8	1.73	12.51
4.71	149.71	.359E+06	517.8	1.87	11.55
5.32	150.32	.455E+06	710.3	2.03	10.67
5.94	150.94	.553E+06	930.7	2.19	9.91
6.56	151.56	.655E+06	1178.2	2.34	9.26
7.18	152.18	.760E+06	1453.5	2.49	8.71
7.79	152.79	.867E+06	1758.1	2.64	8.22
8.41	153.41	.976E+06	2087.9	2.78	7.79
9.03	154.03	.109E+07	2442.5	2.92	7.42
9.65	154.65	.120E+07	2821.5	3.05	7.10
10.26	155.26	.132E+07	3224.5	3.18	6.81
10.88	155.88	.144E+07	3651.5	3.30	6.55
11.50	156.50	.156E+07	4102.3	3.42	6.32

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2257) *******	212.42	7.50	45.58		3.32	1.64
OUTFLOW: ID= 1 (5240) *******	210.91	7.75	45.58		3.31	1.64

CALIB	
STANDHYD (0240)	Area (ha)= 49.43
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 35.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.30	32.13
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.70
Length (m)=	574.05	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	22.42
over (min)	15.00	15.00
Storage Coeff. (min)=	6.60 (ii)	39.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	1.62	1.25	2.726 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	37.11	49.35
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.51	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2240)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0240):	49.43	2.726	5.25	49.35
+ ID2= 2 (5240):	15536.58	210.907	7.75	45.58
ID = 3 (2240):	15586.01	211.433	7.75	45.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0634)	Area (ha)= 320.52
ID= 1 DT=15.0 min	Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	115.39	205.13
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	1461.78	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	22.42
over (min)	15.00	45.00
Storage Coeff. (min)=	18.00 (ii)	106.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01
		TOTALS
PEAK FLOW (cms)=	10.53	4.68	12.351 (iii)
TIME TO PEAK (hrs)=	5.25	6.75	5.25
RUNOFF VOLUME (mm)=	72.10	37.11	49.70
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.51	0.68

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9604)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=1.303				
#of Inlets= 1				
Total(cms)= 1.3				
TOTAL HYD.(ID= 1):	320.52	12.35	5.25	49.70
MAJOR SYS.(ID= 2):	216.41	11.05	5.25	49.70
MINOR SYS.(ID= 3):	104.11	1.30	3.00	49.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6604)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 15.0 min				

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9604)	104.108	1.303	3.00	49.70
OUTFLOW: ID= 1 (6604)	104.108	0.721	12.75	49.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 55.30
TIME SHIFT OF PEAK FLOW (min)=585.00
MAXIMUM STORAGE USED (ha.m.)= 3.1151

ADD HYD (4604)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (6604):	104.11	0.721	12.75	49.69
+ ID2= 2 (9604):	216.41	11.048	5.25	49.70
ID = 3 (4604):	320.52	11.323	5.25	49.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1264)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (2240):	15586.01	211.433	7.75	45.59
+ ID2= 2 (4604):	320.52	11.323	5.25	49.70
ID = 3 (1264):	15906.53	215.853	7.50	45.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5264)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5264.0) ------>

Distance	Elevation	Manning	
0.00	159.01	0.1110	
18.68	154.00	0.1110	
32.14	153.50	0.1110	
59.08	147.50	0.1110	
71.63	147.50	0.1110	
77.74	146.50	0.1110	
81.24	145.00	0.1110 /0.0490	Main Channel
81.73	143.80	0.0490	Main Channel
88.41	143.80	0.0490	Main Channel
89.20	145.00	0.0490 /0.1110	Main Channel
101.11	147.50	0.1110	
105.58	148.00	0.1110	
134.97	150.00	0.1110	
141.87	151.00	0.1110	
157.92	151.30	0.1110	
158.71	151.50	0.1110	
160.99	151.50	0.1110	
169.62	154.50	0.1110	
171.70	155.00	0.1110	

177.64 156.04 0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	144.40	.305E+04	3.2	0.77	15.68
1.20	145.00	.637E+04	10.0	1.14	10.64
1.85	145.65	.112E+05	21.9	1.42	8.51
2.50	146.30	.182E+05	38.8	1.55	7.83
3.15	146.95	.277E+05	61.0	1.60	7.56
3.80	147.60	.413E+05	88.5	1.55	7.78
4.45	148.25	.639E+05	129.3	1.47	8.24
5.10	148.90	.920E+05	183.3	1.44	8.37
5.75	149.55	.126E+06	252.5	1.45	8.32
6.40	150.20	.166E+06	339.8	1.49	8.13
7.04	150.84	.210E+06	447.2	1.55	7.81
7.69	151.49	.260E+06	556.6	1.55	7.80
8.34	152.14	.318E+06	709.7	1.62	7.47
8.99	152.79	.378E+06	886.6	1.70	7.10
9.64	153.44	.440E+06	1083.6	1.79	6.77
10.29	154.09	.507E+06	1263.9	1.81	6.69
10.94	154.74	.579E+06	1512.2	1.90	6.38
11.59	155.39	.653E+06	1776.3	1.97	6.13
12.24	156.04	.730E+06	2060.1	2.05	5.91

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1264) *******	215.85	7.50	45.68		5.40	1.45
OUTFLOW: ID= 1 (5264) *******	215.41	7.75	45.68		5.39	1.45

CALIB	
STANDHYD (0264)	Area (ha)= 37.54
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	7.88	29.66
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.60
Length (m)=	500.27	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	20.07
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	39.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.74	1.01	1.625 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	32.94	41.16
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.45	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2264)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0264):	37.54	1.625	5.25	41.16
	+ ID2= 2 (5264):	15906.53	215.406	7.75	45.68
	ID = 3 (2264):	15944.07	215.794	7.75	45.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0631)	Area (ha)=	49.79	
ID= 1 DT=15.0 min	Total Imp(%)=	18.00	Dir. Conn.(%)= 18.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.96	40.83
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	576.14	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	19.52
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	0.84	1.26	1.907 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	72.10	31.98	39.20
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.44	0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9606)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=0.099					
#of Inlets= 1					
Total(cms)= 0.1		(ha)	(cms)	(hrs)	(mm)
	TOTAL HYD.(ID= 1):	49.79	1.91	5.25	39.20
	MAJOR SYS.(ID= 2):	40.23	1.81	5.25	39.20
	MINOR SYS.(ID= 3):	9.56	0.10	2.75	39.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6606)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0990	0.4270	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9606)	9.562	0.099	2.75	39.20
OUTFLOW: ID= 1 (6606)	9.562	0.055	12.50	39.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 55.51
TIME SHIFT OF PEAK FLOW (min)=585.00
MAXIMUM STORAGE USED (ha.m.)= 0.2373

ADD HYD (4606)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6606):	9.56	0.055	12.50	39.09
	+ ID2= 2 (9606):	40.23	1.808	5.25	39.20
	ID = 3 (4606):	49.79	1.830	5.25	39.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3264)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2264):	15944.07	215.794	7.75	45.67
	+ ID2= 2 (4606):	49.79	1.830	5.25	39.18
	ID = 3 (3264):	15993.86	216.276	7.75	45.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0276)	Area (ha)=	265.62	
ID= 1 DT=15.0 min	Total Imp(%)=	77.00	Dir. Conn.(%)= 77.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	204.53	61.09
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	1330.71	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	29.82
over (min)	15.00	30.00
Storage Coeff. (min)=	16.80 (ii)	97.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.07	0.01

TOTALS

PEAK FLOW (cms)=	18.76	2.10	19.714 (iii)
TIME TO PEAK (hrs)=	5.25	6.50	5.25
RUNOFF VOLUME (mm)=	72.10	52.36	67.56
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.72	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0438)	Area (ha)=	65.06	
ID= 1 DT=15.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	48.79	16.26
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	658.58	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	29.13
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	67.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	4.54	0.69	5.071 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	72.10	50.68	66.74
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.69	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1435)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0276):	265.62	19.714	5.25	67.56
	+ ID2= 2 (0438):	65.06	5.071	5.25	66.74
	ID = 3 (1435):	330.68	24.785	5.25	67.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0435)	Area (ha)=	78.03	

ID= 1 DT=15.0 min	Total Imp(%)=	72.00	Dir. Conn.(%)= 72.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	56.18	21.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.90
Length (m)=	721.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	28.43
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	72.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	5.23	0.85	5.754 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	72.10	49.06	65.65
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.67	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2435)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0435):	78.03	5.754	5.25	65.65
	+ ID2= 2 (1435):	330.68	24.785	5.25	67.40
	ID = 3 (2435):	408.71	30.538	5.25	67.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1616)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2435):	408.71	30.538	5.25	67.07
	+ ID2= 2 (3264):	15993.86	216.276	7.75	45.65
	ID = 3 (1616):	16402.57	221.474	7.75	46.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0632)	Area (ha)=	43.94	
ID= 1 DT=15.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.23	34.71

Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.00	
Length (m)=	541.23	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	21.81	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	0.86	1.13	1.686 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	72.10	36.01	43.59
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.49	0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9603)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		43.94	1.69	5.25	43.59
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		43.94	1.69	5.25	43.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6603)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.7000	2.4800

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9603)	43.940	1.686	5.25	43.59
OUTFLOW: ID= 1 (6603)	43.940	0.361	8.50	43.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.38
TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 1.2784

ADD HYD (4603)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G :	HYDROGRAPH 9603 <ID= 2> IS DRY.			

*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6603):	43.94	0.361	8.50	43.57
+ ID2= 2 (9603):	0.00	0.000	0.00	0.00
ID = 3 (4603):	43.94	0.361	8.50	43.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0633)	Area (ha)= 19.38		
ID= 1 DT=15.0 min	Total Imp(%)= 20.00	Dir. Conn.(%)= 20.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	3.88	15.50	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.60	
Length (m)=	359.44	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	23.68	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	0.36	0.65	0.942 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	39.42	45.96
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.54	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9602)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		19.38	0.94	5.25	45.96
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		19.38	0.94	5.25	45.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6602)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE

(cms)	(ha.m.)	(cms)	(ha.m.)	
0.0000	0.0000	0.8000	0.4900	

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9602)	19.380	0.942	5.25	45.96
OUTFLOW: ID= 1 (6602)	19.380	0.502	6.50	45.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 53.33
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.3096

ADD HYD (4602)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G :	HYDROGRAPH 9602 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6602):	19.38	0.502	6.50	45.95
+ ID2= 2 (9602):	0.00	0.000	0.00	0.00
ID = 3 (4602):	19.38	0.502	6.50	45.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0630)	Area (ha)= 120.64		
ID= 1 DT=15.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 27.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	32.57	88.07	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.60	
Length (m)=	896.81	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	23.68	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.60 (ii)	74.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	3.03	2.65	4.563 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	72.10	39.42	48.24
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.54	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9601)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		120.64	4.56	5.25	48.24
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		120.64	4.56	5.25	48.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6601)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	2.0000	3.5700

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9601)	120.640	4.563	5.25	48.24
OUTFLOW: ID= 1 (6601)	120.640	1.660	8.00	48.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 36.37
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 2.9650

ADD HYD (4601)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G :	HYDROGRAPH 9601 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6601):	120.64	1.660	8.00	48.24
+ ID2= 2 (9601):	0.00	0.000	0.00	0.00
ID = 3 (4601):	120.64	1.660	8.00	48.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2601)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (4601):	120.64	1.660	8.00	48.24
+ ID2= 2 (4602):	19.38	0.502	6.50	45.95
ID = 3 (2601):	140.02	2.068	7.50	47.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1602)			
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2601):	140.02	2.068	7.50	47.92
+ ID2= 2 (4603):	43.94	0.361	8.50	43.57
ID = 3 (1602):	183.96	2.412	7.50	46.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1603)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1602):	183.96	2.412	7.50	46.88
+ ID2= 2 (1616):	16402.57	221.474	7.75	46.18
ID = 3 (1603):	16586.53	223.883	7.75	46.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5616)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5616.0) ------>

Distance	Elevation	Manning	
0.00	155.00	0.1110	
50.80	148.87	0.1110	
67.28	145.00	0.1110	
75.68	144.20	0.1110	
78.03	143.38	0.1110	
78.57	143.00	0.1110 /0.0490	Main Channel
78.71	141.40	0.0490	Main Channel
91.20	141.40	0.0490	Main Channel
92.33	143.00	0.0490 /0.1110	Main Channel
93.98	143.50	0.1110	
211.31	144.60	0.1110	
232.18	145.00	0.1110	
242.93	145.50	0.1110	
278.58	153.02	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	141.93	.821E+04	4.9	0.72	27.93
1.07	142.47	.167E+05	15.1	1.10	18.40
1.60	143.00	.254E+05	29.0	1.38	14.62
2.23	143.63	.380E+05	51.7	1.64	12.28
2.85	144.25	.869E+05	87.9	1.22	16.49
3.48	144.88	.187E+06	155.9	1.01	20.03
4.10	145.50	.316E+06	268.0	1.03	19.65
4.73	146.13	.453E+06	422.4	1.13	17.87
5.36	146.76	.594E+06	610.6	1.24	16.22
5.98	147.38	.740E+06	830.5	1.36	14.85
6.61	148.01	.890E+06	1080.9	1.47	13.72
7.24	148.64	.104E+07	1361.0	1.58	12.79
7.86	149.26	.120E+07	1667.3	1.68	12.02
8.49	149.89	.137E+07	2001.7	1.77	11.39
9.11	150.51	.154E+07	2366.3	1.86	10.84
9.74	151.14	.172E+07	2760.9	1.95	10.36
10.37	151.77	.190E+07	3185.8	2.03	9.94

10.99	152.39	.209E+07	3641.0	2.11	9.56
11.62	153.02	.229E+07	4127.0	2.19	9.23

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1603) *******	223.88	7.75	46.19	3.86	1.02	
OUTFLOW: ID= 1 (5616) *******	220.89	8.00	46.19	3.83	1.02	

CALIB
STANDHYD (0616)
ID= 1 DT=15.0 min

Area (ha)= 105.56
Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.95	49.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.00
Length	(m)=	838.89	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.66
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	5.22	1.92	6.666 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	72.10	43.23	58.53
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.59	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2616)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0616):	105.56	6.666	5.25	58.53
+ ID2= 2 (5616):	16586.53	220.893	8.00	46.19
ID = 3 (2616):	16692.09	222.091	8.00	46.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0293)
ID= 1 DT=15.0 min

Area (ha)= 152.56
Total Imp(%)= 79.00 Dir. Conn.(%)= 79.00

IMPERVIOUS PERVIOUS (i)

Surface Area	(ha)=	120.52	32.04	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.40	
Length	(m)=	1008.50	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	29.82	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.01	

		TOTALS
PEAK FLOW	(cms)=	11.17	1.25	11.956 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	72.10	52.36	67.95
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.72	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1300)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0293):	152.56	11.956	5.25	67.95
+ ID2= 2 (2616):	16692.09	222.091	8.00	46.27
ID = 3 (1300):	16844.65	223.776	8.00	46.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5300)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5300.0) ------>

Distance	Elevation	Manning	
0.00	144.96	0.1110	
34.18	134.00	0.1110	
50.16	133.00	0.1110	
68.52	132.51	0.1110	
90.08	132.00	0.1110	
110.50	131.00	0.1110	
111.48	131.00	0.1110 /0.0490	Main Channel
114.14	130.50	0.0490	Main Channel
123.12	130.50	0.0490	Main Channel
124.57	131.00	0.0490 /0.1110	Main Channel
124.89	131.00	0.1110	
133.94	145.00	0.1110	
152.13	145.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.50	131.00	.181E+05	4.0	0.73	75.07
1.23	131.73	.716E+05	23.7	1.09	50.39
1.97	132.47	.170E+06	60.5	1.17	46.89
2.70	133.20	.337E+06	124.6	1.21	45.12
3.44	133.94	.544E+06	220.9	1.33	41.04
4.17	134.67	.770E+06	352.8	1.51	36.40
4.91	135.41	.100E+07	512.5	1.68	32.64
5.64	136.14	.124E+07	697.6	1.84	29.71
6.38	136.88	.149E+07	907.0	2.00	27.38
7.11	137.61	.174E+07	1139.9	2.15	25.49
7.85	138.35	.200E+07	1395.8	2.29	23.92
8.58	139.08	.227E+07	1674.1	2.42	22.60
9.32	139.82	.254E+07	1974.6	2.55	21.47
10.05	140.55	.282E+07	2297.1	2.67	20.49
10.79	141.29	.311E+07	2641.3	2.79	19.63
11.52	142.02	.340E+07	3007.1	2.90	18.86
12.26	142.76	.370E+07	3394.4	3.01	18.18
12.99	143.49	.401E+07	3803.3	3.12	17.57
13.73	144.23	.432E+07	4233.6	3.22	17.02

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1300) *******	223.78	8.00	46.46	3.45	1.34	
OUTFLOW: ID= 1 (5300) *******	215.67	8.50	46.46	3.38	1.33	

CALIB
STANDHYD (0300)
ID= 1 DT=15.0 min

Area (ha)= 140.00
Total Imp(%)= 39.00 Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	54.60	85.40
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	8.20
Length	(m)=	966.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.68
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	54.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.70	3.14	7.033 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	72.10	39.21	51.05
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.54	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2300)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0300):	140.00	7.033	5.25	51.05	
+ ID2= 2 (5300):	16844.65	215.674	8.50	46.46	
ID = 3 (2300):	16984.65	216.861	8.50	46.50	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0614)	Area (ha)=	16.47	
ID= 1 DT=15.0 min	Total Imp(%)=	85.00	Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	14.00	2.47
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	331.36	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	31.16
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	1.31	0.15	1.444 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	55.97	69.68
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.77	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9614)				
Inlet Cap.=4.124				
#of Inlets= 1				
Total(cms)= 4.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	16.47	1.44	5.25	69.68
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	16.47	1.44	5.25	69.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0728)	Area (ha)=	12.10	
ID= 1 DT=15.0 min	Total Imp(%)=	68.00	Dir. Conn.(%)= 68.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.23	3.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	284.02	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	29.13
over (min)	15.00	15.00
Storage Coeff. (min)=	5.40 (ii)	33.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.03

		TOTALS
PEAK FLOW (cms)=	0.77	0.24	1.005 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	50.68	65.24
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.69	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2728)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0728):	12.10	1.005	5.25	65.24	
+ ID2= 2 (9614):	16.47	1.444	5.25	69.68	
ID = 3 (2728):	28.57	2.449	5.25	67.80	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9270)				
Inlet Cap.=8.836				
#of Inlets= 1				
Total(cms)= 8.8	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	28.57	2.45	5.25	67.80
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	28.57	2.45	5.25	67.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6270)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.5480	0.8200
	0.0870	0.6030	4.3140	0.8520
	0.2750	0.6330	5.1300	0.8840

0.6180	0.6640	5.9920	0.9160
1.0600	0.6950	6.8990	0.9480
1.5840	0.7260	7.8470	0.9800
2.1780	0.7570	8.8360	1.0120
2.8350	0.7890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9270)	28.570	2.449	5.25	67.80
OUTFLOW: ID= 1 (6270)	28.570	2.388	5.25	67.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 97.52
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.7700

ADD HYD (4270)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G : HYDROGRAPH 9270 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (6270):	28.57	2.388	5.25	67.74	
+ ID2= 2 (9270):	0.00	0.000	0.00	0.00	
ID = 3 (4270):	28.57	2.388	5.25	67.74	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1427)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2300):	16984.65	216.861	8.50	46.50	
+ ID2= 2 (4270):	28.57	2.388	5.25	67.74	
ID = 3 (1427):	17013.23	217.098	8.50	46.54	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0606)	Area (ha)=	53.10	
ID= 1 DT=15.0 min	Total Imp(%)=	55.00	Dir. Conn.(%)= 55.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	29.20	23.89
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.80
Length (m)=	594.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	26.35
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

TOTALS

PEAK FLOW (cms)=	2.73	1.01	3.622 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	72.10	44.60	59.73
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.61	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9269)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	53.10	3.62	5.25	59.73
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	53.10	3.62	5.25	59.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6269)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	1.1320
	0.0860	0.3350	3.0230	1.4270
	0.1240	0.6920	8.0750	1.7920
	0.1530	1.0380	9.7660	1.9010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9269)	53.100	3.622	5.25	59.73
OUTFLOW: ID= 1 (6269)	53.100	2.529	5.50	59.71

PEAK FLOW REDUCTION [Qout/Qin](%)= 69.83
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.3899

ADD HYD (4269)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G : HYDROGRAPH 9269 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (6269):	53.10	2.529	5.50	59.71	
+ ID2= 2 (9269):	0.00	0.000	0.00	0.00	
ID = 3 (4269):	53.10	2.529	5.50	59.71	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2606)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1427):		17013.23	217.098	8.50	46.54
+ ID2= 2 (4269):		53.10	2.529	5.50	59.71
ID = 3 (2606):		17066.33	217.609	8.50	46.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5427) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5427.0) ------>

Distance	Elevation	Manning		
0.00	130.04	0.1110		
10.57	125.00	0.1110		
81.38	125.00	0.1110		
102.44	125.68	0.1110		
131.41	124.00	0.1110		
136.25	123.00	0.1110		
143.40	123.00	0.1110 /0.0490	Main Channel	
144.00	122.20	0.0490	Main Channel	
150.83	122.20	0.0490	Main Channel	
153.56	123.00	0.0490 /0.1110	Main Channel	
154.90	123.00	0.1110		
156.48	124.00	0.1110		
164.24	125.00	0.1110		
200.91	125.50	0.1110		
246.89	125.00	0.1110		
283.84	125.00	0.1110		
303.71	126.00	0.1110		
334.11	130.00	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	122.60	.199E+04	2.1	0.69	15.73
0.80	123.00	.441E+04	7.0	1.02	10.56
1.21	123.41	.975E+04	16.7	1.11	9.71
1.62	123.82	.158E+05	30.7	1.26	8.56
2.04	124.24	.229E+05	47.9	1.36	7.96
2.45	124.65	.325E+05	69.8	1.39	7.77
2.86	125.06	.493E+05	86.0	1.13	9.55
3.27	125.47	.108E+06	147.0	0.88	12.25
3.68	125.88	.184E+06	253.0	0.89	12.15
4.09	126.29	.263E+06	398.4	0.98	11.02
4.51	126.71	.344E+06	576.0	1.09	9.94
4.92	127.12	.425E+06	782.8	1.20	9.04
5.33	127.53	.507E+06	1017.2	1.30	8.31
5.74	127.94	.591E+06	1277.8	1.40	7.70
6.15	128.35	.675E+06	1563.6	1.50	7.19
6.56	128.76	.760E+06	1873.9	1.60	6.76
6.98	129.18	.847E+06	2207.9	1.69	6.39
7.39	129.59	.935E+06	2565.3	1.78	6.07
7.80	130.00	.102E+07	2945.4	1.87	5.79

Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.90	
Length	(m)=	1248.65	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	30.81	
over (min)		15.00	30.00	
Storage Coeff. (min)=		15.00 (ii)	88.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	90.00	
Unit Hyd. peak (cms)=		0.07	0.01	
				TOTALS
PEAK FLOW	(cms)=	8.21	4.62	10.549 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	72.10	45.88	55.84
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.63	0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1341)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0312):		233.87	10.549	5.25	55.84
+ ID2= 2 (2427):		17088.85	216.825	8.75	46.56
ID = 3 (1341):		17322.72	219.440	8.75	46.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5341) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5341.0) ------>

Distance	Elevation	Manning		
0.00	129.00	0.1110		
19.97	122.00	0.1110		
43.39	121.83	0.1110		
70.95	121.00	0.1110		
78.38	122.00	0.1110		
110.84	122.00	0.1110		
127.33	120.00	0.1110		
127.83	120.00	0.1110 /0.0490	Main Channel	
128.71	118.60	0.0490	Main Channel	
147.85	118.60	0.0490	Main Channel	
147.86	120.00	0.0490 /0.1110	Main Channel	
148.30	120.00	0.1110		
149.10	120.67	0.1110		
154.79	121.69	0.1110		
172.71	122.26	0.1110		
194.33	126.00	0.1110		
343.54	129.42	0.1110		

<---------- TRAVEL TIME TABLE ---------->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2606) *******	217.61	8.50	46.58		3.54	0.89
OUTFLOW: ID= 1 (5427) *******	216.71	8.75	46.58		3.54	0.89

CALIB | STANDHYD (0427) | Area (ha)= 22.52 | ID= 1 DT=15.0 min | Total Imp(%)= 17.00 Dir. Conn.(%)= 14.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.83	18.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.60
Length	(m)=	387.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	20.63
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	36.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	0.29	0.72 0.993 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	72.10	32.69 38.21
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.45 0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2427)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0427):		22.52	0.993	5.25	38.21
+ ID2= 2 (5427):		17066.33	216.712	8.75	46.58
ID = 3 (2427):		17088.85	216.825	8.75	46.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0312) | Area (ha)= 233.87 | ID= 1 DT=15.0 min | Total Imp(%)= 46.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	107.58	126.29

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	119.07	.628E+04	3.7	0.41	28.15
0.93	119.53	.127E+05	11.6	0.64	18.23
1.40	120.00	.191E+05	22.3	0.81	14.29
1.96	120.56	.284E+05	39.9	0.98	11.86
2.53	121.12	.403E+05	62.0	1.07	10.83
3.09	121.69	.615E+05	90.7	1.03	11.29
3.65	122.25	.106E+06	130.5	0.86	13.58
4.21	122.81	.167E+06	196.4	0.82	14.21
4.78	123.38	.231E+06	279.4	0.85	13.75
5.34	123.94	.296E+06	378.0	0.89	13.03
5.90	124.50	.362E+06	491.4	0.95	12.29
6.46	125.06	.431E+06	619.1	1.00	11.61
7.03	125.63	.502E+06	760.5	1.06	11.00
7.59	126.19	.575E+06	906.8	1.10	10.57
8.15	126.75	.656E+06	1059.7	1.13	10.32
8.71	127.31	.748E+06	1236.5	1.15	10.08
9.28	127.88	.850E+06	1435.7	1.18	9.87
9.84	128.44	.962E+06	1657.4	1.20	9.68
10.40	129.00	.108E+07	1902.7	1.22	9.50

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1341) *******	219.44	8.75	46.69		4.37	0.83
OUTFLOW: ID= 1 (5341) *******	217.03	9.00	46.69		4.36	0.83

CALIB | STANDHYD (0341) | Area (ha)= 71.87 | ID= 1 DT=15.0 min | Total Imp(%)= 39.00 Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.03	43.84
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.00
Length	(m)=	692.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	28.25
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.15	1.87 3.553 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	72.10	42.79 52.17
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.59 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2341)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0341):		71.87	3.553	5.25	52.17
+ ID2= 2 (5341):		17322.72	217.034	9.00	46.69
ID = 3 (2341):		17394.59	217.550	9.00	46.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5328)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5328.0) ------>

Distance	Elevation	Manning	
0.00	122.83	0.1110	
38.42	122.00	0.1110	
76.21	122.00	0.1110	
99.10	119.00	0.1110	
111.79	118.00	0.1110	
116.05	117.00	0.1110	
120.04	117.00	0.1110 /0.0490	Main Channel
121.01	116.40	0.0490	Main Channel
129.65	116.40	0.0490	Main Channel
129.67	117.00	0.0490 /0.1110	Main Channel
130.14	117.00	0.1110	
130.87	118.00	0.1110	
139.94	119.00	0.1110	
157.92	118.89	0.1110	
175.26	119.00	0.1110	
192.73	119.00	0.1110	
216.81	119.91	0.1110	
239.98	121.57	0.1110	
256.21	122.00	0.1110	
324.25	122.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	116.60	.235E+04	1.2	0.66	33.87
0.40	116.80	.478E+04	3.6	1.01	21.95
0.60	117.00	.731E+04	7.1	1.29	17.19
0.91	117.31	.135E+05	15.3	1.51	14.73
1.22	117.62	.204E+05	26.4	1.73	12.86
1.54	117.94	.278E+05	40.1	1.92	11.57
1.85	118.25	.367E+05	55.9	2.03	10.94
2.16	118.56	.483E+05	75.3	2.08	10.70
2.47	118.87	.628E+05	98.7	2.10	10.60
2.79	119.19	.962E+05	129.5	1.80	12.38
3.10	119.50	.140E+06	176.6	1.68	13.22
3.41	119.81	.188E+06	235.3	1.67	13.34
3.72	120.12	.241E+06	306.8	1.70	13.08
4.04	120.44	.296E+06	390.4	1.76	12.64
4.35	120.75	.354E+06	485.2	1.83	12.17
4.66	121.06	.415E+06	591.3	1.90	11.70
4.97	121.37	.479E+06	708.7	1.97	11.26
5.29	121.69	.546E+06	831.7	2.03	10.93
5.60	122.00	.618E+06	958.2	2.07	10.74

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2341)	*******	217.55	9.00	46.71		3.32	1.67
OUTFLOW: ID= 1 (5328)	*******	216.48	9.25	46.71		3.31	1.67

CALIB	
STANDHYD (0328)	Area (ha)= 240.00
ID= 1 DT=15.0 min	Total Imp(%)= 56.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	134.40	105.60
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	1264.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	32.63
over (min)		15.00	30.00
Storage Coeff. (min)=		15.00 (ii)	88.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	10.86	4.15	13.014 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	72.10	48.74	60.19
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.67	0.82

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2328)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0328):		240.00	13.014	5.25	60.19
+ ID2= 2 (5328):		17394.59	216.482	9.25	46.71
ID = 3 (2328):		17634.59	218.555	9.25	46.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0274)	Area (ha)= 98.82
ID= 1 DT=15.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.32	41.50
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	811.66	40.00

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	27.04
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	70.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	5.33	1.51	6.255 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	72.10	46.03	61.15
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.63	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0287)	Area (ha)= 145.43
ID= 1 DT=15.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	74.17	71.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	984.65	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.33
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	80.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	6.87	2.14	8.106 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	72.10	40.64	56.69
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.56	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1301)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0274):		98.82	6.255	5.25	61.15
+ ID2= 2 (0287):		145.43	8.106	5.25	56.69

ID = 3 (1301):	244.25	14.361	5.25	58.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0301)	Area (ha)= 32.30
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 17.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.78	25.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	464.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	23.46
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.51	0.99	1.385 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	72.10	37.01	42.98
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.51	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2301)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0301):		32.30	1.385	5.25	42.98
+ ID2= 2 (1301):		244.25	14.361	5.25	58.49
ID = 3 (2301):		276.55	15.746	5.25	56.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0683)	Area (ha)= 98.00
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.86	42.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10

Length	(m)=	808.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	28.55
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	5.11	1.72 6.411 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	72.10	47.94 61.47
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.66 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (0263)	Area (ha)= 112.72	
ID= 1 DT=15.0 min	Total Imp(%)= 20.00	Dir. Conn.(%)= 16.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.54	90.18
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.20
Length	(m)=	866.87	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	22.82
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.68	2.92 3.781 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	72.10	35.94 41.72
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.49 0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2263)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0263):		112.72	3.781	5.25	41.72
+ ID2= 2 (0683):		98.00	6.411	5.25	61.47
ID = 3 (2263):		210.72	10.192	5.25	50.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1428)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2263):		210.72	10.192	5.25	50.91
+ ID2= 2 (2301):		276.55	15.746	5.25	56.68
ID = 3 (1428):		487.27	25.937	5.25	54.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5428)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5428.0) ------>

Distance	Elevation	Manning	
0.00	138.98	0.1110	
32.39	138.00	0.1110	
48.96	135.08	0.1110	
48.99	135.08	0.1110	
49.39	135.00	0.1110	
58.21	134.38	0.1110	
80.35	133.30	0.1110 /0.0490	Main Channel
85.70	132.80	0.0490	Main Channel
88.03	132.80	0.0490	Main Channel
90.50	133.26	0.0490 /0.1110	Main Channel
97.60	134.00	0.1110	
112.23	135.00	0.1110	
113.23	135.00	0.1110	
127.46	137.03	0.1110	
133.90	137.78	0.1110	
136.01	138.00	0.1110	
139.38	138.17	0.1110	
153.22	139.00	0.1110	
157.75	139.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	133.03	.593E+03	0.3	0.31	33.11
0.46	133.26	.171E+04	1.3	0.46	22.49
0.80	133.60	.470E+04	4.9	0.64	16.06
1.13	133.93	.980E+04	11.1	0.70	14.66
1.47	134.27	.171E+05	20.4	0.74	13.98
1.81	134.61	.268E+05	33.4	0.77	13.36
2.14	134.94	.385E+05	50.4	0.81	12.73
2.48	135.28	.520E+05	72.5	0.86	11.95
2.82	135.62	.664E+05	99.1	0.92	11.16
3.15	135.95	.817E+05	129.9	0.98	10.48
3.49	136.29	.979E+05	164.7	1.04	9.91
3.82	136.62	.115E+06	203.6	1.09	9.41

4.16	136.96	.133E+06	246.6	1.14	8.99
4.50	137.30	.152E+06	293.4	1.19	8.63
4.83	137.63	.172E+06	344.5	1.24	8.31
5.17	137.97	.193E+06	399.7	1.28	8.03
5.51	138.31	.216E+06	441.5	1.26	8.14
5.84	138.64	.242E+06	492.5	1.25	8.20
6.18	138.98	.272E+06	553.1	1.25	8.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1428)	487.27	25.94	5.25	54.18	1.61	0.75
OUTFLOW: ID= 1 (5428)	487.27	23.72	5.25	54.18	1.56	0.74

CALIB		
STANDHYD (0428)	Area (ha)= 43.25	
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.92	20.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.20
Length	(m)=	536.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	36.69
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	51.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.70	1.28 2.858 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	72.10	52.63 60.81
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.72 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2428)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0428):		43.25	2.858	5.25	60.81
+ ID2= 2 (5428):		487.27	23.719	5.25	54.18
ID = 3 (2428):		530.52	26.578	5.25	54.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5309)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5309.0) ------>

Distance	Elevation	Manning	
0.00	135.01	0.1110	
88.30	132.00	0.1110	
91.73	132.10	0.1110	
100.02	131.00	0.1110	
103.43	130.00	0.1110 /0.0490	Main Channel
105.04	128.50	0.0490	Main Channel
106.10	128.50	0.0490	Main Channel
107.39	130.00	0.0490 /0.1110	Main Channel
107.67	130.05	0.1110	
111.76	131.00	0.1110	
120.80	132.00	0.1110	
120.87	132.00	0.1110	
133.03	133.00	0.1110	
148.52	134.00	0.1110	
172.34	134.99	0.1110	
172.97	134.99	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	128.80	.529E+03	0.2	0.59	37.05
0.60	129.10	.129E+04	0.8	0.83	26.15
0.90	129.40	.227E+04	1.8	1.02	21.39
1.20	129.70	.348E+04	3.1	1.18	18.51
1.50	130.00	.492E+04	5.0	1.32	16.50
1.86	130.36	.743E+04	8.6	1.51	14.46
2.21	130.71	.112E+05	13.4	1.55	14.02
2.57	131.07	.163E+05	19.5	1.56	13.97
2.93	131.43	.237E+05	27.3	1.50	14.49
3.28	131.78	.339E+05	37.6	1.45	14.99
3.64	132.14	.475E+05	49.5	1.36	16.01
4.00	132.50	.688E+05	67.2	1.28	17.08
4.35	132.85	.970E+05	91.4	1.23	17.70
4.71	133.21	.132E+06	122.7	1.21	17.95
5.06	133.56	.175E+06	162.7	1.22	17.96
5.42	133.92	.225E+06	212.7	1.24	17.62
5.78	134.28	.283E+06	271.6	1.26	17.34
6.13	134.63	.349E+06	343.0	1.28	16.98
6.49	134.99	.425E+06	427.8	1.32	16.56

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2428)	530.52	26.58	5.25	54.72	2.89	1.51
OUTFLOW: ID= 1 (5309)	530.52	24.41	5.50	54.72	2.80	1.52

CALIB		
STANDHYD (0309)	Area (ha)= 68.51	
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.83	37.68
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	675.82	40.00

```
Mannings n          =      0.013        0.250

Max.Eff.Inten.(mm/hr)=     33.63        32.71
          over (min)       15.00        30.00
Storage Coeff.  (min)=      9.60 (ii)   55.80 (ii)
Unit Hyd. Tpeak (min)=     15.00        60.00
Unit Hyd. peak  (cms)=      0.09         0.02
                                                 *TOTALS*
PEAK FLOW       (cms)=      2.24         1.92        3.721 (iii)
TIME TO PEAK    (hrs)=      5.25         5.75        5.25
RUNOFF VOLUME    (mm)=     72.10        47.73       56.26
TOTAL RAINFALL   (mm)=     73.10        73.10       73.10
RUNOFF COEFFICIENT   =      0.99         0.65        0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2309) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0309):    68.51   3.721     5.25    56.26
       + ID2= 2 (5309):   530.52  24.409     5.50    54.72
         ================================================
         ID = 3 (2309):   599.03  27.165     5.50    54.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5615) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5615.0) ------>
              Distance      Elevation       Manning
                 0.00         126.00        0.1110
                 5.19         124.23        0.1110
                 5.94         124.00        0.1110
                 8.92         123.00        0.1110
                 9.88         122.62        0.1110
                11.32         122.00        0.1110
                12.54         122.00    0.1110 /0.0490  Main Channel
                13.18         121.10        0.0490      Main Channel
                14.84         121.10        0.0490      Main Channel
                15.91         122.00    0.0490 /0.1110  Main Channel
                20.85         123.00        0.1110
                21.91         123.56        0.1110
                25.11         125.00        0.1110
                26.34         125.69        0.1110
                28.50         126.85        0.1110
                28.61         126.92        0.1110
                30.55         128.00        0.1110
                32.32         128.23        0.1110
                34.17         128.53        0.1110
                36.76         129.00        0.1110
```



```
<-------------------- TRAVEL TIME TABLE ---------------------->
 DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
  (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
 0.23   121.33    .431E+03       0.3          0.79       21.69
 0.45   121.55    .960E+03       1.1          1.14       14.94
 0.67   121.77    .159E+04       2.2          1.40       12.17
 0.90   122.00    .231E+04       3.7          1.61       10.55
 1.17   122.27    .383E+04       6.6          1.76        9.69
 1.43   122.53    .587E+04      10.5          1.83        9.28
 1.70   122.80    .845E+04      15.6          1.89        9.01
 1.97   123.07    .116E+05      22.0          1.94        8.77
 2.23   123.33    .151E+05      29.7          2.01        8.46
 2.50   123.60    .189E+05      38.7          2.09        8.15
 2.77   123.87    .232E+05      49.1          2.16        7.87
 3.03   124.13    .278E+05      60.8          2.23        7.62
 3.30   124.40    .328E+05      74.0          2.30        7.39
 3.57   124.67    .382E+05      88.7          2.37        7.18
 3.83   124.93    .440E+05     105.0          2.44        6.98
 4.10   125.20    .501E+05     123.0          2.51        6.79
 4.37   125.47    .566E+05     142.7          2.58        6.61
 4.63   125.73    .634E+05     164.1          2.65        6.44
 4.90   126.00    .706E+05     187.1          2.71        6.29
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)       (m/s)
INFLOW : ID= 2 (2309)  599.03   27.17   5.50  54.90      2.15      1.99
OUTFLOW: ID= 1 (5615)  599.03   27.06   5.50  54.90      2.14      1.99
```

```
--------------------
| CALIB            |
| STANDHYD  (0615) |   Area    (ha)=  31.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  27.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       10.61        20.61
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         6.40
     Length            (m)=      456.22        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       33.63        27.95
               over (min)         15.00        15.00
     Storage Coeff.  (min)=        6.60 (ii)   37.80 (ii)
     Unit Hyd. Tpeak (min)=       15.00        45.00
     Unit Hyd. peak  (cms)=        0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=        0.79         1.05        1.738 (iii)
     TIME TO PEAK    (hrs)=        5.25         5.50        5.25
     RUNOFF VOLUME    (mm)=       72.10        42.64       50.59
     TOTAL RAINFALL   (mm)=       73.10        73.10       73.10
     RUNOFF COEFFICIENT   =        0.99         0.58        0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  84.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2615) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0615):    31.22   1.738     5.25    50.59
       + ID2= 2 (5615):   599.03  27.057     5.50    54.90
         ================================================
         ID = 3 (2615):   630.25  28.392     5.50    54.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (1335) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2328): 17634.59 218.555     9.25    46.90
       + ID2= 2 (2615):   630.25  28.392     5.50    54.68
         ================================================
         ID = 3 (1335): 18264.84 223.978     9.00    47.17

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ROUTE CHN (5335) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5335.0) ------>
              Distance      Elevation       Manning
                 0.00         125.00        0.1110
                40.36         116.00        0.1110
                71.40         114.00        0.1110
                88.94         113.71        0.1110
               106.14         114.00        0.1110
               116.89         114.00        0.1110
               122.13         112.00        0.1110
               122.45         112.00        0.1110
               122.47         112.00    0.1110 /0.0490  Main Channel
               122.55         111.50        0.0490      Main Channel
               131.77         111.50        0.0490      Main Channel
               131.80         112.00    0.0490 /0.1110  Main Channel
               132.16         112.00        0.1110
               134.04         113.00        0.1110
               155.71         114.00        0.1110
               250.45         117.00        0.1110
               599.03         117.00        0.1110
               740.01         120.00        0.1110
```

```
<-------------------- TRAVEL TIME TABLE ---------------------->
 DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY    TRAV.TIME
  (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
 0.25   111.75    .868E+03       1.2          0.54       11.65
 0.50   112.00    .174E+04       3.8          0.83        7.57
 0.97   112.47    .370E+04      11.8          1.20        5.21
 1.44   112.94    .603E+04      23.5          1.46        4.27
 1.91   113.41    .937E+04      38.9          1.56        4.02
 2.38   113.88    .154E+05      58.7          1.43        4.37
 2.85   114.35    .305E+05      94.5          1.16        5.38
 3.32   114.82    .503E+05     150.1          1.12        5.59
```



```
 3.79   115.29    .740E+05     225.3          1.14        5.47
 4.26   115.76    .102E+06     321.5          1.19        5.27
 4.74   116.24    .133E+06     443.1          1.25        5.00
 5.21   116.71    .168E+06     591.2          1.32        4.72
 5.68   117.18    .228E+06     663.8          1.09        5.73
 6.15   117.65    .331E+06     985.9          1.12        5.60
 6.62   118.12    .439E+06    1389.2          1.19        5.27
 7.09   118.59    .551E+06    1868.4          1.27        4.91
 7.56   119.06    .667E+06    2420.4          1.36        4.59
 8.03   119.53    .787E+06    3043.6          1.45        4.31
 8.50   120.00    .912E+06    3736.8          1.54        4.07
```

```
                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)       (m/s)
INFLOW : ID= 2 (1335) *******  223.98   9.00  47.17      3.79      1.14
OUTFLOW: ID= 1 (5335) *******  223.84   9.25  47.17      3.78      1.14
```

```
--------------------
| CALIB            |
| STANDHYD  (0335) |   Area    (ha)=  17.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  36.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        7.49         9.93
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         5.90
     Length            (m)=      340.78        40.00
     Mannings n          =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       33.63        29.22
               over (min)         15.00        15.00
     Storage Coeff.  (min)=        5.40 (ii)   32.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00        30.00
     Unit Hyd. peak  (cms)=        0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=        0.59         0.59        1.173 (iii)
     TIME TO PEAK    (hrs)=        5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=       72.10        44.18       54.23
     TOTAL RAINFALL   (mm)=       73.10        73.10       73.10
     RUNOFF COEFFICIENT   =        0.99         0.60        0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (2335) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0335):    17.42   1.173     5.25    54.23
       + ID2= 2 (5335): 18264.84 223.843     9.25    47.17
         ================================================
         ID = 3 (2335): 18282.26 223.918     9.25    47.17
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0672)	Area (ha)= 420.75	
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 52.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	252.45	168.30
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	1674.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	35.49
over (min)	15.00	30.00
Storage Coeff. (min)=	18.00 (ii)	106.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01

		TOTALS
PEAK FLOW	(cms)=	19.97 6.59 22.953 (iii)
TIME TO PEAK	(hrs)=	5.25 6.50 5.25
RUNOFF VOLUME	(mm)=	72.10 52.18 62.54
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.71 0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9672)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	420.75	22.95	5.25	62.54	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	420.75	22.95	5.25	62.54	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6672)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.0660	11.8000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9672)	420.750	22.953	5.25	62.54
OUTFLOW: ID= 1 (6672)	420.750	4.382	9.00	62.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.09

TIME SHIFT OF PEAK FLOW (min)=225.00
MAXIMUM STORAGE USED (ha.m.)= 16.8668

ADD HYD (4672)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9672 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6672):	420.75	4.382	9.00	62.53
+ ID2= 2 (9672):	0.00	0.000	0.00	0.00
ID = 3 (4672):	420.75	4.382	9.00	62.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0322)	Area (ha)= 139.97	
ID= 1 DT=15.0 min	Total Imp(%)= 56.00	Dir. Conn.(%)= 46.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	78.38	61.59
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.50
Length (m)=	965.99	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	36.46
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	79.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	5.97 3.00 7.888 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	72.10 52.54 61.54
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.72 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2322)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0322):	139.97	7.888	5.25	61.54
+ ID2= 2 (4672):	420.75	4.382	9.00	62.53
ID = 3 (2322):	560.72	10.159	5.25	62.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1346)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2322):	560.72	10.159	5.25	62.29
+ ID2= 2 (2335):	18282.26	223.918	9.25	47.17
ID = 3 (1346):	18842.98	229.462	9.25	47.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5346)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5346.0) ------>

Distance	Elevation	Manning	
0.00	119.00	0.1110	
0.00	117.00	0.1110	
13.24	112.00	0.1110	
20.29	111.00	0.1110	
39.56	110.00	0.1110	
39.81	110.00	0.1110	
44.05	109.55	0.1110	
47.94	109.01	0.1110	
47.99	109.00	0.1110	
48.77	109.00	0.1110 /0.0490	Main Channel
50.01	108.50	0.0490	Main Channel
66.15	108.50	0.0490	Main Channel
68.59	109.00	0.0490 /0.1110	Main Channel
68.90	109.00	0.1110	
70.88	110.00	0.1110	
80.34	116.00	0.1110	
82.24	117.02	0.1110	
82.27	117.04	0.1110	
86.00	118.64	0.1110	
86.92	119.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	109.00	.644E+04	12.3	1.37	8.73
1.03	109.53	.152E+05	45.2	2.13	5.61
1.55	110.05	.261E+05	95.1	2.61	4.57
2.08	110.58	.403E+05	162.3	2.88	4.14
2.61	111.11	.587E+05	250.2	3.05	3.91
3.13	111.63	.796E+05	361.0	3.25	3.68
3.66	112.16	.102E+06	492.6	3.46	3.46
4.18	112.68	.126E+06	645.9	3.68	3.24
4.71	113.21	.150E+06	817.9	3.90	3.06
5.24	113.74	.175E+06	1008.2	4.12	2.90
5.76	114.26	.202E+06	1216.4	4.32	2.76
6.29	114.79	.228E+06	1442.2	4.52	2.64
6.82	115.32	.256E+06	1685.5	4.71	2.53
7.34	115.84	.285E+06	1946.1	4.89	2.44
7.87	116.37	.314E+06	2223.6	5.07	2.36
8.39	116.89	.345E+06	2518.3	5.23	2.28
8.92	117.42	.376E+06	2837.9	5.41	2.21

9.45	117.95	.407E+06	3175.6	5.58	2.14
9.97	118.47	.439E+06	3529.2	5.75	2.08

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1346)	*******	229.46	9.25	47.62	2.48	3.01
OUTFLOW: ID= 1 (5346)	*******	229.55	9.25	47.62	2.48	3.01

CALIB		
STANDHYD (0346)	Area (ha)= 29.38	
ID= 1 DT=15.0 min	Total Imp(%)= 68.00	Dir. Conn.(%)= 68.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	19.98	9.40
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.40
Length (m)=	442.57	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	27.04
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.87 0.47 2.291 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	72.10 46.03 63.76
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.63 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2346)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0346):	29.38	2.291	5.25	63.76
+ ID2= 2 (5346):	18842.98	229.550	9.25	47.62
ID = 3 (2346):	18872.36	229.682	9.25	47.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0356)	Area (ha)= 67.12	
ID= 1 DT=15.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	50.34	16.78
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	668.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.82
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	57.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.70	0.79	5.320 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	72.10	52.36	67.17
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.72	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1355) | 1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0356):		67.12	5.320	5.25	67.17
+ ID2= 2 (2346):		18872.36	229.682	9.25	47.65
ID = 3 (1355):		18939.48	230.032	9.25	47.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5355) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5355.0) ------>

Distance	Elevation	Manning	
0.00	113.00	0.1110	
27.22	105.00	0.1110	
79.42	103.00	0.1110	
81.02	102.67	0.1110 /0.0490	Main Channel
84.17	102.00	0.0490	Main Channel
84.81	102.00	0.0490	Main Channel
87.18	101.40	0.0490	Main Channel
94.91	101.40	0.0490	Main Channel
97.82	102.00	0.0490	Main Channel
98.24	102.00	0.0490	Main Channel
98.77	103.00	0.0490 /0.1110	Main Channel
100.12	106.88	0.1110	
100.16	107.00	0.1110	
108.13	108.00	0.1110	
111.00	109.00	0.1110	
115.64	112.00	0.1110	
133.82	113.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	101.82	.720E+04	3.0	0.73	40.33
0.85	102.25	.175E+05	10.6	1.08	27.37
1.27	102.67	.298E+05	23.5	1.40	21.16
1.92	103.32	.538E+05	55.5	1.83	16.16
2.56	103.96	.953E+05	102.9	1.92	15.44
3.21	104.61	.156E+06	169.3	1.92	15.39
3.85	105.25	.236E+06	260.4	1.96	15.08
4.50	105.90	.321E+06	378.0	2.09	14.15
5.14	106.54	.409E+06	516.3	2.24	13.20
5.79	107.19	.500E+06	674.0	2.39	12.36
6.44	107.84	.598E+06	851.6	2.53	11.70
7.08	108.48	.703E+06	1050.5	2.65	11.16
7.73	109.13	.813E+06	1270.1	2.77	10.67
8.37	109.77	.927E+06	1510.1	2.89	10.24
9.02	110.42	.105E+07	1769.8	3.00	9.84
9.66	111.06	.117E+07	2049.2	3.12	9.49
10.31	111.71	.129E+07	2348.2	3.22	9.17
10.95	112.35	.142E+07	2654.6	3.31	8.93
11.60	113.00	.157E+07	2983.1	3.38	8.76

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1355) *******	230.03	9.25	47.72		3.64	1.95
OUTFLOW: ID= 1 (5355) *******	228.78	9.50	47.72		3.62	1.95

CALIB | STANDHYD (0355) | Area (ha)= 83.93 | ID= 1 DT=15.0 min | Total Imp(%)= 56.00 Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	47.00	36.93
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.50
Length	(m)=	748.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.99
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.39	1.48	5.687 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	72.10	41.91	58.82
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.57	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2355) | 1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0355):		83.93	5.687	5.25	58.82
+ ID2= 2 (5355):		18939.48	228.780	9.50	47.72
ID = 3 (2355):		19023.41	229.091	9.50	47.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0314) | Area (ha)= 515.06 | ID= 1 DT=15.0 min | Total Imp(%)= 62.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	319.34	195.72
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	1853.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.59
over (min)		30.00	30.00
Storage Coeff. (min)=		18.00 (ii)	104.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.06	0.01

		TOTALS
PEAK FLOW	(cms)=	28.21	6.29	30.933 (iii)
TIME TO PEAK	(hrs)=	5.25	6.75	5.25
RUNOFF VOLUME	(mm)=	72.10	48.45	62.64
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.66	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2314) | 1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9614 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (0314):		515.06	30.933	5.25	62.64
+ ID2= 2 (9614):		0.00	0.000	0.00	0.00
ID = 3 (2314):		515.06	30.933	5.25	62.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0675) | Area (ha)= 71.22 | ID= 1 DT=15.0 min | Total Imp(%)= 34.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.21	47.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	689.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.28
over (min)		15.00	30.00
Storage Coeff. (min)=		16.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.07	0.02

		TOTALS
PEAK FLOW	(cms)=	1.77	1.70	3.008 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	72.10	38.05	47.24
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.52	0.65

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9153) | Inlet Cap.=***** | #of Inlets= 1 | Total(cms)=***** |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	71.22	3.01	5.25	47.24
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	71.22	3.01	5.25	47.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6153) | IN= 2---> OUT= 1 | DT= 15.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	7.2100	0.1500
3.5200	0.0800	9.2000	0.2500
5.8400	0.1100	12.9500	0.3500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9153)	71.220	3.008	5.25	47.24
OUTFLOW: ID= 1 (6153)	71.220	2.894	5.25	47.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 96.20
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0709

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--------------------
| ADD HYD   (4153) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9153 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6153):    71.22   2.894     5.25    47.24
      + ID2= 2 (9153):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4153):    71.22   2.894     5.25    47.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| DUHYD     (9152) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):  71.22      2.89      5.25   47.24
    ==================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3):  71.22      2.89      5.25   47.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| RESERVOIR (6152) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.0000      1.1800
                          0.8000     0.3000   |   1.9000      1.4000
                          0.9000     0.7000   |   3.5000      1.9100

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9152)     71.220     2.894      5.25      47.24
    OUTFLOW: ID= 1 (6152)     71.220     1.434      7.00      47.24

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.54
                  TIME SHIFT OF PEAK FLOW         (min)=105.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.2880

--------------------
| ADD HYD   (4152) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9152 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6152):    71.22   1.434     7.00    47.24
      + ID2= 2 (9152):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4152):    71.22   1.434     7.00    47.24
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    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (1314) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2314):   515.06  30.933     5.25    62.64
      + ID2= 2 (4152):    71.22   1.434     7.00    47.24
        ================================================
        ID = 3 (1314):   586.28  31.807     5.25    60.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (0670) |   Area    (ha)=  43.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  70.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.56        13.10
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.40
     Length            (m)=     539.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        29.82
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   56.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.85         0.63      3.344 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75       5.25
     RUNOFF VOLUME    (mm)=      72.10        52.36      66.18
     TOTAL RAINFALL   (mm)=      73.10        73.10      73.10
     RUNOFF COEFFICIENT   =       0.99         0.72       0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| DUHYD     (8607) |
| Inlet Cap.=5.000 |
| #of Inlets=    1 |
| Total(cms)=  5.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):  43.66      3.34      5.25   66.18
    ==================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3):  43.66      3.34      5.25   66.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  68.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.63        35.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     676.46        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.73
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.12         1.28      3.912 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00       5.25
     RUNOFF VOLUME    (mm)=      72.10        47.51      59.56
     TOTAL RAINFALL   (mm)=      73.10        73.10      73.10
     RUNOFF COEFFICIENT   =       0.99         0.65       0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  15.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.43         2.37
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     324.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.73
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.25         0.09      1.301 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00       5.25
     RUNOFF VOLUME    (mm)=      72.10        47.51      68.41
     TOTAL RAINFALL   (mm)=      73.10        73.10      73.10
     RUNOFF COEFFICIENT   =       0.99         0.65       0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```



```
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):  15.80      1.30      5.25   68.41
    ==================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3):  15.80      1.30      5.25   68.41

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6600      1.5800

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (****)     15.800     1.301      5.25      68.41
    OUTFLOW: ID= 1 (****)     15.800     0.280      6.75      68.37

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.49
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6695

--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    15.80   0.280     6.75    68.37
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (****):    15.80   0.280     6.75    68.37

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  44.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.99         6.70
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     545.83        40.00
     Mannings n           =      0.013        0.250
```

```
     Max.Eff.Inten.(mm/hr)=      33.63        27.73
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      3.53         0.25          3.680 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     72.10        47.51         68.41
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.99         0.65          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  44.69      3.68      5.25   68.41
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  44.69      3.68      5.25   68.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.8800      4.4690

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     44.690     3.680      5.25      68.41
     OUTFLOW: ID= 1 (****)     44.690     0.795      6.75      68.40

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.60
                   TIME SHIFT OF PEAK FLOW          (min)= 90.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.8900

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    44.69   0.795     6.75    68.40
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ================================================
```



```
        ID = 3 (****):    44.69   0.795     6.75    68.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    15.80   0.280     6.75    68.37
      + ID2= 2 (****):    44.69   0.795     6.75    68.40
        ================================================
        ID = 3 (****):    60.49   1.075     6.75    68.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    68.64   3.912     5.25    59.56
      + ID2= 2 (****):    60.49   1.075     6.75    68.39
        ================================================
        ID = 3 (****):   129.13   4.746     5.25    63.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2599) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (8607):    43.66   3.344     5.25    66.18
      + ID2= 2 (****):   129.13   4.746     5.25    63.70
        ================================================
        ID = 3 (2599):   172.79   8.090     5.25    64.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9964) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 172.79      8.09      5.25   64.32
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 172.79      8.09      5.25   64.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6964) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```



```
                          0.0000     0.0000   |   0.3000      2.2107
                          0.0400     0.1758   |   0.3200      2.4327
                          0.0700     0.3516   |   0.3400      2.6546
                          0.1100     0.5274   |   0.3500      2.8766
                          0.1500     0.7032   |   0.3700      3.0985
                          0.1800     0.8790   |   0.3800      3.3711
                          0.2000     1.1010   |   0.3900      3.6437
                          0.2300     1.3229   |   0.7400      3.9163
                          0.2500     1.5449   |   0.7600      4.1889
                          0.2700     1.7668   |   0.0000      0.0000
                          0.2900     1.9888   |   0.0000      0.0000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9964)    172.790     8.090      5.25      64.32
     OUTFLOW: ID= 1 (6964)    172.790     1.217     10.25      64.32

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.05
                   TIME SHIFT OF PEAK FLOW          (min)=300.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  6.7102

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--------------------
| ADD HYD   (4964) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9964 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6964):   172.79   1.217    10.25    64.32
      + ID2= 2 (9964):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4964):   172.79   1.217    10.25    64.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  72.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      32.44        39.65
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     693.25        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.04
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.80 (ii)   64.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      3.02         1.54          4.174 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     72.10        46.03         57.76
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.99         0.63          0.79
```



```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  26.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.82         4.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     423.08        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.04
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.80 (ii)   64.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.13         0.16          2.244 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     72.10        46.03         68.19
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.99         0.63          0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  26.85      2.24      5.25   68.19
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  26.85      2.24      5.25   68.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.1300      2.6850
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	26.850	2.244	5.25	68.19
OUTFLOW: ID= 1 (****)	26.850	0.481	6.75	68.17

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.43
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 1.1435

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH **** <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (****):	26.85	0.481	6.75	68.17
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	26.85	0.481	6.75	68.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	72.09	4.174	5.25	57.76
+ ID2= 2 (****):	26.85	0.481	6.75	68.17
ID = 3 (****):	98.94	4.554	5.25	60.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9963)
Inlet Cap.=***** cms
#of Inlets= 1
Total(cms)=***** cms

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	98.94	4.55	5.25	60.58
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	98.94	4.55	5.25	60.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6963)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1600	1.2340
0.0200	0.0978	0.1700	1.3620
0.0400	0.1956	0.1800	1.6181
0.0600	0.2934	0.1900	1.7409
0.0800	0.3911	0.2000	1.9865

0.0900	0.4889	0.4400	2.1093
0.1100	0.5867	0.4600	2.3550
0.1200	0.6845	0.4700	2.5275
0.1300	0.7823	0.4800	2.7000
0.1400	0.8801	0.0000	0.0000
0.1500	1.1059	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9963)	98.940	4.554	5.25	60.58
OUTFLOW: ID= 1 (6963)	98.940	0.673	10.00	60.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.77
TIME SHIFT OF PEAK FLOW (min)=285.00
MAXIMUM STORAGE USED (ha.m.)= 3.7831

ADD HYD (4963)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9963 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6963):	98.94	0.673	10.00	60.57
+ ID2= 2 (9963):	0.00	0.000	0.00	0.00
ID = 3 (4963):	98.94	0.673	10.00	60.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1598)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4963):	98.94	0.673	10.00	60.57
+ ID2= 2 (4964):	172.79	1.217	10.25	64.32
ID = 3 (1598):	271.73	1.889	10.25	62.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5598)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5598.0) ------>

Distance	Elevation	Manning	
0.00	178.57	0.1110	
19.93	178.35	0.1110	
22.69	178.35	0.1110	
34.83	178.58	0.1110	
49.82	178.60	0.1110	
87.96	179.03	0.1110	
96.42	177.27	0.1110 /0.0490	Main Channel
97.49	177.31	0.0490	Main Channel
109.98	177.60	0.0490 /0.1110	Main Channel
112.52	177.61	0.1110	

121.23	177.69	0.1110	
124.63	177.56	0.1110	
134.04	178.00	0.1110	
155.00	178.79	0.1110	
163.70	178.63	0.1110	
200.02	178.57	0.1110	
211.27	178.56	0.1110	
222.53	178.69	0.1110	
241.93	178.51	0.1110	
275.14	178.54	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	177.36	.149E+03	0.0	0.20	80.33
0.19	177.46	.675E+03	0.2	0.32	48.76
0.28	177.55	.159E+04	0.7	0.43	36.60
0.37	177.64	.314E+04	1.7	0.52	30.31
0.46	177.73	.586E+04	3.5	0.56	27.95
0.56	177.83	.896E+04	6.0	0.63	25.06
0.65	177.92	.123E+05	9.0	0.70	22.66
0.74	178.01	.158E+05	12.7	0.76	20.79
0.83	178.10	.195E+05	16.8	0.81	19.37
0.93	178.20	.236E+05	21.6	0.86	18.22
1.02	178.29	.278E+05	26.9	0.91	17.27
1.11	178.38	.325E+05	32.1	0.94	16.85
1.20	178.47	.385E+05	38.5	0.95	16.65
1.30	178.57	.474E+05	40.9	0.82	19.32
1.39	178.66	.642E+05	49.0	0.72	21.84
1.48	178.75	.849E+05	63.4	0.71	22.32
1.57	178.84	.107E+06	81.3	0.72	21.95
1.67	178.94	.130E+06	102.1	0.74	21.22
1.76	179.03	.154E+06	125.6	0.77	20.41

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1598)	271.73	1.89	10.25	62.95	0.38	0.52
OUTFLOW: ID= 1 (5598)	271.73	1.89	10.75	62.95	0.38	0.52

CALIB
STANDHYD (0598)
ID= 1 DT=15.0 min

Area (ha)= 75.95
Total Imp(%)= 52.00 Dir. Conn.(%)= 52.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.49	36.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.90
Length	(m)=	711.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.66
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.69 1.51 5.019 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	72.10 43.23 58.24

TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.59	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2598)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0598):	75.95	5.019	5.25	58.24
+ ID2= 2 (5598):	271.73	1.885	10.75	62.95
ID = 3 (2598):	347.68	5.422	5.25	61.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5299)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5299.0) ------>

Distance	Elevation	Manning	
0.00	161.64	0.1110	
34.74	161.51	0.1110	
56.59	160.87	0.1110	
67.95	160.99	0.1110	
90.67	160.84	0.1110	
101.14	160.42	0.1110	
118.03	158.89	0.1110	
128.87	156.59	0.1110 /0.0490	Main Channel
130.10	156.35	0.0490	Main Channel
133.94	156.82	0.0490 /0.1110	Main Channel
146.85	159.32	0.1110	
163.58	161.17	0.1110	
166.21	161.74	0.1110	
176.37	161.83	0.1110	
182.39	161.67	0.1110	
190.74	162.12	0.1110	
232.24	162.94	0.1110	
274.39	164.95	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	156.59	.282E+03	0.2	0.58	21.17
0.51	156.86	.124E+04	1.7	0.99	12.45
0.77	157.12	.278E+04	5.0	1.34	9.20
1.04	157.39	.482E+04	10.1	1.55	7.95
1.30	157.65	.739E+04	17.0	1.70	7.24
1.57	157.92	.105E+05	25.8	1.82	6.76
1.83	158.18	.141E+05	36.6	1.92	6.40
2.10	158.45	.182E+05	49.5	2.01	6.11
2.37	158.72	.228E+05	64.7	2.10	5.87
2.63	158.98	.279E+05	81.8	2.16	5.69

2.90	159.25	.339E+05	100.9	2.20	5.59
3.16	159.51	.407E+05	122.6	2.22	5.53
3.43	159.78	.486E+05	147.6	2.24	5.48
3.70	160.05	.575E+05	176.6	2.27	5.43
3.96	160.31	.674E+05	209.6	2.29	5.36
4.23	160.58	.786E+05	244.4	2.29	5.36
4.49	160.84	.914E+05	283.0	2.28	5.38
4.76	161.11	.111E+06	309.9	2.06	5.96
5.02	161.37	.134E+06	376.8	2.07	5.94

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2598)	347.68	5.42	5.25	61.92	0.79	1.35
OUTFLOW: ID= 1 (5299)	347.68	5.28	5.25	61.92	0.78	1.35

CALIB			
STANDHYD (0299)	Area (ha)=	97.19	
ID= 1 DT=15.0 min	Total Imp(%)=	76.00	Dir. Conn.(%)= 76.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.86	23.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	804.94	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	30.50
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	70.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	6.87	1.02 7.533 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	72.10	54.12 67.79
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.74 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2299)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0299):		97.19	7.533	5.25	67.79
+ ID2= 2 (5299):		347.68	5.284	5.25	61.92
ID = 3 (2299):		444.87	12.818	5.25	63.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5303)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5303.0) ------>

Distance	Elevation	Manning	
0.00	153.79	0.1110	
19.01	151.85	0.1110	
37.34	151.82	0.1110	
41.85	151.52	0.1110	
47.90	151.66	0.1110	
87.41	151.69	0.1110	
105.06	149.50	0.1110	
125.35	148.50	0.1110	
125.85	148.42	0.1110 /0.0490	Main Channel
127.68	148.13	0.0490	Main Channel
128.23	147.30	0.0490	Main Channel
130.21	147.30	0.0490	Main Channel
131.55	148.23	0.0490	Main Channel
132.42	148.32	0.0490 /0.1110	Main Channel
137.58	148.90	0.1110	
138.78	149.00	0.1110	
150.21	149.50	0.1110	
156.60	150.50	0.1110	
175.54	151.00	0.1110	
263.18	153.41	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	147.56	.857E+03	0.5	0.81	30.68
0.51	147.81	.192E+04	1.5	1.18	21.08
0.77	148.07	.318E+04	3.1	1.45	17.13
1.02	148.32	.486E+04	4.6	1.42	17.54
1.36	148.66	.944E+04	10.5	1.66	14.97
1.70	149.00	.187E+05	20.4	1.62	15.34
2.04	149.34	.344E+05	35.2	1.53	16.26
2.38	149.68	.568E+05	58.3	1.53	16.23
2.72	150.02	.822E+05	89.6	1.63	15.29
3.06	150.36	.110E+06	128.2	1.74	14.32
3.40	150.70	.141E+06	169.5	1.79	13.91
3.73	151.03	.180E+06	219.3	1.82	13.69
4.07	151.37	.227E+06	281.8	1.86	13.40
4.41	151.71	.285E+06	310.6	1.63	15.27
4.75	152.05	.377E+06	412.0	1.63	15.26
5.09	152.39	.481E+06	550.2	1.71	14.57
5.43	152.73	.593E+06	713.3	1.80	13.85
5.77	153.07	.712E+06	901.5	1.89	13.17
6.11	153.41	.840E+06	1115.6	1.99	12.55

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2299)	444.87	12.82	5.25	63.20	1.44	1.65
OUTFLOW: ID= 1 (5303)	444.87	11.99	5.25	63.20	1.41	1.66

CALIB			
STANDHYD (0303)	Area (ha)=	227.30	
ID= 1 DT=15.0 min	Total Imp(%)=	65.00	Dir. Conn.(%)= 65.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	147.75	79.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.00
Length	(m)=	1230.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	28.43
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	73.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	13.73	3.04 15.620 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	72.10	49.06 64.04
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.67 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2303)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0303):		227.30	15.620	5.25	64.04
+ ID2= 2 (5303):		444.87	11.986	5.25	63.20
ID = 3 (2303):		672.17	27.606	5.25	63.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5306)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5306.0) ------>

Distance	Elevation	Manning	
0.00	145.38	0.1110	
57.12	144.00	0.1110	
73.05	143.00	0.1110	
79.09	141.50	0.1110	
80.80	140.20	0.1110 /0.0490	Main Channel
81.66	139.77	0.0490	Main Channel
83.06	139.50	0.0490	Main Channel
84.74	139.32	0.0490	Main Channel
85.03	139.00	0.0490	Main Channel
85.78	139.00	0.0490	Main Channel
87.80	139.39	0.0490	Main Channel
89.94	139.50	0.0490	Main Channel
94.17	140.00	0.0490 /0.1110	Main Channel
97.58	140.50	0.1110	
127.69	142.00	0.1110	

132.10	144.00	0.1110	
141.18	144.50	0.1110	
164.76	144.55	0.1110	
191.51	145.00	0.1110	
226.92	145.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	139.25	.425E+03	0.2	0.50	37.48
0.50	139.50	.153E+04	0.8	0.57	32.75
0.75	139.75	.394E+04	2.9	0.83	22.69
1.00	140.00	.722E+04	6.8	1.06	17.70
1.33	140.33	.126E+05	16.0	1.43	13.15
1.67	140.67	.193E+05	28.8	1.68	11.15
2.00	141.00	.284E+05	45.5	1.80	10.41
2.33	141.33	.402E+05	66.5	1.86	10.08
2.67	141.67	.547E+05	92.2	1.90	9.89
3.00	142.00	.722E+05	123.3	1.92	9.76
3.33	142.33	.915E+05	162.2	1.99	9.40
3.67	142.67	.112E+06	206.6	2.08	9.01
4.00	143.00	.133E+06	256.3	2.17	8.62
4.33	143.33	.155E+06	310.0	2.25	8.34
4.67	143.67	.180E+06	370.0	2.32	8.10
5.00	144.00	.207E+06	436.4	2.37	7.90
5.33	144.33	.239E+06	495.1	2.33	8.03
5.67	144.67	.282E+06	525.8	2.10	8.93
6.00	145.00	.341E+06	609.9	2.01	9.33

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2303)	672.17	27.61	5.25	63.49	1.63	1.65
OUTFLOW: ID= 1 (5306)	672.17	26.61	5.25	63.49	1.61	1.63

CALIB			
STANDHYD (0306)	Area (ha)=	195.25	
ID= 1 DT=15.0 min	Total Imp(%)=	79.00	Dir. Conn.(%)= 79.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	154.25	41.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	1140.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	30.50
over (min)		15.00	30.00
Storage Coeff. (min)=		14.40 (ii)	84.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01
			TOTALS
PEAK FLOW	(cms)=	14.27	1.60 15.140 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	72.10	54.12 68.32
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.74 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2306)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0306):	195.25	15.140	5.25	68.32
	+ ID2= 2 (5306):	672.17	26.614	5.25	63.49
	ID = 3 (2306):	867.42	41.754	5.25	64.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5314) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5314.0) ------>

Distance	Elevation	Manning	
0.00	140.46	0.1110	
17.34	140.00	0.1110	
23.79	140.00	0.1110	
36.31	139.52	0.1110	
67.27	139.06	0.1110	
99.03	138.86	0.1110	
131.93	136.23	0.1110 /0.0490	Main Channel
135.37	135.79	0.0490	Main Channel
137.27	135.30	0.0490	Main Channel
139.14	135.30	0.0490	Main Channel
143.23	135.76	0.0490	Main Channel
147.44	136.00	0.0490 /0.1110	Main Channel
161.11	136.74	0.1110	
190.39	137.50	0.1110	
204.58	137.50	0.1110	
211.94	139.50	0.1110	
219.37	139.79	0.1110	
272.20	138.00	0.1110	
297.42	138.00	0.1110	
390.77	140.46	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	135.53	.686E+03	0.4	0.52	28.15
0.47	135.77	.198E+04	1.7	0.76	19.22
0.70	136.00	.418E+04	4.1	0.86	16.87
0.98	136.28	.842E+04	10.9	1.13	12.91
1.26	136.56	.147E+05	21.8	1.30	11.18
1.54	136.84	.231E+05	36.7	1.39	10.49
1.81	137.11	.347E+05	56.1	1.42	10.30
2.09	137.39	.498E+05	81.3	1.43	10.21
2.37	137.67	.700E+05	112.5	1.41	10.37
2.65	137.95	.928E+05	155.2	1.46	9.96
2.93	138.23	.123E+06	195.9	1.39	10.50
3.21	138.51	.161E+06	255.7	1.39	10.47
3.49	138.79	.204E+06	327.5	1.41	10.36

3.77	139.07	.255E+06	399.4	1.37	10.64
4.04	139.34	.318E+06	500.8	1.38	10.59
4.32	139.62	.391E+06	621.2	1.39	10.49
4.60	139.90	.472E+06	768.9	1.43	10.23
4.88	140.18	.559E+06	940.3	1.47	9.91
5.16	140.46	.652E+06	1136.8	1.53	9.55

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2306)	867.42	41.75	5.25	64.57	1.61	1.40
OUTFLOW: ID= 1 (5314)	867.42	39.50	5.25	64.57	1.58	1.39

ADD HYD (3314)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (1314):	586.28	31.807	5.25	60.77
	+ ID2= 2 (5314):	867.42	39.498	5.25	64.57
	ID = 3 (3314):	1453.70	71.304	5.25	63.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5349) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5349.0) ------>

Distance	Elevation	Manning	
0.00	136.55	0.1110	
0.00	135.00	0.1110	
31.90	134.50	0.1110	
37.07	134.28	0.1110	
50.37	134.19	0.1110	
65.47	134.50	0.1110	
85.81	134.00	0.1110	
128.41	131.00	0.1110	
135.25	130.00	0.1110	
136.03	129.98	0.1110 /0.0490	Main Channel
139.71	129.30	0.0490	Main Channel
144.95	129.30	0.0490	Main Channel
145.11	129.76	0.0490 /0.1110	Main Channel
150.30	130.50	0.1110	
165.12	134.00	0.1110	
169.18	134.50	0.1110	
187.64	135.50	0.1110	
226.77	135.49	0.1110	
233.13	135.35	0.1110	
285.67	136.55	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	129.53	.178E+04	0.6	0.41	52.79
0.46	129.76	.396E+04	1.9	0.62	35.44
0.86	130.16	.958E+04	6.3	0.86	25.49
1.26	130.56	.182E+05	13.9	1.00	21.93
1.66	130.96	.294E+05	24.6	1.10	19.93

2.06	131.36	.435E+05	38.4	1.16	18.89
2.46	131.76	.615E+05	56.1	1.20	18.27
2.86	132.16	.834E+05	78.2	1.23	17.77
3.26	132.56	.109E+06	105.0	1.26	17.31
3.66	132.96	.139E+06	137.0	1.30	16.87
4.05	133.35	.172E+06	174.4	1.33	16.44
4.45	133.75	.209E+06	217.8	1.37	16.02
4.85	134.15	.251E+06	263.1	1.38	15.89
5.25	134.55	.312E+06	297.4	1.25	17.51
5.65	134.95	.395E+06	363.3	1.21	18.13
6.05	135.35	.490E+06	459.6	1.23	17.78
6.45	135.75	.609E+06	550.5	1.19	18.43
6.85	136.15	.745E+06	696.6	1.23	17.82
7.25	136.55	.890E+06	863.1	1.27	17.19

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3314)	1453.70	71.30	5.25	63.04	2.73	1.22
OUTFLOW: ID= 1 (5349)	1453.70	63.18	5.50	63.04	2.59	1.21

CALIB | STANDHYD (0349) | ID= 1 DT=15.0 min | Area (ha)= 324.03 | Total Imp(%)= 44.00 Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	142.57	181.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	1469.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.30
over (min)		15.00	30.00
Storage Coeff. (min)=		16.20 (ii)	93.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	11.02	6.09	14.032 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	72.10	44.21	54.53
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.60	0.75

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2349)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0349):	324.03	14.032	5.25	54.53
	+ ID2= 2 (5349):	1453.70	63.176	5.50	63.04

ID = 3 (2349): 1777.73 75.957 5.25 61.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5364) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5364.0) ------>

Distance	Elevation	Manning	
0.00	131.00	0.1110	
136.00	129.99	0.1110	
155.89	129.00	0.1110	
172.09	127.83	0.1110	
181.41	127.29	0.1110	
190.94	127.00	0.1110	
195.38	127.00	0.1110	
195.81	126.76	0.1110	
198.20	126.00	0.1110 /0.0490	Main Channel
200.00	125.00	0.0490	Main Channel
207.00	125.00	0.0490	Main Channel
207.99	126.00	0.0490 /0.1110	Main Channel
210.39	126.42	0.1110	
214.18	126.91	0.1110	
215.71	127.00	0.1110	
249.46	127.00	0.1110	
263.00	128.00	0.1110	
269.13	129.00	0.1110	
275.81	129.51	0.1110	
283.52	130.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	125.25	.202E+04	1.0	0.57	32.17
0.50	125.50	.422E+04	3.3	0.87	21.07
0.75	125.75	.662E+04	6.6	1.10	16.62
1.00	126.00	.922E+04	10.9	1.29	14.13
1.27	126.27	.124E+05	17.1	1.51	12.10
1.53	126.53	.163E+05	24.7	1.66	11.04
1.80	126.80	.211E+05	33.6	1.75	10.45
2.07	127.07	.296E+05	43.4	1.61	11.37
2.33	127.33	.494E+05	60.0	1.33	13.74
2.60	127.60	.721E+05	82.1	1.25	14.64
2.87	127.87	.971E+05	109.3	1.23	14.82
3.13	128.13	.124E+06	142.1	1.25	14.58
3.40	128.40	.153E+06	180.5	1.29	14.15
3.67	128.67	.184E+06	223.9	1.34	13.67
3.93	128.93	.216E+06	272.5	1.39	13.19
4.20	129.20	.249E+06	323.7	1.42	12.85
4.47	129.47	.286E+06	379.6	1.46	12.55
4.73	129.73	.325E+06	440.5	1.49	12.29
5.00	130.00	.367E+06	506.2	1.52	12.08

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2349)	1777.73	75.96	5.25	61.49	2.53	1.27
OUTFLOW: ID= 1 (5364)	1777.73	69.30	5.50	61.49	2.45	1.29

CALIB		
STANDHYD (0364)	Area (ha)= 187.80	
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	93.90	93.90
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	1118.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	32.64
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	82.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	7.13 3.81 9.109 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	72.10 47.70 57.70
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.65 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2364)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0364):	187.80	9.109	5.25	57.70
	+ ID2= 2 (5364):	1777.73	69.304	5.50	61.49
	ID = 3 (2364):	1965.53	75.641	5.50	61.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5361)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5361.0) ------>

Distance	Elevation	Manning	
0.00	129.00	0.1110	
0.38	129.00	0.1110	
13.51	128.00	0.1110	
18.25	127.00	0.1110	
41.14	126.00	0.1110	
49.43	125.20	0.1110	
51.30	125.00	0.1110	
54.61	124.00	0.1110	
56.73	124.00	0.1110 /0.0490	Main Channel
61.39	123.80	0.0490	Main Channel
63.13	123.80	0.0490	Main Channel

64.17	124.00	0.0490 /0.1110	Main Channel
65.93	124.00	0.1110	
70.09	124.99	0.1110	
70.11	124.99	0.1110	
70.14	125.00	0.1110	
73.16	125.00	0.1110	
79.53	125.23	0.1110	
104.69	126.00	0.1110	
114.76	128.97	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	124.00	.961E+03	0.4	0.42	41.30
0.46	124.26	.433E+04	2.9	0.71	24.65
0.72	124.52	.823E+04	7.3	0.93	18.67
0.98	124.78	.127E+05	13.5	1.11	15.69
1.25	125.05	.178E+05	20.6	1.21	14.43
1.51	125.31	.256E+05	30.0	1.22	14.25
1.77	125.57	.364E+05	42.4	1.22	14.31
2.03	125.83	.503E+05	58.5	1.22	14.32
2.29	126.09	.672E+05	79.0	1.23	14.16
2.55	126.35	.862E+05	104.9	1.27	13.69
2.82	126.62	.107E+06	135.5	1.32	13.16
3.08	126.88	.130E+06	171.1	1.38	12.65
3.34	127.14	.154E+06	212.9	1.44	12.08
3.60	127.40	.179E+06	260.6	1.52	11.48
3.86	127.66	.205E+06	312.9	1.60	10.93
4.12	127.92	.232E+06	369.6	1.67	10.45
4.39	128.19	.259E+06	428.4	1.73	10.06
4.65	128.45	.287E+06	490.9	1.79	9.74
4.91	128.71	.316E+06	558.1	1.85	9.45

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2364)		1965.53	75.64	5.50	61.13	2.25	1.23
OUTFLOW: ID= 1 (5361)		1965.53	73.46	5.75	61.13	2.22	1.23

CALIB		
STANDHYD (0361)	Area (ha)= 35.90	
ID= 1 DT=15.0 min	Total Imp(%)= 46.00	Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.51	19.39
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	489.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	22.88
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	47.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.24 0.70 1.845 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	72.10 32.32 47.04
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10

RUNOFF COEFFICIENT	=	0.99	0.44		0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2361)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0361):	35.90	1.845	5.25	47.04
	+ ID2= 2 (5361):	1965.53	73.462	5.75	61.13
	ID = 3 (2361):	2001.43	74.542	5.75	60.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5357)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5357.0) ------>

Distance	Elevation	Manning	
0.00	123.98	0.1110	
7.26	122.14	0.1110	
10.93	121.00	0.1110	
13.86	120.00	0.1110	
18.79	119.00	0.1110	
24.81	118.00	0.1110	
26.76	117.00	0.1110	
28.16	117.00	0.1110 /0.0490	Main Channel
29.00	116.20	0.0490	Main Channel
34.00	116.20	0.0490	Main Channel
34.48	117.00	0.0490 /0.1110	Main Channel
36.38	117.00	0.1110	
39.42	118.00	0.1110	
44.78	119.00	0.1110	
47.65	120.00	0.1110	
50.41	121.00	0.1110	
57.87	121.95	0.1110	
58.40	122.00	0.1110	
58.65	122.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	116.47	.174E+04	0.9	0.64	32.42
0.53	116.73	.363E+04	2.8	0.97	21.46
0.80	117.00	.566E+04	5.5	1.22	17.09
1.11	117.31	.973E+04	10.5	1.35	15.49
1.42	117.62	.144E+05	17.0	1.48	14.11
1.74	117.94	.197E+05	25.1	1.59	13.07
2.05	118.25	.258E+05	34.5	1.67	12.49
2.36	118.56	.334E+05	45.7	1.72	12.15
2.67	118.87	.423E+05	59.1	1.75	11.91
2.99	119.19	.525E+05	75.1	1.79	11.65

3.30	119.50	.637E+05	93.5	1.84	11.35
3.61	119.81	.759E+05	114.3	1.88	11.06
3.92	120.12	.889E+05	137.6	1.94	10.77
4.24	120.44	.103E+06	163.7	1.99	10.46
4.55	120.75	.117E+06	192.3	2.05	10.17
4.86	121.06	.133E+06	222.6	2.10	9.92
5.17	121.37	.149E+06	253.5	2.13	9.79
5.49	121.69	.167E+06	287.6	2.16	9.66
5.80	122.00	.186E+06	324.8	2.19	9.53

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2361)		2001.43	74.54	5.75	60.87	2.98	1.79
OUTFLOW: ID= 1 (5357)		2001.43	73.48	6.00	60.87	2.96	1.79

CALIB		
STANDHYD (0357)	Area (ha)= 135.25	
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	77.09	58.16
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	949.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	29.20
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	6.28 2.21 7.606 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	72.10 42.42 57.26
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.58 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2357)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0357):	135.25	7.606	5.25	57.26
	+ ID2= 2 (5357):	2001.43	73.484	6.00	60.87
	ID = 3 (2357):	2136.68	77.598	6.00	60.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5363) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <----- DATA FOR SECTION (5363.0) ------>
             Distance      Elevation       Manning
                 0.00         116.00        0.1110
                 3.24         115.00        0.1110
                 7.85         114.00        0.1110
                11.35         113.00        0.1110
                15.57         112.00        0.1110
                15.63         111.99        0.1110
                15.65         111.98        0.1110
                20.70         111.00        0.1110
                22.85         111.00    0.1110 /0.0490  Main Channel
                26.11         110.00        0.0490      Main Channel
                29.00         110.00        0.0490      Main Channel
                29.19         111.00    0.0490 /0.1110  Main Channel
                32.26         111.00        0.1110
                35.40         112.00        0.1110
                37.70         112.15        0.1110
                53.24         113.00        0.1110
                53.72         113.00        0.1110
                79.32         114.00        0.1110
                92.95         115.00        0.1110
               115.26         115.98        0.1110

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.25   110.25    .368E+03         0.8          0.92        8.07
       0.50   110.50    .833E+03         2.5          1.34        5.51
       0.75   110.75    .139E+04         5.2          1.66        4.46
       1.00   111.00    .205E+04         8.9          1.92        3.85
       1.33   111.33    .395E+04        17.7          1.98        3.73
       1.66   111.66    .627E+04        29.9          2.12        3.49
       2.00   112.00    .898E+04        45.6          2.26        3.28
       2.33   112.33    .124E+05        64.0          2.29        3.23
       2.66   112.66    .169E+05        87.7          2.31        3.21
       2.99   112.99    .225E+05       117.5          2.32        3.19
       3.32   113.32    .294E+05       153.2          2.31        3.20
       3.66   113.66    .377E+05       197.3          2.32        3.19
       3.99   113.99    .475E+05       250.6          2.34        3.16
       4.32   114.32    .584E+05       316.2          2.40        3.08
       4.65   114.65    .703E+05       391.6          2.47        2.99
       4.98   114.98    .830E+05       476.9          2.55        2.90
       5.32   115.32    .968E+05       568.4          2.61        2.84
       5.65   115.65    .112E+06       671.3          2.66        2.78
       5.98   115.98    .128E+06       786.6          2.72        2.72

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2357) 2136.68    77.60    6.00  60.65      2.52      2.30
     OUTFLOW: ID= 1 (5363) 2136.68    77.48    6.00  60.65      2.52      2.30


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| CALIB             |
| STANDHYD  (0363) |   Area    (ha)=  99.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  68.00
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                                    IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          70.67          28.87
     Dep. Storage     (mm)=           1.00           4.00
     Average Slope     (%)=           1.00           2.20
     Length            (m)=         814.62          40.00
     Mannings n           =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          33.63          31.38
               over (min)            15.00          30.00
     Storage Coeff.  (min)=          12.60 (ii)     74.40 (ii)
     Unit Hyd. Tpeak (min)=          15.00          75.00
     Unit Hyd. peak  (cms)=           0.08           0.02
                                                              *TOTALS*
     PEAK FLOW       (cms)=           6.29           1.22          7.050 (iii)
     TIME TO PEAK    (hrs)=           5.25           6.00           5.25
     RUNOFF VOLUME    (mm)=          72.10          49.29          64.80
     TOTAL RAINFALL   (mm)=          73.10          73.10          73.10
     RUNOFF COEFFICIENT   =           0.99           0.67           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2363) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0363):    99.54   7.050     5.25     64.80
        + ID2= 2 (5363):  2136.68  77.479     6.00     60.65
          ==========================================================
          ID = 3 (2363):  2236.22  80.610     6.00     60.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (5368.0) ------>
             Distance      Elevation       Manning
                 0.00         109.72        0.1110
                 5.88         105.92        0.1110
                 7.79         105.00        0.1110
                12.32         103.17        0.1110
                12.72         103.00        0.1110
                26.16         103.00        0.1110
                40.07         102.16        0.1110
                41.21         102.13        0.1110
                42.95         102.00        0.1110
                44.48         102.00    0.1110 /0.0490  Main Channel
                46.98         101.70        0.0490      Main Channel
                51.64         101.70        0.0490      Main Channel
                52.36         102.00    0.0490 /0.1110  Main Channel
                52.69         102.00        0.1110
                54.36         102.70        0.1110
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                55.02         103.00        0.1110
                55.44         103.16        0.1110
                57.25         104.00        0.1110
                67.26         109.40        0.1110
                68.34         109.93        0.1110

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.30   102.00    .139E+04         1.7          0.91       13.57
       0.71   102.41    .548E+04         9.9          1.33        9.25
       1.11   102.81    .119E+05        25.0          1.55        7.96
       1.52   103.22    .226E+05        48.0          1.57        7.85
       1.93   103.63    .359E+05        85.5          1.76        7.00
       2.33   104.03    .498E+05       132.8          1.97        6.24
       2.74   104.44    .641E+05       189.4          2.18        5.64
       3.14   104.84    .791E+05       254.7          2.38        5.17
       3.55   105.25    .945E+05       328.7          2.57        4.79
       3.96   105.66    .110E+06       411.1          2.75        4.48
       4.36   106.06    .127E+06       501.8          2.92        4.21
       4.77   106.47    .144E+06       600.9          3.09        3.98
       5.18   106.88    .161E+06       707.8          3.25        3.79
       5.58   107.28    .179E+06       822.5          3.40        3.62
       5.99   107.69    .197E+06       944.7          3.55        3.47
       6.39   108.09    .215E+06      1074.5          3.69        3.34
       6.80   108.50    .234E+06      1211.9          3.82        3.22
       7.21   108.91    .253E+06      1356.7          3.95        3.11
       7.61   109.31    .273E+06      1509.1          4.08        3.02

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2363) 2236.22    80.61    6.00  60.83      1.87      1.73
     OUTFLOW: ID= 1 (5368) 2236.22    80.26    6.25  60.83      1.86      1.72


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| CALIB             |
| STANDHYD  (0368) |   Area    (ha)=  23.76
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  64.00
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                                    IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          15.21           8.55
     Dep. Storage     (mm)=           1.00           4.00
     Average Slope     (%)=           1.00           8.50
     Length            (m)=         397.99          40.00
     Mannings n           =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          33.63          25.66
               over (min)            15.00          15.00
     Storage Coeff.  (min)=           5.40 (ii)     31.80 (ii)
     Unit Hyd. Tpeak (min)=          15.00          30.00
     Unit Hyd. peak  (cms)=           0.11           0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=           1.42           0.44          1.864 (iii)
     TIME TO PEAK    (hrs)=           5.25           5.25           5.25
     RUNOFF VOLUME    (mm)=          72.10          43.23          61.71
     TOTAL RAINFALL   (mm)=          73.10          73.10          73.10
     RUNOFF COEFFICIENT   =           0.99           0.59           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```



```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (2368) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0368):    23.76   1.864     5.25     61.71
        + ID2= 2 (5368):  2236.22  80.258     6.25     60.83
          ==========================================================
          ID = 3 (2368):  2259.98  80.904     6.25     60.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (1365) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2355): 19023.41 229.091     9.50     47.76
        + ID2= 2 (2368):  2259.98  80.904     6.25     60.84
          ==========================================================
          ID = 3 (1365): 21283.39 254.226     9.00     49.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5365) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5365.0) ------>
             Distance      Elevation       Manning
                 0.00         110.00        0.1110
                 7.40         110.00        0.1110
                15.33         109.51        0.1110
                47.93          98.00        0.1110
                65.73          98.00        0.1110
               114.24          97.34        0.1110
               131.22          97.00        0.1110
               141.72          95.00    0.1110 /0.0490  Main Channel
               142.05          94.60        0.0490      Main Channel
               155.43          94.60        0.0490      Main Channel
               155.44          95.00    0.0490 /0.1110  Main Channel
               161.18          95.00        0.1110
               168.95          96.00        0.1110
               203.06          97.00        0.1110
               211.77          97.00        0.1110
               222.30         108.79        0.1110
               223.07         109.00        0.1110

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.40    95.00    .538E+04         4.5          0.83       19.81
       1.14    95.74    .231E+05        29.7          1.27       12.99
       1.87    96.47    .508E+05        74.2          1.45       11.41
```

2.61	97.21	.101E+06	146.9	1.45	11.44
3.35	97.95	.186E+06	275.5	1.47	11.23
4.08	98.68	.306E+06	482.4	1.56	10.57
4.82	99.42	.429E+06	757.2	1.75	9.45
5.56	100.16	.555E+06	1088.0	1.95	8.50
6.29	100.89	.682E+06	1470.4	2.14	7.73
7.03	101.63	.811E+06	1901.3	2.33	7.11
7.77	102.37	.943E+06	2378.5	2.50	6.61
8.51	103.11	.108E+07	2900.2	2.68	6.18
9.24	103.84	.121E+07	3465.1	2.84	5.83
9.98	104.58	.135E+07	4071.9	3.00	5.52
10.72	105.32	.149E+07	4719.8	3.15	5.26
11.45	106.05	.163E+07	5407.9	3.29	5.02
12.19	106.79	.177E+07	6135.7	3.43	4.82
12.93	107.53	.192E+07	6902.4	3.57	4.63
13.66	108.26	.207E+07	7707.8	3.70	4.47

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1365) *******	254.23	9.00	49.15		3.23	1.47
OUTFLOW: ID= 1 (5365) *******	253.88	9.25	49.15		3.22	1.47

CALIB	
STANDHYD (0365)	Area (ha)= 165.69
ID= 1 DT=15.0 min	Total Imp(%)= 59.00 Dir. Conn.(%)= 56.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.76	67.93
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	1051.00	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	26.15
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	8.63	2.32 10.003 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	72.10	40.84 58.34
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.56 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2365)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0365):	165.69	10.003	5.25	58.34
+ ID2= 2 (5365):	21283.39	253.885	9.25	49.15
ID = 3 (2365):	21449.08	254.945	9.25	49.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0671)	Area (ha)= 266.27
ID= 1 DT=15.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	213.02	53.25
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	1332.34	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	28.43
over (min)	15.00	30.00
Storage Coeff. (min)=	14.40 (ii)	84.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01
		TOTALS
PEAK FLOW (cms)=	19.70	1.87 20.674 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	72.10	49.06 67.49
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.67 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9671)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	266.27	20.67	5.25	67.49
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	266.27	20.67	5.25	67.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6671)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.4020	9.4300

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9671)	266.270	20.674	5.25	67.49
OUTFLOW: ID= 1 (6671)	266.270	4.092	7.25	67.49

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.79
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 11.3652

ADD HYD (4671)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 9671 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6671):	266.27	4.092	7.25	67.49
+ ID2= 2 (9671):	0.00	0.000	0.00	0.00
ID = 3 (4671):	266.27	4.092	7.25	67.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1372)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2365):	21449.08	254.945	9.25	49.22
+ ID2= 2 (4671):	266.27	4.092	7.25	67.49
ID = 3 (1372):	21715.35	258.692	9.25	49.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5372)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5372.0) ------>

Distance	Elevation	Manning	
0.00	105.00	0.1110	
20.51	95.49	0.1110	
91.87	93.94	0.1110	
96.84	93.74	0.1110	
105.67	92.57	0.1110	
106.66	92.00	0.1110 /0.0490	Main Channel
109.09	90.50	0.0490	Main Channel
122.15	90.50	0.0490	Main Channel
123.13	92.00	0.0490 /0.1110	Main Channel
127.73	92.00	0.1110	
158.37	93.00	0.1110	
213.54	94.00	0.1110	
217.83	95.00	0.1110	
233.02	105.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.75	91.25	.531E+04	25.0	2.40	3.53
1.50	92.00	.113E+05	79.9	3.61	2.35
2.26	92.76	.243E+05	179.6	3.75	2.26
3.03	93.53	.500E+05	338.8	3.44	2.46
3.79	94.29	.949E+05	604.9	3.24	2.62
4.56	95.06	.157E+06	1023.9	3.33	2.55
5.32	95.82	.231E+06	1611.1	3.54	2.39
6.09	96.59	.310E+06	2362.5	3.88	2.18
6.85	97.35	.389E+06	3246.6	4.25	2.00
7.62	98.12	.469E+06	4254.1	4.61	1.84
8.38	98.88	.550E+06	5378.1	4.97	1.71
9.15	99.65	.633E+06	6613.7	5.32	1.59
9.91	100.41	.716E+06	7956.7	5.65	1.50
10.68	101.18	.801E+06	9403.9	5.97	1.42
11.44	101.94	.887E+06	10952.7	6.28	1.35
12.21	102.71	.974E+06	12600.7	6.58	1.29
12.97	103.47	.106E+07	14346.0	6.88	1.23
13.74	104.24	.115E+07	16186.9	7.16	1.18
14.50	105.00	.124E+07	18122.2	7.43	1.14

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1372) *******	258.69	9.25	49.45		2.64	3.59
OUTFLOW: ID= 1 (5372) *******	258.60	9.25	49.45		2.64	3.60

CALIB	
STANDHYD (0372)	Area (ha)= 47.90
ID= 1 DT=15.0 min	Total Imp(%)= 49.00 Dir. Conn.(%)= 41.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	23.47	24.43
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.50
Length (m)=	565.10	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	26.30
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	1.83	1.08 2.786 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	72.10	37.89 51.92
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.52 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (2372) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0372):    47.90   2.786     5.25    51.92
      + ID2= 2 (5372): 21715.35 258.603     9.25    49.45
        ================================================
        ID = 3 (2372): 21763.25 258.830     9.25    49.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5373) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (5373.0) ------>

Distance	Elevation	Manning	
0.00	101.00	0.1110	
12.77	94.00	0.1110	
32.99	89.39	0.1110	
76.52	87.19	0.1110	
79.48	87.00	0.1110	
80.86	86.13	0.1110	
81.09	86.00	0.1110	
81.97	86.00	0.1110 /0.0490	Main Channel
82.61	85.50	0.0490	Main Channel
88.00	85.50	0.0490	Main Channel
89.14	86.00	0.0490 /0.1110	Main Channel
95.90	86.00	0.1110	
106.27	87.00	0.1110	
106.34	87.01	0.1110	
117.67	87.86	0.1110	
158.30	88.14	0.1110	
158.41	88.15	0.1110	
185.29	101.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	86.00	.231E+04	2.5	0.81	15.12
1.29	86.79	.137E+05	18.4	0.99	12.36
2.08	87.58	.328E+05	49.8	1.12	11.00
2.87	88.37	.764E+05	104.1	1.00	12.24
3.66	89.16	.143E+06	224.2	1.16	10.62
4.45	89.95	.217E+06	398.3	1.35	9.10
5.24	90.74	.295E+06	619.7	1.55	7.94
6.03	91.53	.376E+06	883.1	1.73	7.10
6.82	92.32	.460E+06	1187.0	1.90	6.45
7.61	93.11	.546E+06	1530.0	2.06	5.95
8.39	93.89	.636E+06	1911.6	2.21	5.54
9.18	94.68	.728E+06	2340.7	2.37	5.18
9.97	95.47	.821E+06	2808.2	2.52	4.87
10.76	96.26	.917E+06	3312.0	2.66	4.61
11.55	97.05	.101E+07	3851.3	2.80	4.39
12.34	97.84	.111E+07	4425.6	2.93	4.19
13.13	98.63	.121E+07	5034.5	3.05	4.02
13.92	99.42	.132E+07	5677.8	3.18	3.86
14.71	100.21	.142E+07	6355.0	3.30	3.72

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2372) *******	258.83	9.25	49.45	3.81	1.19

OUTFLOW: ID= 1 (5373) *******	258.44	9.50	49.45	3.80	1.19

```
| CALIB             |
| STANDHYD  (0373) |   Area    (ha)=  86.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  28.00
-------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.17	56.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.10
Length	(m)=	758.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	20.02
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	58.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.25	1.57	3.350 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	72.10	29.60	41.50
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.40	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (2373) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0373):    86.20   3.350     5.25    41.50
      + ID2= 2 (5373): 21763.25 258.438     9.50    49.45
        ================================================
        ID = 3 (2373): 21849.45 258.809     9.50    49.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5374) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (5374.0) ------>

Distance	Elevation	Manning	
0.00	98.97	0.1110	
36.91	86.49	0.1110	
134.42	84.00	0.1110 /0.0490	Main Channel
141.69	83.20	0.0490	Main Channel
152.50	83.20	0.0490	Main Channel
159.42	84.00	0.0490 /0.1110	Main Channel
175.53	98.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	83.60	.239E+04	4.2	0.73	9.54
0.80	84.00	.596E+04	15.3	1.07	6.49
1.62	84.82	.202E+05	72.8	1.50	4.63
2.45	85.65	.459E+05	179.3	1.63	4.26
3.27	86.47	.829E+05	344.5	1.73	4.01
4.09	87.29	.126E+06	593.4	1.95	3.55
4.92	88.12	.171E+06	902.7	2.20	3.16
5.74	88.94	.217E+06	1267.1	2.43	2.85
6.56	89.76	.264E+06	1683.7	2.66	2.61
7.39	90.59	.312E+06	2150.3	2.87	2.42
8.21	91.41	.362E+06	2665.3	3.07	2.26
9.04	92.24	.412E+06	3227.6	3.26	2.13
9.86	93.06	.464E+06	3836.1	3.44	2.01
10.68	93.88	.516E+06	4490.2	3.62	1.92
11.51	94.71	.570E+06	5189.2	3.79	1.83
12.33	95.53	.626E+06	5932.8	3.95	1.76
13.15	96.35	.682E+06	6720.5	4.10	1.69
13.98	97.18	.739E+06	7552.1	4.25	1.63
14.80	98.00	.798E+06	8427.5	4.40	1.58

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2373) *******	258.81	9.50	49.42	2.84	1.67
OUTFLOW: ID= 1 (5374) *******	258.84	9.50	49.42	2.84	1.68

```
| CALIB             |
| STANDHYD  (0673) |   Area    (ha)= 211.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  58.00
-------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	137.64	74.11
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.60
Length	(m)=	1188.14	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	32.62
over (min)		15.00	30.00
Storage Coeff. (min)=		17.40 (ii)	103.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	11.24	2.62	12.369 (iii)
TIME TO PEAK	(hrs)=	5.25	6.75	5.25
RUNOFF VOLUME	(mm)=	72.10	46.70	61.43
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.64	0.84

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.


```
| DUHYD     (9673) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK     R.V.
-------------------      (ha)     (cms)     (hrs)     (mm)
    TOTAL HYD.(ID= 1): 211.75     12.37      5.25   61.43
    ================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3): 211.75     12.37      5.25   61.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (6673) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  1.7310      6.2000
    **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                          AREA     QPEAK     TPEAK       R.V.
                          (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9673)    211.750     12.369      5.25      61.43
    OUTFLOW: ID= 1 (6673)    211.750      2.311      8.50      61.43

              PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.68
              TIME SHIFT OF PEAK FLOW          (min)=195.00
              MAXIMUM  STORAGE   USED       (ha.m.)=  8.2797
```

```
| ADD HYD   (4673) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9673 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6673):   211.75   2.311     8.50    61.43
      + ID2= 2 (9673):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4673):   211.75   2.311     8.50    61.43

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (1374) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4673):   211.75   2.311     8.50    61.43
      + ID2= 2 (5374): 21849.45 258.837     9.50    49.42
        ================================================
        ID = 3 (1374): 22061.20 261.111     9.50    49.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB                |
| STANDHYD  (0374) |   Area    (ha)=  32.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.69        17.95
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.80
     Length            (m)=     466.48        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        27.12
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   42.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.07         0.84          1.807 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      72.10        38.32         50.14
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.52          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2374) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0374):    32.64   1.807     5.25    50.14
       + ID2= 2 (1374): 22061.20 261.111     9.50    49.54
         ================================================
         ID = 3 (2374): 22093.84 261.231     9.50    49.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5396.0) ------>
              Distance      Elevation       Manning
                  0.00         97.95        0.1110
                 17.75         83.00        0.1110
                 23.72         82.08        0.1110
                 24.22         82.00        0.1110
                 25.33         82.00    0.1110 /0.0490  Main Channel
                 26.00         81.40        0.0490      Main Channel
                 33.68         81.40        0.0490      Main Channel
                 35.87         82.00    0.0490 /0.1110  Main Channel
                 43.42         82.00        0.1110
                 69.25         82.98        0.1110
                140.88         83.00        0.1110
                166.30         97.94        0.1110
```



```
      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.60     82.00    .162E+04       6.3         1.16       4.27
       1.44     82.84    .981E+04      41.2         1.24       3.97
       2.28     83.68    .373E+05     147.1         1.17       4.23
       3.12     84.52    .687E+05     348.9         1.50       3.28
       3.96     85.36    .101E+06     621.1         1.83       2.70
       4.79     86.19    .133E+06     955.6         2.12       2.32
       5.63     87.03    .167E+06    1347.8         2.40       2.06
       6.47     87.87    .200E+06    1794.3         2.65       1.86
       7.31     88.71    .235E+06    2292.7         2.89       1.71
       8.15     89.55    .270E+06    2841.1         3.12       1.58
       8.99     90.39    .305E+06    3438.0         3.34       1.48
       9.83     91.23    .342E+06    4082.2         3.54       1.39
      10.67     92.07    .378E+06    4772.8         3.74       1.32
      11.51     92.91    .416E+06    5508.8         3.93       1.26
      12.35     93.75    .454E+06    6289.6         4.11       1.20
      13.18     94.58    .492E+06    7114.7         4.28       1.15
      14.02     95.42    .532E+06    7983.6         4.45       1.11
      14.86     96.26    .571E+06    8895.9         4.61       1.07
      15.70     97.10    .612E+06    9851.2         4.77       1.04

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2374) ********   261.23    9.50  49.54      2.75      1.34
     OUTFLOW: ID= 1 (5396) ********   261.30    9.50  49.54      2.75      1.34

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (0396) |   Area    (ha)=   4.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  17.00   Dir. Conn.(%)=  15.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.79         3.86
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        16.10
     Length            (m)=     176.07        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        17.64
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.17          0.237 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      72.10        28.08         34.68
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.38          0.47

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```



```
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2396) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):     4.65   0.237     5.25    34.68
       + ID2= 2 (5396): 22093.84 261.305     9.50    49.54
         ================================================
         ID = 3 (2396): 22098.48 261.313     9.50    49.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (0375) |   Area    (ha)=  52.21
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  16.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      10.44        41.77
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.30
     Length            (m)=     589.97        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        14.28
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.80 (ii)   46.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.78         0.92          1.542 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      72.10        22.07         30.07
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.30          0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  62.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (1376) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0375):    52.21   1.542     5.25    30.07
       + ID2= 2 (2396): 22098.48 261.313     9.50    49.54
         ================================================
         ID = 3 (1376): 22150.70 261.468     9.50    49.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



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--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5376) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5376.0) ------>
              Distance      Elevation       Manning
                  0.00         85.02        0.1110
                  7.10         80.04        0.1110
                 61.55         79.68        0.1110
                116.38         79.93        0.1110
                143.52         79.00        0.1110
                158.92         78.00        0.1110
                166.66         76.00        0.1110
                167.10         75.50        0.0490      Main Channel
                200.00         75.50        0.0490      Main Channel
                202.57         76.00    0.0490 /0.1110  Main Channel
                207.88         78.85        0.1110
                214.22         80.17        0.1110
                238.13         81.00        0.1110
                277.55         82.00        0.1110
                278.31         83.03        0.1110
                282.09         84.00        0.1110
                288.47         83.19        0.1110
                296.01         84.00        0.1110
                384.91         84.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.45     75.95    .696E+04      12.6         0.82       9.22
       0.89     76.39    .145E+05      41.2         1.30       5.84
       1.34     76.84    .225E+05      82.6         1.67       4.54
       1.79     77.29    .310E+05     135.2         1.98       3.83
       2.24     77.74    .401E+05     198.5         2.25       3.37
       2.68     78.18    .498E+05     271.2         2.48       3.06
       3.13     78.63    .608E+05     354.3         2.65       2.86
       3.58     79.08    .735E+05     448.2         2.77       2.73
       4.03     79.53    .888E+05     553.5         2.83       2.68
       4.47     79.97    .114E+06     661.9         2.63       2.88
       4.92     80.42    .157E+06     829.0         2.40       3.15
       5.37     80.87    .202E+06    1031.7         2.32       3.26
       5.82     81.32    .250E+06    1266.7         2.30       3.29
       6.26     81.76    .302E+06    1534.7         2.31       3.28
       6.71     82.21    .357E+06    1840.9         2.35       3.23
       7.16     82.66    .412E+06    2183.9         2.41       3.15
       7.61     83.11    .468E+06    2556.2         2.48       3.05
       8.05     83.55    .525E+06    2944.5         2.55       2.97
       8.50     84.00    .584E+06    3359.5         2.61       2.90

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1376) *******   261.47    9.50  49.49      2.62      2.44
     OUTFLOW: ID= 1 (5376) *******   261.53    9.50  49.49      2.62      2.44

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (0376) |   Area    (ha)=  61.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  33.00
```

```
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.05        37.62
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.30
     Length            (m)=     641.20        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        23.76
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.80 (ii)   46.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.90         1.44          3.158 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      72.10        35.82         47.79
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.49          0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2376) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0376):    61.67   3.158     5.25     47.79
       + ID2= 2 (5376): 22150.70 261.528     9.50     49.49
         ================================================
         ID = 3 (2376): 22212.37 261.763     9.50     49.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ROUTE CHN (5395) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (5395.0) ------>
               Distance      Elevation       Manning
                   0.00         80.00        0.0700
                  23.38         80.00        0.0700
                  28.10         79.57        0.0700
                  49.96         79.59        0.0700
                  59.82         79.36        0.0700
                  73.05         78.62        0.0700
                  86.41         78.00        0.0700
                  92.93         77.00        0.0700
                 131.54         76.00        0.0700
                 223.71         75.98    0.0700 /0.0490  Main Channel
                 232.74         74.00        0.0490      Main Channel
                 260.75         74.00        0.0490      Main Channel
                 263.06         76.00    0.0490 /0.0700  Main Channel
                 265.52         76.00        0.0700
                 297.15         77.04        0.0700
```



```
                323.06         78.00        0.0700
                327.20         79.00        0.0700
                341.44         79.37        0.0700
                370.62         80.00        0.0700

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.28     74.28    .496E+04         7.0          0.86       11.77
       0.57     74.57    .102E+05        22.5          1.34        7.56
       0.85     74.85    .157E+05        44.5          1.72        5.88
       1.13     75.13    .215E+05        72.6          2.05        4.93
       1.41     75.41    .276E+05       106.4          2.35        4.32
       1.70     75.70    .339E+05       145.6          2.61        3.88
       1.98     75.98    .405E+05       190.4          2.86        3.55
       2.31     76.31    .693E+05       278.8          2.45        4.14
       2.65     76.65    .103E+06       406.6          2.39        4.24
       2.98     76.98    .142E+06       571.0          2.44        4.15
       3.32     77.32    .185E+06       780.5          2.57        3.94
       3.65     77.65    .229E+06      1027.4          2.72        3.72
       3.99     77.99    .276E+06      1310.5          2.88        3.51
       4.32     78.32    .325E+06      1625.0          3.04        3.34
       4.66     78.66    .376E+06      1974.5          3.19        3.17
       4.99     78.99    .428E+06      2362.2          3.35        3.02
       5.33     79.33    .483E+06      2754.4          3.46        2.93
       5.66     79.66    .544E+06      3054.6          3.41        2.97
       6.00     80.00    .613E+06      3561.5          3.53        2.87

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (2376) *******   261.76    9.50  49.48      2.25       2.51
    OUTFLOW: ID= 1 (5395) *******   261.45    9.50  49.48      2.24       2.52

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| STANDHYD  (0395) |   Area    (ha)=  36.20
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  30.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      12.67        23.53
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.90
     Length            (m)=     491.26        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        26.28
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   43.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.01         1.06          1.951 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      72.10        40.91         50.26
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.56          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```



```
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2395) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0395):    36.20   1.951     5.25     50.26
       + ID2= 2 (5395): 22212.37 261.445     9.50     49.48
         ================================================
         ID = 3 (2395): 22248.56 261.590     9.50     49.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   5 **
  ****************************


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|    READ STORM    |    Filename: C:\Users\P006437C\AppD
|                  |              ata\Local\Temp\
|                  |              9f309ab1-fec3-4607-958c-354f894587d2\01f63316
| Ptotal= 80.82 mm |    Comments: 50yr/12hr
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50   13.74 |   6.75    5.66 | 10.00    0.81
               0.50    0.81 |  3.75   13.74 |   7.00    5.66 | 10.25    0.81
               0.75    0.81 |  4.00   13.74 |   7.25    5.66 | 10.50    0.81
               1.00    0.81 |  4.25   13.74 |   7.50    3.23 | 10.75    0.81
               1.25    0.81 |  4.50   37.17 |   7.75    3.23 | 11.00    0.81
               1.50    0.81 |  4.75   37.17 |   8.00    3.23 | 11.25    0.81
               1.75    0.81 |  5.00   37.17 |   8.25    3.23 | 11.50    0.81
               2.00    0.81 |  5.25   37.17 |   8.50    1.62 | 11.75    0.81
               2.25    0.81 |  5.50   10.50 |   8.75    1.62 | 12.00    0.81
               2.50    4.85 |  5.75   10.50 |   9.00    1.62 | 12.25    0.81
               2.75    4.85 |  6.00   10.50 |   9.25    1.62 |
               3.00    4.85 |  6.25   10.50 |   9.50    0.81 |
               3.25    4.85 |  6.50    5.66 |   9.75    0.81 |

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-------------------
| CALIB             |
| NASHYD    (0176) |   Area    (ha)= 121.04   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.37

     Unit Hyd Qpeak  (cms)=   3.387

     PEAK FLOW       (cms)=   2.554 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  30.708
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.380

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| NASHYD    (0168) |   Area    (ha)= 103.55   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.38

     Unit Hyd Qpeak  (cms)=   2.868

     PEAK FLOW       (cms)=   2.093 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  29.703
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.368

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0170) |   Area    (ha)=  31.80   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.10

     Unit Hyd Qpeak  (cms)=   1.100

     PEAK FLOW       (cms)=   0.737 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  29.766
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.368

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2176) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   103.55   2.093     6.50     29.70
       + ID2= 2 (0170):    31.80   0.737     6.25     29.77
         ================================================
         ID = 3 (2176):   135.35   2.814     6.50     29.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1167) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0176):   121.04   2.554     6.50     30.71
       + ID2= 2 (2176):   135.35   2.814     6.50     29.72
         ================================================
         ID = 3 (1167):   256.39   5.368     6.50     30.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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ROUTE CHN (5167)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5167.0) ------>

Distance	Elevation	Manning	
0.00	262.16	0.0930	
17.98	262.04	0.0930	
21.42	262.78	0.0930	
45.50	262.15	0.0930	
50.47	262.37	0.0930	
76.45	262.32	0.0930	
82.50	261.71	0.0930	
84.15	261.00	0.0930 /0.0410	Main Channel
85.06	260.58	0.0410	Main Channel
85.95	260.18	0.0410	Main Channel
87.25	260.94	0.0410 /0.0930	Main Channel
88.72	261.80	0.0930	
126.19	262.11	0.0930	
151.18	262.60	0.0930	
158.48	262.60	0.0930	
162.67	262.66	0.0930	
162.97	262.66	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	260.31	.213E+02	0.0	0.09	118.24
0.25	260.43	.850E+02	0.0	0.15	74.49
0.38	260.56	.191E+03	0.1	0.20	56.84
0.51	260.69	.340E+03	0.1	0.24	46.86
0.63	260.81	.530E+03	0.2	0.28	40.37
0.76	260.94	.763E+03	0.4	0.31	35.75
0.90	261.08	.107E+04	0.6	0.37	30.02
1.04	261.22	.144E+04	0.9	0.42	26.45
1.18	261.36	.185E+04	1.3	0.46	24.26
1.33	261.51	.233E+04	1.7	0.49	22.76
1.47	261.65	.285E+04	2.2	0.52	21.67
1.61	261.79	.345E+04	2.7	0.53	21.01
1.75	261.93	.488E+04	3.3	0.46	24.35
1.89	262.07	.813E+04	4.3	0.35	31.78
2.03	262.21	.143E+05	5.9	0.28	40.27
2.18	262.36	.227E+05	8.3	0.25	45.66
2.32	262.50	.347E+05	12.1	0.23	47.80
2.46	262.64	.483E+05	16.8	0.23	47.89
2.60	262.78	.635E+05	23.6	0.25	44.82

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1167)	256.39	5.37	6.50	30.19	1.99	0.30
OUTFLOW: ID= 1 (5167)	256.39	4.65	7.25	30.18	1.93	0.33

CALIB	
NASHYD (0167)	Area (ha)= 45.12
ID= 1 DT=15.0 min	Ia (mm)= 9.10
	U.H. Tp(hrs)= 0.67

Curve Number (CN)= 74.0
# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 2.588

PEAK FLOW (cms)= 1.509 (i)

TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 31.916
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.395

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2167)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0167):	45.12	1.509	5.50	31.92
+ ID2= 2 (5167):	256.39	4.652	7.25	30.18
ID = 3 (2167):	301.51	5.338	7.00	30.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0147)	Area (ha)= 71.89
ID= 1 DT=15.0 min	Ia (mm)= 9.30
	U.H. Tp(hrs)= 1.38

Curve Number (CN)= 72.0
# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 1.996

PEAK FLOW (cms)= 1.473 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 30.034
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.372

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1153)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0147):	71.89	1.473	6.50	30.03
+ ID2= 2 (2167):	301.51	5.338	7.00	30.44
ID = 3 (1153):	373.40	6.762	6.75	30.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5153)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5153.0) ------>

Distance	Elevation	Manning
0.00	265.12	0.0930
61.22	264.43	0.0930
92.80	264.46	0.0930
229.62	263.26	0.0930
264.40	263.29	0.0930
313.73	261.28	0.0930

<------ DATA FOR SECTION (5153.0) ------>

Distance	Elevation	Manning	
323.84	261.53	0.0930	
325.29	261.12	0.0930 /0.0410	Main Channel
327.44	260.56	0.0410	Main Channel
330.20	261.79	0.0410 /0.0930	Main Channel
418.41	263.95	0.0930	
464.80	264.28	0.0930	
495.72	265.14	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	260.75	.661E+02	0.1	0.53	19.62
0.37	260.93	.265E+03	0.4	0.84	12.36
0.56	261.12	.595E+03	1.1	1.10	9.43
0.81	261.37	.140E+04	3.0	1.33	7.83
1.06	261.62	.434E+04	7.3	1.04	9.96
1.31	261.87	.875E+04	15.4	1.10	9.47
1.56	262.12	.154E+05	28.4	1.15	9.00
1.81	262.37	.245E+05	47.4	1.21	8.62
2.06	262.62	.362E+05	73.6	1.27	8.21
2.31	262.87	.505E+05	108.0	1.33	7.79
2.56	263.12	.673E+05	151.7	1.41	7.39
2.81	263.37	.891E+05	180.7	1.27	8.22
3.06	263.62	.120E+06	251.0	1.31	7.96
3.31	263.87	.157E+06	341.6	1.36	7.64
3.56	264.12	.200E+06	442.6	1.38	7.54
3.81	264.37	.254E+06	578.1	1.42	7.31
4.06	264.62	.317E+06	738.9	1.45	7.15
4.31	264.87	.387E+06	966.8	1.56	6.67
4.56	265.12	.462E+06	1227.8	1.66	6.27

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1153)	373.40	6.76	6.75	30.36	1.03	1.07
OUTFLOW: ID= 1 (5153)	373.40	6.73	7.00	30.36	1.03	1.07

CALIB	
NASHYD (0153)	Area (ha)= 34.14
ID= 1 DT=15.0 min	Ia (mm)= 9.80
	U.H. Tp(hrs)= 0.72

Curve Number (CN)= 72.0
# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 1.809

PEAK FLOW (cms)= 1.002 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 29.677
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.367

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2153)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0153):	34.14	1.002	5.75	29.68
+ ID2= 2 (5153):	373.40	6.728	7.00	30.36

ID = 3 (2153):	407.54	7.290	6.75	30.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0140)	Area (ha)= 157.95
ID= 1 DT=15.0 min	Ia (mm)= 9.70
	U.H. Tp(hrs)= 1.60

Curve Number (CN)= 73.0
# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 3.782

PEAK FLOW (cms)= 3.007 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 30.642
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.379

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1132)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0140):	157.95	3.007	6.75	30.64
+ ID2= 2 (2153):	407.54	7.290	6.75	30.31
ID = 3 (1132):	565.49	10.298	6.75	30.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5132)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5132.0) ------>

Distance	Elevation	Manning	
0.00	265.71	0.0930	
157.54	260.12	0.0930 /0.0410	Main Channel
162.96	260.04	0.0410	Main Channel
165.46	260.06	0.0410 /0.0930	Main Channel
230.27	261.15	0.0930	
271.12	261.23	0.0930	
301.57	261.74	0.0930	
340.02	262.22	0.0930	
355.40	262.69	0.0930	
390.99	263.30	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.02	260.06	.461E+02	0.0	0.04	507.91
0.19	260.23	.275E+04	0.4	0.17	118.51
0.36	260.40	.859E+04	1.6	0.22	91.47
0.53	260.57	.175E+05	3.7	0.25	79.15
0.70	260.74	.294E+05	6.9	0.28	71.09
0.87	260.91	.444E+05	11.4	0.31	65.09
1.04	261.08	.624E+05	17.2	0.33	60.33

1.21	261.25	.862E+05	22.8	0.32	63.13
1.38	261.42	.118E+06	33.6	0.34	58.33
1.55	261.59	.152E+06	46.8	0.37	54.18
1.73	261.77	.190E+06	62.3	0.39	50.75
1.90	261.94	.231E+06	79.9	0.41	48.16
2.07	262.11	.276E+06	100.2	0.43	45.88
2.24	262.28	.324E+06	124.0	0.46	43.60
2.41	262.45	.375E+06	152.0	0.48	41.16
2.58	262.62	.428E+06	182.8	0.51	39.06
2.75	262.79	.484E+06	215.5	0.53	37.42
2.92	262.96	.542E+06	250.3	0.55	36.09
3.09	263.13	.603E+06	288.3	0.57	34.89

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1132)	565.49	10.30	6.75	30.40	0.83	0.30
OUTFLOW: ID= 1 (5132)	565.49	8.78	8.00	30.39	0.77	0.29

CALIB NASHYD (0132) ID= 1 DT=15.0 min			
	Area	(ha)= 78.02	Curve Number (CN)= 72.0
	Ia	(mm)= 9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.87	

Unit Hyd Qpeak (cms)= 3.421

PEAK FLOW	(cms)=	2.063 (i)
TIME TO PEAK	(hrs)=	5.750
RUNOFF VOLUME	(mm)=	29.824
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.369

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2132)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0132):	78.02	2.063	5.75	29.82
+ ID2= 2 (5132):	565.49	8.783	8.00	30.39
ID = 3 (2132):	643.51	9.741	7.50	30.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0108) ID= 1 DT=15.0 min			
	Area	(ha)= 82.89	Curve Number (CN)= 72.0
	Ia	(mm)= 10.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.34	

Unit Hyd Qpeak (cms)= 2.368

PEAK FLOW	(cms)=	1.674 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	29.109
TOTAL RAINFALL	(mm)=	80.820

RUNOFF COEFFICIENT	=	0.360

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5118) IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5118.0) ------>

Distance	Elevation	Manning	
0.00	264.29	0.0930	
54.59	264.08	0.0930	
195.91	262.32	0.0930	
196.76	262.30	0.0930	
198.83	261.60	0.0930 /0.0410	Main Channel
200.27	261.11	0.0410	Main Channel
204.45	262.14	0.0410 /0.0930	Main Channel
207.10	262.78	0.0930	
228.84	263.27	0.0930	
329.55	263.73	0.0930	
365.52	264.37	0.0930	
372.71	264.35	0.0930	
402.90	265.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	261.27	.156E+03	0.0	0.29	97.17
0.33	261.44	.623E+03	0.2	0.45	61.21
0.49	261.60	.140E+04	0.5	0.60	46.71
0.66	261.77	.253E+04	1.1	0.75	37.05
0.83	261.94	.399E+04	2.1	0.86	32.23
0.99	262.10	.578E+04	3.3	0.96	29.09
1.16	262.27	.790E+04	5.1	1.09	25.62
1.33	262.44	.115E+05	7.3	1.07	26.06
1.50	262.61	.189E+05	10.6	0.93	29.79
1.67	262.78	.304E+05	15.2	0.84	33.30
1.83	262.94	.467E+05	21.4	0.77	36.32
2.00	263.11	.689E+05	30.1	0.73	38.19
2.17	263.28	.970E+05	41.4	0.71	39.04
2.34	263.45	.136E+06	55.7	0.69	40.59
2.51	263.62	.188E+06	75.6	0.67	41.55
2.68	263.79	.255E+06	102.5	0.67	41.44
2.84	263.95	.329E+06	137.5	0.70	39.94
3.01	264.12	.411E+06	176.5	0.72	38.78
3.18	264.29	.505E+06	217.3	0.72	38.70

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0108)	82.89	1.67	6.50	29.11	0.76	0.81
OUTFLOW: ID= 1 (5118)	82.89	1.56	7.00	29.10	0.73	0.80

CALIB NASHYD (0118) ID= 1 DT=15.0 min			
	Area	(ha)= 127.26	Curve Number (CN)= 71.0
	Ia	(mm)= 9.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.42	

Unit Hyd Qpeak (cms)= 3.416

PEAK FLOW	(cms)=	2.453 (i)
TIME TO PEAK	(hrs)=	6.750
RUNOFF VOLUME	(mm)=	28.923
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.358

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2118)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0118):	127.26	2.453	6.75	28.92
+ ID2= 2 (5118):	82.89	1.562	7.00	29.10
ID = 3 (2118):	210.15	3.974	6.75	28.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1125)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2118):	210.15	3.974	6.75	28.99
+ ID2= 2 (2132):	643.51	9.741	7.50	30.33
ID = 3 (1125):	853.66	13.466	7.25	30.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5125) IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5125.0) ------>

Distance	Elevation	Manning	
0.00	261.06	0.0930	
112.10	260.66	0.0930	
128.23	260.37	0.0930	
184.04	259.72	0.0930	
217.53	259.61	0.0930	
253.86	259.67	0.0930	
268.78	259.50	0.0930	
310.66	258.59	0.0930	
323.55	258.45	0.0930 /0.0410	Main Channel
324.18	258.37	0.0410	Main Channel
328.71	257.57	0.0410	Main Channel
330.84	258.63	0.0410 /0.0930	Main Channel
332.23	258.70	0.0930	
402.29	261.32	0.0930	
415.98	261.42	0.0930	
435.71	261.26	0.0930	
609.12	263.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.18	257.75	.817E+02	0.0	0.15	77.13
0.35	257.92	.327E+03	0.1	0.24	48.59
0.53	258.10	.735E+03	0.3	0.31	37.08
0.70	258.27	.131E+04	0.7	0.37	30.61
0.88	258.45	.205E+04	1.3	0.43	26.77
1.07	258.64	.402E+04	2.4	0.41	28.11
1.25	258.82	.772E+04	4.3	0.38	30.28
1.44	259.01	.131E+05	7.0	0.36	31.41
1.63	259.20	.203E+05	10.7	0.36	31.50
1.81	259.38	.292E+05	15.7	0.37	30.98
2.00	259.57	.399E+05	21.8	0.38	30.52
2.19	259.76	.579E+05	27.1	0.32	35.56
2.37	259.94	.822E+05	40.1	0.33	34.21
2.56	260.13	.169E+06	56.1	0.35	32.46
2.74	260.31	.139E+06	75.4	0.37	30.73
2.93	260.50	.171E+06	98.6	0.40	28.93
3.12	260.69	.205E+06	124.1	0.42	27.59
3.30	260.87	.245E+06	146.5	0.41	27.88
3.49	261.06	.292E+06	175.3	0.41	27.76

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1125)	853.66	13.47	7.25	30.00	1.73	0.37
OUTFLOW: ID= 1 (5125)	853.66	12.74	8.00	30.00	1.70	0.37

CALIB NASHYD (0125) ID= 1 DT=15.0 min			
	Area	(ha)= 52.22	Curve Number (CN)= 72.0
	Ia	(mm)= 10.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.95	

Unit Hyd Qpeak (cms)= 2.093

PEAK FLOW	(cms)=	1.286 (i)
TIME TO PEAK	(hrs)=	6.000
RUNOFF VOLUME	(mm)=	29.168
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.361

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2125)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0125):	52.22	1.286	6.00	29.17
+ ID2= 2 (5125):	853.66	12.738	8.00	30.00
ID = 3 (2125):	905.88	13.408	7.75	29.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5107) IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5107.0) ------>

Distance	Elevation	Manning	
0.00	259.47	0.0930	
7.84	259.44	0.0930	
11.25	259.57	0.0930	
21.80	259.34	0.0930	
32.98	259.22	0.0930	
41.05	258.44	0.0930	
73.72	258.37	0.0930	
80.66	257.81	0.0930	
83.82	256.91	0.0930 /0.0410	Main Channel
85.86	256.34	0.0410	Main Channel
86.32	256.46	0.0410	Main Channel
88.86	257.10	0.0410 /0.0930	Main Channel
114.39	257.69	0.0930	
138.64	257.87	0.0930	
178.64	259.30	0.0930	
197.11	259.23	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	256.48	.737E+02	0.0	0.20	79.74
0.29	256.62	.296E+03	0.1	0.32	50.29
0.43	256.77	.669E+03	0.3	0.43	38.35
0.57	256.91	.119E+04	0.6	0.52	31.64
0.75	257.09	.205E+04	1.3	0.64	25.38
0.92	257.26	.366E+04	2.5	0.68	24.06
1.10	257.44	.671E+04	4.3	0.63	25.84
1.28	257.62	.112E+05	6.9	0.60	27.04
1.46	257.80	.176E+05	10.1	0.56	29.00
1.63	257.97	.276E+05	15.3	0.54	30.14
1.81	258.15	.392E+05	22.5	0.56	29.03
1.99	258.33	.520E+05	31.4	0.59	27.60
2.17	258.51	.691E+05	41.5	0.59	27.75
2.34	258.68	.898E+05	55.9	0.61	26.80
2.52	258.86	.112E+06	72.8	0.64	25.56
2.70	259.04	.135E+06	92.4	0.67	24.32
2.88	259.22	.159E+06	114.5	0.70	23.15
3.05	259.39	.188E+06	130.8	0.68	23.93
3.23	259.57	.220E+06	159.7	0.71	23.02

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2125)	905.88	13.41	7.75	29.95	1.57	0.55
OUTFLOW: ID= 1 (5107)	905.88	12.90	8.25	29.95	1.55	0.55

CALIB	
NASHYD (0107)	Area (ha)= 121.76 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.34

Unit Hyd Qpeak (cms)= 3.460

PEAK FLOW (cms)= 2.361 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 28.102
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.348

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2107)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0107):	121.76	2.361	6.50	28.10
	+ ID2= 2 (5107):	905.88	12.904	8.25	29.95
	ID = 3 (2107):	1027.64	14.447	8.25	29.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0090)	Area (ha)= 67.74 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.85

Unit Hyd Qpeak (cms)= 3.040

PEAK FLOW (cms)= 1.890 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 30.831
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.381

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5089)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5089.0) ------>

Distance	Elevation	Manning	
0.00	283.61	0.0930	
12.80	283.54	0.0930	
26.10	283.37	0.0930	
32.61	283.02	0.0930	
52.71	281.44	0.0930	
67.48	281.01	0.0930	
83.85	280.06	0.0930	
102.23	279.31	0.0930	
113.08	279.11	0.0930	
117.61	279.05	0.0930 /0.0410	Main Channel
120.37	279.02	0.0410	Main Channel
123.67	277.63	0.0410	Main Channel
124.68	277.19	0.0410	Main Channel
129.65	278.99	0.0410 /0.0930	Main Channel
171.25	280.63	0.0930	
243.68	281.45	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	277.39	.318E+03	0.0	0.35	149.46
0.40	277.59	.127E+04	0.2	0.56	94.15
0.60	277.79	.286E+04	0.7	0.73	71.97
0.80	277.99	.510E+04	1.4	0.88	59.43

1.00	278.19	.798E+04	2.6	1.02	51.20
1.20	278.39	.115E+05	4.2	1.16	45.33
1.40	278.59	.157E+05	6.4	1.28	40.89
1.60	278.79	.205E+05	9.1	1.40	37.40
1.80	278.99	.260E+05	12.5	1.51	34.57
2.00	279.19	.368E+05	16.1	1.37	38.23
2.25	279.44	.637E+05	25.9	1.28	41.02
2.49	279.68	.101E+06	39.5	1.23	42.56
2.74	279.93	.147E+06	57.1	1.22	42.98
2.98	280.17	.203E+06	79.5	1.23	42.60
3.23	280.42	.267E+06	106.9	1.26	41.68
3.48	280.67	.340E+06	138.7	1.28	40.84
3.72	280.91	.428E+06	173.5	1.27	41.10
3.97	281.16	.537E+06	215.6	1.26	41.49
4.21	281.40	.668E+06	266.4	1.25	41.82

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0090)	67.74	1.89	5.75	30.83	0.88	0.93
OUTFLOW: ID= 1 (5089)	67.74	1.46	6.75	30.82	0.80	0.88

CALIB	
NASHYD (0089)	Area (ha)= 167.93 Curve Number (CN)= 67.0
ID= 1 DT=15.0 min	Ia (mm)= 8.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.40

Unit Hyd Qpeak (cms)= 4.572

PEAK FLOW (cms)= 2.965 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 26.430
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.327

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2089)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0089):	167.93	2.965	6.75	26.43
	+ ID2= 2 (5089):	67.74	1.458	6.75	30.82
	ID = 3 (2089):	235.67	4.423	6.75	27.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5097)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5097.0) ------>

Distance	Elevation	Manning
0.00	264.00	0.0930
43.72	263.34	0.0930
75.36	263.31	0.0930

120.67	262.08	0.0930
120.80	262.07	0.0930
122.58	262.15	0.0930 /0.0410 Main Channel
122.81	262.14	0.0410 Main Channel
125.62	261.93	0.0410 Main Channel
127.06	261.90	0.0410 Main Channel
128.23	262.19	0.0410 /0.0930 Main Channel
129.33	262.51	0.0930
202.64	264.26	0.0930
234.87	264.54	0.0930
274.19	264.72	0.0930

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	261.98	.109E+03	0.0	0.27	51.95
0.17	262.07	.333E+03	0.2	0.41	33.66
0.25	262.15	.799E+03	0.4	0.44	31.23
0.37	262.27	.199E+04	1.3	0.53	25.99
0.48	262.38	.362E+04	2.6	0.60	23.06
0.60	262.50	.570E+04	4.5	0.66	21.17
0.71	262.61	.840E+04	6.9	0.69	20.19
0.83	262.73	.120E+05	10.2	0.71	19.65
0.94	262.84	.164E+05	14.3	0.72	19.19
1.06	262.96	.218E+05	19.4	0.74	18.70
1.17	263.07	.280E+05	25.6	0.76	18.19
1.29	263.19	.350E+05	33.1	0.79	17.66
1.41	263.31	.430E+05	41.8	0.81	17.14
1.52	263.42	.544E+05	47.8	0.73	18.94
1.64	263.54	.674E+05	61.5	0.76	18.26
1.75	263.65	.817E+05	77.4	0.79	17.59
1.87	263.77	.971E+05	95.5	0.82	16.95
1.98	263.88	.114E+06	116.0	0.85	16.35
2.10	264.00	.132E+06	139.0	0.88	15.78

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2089)	235.67	4.42	6.75	27.69	0.59	0.65
OUTFLOW: ID= 1 (5097)	235.67	4.31	7.00	27.69	0.59	0.65

CALIB	
NASHYD (0097)	Area (ha)= 49.25 Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.39

Unit Hyd Qpeak (cms)= 1.350

PEAK FLOW (cms)= 1.161 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 34.482
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.427

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2097)

```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
                    |         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0097):    49.25   1.161     6.50    34.48
       + ID2= 2 (5097):   235.67   4.310     7.00    27.69
         ================================================
         ID = 3 (2097):   284.92   5.429     7.00    28.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0104)  |   Area    (ha)=  41.86   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=  10.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.07

     Unit Hyd Qpeak  (cms)=   1.491

     PEAK FLOW       (cms)=   0.944 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  28.596
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.354

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1102)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0104):    41.86   0.944     6.25    28.60
       + ID2= 2 (2097):   284.92   5.429     7.00    28.86
         ================================================
         ID = 3 (1102):   326.78   6.265     6.75    28.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5102)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (5102.0) ------>
              Distance      Elevation       Manning
                  0.00        261.12        0.0930
                 11.14        260.51        0.0930
                 18.45        260.84        0.0930
                 41.57        260.07        0.0930
                 52.25        260.01        0.0930
                 73.74        260.12        0.0930
                117.88        258.92        0.0930
                139.95        258.90        0.0930
                184.09        258.61        0.0930
                194.98        258.41        0.0930
                203.59        258.36        0.0930
                209.59        258.28    0.0930 /0.0410  Main Channel
                214.07        258.22        0.0410      Main Channel
                217.86        258.29    0.0410 /0.0930  Main Channel
                325.90        260.68        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
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```
  DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
   (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
  0.06   258.28    .441E+02       0.0         0.10      31.73
  0.19   258.41    .434E+03       0.4         0.19      16.32
  0.31   258.53    .126E+04       1.5         0.23      13.61
  0.44   258.66    .240E+04       3.3         0.26      12.17
  0.57   258.79    .409E+04       5.9         0.28      11.51
  0.69   258.91    .640E+04       9.5         0.28      11.24
  0.82   259.04    .958E+04      15.5         0.31      10.33
  0.94   259.16    .130E+05      23.3         0.34       9.32
  1.07   259.29    .167E+05      32.7         0.37       8.52
  1.20   259.42    .207E+05      43.8         0.40       7.87
  1.32   259.54    .248E+05      56.4         0.43       7.34
  1.45   259.67    .293E+05      70.7         0.46       6.91
  1.58   259.80    .340E+05      86.6         0.48       6.54
  1.70   259.92    .389E+05     104.3         0.51       6.22
  1.83   260.05    .441E+05     119.1         0.51       6.18
  1.95   260.17    .503E+05     136.4         0.52       6.14
  2.08   260.30    .567E+05     161.7         0.54       5.85
  2.21   260.43    .634E+05     189.1         0.57       5.59
  2.33   260.55    .704E+05     217.9         0.59       5.38

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1102)  326.78     6.27    6.75  28.83      0.58      0.28
OUTFLOW: ID= 1 (5102)  326.78     6.18    7.00  28.83      0.57      0.28

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-------------------
| CALIB             |
| NASHYD    (0102)  |   Area    (ha)=   2.11   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   7.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.29

     Unit Hyd Qpeak  (cms)=   0.279

     PEAK FLOW       (cms)=   0.099 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  30.114
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.373

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2102)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0102):     2.11   0.099     5.25    30.11
       + ID2= 2 (5102):   326.78   6.177     7.00    28.83
         ================================================
         ID = 3 (2102):   328.89   6.198     7.00    28.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0085)  |   Area    (ha)= 100.60   Curve Number   (CN)= 72.0
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```
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.50   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.58

     Unit Hyd Qpeak  (cms)=   2.433

     PEAK FLOW       (cms)=   1.880 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  29.902
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.370

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1103)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0085):   100.60   1.880     6.75    29.90
       + ID2= 2 (2102):   328.89   6.198     7.00    28.84
         ================================================
         ID = 3 (1103):   429.49   8.075     7.00    29.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5103)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (5103.0) ------>
              Distance      Elevation       Manning
                  0.00        260.43        0.0930
                 64.92        259.80        0.0930
                159.89        259.49        0.0930
                194.21        259.11        0.0930
                200.68        257.93        0.0930
                217.06        258.25        0.0930
                225.28        257.72    0.0930 /0.0410  Main Channel
                227.17        257.59        0.0410      Main Channel
                228.54        257.71    0.0410 /0.0930  Main Channel
                244.04        258.74        0.0930
                267.54        258.84        0.0930
                274.63        259.13        0.0930
                295.89        259.48        0.0930
                310.06        259.61        0.0930
                344.18        260.28        0.0930
                358.34        260.35        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.12   257.71    .574E+02       0.1         0.27      18.86
      0.26   257.85    .281E+03       0.4         0.46      11.20
      0.40   257.99    .715E+03       1.2         0.50      10.30
      0.54   258.13    .161E+04       2.5         0.48      10.65
      0.68   258.27    .302E+04       4.8         0.49      10.40
      0.81   258.40    .471E+04       8.5         0.56       9.23
      0.95   258.54    .651E+04      13.2         0.62       8.23
      1.09   258.68    .844E+04      18.9         0.69       7.46
      1.23   258.82    .107E+05      24.0         0.69       7.43
      1.37   258.96    .138E+05      32.7         0.73       7.05
```



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  1.51   259.10    .172E+05      43.2         0.77       6.61
  1.65   259.24    .209E+05      50.6         0.74       6.90
  1.79   259.38    .256E+05      61.0         0.73       6.99
  1.93   259.52    .312E+05      72.8         0.72       7.14
  2.07   259.66    .387E+05      85.1         0.68       7.58
  2.20   259.79    .485E+05     106.4         0.67       7.59
  2.34   259.93    .598E+05     138.3         0.71       7.20
  2.48   260.07    .720E+05     175.6         0.75       6.83
  2.62   260.21    .851E+05     218.1         0.79       6.50

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
INFLOW : ID= 2 (1103)  429.49     8.07    7.00  29.09      0.80      0.55
OUTFLOW: ID= 1 (5103)  429.49     8.03    7.00  29.09      0.80      0.55

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0103)  |   Area    (ha)=  13.80   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.83

     Unit Hyd Qpeak  (cms)=   0.638

     PEAK FLOW       (cms)=   0.364 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  28.780
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.356

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (2103)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0103):    13.80   0.364     5.75    28.78
       + ID2= 2 (5103):   429.49   8.034     7.00    29.09
         ================================================
         ID = 3 (2103):   443.29   8.271     7.00    29.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (1105)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2103):   443.29   8.271     7.00    29.08
       + ID2= 2 (2107):  1027.64  14.447     8.25    29.73
         ================================================
         ID = 3 (1105):  1470.93  21.867     7.75    29.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5105)  |
```

| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5105.0) ------>

Distance	Elevation	Manning	
0.00	259.38	0.0930	
16.48	258.87	0.0930	
29.77	258.00	0.0930	
35.97	256.26	0.0930	
47.95	256.26	0.0930	
63.19	256.50	0.0930	
68.45	254.59	0.0930 /0.0410	Main Channel
69.33	254.24	0.0410	Main Channel
70.76	254.71	0.0410 /0.0930	Main Channel
75.24	256.29	0.0930	
93.49	256.07	0.0930	
111.29	256.77	0.0930	
123.23	257.87	0.0930	
136.75	258.67	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	254.42	.100E+03	0.0	0.17	113.66
0.35	254.59	.401E+03	0.1	0.27	71.60
0.59	254.83	.115E+04	0.4	0.42	46.70
0.83	255.07	.227E+04	1.0	0.51	38.69
1.07	255.31	.378E+04	1.8	0.56	35.01
1.31	255.55	.566E+04	2.9	0.60	32.70
1.55	255.79	.792E+04	4.3	0.63	30.99
1.79	256.03	.106E+05	5.9	0.66	29.62
2.03	256.27	.163E+05	6.9	0.50	39.36
2.27	256.51	.329E+05	11.3	0.41	48.37
2.51	256.75	.535E+05	18.8	0.41	47.54
2.75	256.99	.757E+05	28.9	0.45	43.75
2.99	257.23	.989E+05	41.2	0.49	40.05
3.23	257.47	.123E+06	55.6	0.53	36.92
3.47	257.71	.148E+06	72.0	0.57	34.30
3.71	257.95	.174E+06	90.3	0.61	32.19
3.95	258.19	.202E+06	108.9	0.63	30.93
4.19	258.43	.232E+06	129.4	0.66	29.87
4.43	258.67	.264E+06	152.4	0.68	28.87

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1105)	1470.93	21.87	7.75	29.53	2.58	0.42
OUTFLOW: ID= 1 (5105)	1470.93	20.03	8.50	29.53	2.54	0.42

CALIB			
NASHYD (0105)	Area (ha)=	54.33	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	10.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.72	

Unit Hyd Qpeak (cms)= 2.866

PEAK FLOW	(cms)=	1.562 (i)
TIME TO PEAK	(hrs)=	5.750
RUNOFF VOLUME	(mm)=	29.150
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.361

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2105)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0105):	54.33	1.562	5.75	29.15
	+ ID2= 2 (5105):	1470.93	20.030	8.50	29.53
	ID = 3 (2105):	1525.26	20.406	8.50	29.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0072)	Area (ha)=	66.00	Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)=	9.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.00	

Unit Hyd Qpeak (cms)= 2.508

PEAK FLOW	(cms)=	1.511 (i)
TIME TO PEAK	(hrs)=	6.000
RUNOFF VOLUME	(mm)=	28.097
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.348

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0062)	Area (ha)=	194.37	Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)=	8.30	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.33	

Unit Hyd Qpeak (cms)= 5.578

PEAK FLOW	(cms)=	3.923 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	28.993
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.359

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1086)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0062):	194.37	3.923	6.50	28.99
	+ ID2= 2 (0072):	66.00	1.511	6.00	28.10
	ID = 3 (1086):	260.37	5.361	6.50	28.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5086)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5086.0) ------>

Distance	Elevation	Manning	
0.00	261.31	0.0930	
3.21	261.36	0.0930	
28.01	261.03	0.0930	
42.51	261.07	0.0930	
53.44	260.90	0.0930	
62.26	260.66	0.0930	
107.79	260.30	0.0930	
123.86	260.33	0.0930	
139.15	260.06	0.0930	
156.49	259.39	0.0930	
173.83	258.81	0.0930 /0.0410	Main Channel
179.12	258.67	0.0410	Main Channel
180.66	258.74	0.0410 /0.0930	Main Channel
197.95	259.63	0.0930	
205.72	259.81	0.0930	
209.98	259.78	0.0930	
318.53	261.21	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.07	258.74	.375E+03	0.0	0.20	216.58
0.21	258.88	.320E+04	0.5	0.43	98.91
0.35	259.02	.847E+04	1.8	0.55	77.87
0.48	259.15	.161E+05	3.9	0.62	69.08
0.62	259.29	.262E+05	6.9	0.67	63.50
0.76	259.43	.387E+05	10.9	0.72	59.26
0.90	259.57	.534E+05	16.0	0.77	55.68
1.04	259.71	.705E+05	22.0	0.80	53.32
1.17	259.84	.917E+05	28.6	0.80	53.38
1.31	259.98	.119E+06	37.8	0.81	52.42
1.45	260.12	.151E+06	48.6	0.82	51.84
1.59	260.26	.190E+06	61.3	0.83	51.51
1.72	260.39	.239E+06	73.2	0.78	54.43
1.86	260.53	.301E+06	93.0	0.79	53.89
2.00	260.67	.372E+06	117.3	0.81	52.88
2.14	260.81	.451E+06	148.5	0.84	50.63
2.28	260.95	.535E+06	183.6	0.88	48.60
2.41	261.08	.628E+06	216.3	0.88	48.38
2.55	261.22	.732E+06	261.9	0.92	46.60

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1086)	260.37	5.36	6.50	28.77	0.55	0.64
OUTFLOW: ID= 1 (5086)	260.37	4.31	7.50	28.76	0.50	0.62

CALIB			
NASHYD (0086)	Area (ha)=	85.32	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.35	

Unit Hyd Qpeak (cms)= 2.416

PEAK FLOW	(cms)=	1.742 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	29.570
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.366

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2086)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0086):	85.32	1.742	6.50	29.57
	+ ID2= 2 (5086):	260.37	4.306	7.50	28.76
	ID = 3 (2086):	345.69	5.882	7.25	28.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0082)	Area (ha)=	127.96	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.59	

Unit Hyd Qpeak (cms)= 3.070

PEAK FLOW	(cms)=	2.371 (i)
TIME TO PEAK	(hrs)=	6.750
RUNOFF VOLUME	(mm)=	29.836
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.369

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0070)	Area (ha)=	60.11	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.23	

Unit Hyd Qpeak (cms)= 1.871

PEAK FLOW	(cms)=	1.255 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	28.663
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.355

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1080)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0070):	60.11	1.255	6.50	28.66

+ ID2= 2 (0082):	127.96	2.371	6.75	29.84
ID = 3 (1080):	188.07	3.591	6.75	29.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5080) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5080.0) ------>

Distance	Elevation	Manning	
0.00	265.31	0.0930	
3.12	265.35	0.0930	
51.72	263.31	0.0930	
63.25	263.22	0.0930	
83.29	262.44	0.0930	
98.72	261.99	0.0930 /0.0410	Main Channel
107.79	261.84	0.0410	Main Channel
112.42	261.99	0.0410 /0.0930	Main Channel
182.31	264.06	0.0930	
207.12	264.23	0.0930	
208.20	264.24	0.0930	
230.04	264.24	0.0930	
257.09	264.08	0.0930	
287.23	264.25	0.0930	
339.24	265.08	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	261.99	.747E+03	0.3	0.32	38.02
0.33	262.17	.328E+04	2.6	0.58	20.78
0.50	262.34	.737E+04	7.0	0.70	17.43
0.68	262.52	.130E+05	13.8	0.77	15.68
0.86	262.70	.200E+05	23.1	0.84	14.43
1.03	262.87	.283E+05	35.0	0.90	13.48
1.21	263.05	.380E+05	49.8	0.95	12.72
1.39	263.23	.491E+05	67.4	1.00	12.12
1.56	263.40	.624E+05	87.5	1.02	11.89
1.74	263.58	.773E+05	113.3	1.07	11.37
1.92	263.76	.935E+05	143.0	1.11	10.90
2.10	263.94	.111E+06	176.6	1.16	10.47
2.27	264.11	.130E+06	206.5	1.15	10.49
2.45	264.29	.158E+06	233.3	1.07	11.29
2.63	264.47	.193E+06	291.6	1.10	11.01
2.80	264.64	.229E+06	357.8	1.14	10.67
2.98	264.82	.268E+06	431.9	1.17	10.33
3.16	265.00	.308E+06	514.1	1.21	9.99
3.33	265.17	.350E+06	608.3	1.26	9.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1080)	188.07	3.59	6.75	29.46	0.37	0.60
OUTFLOW: ID= 1 (5080)	188.07	3.53	7.00	29.46	0.36	0.60

CALIB | NASHYD (0080) | Area (ha)= 26.18 Curve Number (CN)= 73.0

ID= 1 DT=15.0 min | Ia (mm)= 8.50 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.78

Unit Hyd Qpeak (cms)= 1.287

PEAK FLOW (cms)= 0.788 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 31.435
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.389

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2080) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0080):	26.18	0.788	5.75	31.44
+ ID2= 2 (5080):	188.07	3.527	7.00	29.46
ID = 3 (2080):	214.25	4.025	6.75	29.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1087) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2080):	214.25	4.025	6.75	29.70
+ ID2= 2 (2086):	345.69	5.882	7.25	28.96
ID = 3 (1087):	559.94	9.850	7.00	29.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5087) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5087.0) ------>

Distance	Elevation	Manning	
0.00	258.88	0.0930	
8.99	258.76	0.0930	
19.29	256.36	0.0930	
40.77	256.43	0.0930	
45.90	256.36	0.0930	
56.95	256.44	0.0930	
62.65	256.35	0.0930	
72.79	255.95	0.0930 /0.0410	Main Channel
73.78	255.91	0.0410	Main Channel
74.08	256.02	0.0410 /0.0930	Main Channel
84.33	259.59	0.0930	
121.64	260.15	0.0930	
126.24	260.09	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.04	255.95	.134E+02	0.0	0.13	77.23	
0.26	256.17	.580E+03	0.3	0.33	30.32	
0.48	256.39	.217E+04	1.1	0.31	32.40	
0.70	256.61	.951E+04	6.0	0.38	26.63	
0.92	256.83	.174E+05	15.0	0.53	19.29	
1.15	257.06	.254E+05	27.3	0.65	15.51	
1.37	257.28	.337E+05	42.6	0.77	13.18	
1.59	257.50	.422E+05	60.7	0.88	11.60	
1.81	257.72	.509E+05	81.4	0.97	10.43	
2.03	257.94	.599E+05	104.6	1.06	9.54	
2.25	258.16	.690E+05	130.3	1.15	8.82	
2.47	258.38	.783E+05	158.5	1.23	8.24	
2.69	258.60	.879E+05	189.0	1.31	7.75	
2.91	258.82	.978E+05	213.5	1.33	7.63	
3.13	259.04	.109E+06	244.8	1.37	7.41	
3.36	259.27	.120E+06	286.5	1.45	6.98	
3.58	259.49	.131E+06	330.9	1.54	6.61	
3.80	259.71	.143E+06	372.2	1.59	6.40	
4.02	259.93	.156E+06	418.6	1.63	6.22	

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1087)	559.94	9.85	7.00	29.24	0.80	0.43
OUTFLOW: ID= 1 (5087)	559.94	9.63	7.25	29.24	0.79	0.43

CALIB | NASHYD (0087) | ID= 1 DT=15.0 min | Area (ha)= 11.14 Curve Number (CN)= 69.0
Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.56

Unit Hyd Qpeak (cms)= 0.761

PEAK FLOW (cms)= 0.344 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 27.052
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.335

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2087) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0087):	11.14	0.344	5.50	27.05
+ ID2= 2 (5087):	559.94	9.634	7.25	29.24
ID = 3 (2087):	571.08	9.757	7.25	29.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (2087):	571.08	9.757	7.25	29.20
+ ID2= 2 (2105):	1525.26	20.406	8.50	29.52
ID = 3 (1084):	2096.34	29.143	8.00	29.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5084) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5084.0) ------>

Distance	Elevation	Manning	
0.00	259.35	0.0930	
3.22	259.33	0.0930	
19.62	255.67	0.0930	
53.75	255.23	0.0930	
140.86	255.25	0.0930	
146.73	253.99	0.0930 /0.0410	Main Channel
148.19	253.66	0.0410	Main Channel
148.47	253.71	0.0410	Main Channel
151.58	254.18	0.0410 /0.0930	Main Channel
159.61	255.34	0.0930	
161.63	255.50	0.0930	
175.11	259.05	0.0930	
185.75	258.95	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	253.83	.358E+02	0.0	0.30	13.95
0.33	253.99	.147E+03	0.3	0.48	8.74
0.62	254.28	.530E+03	1.6	0.78	5.37
0.91	254.57	.116E+04	4.5	0.96	4.33
1.21	254.87	.203E+04	8.7	1.07	3.90
1.50	255.16	.315E+04	14.5	1.15	3.63
1.79	255.45	.953E+04	25.6	0.67	6.20
2.08	255.74	.194E+05	52.8	0.68	6.14
2.37	256.03	.300E+05	93.7	0.78	5.33
2.66	256.32	.407E+05	145.5	0.89	4.67
2.96	256.62	.516E+05	207.0	1.00	4.16
3.25	256.91	.627E+05	277.8	1.11	3.76
3.54	257.20	.740E+05	357.4	1.21	3.45
3.83	257.49	.854E+05	445.5	1.31	3.19
4.12	257.78	.970E+05	541.8	1.40	2.98
4.41	258.07	.109E+06	646.1	1.49	2.81
4.71	258.37	.121E+06	758.3	1.57	2.65
5.00	258.66	.133E+06	878.1	1.65	2.52
5.29	258.95	.145E+06	1005.6	1.73	2.41

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1084)	2096.34	29.14	8.00	29.43	1.83	0.67
OUTFLOW: ID= 1 (5084)	2096.34	29.10	8.25	29.43	1.83	0.67

CALIB | NASHYD (0084) | ID= 1 DT=15.0 min | Area (ha)= 19.87 Curve Number (CN)= 73.0
Ia (mm)= 8.40 # of Linear Res.(N)= 3.00

```
--------------------   U.H. Tp(hrs)=   0.53

     Unit Hyd Qpeak  (cms)=   1.435

     PEAK FLOW       (cms)=   0.735 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  31.427
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.389

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------------

--------------------
| ADD HYD   (2084) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0084):    19.87   0.735     5.50    31.43
       + ID2= 2 (5084):  2096.34  29.101     8.25    29.43
         ================================================
         ID = 3 (2084):  2116.21  29.237     8.25    29.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0083) |   Area    (ha)=  50.78   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.05

     Unit Hyd Qpeak  (cms)=   1.852

     PEAK FLOW       (cms)=   1.097 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  27.176
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.336

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------------

--------------------
| ADD HYD   (1076) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0083):    50.78   1.097     6.25    27.18
       + ID2= 2 (2084):  2116.21  29.237     8.25    29.45
         ================================================
         ID = 3 (1076):  2166.99  29.757     8.00    29.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5076) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5076.0) ------>
              Distance      Elevation       Manning
                  0.00        260.17        0.0930
```



```
                 14.24        259.77        0.0930
                 43.01        255.21        0.0930
                 58.26        254.66    0.0930 /0.0410  Main Channel
                 63.42        253.10        0.0410      Main Channel
                 66.04        253.09        0.0410      Main Channel
                 70.21        254.56    0.0410 /0.0930  Main Channel
                123.72        254.97        0.0930
                148.22        259.84        0.0930
                150.20        260.01        0.0930

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.29   253.38    .521E+03       0.3          0.33      26.27
      0.59   253.68    .132E+04       1.2          0.48      17.88
      0.88   253.97    .240E+04       2.8          0.60      14.31
      1.18   254.27    .374E+04       5.1          0.70      12.19
      1.47   254.56    .536E+04       8.3          0.80      10.75
      1.86   254.95    .134E+05      16.5          0.63      13.59
      2.25   255.34    .293E+05      33.0          0.58      14.78
      2.64   255.73    .464E+05      57.0          0.63      13.58
      3.03   256.12    .644E+05      87.3          0.70      12.31
      3.42   256.51    .833E+05     123.5          0.76      11.24
      3.81   256.90    .103E+06     165.6          0.83      10.38
      4.19   257.28    .124E+06     213.3          0.89       9.67
      4.58   257.67    .145E+06     266.7          0.94       9.08
      4.97   258.06    .168E+06     325.6          1.00       8.59
      5.36   258.45    .191E+06     390.2          1.05       8.16
      5.75   258.84    .215E+06     460.3          1.10       7.79
      6.14   259.23    .240E+06     536.1          1.15       7.47
      6.53   259.62    .266E+06     617.6          1.19       7.19
      6.92   260.01    .294E+06     691.2          1.21       7.08

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1076) 2166.99    29.76    8.00  29.40      2.17      0.59
     OUTFLOW: ID= 1 (5076) 2166.99    29.32    8.50  29.40      2.16      0.59


------------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0076) |   Area    (ha)=  22.96   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

     Unit Hyd Qpeak  (cms)=   2.011

     PEAK FLOW       (cms)=   0.781 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  26.575
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.329

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2076) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
```



```
         ID1= 1 (0076):    22.96   0.781     5.25    26.58
       + ID2= 2 (5076):  2166.99  29.323     8.50    29.40
         ================================================
         ID = 3 (2076):  2189.95  29.434     8.50    29.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0071) |   Area    (ha)=  79.26   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.35

     Unit Hyd Qpeak  (cms)=   2.247

     PEAK FLOW       (cms)=   1.636 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  29.835
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.369

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1063) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0071):    79.26   1.636     6.50    29.84
       + ID2= 2 (2076):  2189.95  29.434     8.50    29.37
         ================================================
         ID = 3 (1063):  2269.21  30.392     8.50    29.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5063) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5063.0) ------>
              Distance      Elevation       Manning
                  0.00        260.53        0.0930
                  7.93        260.16        0.0930
                 25.92        255.95        0.0930
                 48.02        251.95        0.0930
                 74.10        251.57    0.0930 /0.0410  Main Channel
                 75.60        250.50        0.0410      Main Channel
                 79.20        250.50        0.0410      Main Channel
                 81.24        251.63    0.0410 /0.0930  Main Channel
                112.21        252.04        0.0930
                134.13        254.75        0.0930
                150.69        255.82        0.0930
                162.81        257.37        0.0930

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.36   250.86    .284E+04       0.6          0.38      84.04
      0.71   251.21    .647E+04       1.9          0.56      57.07
      1.07   251.57    .109E+05       3.9          0.69      45.95
```



```
      1.43   251.93    .310E+05       8.2          0.50      63.18
      1.80   252.30    .758E+05      18.0          0.45      70.25
      2.16   252.66    .125E+06      32.8          0.50      63.38
      2.52   253.02    .177E+06      52.0          0.56      56.78
      2.88   253.38    .233E+06      75.3          0.62      51.53
      3.24   253.74    .292E+06     102.7          0.67      47.38
      3.61   254.11    .355E+06     134.2          0.72      44.04
      3.97   254.47    .421E+06     169.8          0.77      41.30
      4.33   254.83    .490E+06     208.9          0.81      39.11
      4.69   255.19    .565E+06     250.5          0.85      37.56
      5.06   255.56    .644E+06     296.8          0.88      36.16
      5.42   255.92    .729E+06     349.0          0.92      34.80
      5.78   256.28    .817E+06     409.2          0.96      33.29
      6.14   256.64    .909E+06     474.1          1.00      31.94
      6.51   257.01    .100E+07     543.9          1.04      30.74
      6.87   257.37    .110E+07     618.4          1.07      29.67

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1063) 2269.21    30.39    8.50  29.38      2.10      0.49
     OUTFLOW: ID= 1 (5063) 2269.21    27.06    9.25  29.38      2.01      0.48


------------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0063) |   Area    (ha)= 109.84   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.82

     Unit Hyd Qpeak  (cms)=   5.123

     PEAK FLOW       (cms)=   3.283 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  32.077
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.397

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2063) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0063):   109.84   3.283     5.75    32.08
       + ID2= 2 (5063):  2269.21  27.058     9.25    29.38
         ================================================
         ID = 3 (2063):  2379.05  27.624     9.25    29.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0035) |   Area    (ha)=  49.86   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.90

     Unit Hyd Qpeak  (cms)=   2.121
```

PEAK FLOW (cms)= 1.285 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 29.561
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.366

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0018)	Area (ha)= 165.67 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 8.30 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.18

Unit Hyd Qpeak (cms)= 5.349

PEAK FLOW (cms)= 3.580 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 28.992
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.359

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1055)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0018):	165.67	3.580	6.25	28.99
	+ ID2= 2 (0035):	49.86	1.285	6.00	29.56
	ID = 3 (1055):	215.53	4.817	6.25	29.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5055)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5055.0) ------>

Distance	Elevation	Manning	
0.00	280.19	0.0930	
87.50	278.82	0.0930	
98.89	278.56	0.0930	
123.84	277.27	0.0930	
130.09	276.61	0.0930 /0.0410	Main Channel
131.71	276.44	0.0410	Main Channel
141.16	276.65	0.0410 /0.0930	Main Channel
152.62	277.02	0.0930	
168.18	278.51	0.0930	
229.80	279.24	0.0930	
279.45	279.08	0.0930	
352.04	279.93	0.0930	
414.67	279.67	0.0930	
506.68	280.29	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	276.61	.333E+04	0.3	0.36	194.87
0.36	276.80	.142E+05	2.2	0.66	106.21
0.55	276.99	.311E+05	6.0	0.82	86.49
0.74	277.18	.531E+05	11.7	0.93	75.45
0.92	277.36	.783E+05	19.2	1.04	67.84
1.11	277.55	.108E+06	28.6	1.12	62.81
1.30	277.74	.142E+06	40.0	1.19	59.08
1.49	277.93	.180E+06	53.5	1.26	56.15
1.68	278.12	.223E+06	69.2	1.31	53.73
1.87	278.31	.270E+06	87.2	1.36	51.68
2.05	278.49	.322E+06	107.7	1.41	49.89
2.24	278.68	.384E+06	123.7	1.36	51.76
2.43	278.87	.465E+06	145.3	1.32	53.33
2.62	279.06	.567E+06	172.7	1.29	54.76
2.81	279.25	.716E+06	195.8	1.16	60.92
3.00	279.44	.913E+06	246.9	1.14	61.62
3.18	279.62	.113E+07	307.9	1.15	61.33
3.37	279.81	.139E+07	362.7	1.10	63.96
3.56	280.00	.173E+07	441.2	1.08	65.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1055)	215.53	4.82	6.25	29.12	0.49	0.76
OUTFLOW: ID= 1 (5055)	215.53	3.32	7.50	29.12	0.41	0.70

CALIB	
NASHYD (0055)	Area (ha)= 149.76 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.53

Unit Hyd Qpeak (cms)= 3.748

PEAK FLOW (cms)= 2.733 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 28.600
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.354

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2055)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0055):	149.76	2.733	6.75	28.60
	+ ID2= 2 (5055):	215.53	3.324	7.50	29.12
	ID = 3 (2055):	365.29	5.953	7.25	28.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0054)	Area (ha)= 59.63 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.14

Unit Hyd Qpeak (cms)= 1.994

PEAK FLOW (cms)= 1.408 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 30.841
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.382

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1053)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0054):	59.63	1.408	6.25	30.84
	+ ID2= 2 (2055):	365.29	5.953	7.25	28.91
	ID = 3 (1053):	424.92	7.168	7.00	29.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5053)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5053.0) ------>

Distance	Elevation	Manning	
0.00	259.86	0.0930	
30.23	255.77	0.0930 /0.0410	Main Channel
32.12	255.61	0.0410	Main Channel
33.86	255.81	0.0410 /0.0930	Main Channel
75.21	261.86	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	255.77	.644E+02	0.1	0.19	21.35
0.38	255.99	.322E+03	0.5	0.37	10.94
0.59	256.20	.742E+03	1.4	0.45	9.00
0.81	256.42	.132E+04	2.7	0.51	8.07
1.02	256.63	.207E+04	4.6	0.55	7.47
1.24	256.85	.297E+04	7.1	0.58	7.01
1.45	257.06	.404E+04	10.1	0.62	6.64
1.67	257.28	.527E+04	13.9	0.65	6.33
1.88	257.49	.666E+04	18.3	0.67	6.06
2.10	257.71	.821E+04	23.5	0.70	5.82
2.31	257.92	.992E+04	29.5	0.73	5.61
2.53	258.14	.118E+05	36.3	0.76	5.41
2.74	258.35	.138E+05	44.1	0.78	5.23
2.96	258.57	.160E+05	52.7	0.81	5.07
3.17	258.78	.184E+05	62.3	0.83	4.92
3.39	259.00	.209E+05	72.9	0.86	4.78
3.60	259.21	.236E+05	84.6	0.88	4.65
3.82	259.43	.264E+05	97.3	0.90	4.53
4.03	259.64	.295E+05	111.1	0.93	4.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1053)	424.92	7.17	7.00	29.18	1.24	0.58
OUTFLOW: ID= 1 (5053)	424.92	7.12	7.00	29.18	1.24	0.58

CALIB	
NASHYD (0053)	Area (ha)= 5.96 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.35

Unit Hyd Qpeak (cms)= 0.652

PEAK FLOW (cms)= 0.254 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 29.195
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.361

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2053)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0053):	5.96	0.254	5.25	29.19
	+ ID2= 2 (5053):	424.92	7.124	7.00	29.18
	ID = 3 (2053):	430.88	7.187	7.00	29.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0020)	Area (ha)= 80.57 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.12

Unit Hyd Qpeak (cms)= 2.738

PEAK FLOW (cms)= 1.770 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 28.597
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.354

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0011)	Area (ha)= 91.04 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.42

Unit Hyd Qpeak (cms)= 2.445

PEAK FLOW (cms)= 1.870 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 30.708

TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.380

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1021)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0011):	91.04	1.870	6.75	30.71
	+ ID2= 2 (0020):	80.57	1.770	6.25	28.60
	ID = 3 (1021):	171.61	3.608	6.50	29.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5021)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5021.0) ------>

Distance	Elevation	Manning	
0.00	276.23	0.0930	
23.73	276.03	0.0930	
36.85	275.23	0.0930	
61.59	270.42	0.0930	
76.89	269.69	0.0930	
79.38	269.35	0.0930 /0.0410	Main Channel
82.08	268.91	0.0410	Main Channel
83.34	269.30	0.0410 /0.0930	Main Channel
84.93	269.79	0.0930	
98.02	269.97	0.0930	
107.38	271.99	0.0930	
117.80	275.64	0.0930	
136.41	276.14	0.0930	
138.19	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	269.11	.350E+03	0.1	0.48	67.98
0.39	269.30	.140E+04	0.5	0.77	42.82
0.80	269.71	.602E+04	3.9	1.29	25.50
1.21	270.12	.223E+05	12.1	1.07	30.66
1.61	270.52	.510E+05	30.1	1.16	28.18
2.02	270.93	.842E+05	58.1	1.36	24.18
2.43	271.34	.121E+06	94.6	1.54	21.28
2.84	271.75	.160E+06	139.5	1.71	19.16
3.24	272.15	.203E+06	193.4	1.87	17.51
3.65	272.56	.249E+06	256.5	2.03	16.17
4.06	272.97	.297E+06	328.1	2.17	15.08
4.47	273.38	.348E+06	408.4	2.31	14.19
4.87	273.78	.401E+06	497.5	2.44	13.44
5.28	274.19	.457E+06	595.6	2.56	12.79
5.69	274.60	.516E+06	702.7	2.68	12.23
6.10	275.01	.577E+06	819.1	2.79	11.74
6.50	275.41	.641E+06	934.0	2.87	11.44
6.91	275.82	.712E+06	1009.8	2.79	11.76
7.32	276.23	.803E+06	1016.7	2.49	13.16

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1021)		171.61	3.61	6.50	29.72	0.76	1.21
OUTFLOW: ID= 1 (5021)		171.61	3.52	6.75	29.72	0.75	1.18

CALIB	
NASHYD (0021)	Area (ha)= 68.90 Curve Number (CN)= 78.0
ID= 1 DT=15.0 min	Ia (mm)= 7.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.75

Unit Hyd Qpeak (cms)= 3.490

PEAK FLOW (cms)= 2.530 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 37.282
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.461

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2021)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0021):	68.90	2.530	5.75	37.28
	+ ID2= 2 (5021):	171.61	3.520	6.75	29.72
	ID = 3 (2021):	240.51	5.286	6.50	31.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0042)	Area (ha)= 109.13 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.32

Unit Hyd Qpeak (cms)= 3.160

PEAK FLOW (cms)= 2.366 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 30.843
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.382

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1052)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0042):	109.13	2.366	6.50	30.84
	+ ID2= 2 (2021):	240.51	5.286	6.50	31.88

ID = 3 (1052):	349.64	7.652	6.50	31.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5052)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5052.0) ------>

Distance	Elevation	Manning	
0.00	266.73	0.0930	
17.65	266.70	0.0930	
30.84	260.87	0.0930 /0.0410	Main Channel
33.16	260.30	0.0410	Main Channel
33.54	260.21	0.0410	Main Channel
34.62	260.23	0.0410	Main Channel
40.02	260.43	0.0410 /0.0930	Main Channel
79.73	260.97	0.0930	
92.56	266.14	0.0930	
101.74	266.11	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	260.43	.103E+04	0.4	0.49	40.73
0.52	260.73	.781E+04	4.3	0.66	30.29
0.82	261.03	.227E+05	14.6	0.77	25.83
1.12	261.33	.405E+05	33.4	0.98	20.21
1.42	261.63	.589E+05	58.5	1.18	16.79
1.71	261.92	.778E+05	89.1	1.37	14.55
2.01	262.22	.972E+05	125.0	1.53	12.95
2.31	262.52	.117E+06	166.0	1.69	11.76
2.61	262.82	.137E+06	211.7	1.84	10.82
2.91	263.12	.158E+06	262.2	1.97	10.07
3.21	263.42	.180E+06	317.2	2.11	9.44
3.51	263.72	.202E+06	376.8	2.23	8.92
3.81	264.02	.224E+06	440.8	2.35	8.47
4.11	264.32	.247E+06	509.2	2.46	8.08
4.41	264.62	.270E+06	582.0	2.57	7.74
4.70	264.91	.294E+06	659.2	2.67	7.44
5.00	265.21	.319E+06	740.6	2.77	7.17
5.30	265.51	.344E+06	826.4	2.87	6.93
5.60	265.81	.369E+06	916.5	2.96	6.71

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1052)		349.64	7.65	6.50	31.56	0.62	0.69
OUTFLOW: ID= 1 (5052)		349.64	7.19	7.00	31.56	0.60	0.68

CALIB	
NASHYD (0052)	Area (ha)= 37.91 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.84

Unit Hyd Qpeak (cms)= 1.718

PEAK FLOW (cms)= 1.070 (i)
TIME TO PEAK (hrs)= 5.750

RUNOFF VOLUME (mm)= 30.966
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.383

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2052)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0052):	37.91	1.070	5.75	30.97
	+ ID2= 2 (5052):	349.64	7.185	7.00	31.56
	ID = 3 (2052):	387.55	7.938	6.75	31.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1050)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2052):	387.55	7.938	6.75	31.50
	+ ID2= 2 (2053):	430.88	7.187	7.00	29.18
	ID = 3 (1050):	818.43	15.075	7.00	30.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5050)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5050.0) ------>

Distance	Elevation	Manning	
0.00	259.67	0.0930	
13.92	256.13	0.0930	
17.59	256.29	0.0930	
21.12	255.95	0.0930	
30.78	255.82	0.0930	
33.55	255.60	0.0930	
35.41	255.31	0.0930	
42.56	254.71	0.0930 /0.0410	Main Channel
44.43	254.55	0.0410	Main Channel
44.75	254.59	0.0410	Main Channel
49.70	255.17	0.0410 /0.0930	Main Channel
61.41	256.32	0.0930	
62.19	256.25	0.0930	
64.00	256.45	0.0930	
73.57	258.88	0.0930	
75.52	259.01	0.0930	
83.84	260.70	0.0930	
88.87	260.76	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	254.71	.591E+02	0.1	0.31	12.48
0.42	254.97	.414E+03	1.0	0.56	6.87

0.68	255.23	.109E+04	3.4	0.72	5.32
0.94	255.49	.209E+04	8.0	0.89	4.32
1.20	255.75	.336E+04	14.5	1.00	3.86
1.47	256.02	.523E+04	22.5	0.99	3.87
1.73	256.28	.775E+04	34.4	1.02	3.76
1.99	256.54	.108E+05	51.1	1.09	3.52
2.25	256.80	.140E+05	71.5	1.18	3.26
2.51	257.06	.173E+05	95.2	1.27	3.03
2.77	257.32	.208E+05	122.0	1.36	2.84
3.03	257.58	.243E+05	151.8	1.44	2.67
3.29	257.84	.280E+05	184.5	1.52	2.53
3.55	258.10	.318E+05	220.3	1.60	2.41
3.81	258.36	.358E+05	259.0	1.67	2.30
4.08	258.63	.398E+05	300.7	1.74	2.21
4.34	258.89	.440E+05	345.1	1.81	2.13
4.60	259.15	.484E+05	390.3	1.86	2.07
4.86	259.41	.530E+05	441.0	1.92	2.00

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1050)	818.43	15.08	7.00	30.28	1.22	1.00
OUTFLOW: ID= 1 (5050)	818.43	15.08	7.00	30.28	1.22	1.00

CALIB	
NASHYD (0050)	Area (ha)= 7.41 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.80 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.46

Unit Hyd Qpeak (cms)= 0.615

PEAK FLOW (cms)= 0.274 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 29.547
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.366

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2050)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0050):	7.41	0.274	5.25	29.55
	+ ID2= 2 (5050):	818.43	15.080	7.00	30.28
	ID = 3 (2050):	825.84	15.168	7.00	30.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0007)	Area (ha)= 178.66 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.46

Unit Hyd Qpeak (cms)= 4.684

PEAK FLOW (cms)= 3.357 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 28.600
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.354

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5009)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5009.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
17.97	284.61	0.0930	
25.53	284.49	0.0930	
30.68	284.43	0.0930	
35.54	284.45	0.0930	
41.74	284.38	0.0930 /0.0410	Main Channel
43.34	284.37	0.0410	Main Channel
43.57	284.36	0.0410	Main Channel
43.90	284.36	0.0410	Main Channel
45.20	284.36	0.0410	Main Channel
47.00	284.36	0.0410 /0.0930	Main Channel
57.95	284.80	0.0930	
74.16	285.17	0.0930	
94.21	285.41	0.0930	
108.93	285.51	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	284.41	.601E+02	0.0	0.14	25.46
0.09	284.45	.195E+03	0.2	0.17	21.00
0.14	284.50	.428E+03	0.4	0.19	18.59
0.19	284.55	.706E+03	0.7	0.22	16.30
0.23	284.59	.103E+04	1.2	0.24	14.64
0.28	284.64	.138E+04	1.7	0.27	13.25
0.33	284.69	.177E+04	2.4	0.30	12.12
0.37	284.73	.217E+04	3.2	0.32	11.22
0.42	284.78	.261E+04	4.1	0.34	10.50
0.47	284.83	.307E+04	5.1	0.36	9.94
0.52	284.88	.356E+04	6.3	0.38	9.48
0.56	284.92	.409E+04	7.5	0.39	9.08
0.61	284.97	.465E+04	8.9	0.41	8.73
0.66	285.02	.524E+04	10.4	0.42	8.43
0.70	285.06	.587E+04	12.0	0.44	8.15
0.75	285.11	.653E+04	13.8	0.45	7.90
0.80	285.16	.723E+04	15.7	0.47	7.68
0.84	285.20	.796E+04	17.7	0.48	7.51
0.89	285.25	.875E+04	19.8	0.49	7.37

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0007)	178.66	3.36	6.75	28.60	0.38	0.32
OUTFLOW: ID= 1 (5009)	178.66	3.34	6.75	28.60	0.38	0.32

CALIB	
NASHYD (0009)	Area (ha)= 57.35 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 8.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.98

Unit Hyd Qpeak (cms)= 2.228

PEAK FLOW (cms)= 1.539 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 32.086
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.397

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2009)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0009):	57.35	1.539	6.00	32.09
	+ ID2= 2 (5009):	178.66	3.336	6.75	28.60
	ID = 3 (2009):	236.01	4.672	6.50	29.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5012)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5012.0) ------>

Distance	Elevation	Manning	
0.00	286.59	0.0930	
7.35	286.54	0.0930	
182.68	282.59	0.0930 /0.0410	Main Channel
188.50	282.42	0.0410	Main Channel
196.35	282.37	0.0410	Main Channel
198.54	282.38	0.0410	Main Channel
198.86	282.39	0.0410	Main Channel
204.09	282.60	0.0410 /0.0930	Main Channel
220.42	283.20	0.0930	
227.76	283.19	0.0930	
249.45	283.60	0.0930	
276.70	284.52	0.0930	
280.20	284.62	0.0930	
338.90	285.99	0.0930	
430.49	286.70	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	282.59	.133E+05	1.7	0.54	133.55
0.43	282.80	.395E+05	7.7	0.85	85.15
0.64	283.01	.795E+05	18.1	0.99	73.15
0.85	283.22	.134E+06	32.8	1.06	68.25
1.06	283.43	.212E+06	53.6	1.10	65.80
1.27	283.64	.308E+06	81.1	1.14	63.31
1.48	283.85	.420E+06	116.0	1.20	60.37
1.69	284.06	.546E+06	158.0	1.26	57.61

1.90	284.27	.687E+06	207.6	1.31	55.13
2.11	284.48	.841E+06	265.1	1.37	52.91
2.33	284.70	.101E+07	329.9	1.42	51.07
2.54	284.91	.120E+07	402.8	1.46	49.51
2.75	285.12	.140E+07	485.2	1.51	48.06
2.96	285.33	.162E+07	577.5	1.55	46.71
3.17	285.54	.185E+07	680.1	1.59	45.45
3.38	285.75	.211E+07	793.5	1.63	44.27
3.59	285.96	.238E+07	918.1	1.68	43.16
3.80	286.17	.267E+07	1036.2	1.68	42.94
4.01	286.38	.300E+07	1169.3	1.69	42.70

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2009)	236.01	4.67	6.50	29.45	0.32	0.66
OUTFLOW: ID= 1 (5012)	236.01	3.11	8.00	29.44	0.27	0.59

CALIB	
NASHYD (0012)	Area (ha)= 183.34 Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)= 8.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.22

Unit Hyd Qpeak (cms)= 5.735

PEAK FLOW (cms)= 4.495 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 33.241
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.411

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2012)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0012):	183.34	4.495	6.25	33.24
	+ ID2= 2 (5012):	236.01	3.108	8.00	29.44
	ID = 3 (2012):	419.35	6.660	7.00	31.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0032)	Area (ha)= 49.09 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.97

Unit Hyd Qpeak (cms)= 1.937

PEAK FLOW (cms)= 1.273 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 30.837
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.382

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1040)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0032):		49.09	1.273	6.00	30.84
+ ID2= 2 (2012):		419.35	6.660	7.00	31.10
ID = 3 (1040):		468.44	7.704	6.75	31.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5040)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5040.0) ------>

Distance	Elevation	Manning	
0.00	263.73	0.0930	
3.80	263.50	0.0930	
15.09	260.45	0.0930	
19.73	260.13	0.0930	
24.77	259.11	0.0930	
29.24	257.72	0.0930	
39.41	256.76	0.0930	
45.12	255.96	0.0930 /0.0410	Main Channel
45.71	255.95	0.0410	Main Channel
46.66	255.94	0.0410	Main Channel
47.79	255.93	0.0410	Main Channel
48.07	255.95	0.0410	Main Channel
49.01	256.02	0.0410	Main Channel
49.66	256.06	0.0410 /0.0930	Main Channel
50.09	256.08	0.0930	
66.82	257.59	0.0930	
68.76	257.78	0.0930	
85.17	263.07	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.03	255.96	.201E+02	0.0	0.13	49.56
0.40	256.33	.103E+04	2.0	0.75	8.68
0.78	256.71	.305E+04	7.5	0.95	6.80
1.15	257.08	.613E+04	16.9	1.07	6.03
1.53	257.46	.104E+05	31.3	1.17	5.53
1.90	257.83	.158E+05	52.0	1.28	5.06
2.28	258.21	.218E+05	80.4	1.43	4.52
2.65	258.58	.281E+05	114.3	1.58	4.10
3.02	258.95	.348E+05	153.7	1.72	3.78
3.40	259.33	.419E+05	197.9	1.84	3.53
3.77	259.70	.493E+05	247.2	1.95	3.33
4.15	260.08	.573E+05	302.2	2.05	3.16
4.52	260.45	.658E+05	356.5	2.11	3.08
4.89	260.82	.750E+05	426.3	2.21	2.93
5.27	261.20	.846E+05	502.3	2.31	2.81
5.64	261.57	.945E+05	584.5	2.41	2.69
6.02	261.95	.105E+06	673.1	2.50	2.60
6.39	262.32	.116E+06	768.0	2.59	2.51

6.77	262.70	.127E+06	869.4	2.67	2.43

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1040)	468.44	7.70	6.75	31.08	0.79	0.96
OUTFLOW: ID= 1 (5040)	468.44	7.69	6.75	31.08	0.79	0.96

CALIB			
NASHYD (0040)	Area (ha)=	5.95	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	8.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.28	

Unit Hyd Qpeak (cms)= 0.797

PEAK FLOW (cms)= 0.291 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 31.160
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.386

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2040)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0040):		5.95	0.291	5.25	31.16
+ ID2= 2 (5040):		468.44	7.688	6.75	31.08
ID = 3 (2040):		474.39	7.755	6.75	31.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1043)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2040):		474.39	7.755	6.75	31.08
+ ID2= 2 (2050):		825.84	15.168	7.00	30.27
ID = 3 (1043):		1300.23	22.895	7.00	30.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5043)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5043.0) ------>

Distance	Elevation	Manning	
0.00	258.27	0.0930	
9.62	255.23	0.0930	
22.15	254.22	0.0930	
41.61	253.70	0.0930 /0.0410	Main Channel

42.11	253.67	0.0410	Main Channel
44.98	252.56	0.0410	Main Channel
45.13	252.60	0.0410	Main Channel
47.49	253.41	0.0410 /0.0930	Main Channel
50.17	253.96	0.0930	
52.43	253.89	0.0930	
55.10	253.86	0.0930	
58.88	253.98	0.0930	
61.24	253.95	0.0930	
105.33	254.48	0.0930	
118.27	258.71	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	252.84	.132E+03	0.1	0.25	38.42
0.57	253.13	.519E+03	0.4	0.39	24.35
0.85	253.41	.116E+04	1.0	0.51	18.63
1.15	253.71	.219E+04	2.4	0.62	15.46
1.46	254.02	.541E+04	5.0	0.53	17.97
1.76	254.32	.150E+05	10.9	0.42	23.00
2.06	254.62	.295E+05	22.1	0.43	22.31
2.37	254.93	.454E+05	38.6	0.49	19.62
2.67	255.23	.622E+05	59.5	0.55	17.40
2.98	255.54	.795E+05	85.3	0.62	15.52
3.28	255.84	.971E+05	115.1	0.68	14.06
3.58	256.14	.115E+06	148.5	0.74	12.91
3.89	256.45	.133E+06	185.5	0.80	11.98
4.19	256.75	.152E+06	226.0	0.86	11.20
4.49	257.05	.171E+06	269.9	0.91	10.55
4.80	257.36	.190E+06	317.2	0.96	9.99
5.10	257.66	.210E+06	367.7	1.01	9.51
5.41	257.97	.230E+06	421.4	1.06	9.09
5.71	258.27	.250E+06	478.3	1.10	8.71

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1043)	1300.23	22.90	7.00	30.56	2.08	0.43
OUTFLOW: ID= 1 (5043)	1300.23	21.95	7.25	30.56	2.06	0.43

CALIB			
NASHYD (0043)	Area (ha)=	12.70	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.41	

Unit Hyd Qpeak (cms)= 1.195

PEAK FLOW (cms)= 0.529 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 30.717
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.380

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2043)

1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0043):		12.70	0.529	5.25	30.72
+ ID2= 2 (5043):		1300.23	21.945	7.25	30.56
ID = 3 (2043):		1312.93	22.080	7.25	30.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0014)	Area (ha)=	82.92	Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)=	8.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.27	

Unit Hyd Qpeak (cms)= 2.502

PEAK FLOW (cms)= 1.992 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 33.242
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.411

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5013)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5013.0) ------>

Distance	Elevation	Manning	
0.00	275.77	0.0930	
14.35	275.60	0.0930	
43.06	272.29	0.0930	
99.28	270.53	0.0930	
104.12	270.24	0.0930	
107.91	270.08	0.0930	
113.53	269.94	0.0930 /0.0410	Main Channel
117.24	269.85	0.0410	Main Channel
117.42	269.85	0.0410	Main Channel
122.48	269.97	0.0410 /0.0930	Main Channel
149.76	270.95	0.0930	
171.23	275.18	0.0930	
223.54	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.00	269.94	.752E+03	0.1	0.29	124.05
0.40	270.25	.123E+05	4.2	0.71	49.57
0.70	270.55	.339E+05	14.4	0.90	39.14
1.01	270.86	.661E+05	31.5	1.01	34.91
1.32	271.17	.109E+06	58.4	1.14	31.11
1.62	271.47	.160E+06	95.2	1.27	27.97
1.93	271.78	.218E+06	141.7	1.38	25.60
2.24	272.09	.283E+06	198.6	1.49	23.75
2.54	272.39	.356E+06	268.4	1.60	22.08
2.85	272.70	.432E+06	352.8	1.74	20.41
3.16	273.01	.511E+06	447.7	1.86	19.02
3.47	273.32	.593E+06	553.0	1.98	17.87
3.77	273.62	.677E+06	668.6	2.10	16.89

4.08	273.93	.765E+06	794.4	2.21	16.05
4.39	274.24	.855E+06	930.4	2.31	15.31
4.69	274.54	.948E+06	1076.7	2.41	14.67
5.00	274.85	.104E+07	1233.2	2.51	14.10
5.31	275.16	.114E+07	1400.1	2.61	13.59
5.61	275.46	.125E+07	1528.9	2.61	13.58

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->			<-pipe / channel->	
INFLOW : ID= 2 (0014)	82.92	1.99	6.50	33.24	0.23	0.40
OUTFLOW: ID= 1 (5013)	82.92	1.40	7.75	33.23	0.19	0.35

CALIB			
NASHYD (0013)	Area (ha)= 118.75	Curve Number (CN)= 72.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.20		

Unit Hyd Qpeak (cms)= 3.792

PEAK FLOW	(cms)=	2.618 (i)
TIME TO PEAK	(hrs)=	6.250
RUNOFF VOLUME	(mm)=	29.767
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.368

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2013)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0013):	118.75	2.618	6.25	29.77
+ ID2= 2 (5013):	82.92	1.399	7.75	33.23
ID = 3 (2013):	201.67	3.716	6.75	31.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0002)	Area (ha)= 141.56	Curve Number (CN)= 72.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.27		

Unit Hyd Qpeak (cms)= 4.261

PEAK FLOW	(cms)=	3.009 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	29.636
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.367

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0003)	Area (ha)= 57.29	Curve Number (CN)= 72.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.86		

Unit Hyd Qpeak (cms)= 2.533

PEAK FLOW	(cms)=	1.512 (i)
TIME TO PEAK	(hrs)=	5.750
RUNOFF VOLUME	(mm)=	29.625
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.367

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1006)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0002):	141.56	3.009	6.50	29.64
+ ID2= 2 (0003):	57.29	1.512	5.75	29.63
ID = 3 (1006):	198.85	4.404	6.25	29.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5006)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5006.0) ------>

Distance	Elevation	Manning	
0.00	287.32	0.0930	
23.48	286.69	0.0930	
44.41	286.64	0.0930	
58.95	286.40	0.0930	
73.88	284.37	0.0930 /0.0410	Main Channel
84.88	284.02	0.0410	Main Channel
87.92	283.91	0.0410	Main Channel
95.02	284.40	0.0410 /0.0930	Main Channel
111.06	285.99	0.0930	
138.74	286.46	0.0930	
172.31	287.17	0.0930	
211.16	287.27	0.0930	
236.90	287.59	0.0930	
267.08	287.45	0.0930	
312.04	288.42	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	284.06	.461E+03	0.1	0.24	63.72
0.31	284.22	.190E+04	0.8	0.38	40.19
0.46	284.37	.434E+04	2.4	0.50	30.58
0.64	284.55	.816E+04	6.4	0.73	21.22
0.83	284.74	.125E+05	12.1	0.89	17.25
1.01	284.92	.175E+05	19.4	1.03	15.03
1.20	285.11	.229E+05	28.1	1.13	13.60
1.38	285.29	.290E+05	38.4	1.23	12.58
1.57	285.48	.355E+05	50.1	1.30	11.82

1.75	285.66	.427E+05	63.4	1.37	11.21
1.94	285.85	.503E+05	78.2	1.44	10.73
2.12	286.03	.586E+05	94.1	1.49	10.38
2.30	286.21	.684E+05	110.8	1.50	10.30
2.49	286.40	.804E+05	130.2	1.50	10.29
2.67	286.58	.952E+05	150.2	1.46	10.56
2.86	286.77	.115E+06	173.2	1.39	11.06
3.04	286.95	.139E+06	203.8	1.36	11.36
3.23	287.14	.166E+06	238.3	1.33	11.58
3.41	287.32	.198E+06	269.7	1.26	12.23

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->			<-pipe / channel->	
INFLOW : ID= 2 (1006)	198.85	4.40	6.25	29.63	0.55	0.60
OUTFLOW: ID= 1 (5006)	198.85	4.20	6.50	29.63	0.54	0.58

CALIB			
NASHYD (0006)	Area (ha)= 26.09	Curve Number (CN)= 70.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.30	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.65		

Unit Hyd Qpeak (cms)= 1.533

PEAK FLOW	(cms)=	0.796 (i)
TIME TO PEAK	(hrs)=	5.500
RUNOFF VOLUME	(mm)=	28.955
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.358

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2006)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0006):	26.09	0.796	5.50	28.96
+ ID2= 2 (5006):	198.85	4.200	6.50	29.63
ID = 3 (2006):	224.94	4.728	6.50	29.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0001)	Area (ha)= 255.18	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.71		

Unit Hyd Qpeak (cms)= 5.686

PEAK FLOW	(cms)=	4.661 (i)
TIME TO PEAK	(hrs)=	7.000
RUNOFF VOLUME	(mm)=	30.709
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.380

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1008)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0001):	255.18	4.661	7.00	30.71
+ ID2= 2 (2006):	224.94	4.728	6.50	29.55
ID = 3 (1008):	480.12	9.241	6.75	30.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5008)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5008.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
5.09	285.37	0.0930	
133.83	283.19	0.0930	
146.67	282.58	0.0930	
159.56	277.24	0.0930	
181.65	275.77	0.0930 /0.0410	Main Channel
184.90	275.43	0.0410	Main Channel
185.21	275.45	0.0410	Main Channel
187.80	275.63	0.0410	Main Channel
191.31	275.97	0.0410 /0.0930	Main Channel
209.70	278.15	0.0930	
221.15	281.88	0.0930	
261.53	283.57	0.0930	
304.31	284.15	0.0930	
337.36	284.93	0.0930	
377.51	285.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	275.77	.187E+04	0.8	0.58	40.13
0.85	276.28	.116E+05	8.7	1.05	22.11
1.35	276.78	.296E+05	26.7	1.25	18.51
1.86	277.29	.559E+05	56.0	1.39	16.65
2.36	277.79	.880E+05	99.4	1.57	14.74
2.87	278.30	.124E+06	155.5	1.74	13.27
3.37	278.80	.162E+06	224.4	1.92	12.03
3.88	279.31	.202E+06	304.6	2.09	11.06
4.38	279.81	.244E+06	395.9	2.25	10.28
4.89	280.32	.288E+06	498.0	2.40	9.64
5.39	280.82	.334E+06	611.1	2.54	9.11
5.90	281.33	.382E+06	735.0	2.67	8.66
6.40	281.83	.432E+06	869.8	2.79	8.28
6.91	282.34	.487E+06	982.8	2.80	8.25
7.41	282.84	.552E+06	1089.7	2.74	8.44
7.92	283.35	.633E+06	1183.0	2.59	8.91
8.42	283.85	.742E+06	1270.3	2.37	9.74
8.93	284.36	.897E+06	1446.3	2.24	10.33
9.43	284.86	.109E+07	1711.6	2.18	10.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1008)	480.12	9.24	6.75	30.17	0.86	1.05
OUTFLOW: ID= 1 (5008)	480.12	9.17	7.00	30.17	0.86	1.05

CALIB					
NASHYD (0008)	Area (ha)= 39.23	Curve Number (CN)= 70.0			
ID= 1 DT=15.0 min	Ia (mm)= 10.70	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.70				

Unit Hyd Qpeak (cms)= 2.153

PEAK FLOW (cms)= 1.073 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 27.442
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.340

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2008)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0008):	39.23	1.073	5.75	27.44
+ ID2= 2 (5008):	480.12	9.172	7.00	30.17
ID = 3 (2008):	519.35	9.836	6.75	29.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0010)	Area (ha)= 32.74	Curve Number (CN)= 73.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.20	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.85				

Unit Hyd Qpeak (cms)= 1.473

PEAK FLOW (cms)= 0.919 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 30.966
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.383

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1017)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	32.74	0.919	5.75	30.97
+ ID2= 2 (2008):	519.35	9.836	6.75	29.96
ID = 3 (1017):	552.09	10.531	6.75	30.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5017)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5017.0) ------>

Distance	Elevation	Manning	
0.00	284.04	0.0930	
46.21	283.58	0.0930	
60.07	282.83	0.0930	
78.57	282.39	0.0930	
85.85	282.05	0.0930	
121.94	278.24	0.0930	
123.09	278.18	0.0930	
129.01	277.91	0.0930	
139.25	277.70	0.0930	
148.64	277.62	0.0930	
150.40	277.60	0.0930 /0.0410	Main Channel
153.11	277.50	0.0410	Main Channel
156.99	277.64	0.0410 /0.0930	Main Channel
169.99	278.18	0.0930	
199.99	281.62	0.0930	
209.74	282.18	0.0930	
218.36	282.39	0.0930	
234.68	282.62	0.0930	
330.59	282.90	0.0930	
341.39	283.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	277.60	.885E+03	0.1	0.24	223.44
0.39	277.89	.204E+05	2.8	0.44	123.11
0.67	278.17	.572E+05	10.5	0.59	91.21
0.96	278.46	.103E+06	23.8	0.74	72.31
1.24	278.74	.154E+06	42.1	0.88	61.07
1.53	279.03	.210E+06	65.0	1.00	53.76
1.81	279.31	.270E+06	92.7	1.11	48.56
2.10	279.60	.336E+06	125.3	1.21	44.64
2.39	279.89	.406E+06	162.7	1.30	41.55
2.67	280.17	.480E+06	205.2	1.38	39.03
2.96	280.46	.560E+06	252.8	1.46	36.93
3.24	280.74	.645E+06	305.8	1.53	35.14
3.53	281.03	.734E+06	364.2	1.60	33.59
3.82	281.32	.828E+06	428.2	1.67	32.23
4.10	281.60	.927E+06	497.9	1.73	31.02
4.39	281.89	.103E+07	569.1	1.78	30.21
4.67	282.17	.114E+07	642.6	1.81	29.66
4.96	282.46	.127E+07	698.4	1.78	30.27
5.24	282.74	.143E+07	715.3	1.62	33.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1017)	552.09	10.53	6.75	30.02	0.67	0.59
OUTFLOW: ID= 1 (5017)	552.09	7.48	8.00	30.02	0.56	0.52

CALIB					
NASHYD (0017)	Area (ha)= 148.68	Curve Number (CN)= 69.0			
ID= 1 DT=15.0 min	Ia (mm)= 8.50	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 1.11				

Unit Hyd Qpeak (cms)= 5.125

PEAK FLOW (cms)= 3.226 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 28.049
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.347

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2017)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0017):	148.68	3.226	6.25	28.05
+ ID2= 2 (5017):	552.09	7.477	8.00	30.02
ID = 3 (2017):	700.77	9.412	7.75	29.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1033)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2013):	201.67	3.716	6.75	31.19
+ ID2= 2 (2017):	700.77	9.412	7.75	29.60
ID = 3 (1033):	902.44	12.774	7.50	29.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5033)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5033.0) ------>

Distance	Elevation	Manning	
0.00	262.20	0.0930	
7.96	260.93	0.0930	
28.15	259.22	0.0930	
39.76	257.39	0.0930	
55.06	257.09	0.0930	
63.73	256.73	0.0930	
75.56	256.77	0.0930	
86.35	257.05	0.0930 /0.0410	Main Channel
88.50	256.67	0.0410	Main Channel
89.43	256.54	0.0410	Main Channel
90.89	256.33	0.0410	Main Channel
92.64	256.68	0.0410	Main Channel
94.27	257.00	0.0410 /0.0930	Main Channel
113.17	257.17	0.0930	
126.05	259.64	0.0930	

159.89	261.07	0.0930
170.84	262.03	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	256.55	.142E+03	0.1	0.35	22.74
0.45	256.78	.731E+03	0.7	0.45	17.70
0.67	257.00	.357E+04	3.0	0.40	19.98
0.98	257.31	.121E+05	12.3	0.49	16.35
1.30	257.63	.234E+05	30.9	0.63	12.60
1.61	257.94	.352E+05	57.0	0.77	10.29
1.93	258.26	.476E+05	89.8	0.90	8.85
2.24	258.57	.606E+05	128.7	1.01	7.85
2.56	258.89	.741E+05	173.7	1.12	7.11
2.87	259.20	.882E+05	224.6	1.22	6.54
3.18	259.51	.103E+06	279.2	1.30	6.14
3.50	259.83	.119E+06	335.2	1.35	5.89
3.81	260.14	.136E+06	396.3	1.39	5.71
4.13	260.46	.155E+06	466.0	1.44	5.54
4.44	260.77	.175E+06	544.3	1.48	5.37
4.76	261.09	.198E+06	634.2	1.53	5.19
5.07	261.40	.221E+06	740.3	1.60	4.98
5.39	261.72	.245E+06	854.6	1.66	4.78
5.70	262.03	.270E+06	977.2	1.73	4.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1033)	902.44	12.77	7.50	29.96	0.99	0.49
OUTFLOW: ID= 1 (5033)	902.44	12.67	7.75	29.96	0.99	0.49

CALIB					
NASHYD (0033)	Area (ha)= 14.99	Curve Number (CN)= 72.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.80	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.51				

Unit Hyd Qpeak (cms)= 1.118

PEAK FLOW (cms)= 0.528 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 29.600
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.366

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2033)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0033):	14.99	0.528	5.50	29.60
+ ID2= 2 (5033):	902.44	12.668	7.75	29.96
ID = 3 (2033):	917.43	12.793	7.75	29.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / NASHYD (0034) / ID= 1 DT=15.0 min	Area (ha)= 66.29	Curve Number (CN)= 74.0
	Ia (mm)= 8.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.32	

Unit Hyd Qpeak (cms)= 1.917

PEAK FLOW (cms)= 1.498 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 32.092
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.397

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1037) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0034):	66.29	1.498	6.50	32.09
+ ID2= 2 (2033):	917.43	12.793	7.75	29.95
ID = 3 (1037):	983.72	13.995	7.50	30.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5037) / IN= 2---> OUT= 1 : Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5037.0) ------>

Distance	Elevation	Manning	
0.00	260.96	0.0930	
3.52	260.75	0.0930	
32.87	255.52	0.0930	
40.76	254.86	0.0930 /0.0410	Main Channel
42.91	253.65	0.0410	Main Channel
48.59	254.84	0.0410 /0.0930	Main Channel
80.76	254.83	0.0930	
96.56	255.53	0.0930	
112.29	261.81	0.0930	
119.25	261.97	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.95	.102E+03	0.1	0.40	14.86
0.60	254.25	.410E+03	0.7	0.63	9.36
0.89	254.54	.922E+03	2.2	0.82	7.14
1.19	254.84	.170E+04	4.6	0.97	6.10
1.60	255.25	.848E+04	16.3	0.68	8.67
2.01	255.66	.172E+05	38.2	0.78	7.50
2.41	256.06	.268E+05	70.6	0.93	6.32
2.82	256.47	.368E+05	111.6	1.07	5.50
3.23	256.88	.474E+05	160.7	1.20	4.91
3.64	257.29	.584E+05	217.8	1.32	4.47
4.05	257.70	.699E+05	282.6	1.43	4.12
4.45	258.10	.818E+05	355.1	1.53	3.84

4.86	258.51	.943E+05	435.2	1.63	3.61
5.27	258.92	.107E+06	522.9	1.72	3.42
5.68	259.33	.121E+06	618.3	1.81	3.25
6.09	259.74	.134E+06	721.4	1.90	3.11
6.49	260.14	.149E+06	832.2	1.98	2.98
6.90	260.55	.164E+06	950.8	2.05	2.87
7.31	260.96	.179E+06	1070.9	2.11	2.79

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1037)	983.72	13.99	7.50	30.10	1.52	0.72
OUTFLOW: ID= 1 (5037)	983.72	13.92	7.75	30.10	1.51	0.72

CALIB / NASHYD (0037) / ID= 1 DT=15.0 min	Area (ha)= 10.16	Curve Number (CN)= 75.0
	Ia (mm)= 8.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.36	

Unit Hyd Qpeak (cms)= 1.090

PEAK FLOW (cms)= 0.485 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 32.852
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.406

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2037) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0037):	10.16	0.485	5.25	32.85
+ ID2= 2 (5037):	983.72	13.923	7.75	30.10
ID = 3 (2037):	993.88	13.999	7.75	30.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1049) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2037):	993.88	13.999	7.75	30.12
+ ID2= 2 (2043):	1312.93	22.080	7.25	30.57
ID = 3 (1049):	2306.81	35.902	7.50	30.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5049) / IN= 2---> OUT= 1 : Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5049.0) ------>

Distance	Elevation	Manning	
0.00	263.74	0.0930	
50.53	263.28	0.0930	
63.03	262.47	0.0930	
87.97	255.04	0.0930	
98.77	253.73	0.0930 /0.0410	Main Channel
108.22	253.09	0.0410	Main Channel
111.56	253.07	0.0410	Main Channel
112.80	253.14	0.0410	Main Channel
114.25	253.67	0.0410 /0.0930	Main Channel
116.67	254.81	0.0930	
143.69	255.06	0.0930	
162.94	255.55	0.0930	
197.87	263.69	0.0930	
207.51	264.45	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.37	.221E+04	0.5	0.27	69.99
0.60	253.67	.629E+04	2.2	0.40	47.02
1.19	254.26	.184E+05	11.1	0.68	27.66
1.78	254.85	.348E+05	25.8	0.84	22.46
2.38	255.45	.732E+05	49.7	0.77	24.52
2.97	256.04	.125E+06	87.5	0.79	23.92
3.56	256.63	.181E+06	136.9	0.86	22.04
4.15	257.22	.240E+06	197.0	0.93	20.28
4.75	257.82	.301E+06	267.3	1.01	18.79
5.34	258.41	.366E+06	347.6	1.08	17.55
5.93	259.00	.434E+06	437.8	1.15	16.52
6.52	259.59	.505E+06	537.8	1.21	15.64
7.12	260.19	.579E+06	647.6	1.27	14.89
7.71	260.78	.655E+06	767.3	1.33	14.24
8.30	261.37	.735E+06	896.9	1.38	13.66
8.89	261.96	.818E+06	1036.6	1.44	13.16
9.49	262.56	.904E+06	1183.2	1.48	12.74
10.08	263.15	.997E+06	1325.9	1.51	12.53
10.67	263.74	.111E+07	1426.8	1.46	12.94

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1049)	2306.81	35.90	7.50	30.38	2.03	0.81
OUTFLOW: ID= 1 (5049)	2306.81	34.51	8.00	30.38	2.00	0.82

CALIB / NASHYD (0049) / ID= 1 DT=15.0 min	Area (ha)= 30.46	Curve Number (CN)= 74.0
	Ia (mm)= 9.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.60	

Unit Hyd Qpeak (cms)= 1.949

PEAK FLOW (cms)= 1.088 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 31.894
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.395

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2049) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0049):	30.46	1.088	5.50	31.89
+ ID2= 2 (5049):	2306.81	34.507	8.00	30.38
ID = 3 (2049):	2337.27	34.761	8.00	30.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1039) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2049):	2337.27	34.761	8.00	30.40
+ ID2= 2 (2063):	2379.05	27.624	9.25	29.51
ID = 3 (1039):	4716.32	59.745	8.50	29.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5039) / IN= 2---> OUT= 1 : Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5039.0) ------>

Distance	Elevation	Manning	
0.00	260.00	0.0930	
105.82	257.72	0.0930	
137.40	257.00	0.0930	
163.69	256.37	0.0930	
237.19	256.95	0.0930	
283.24	256.00	0.0930	
335.42	256.00	0.0930	
341.91	256.25	0.0930	
370.46	254.68	0.0930	
405.46	252.00	0.0930	
421.66	251.26	0.0930 /0.0410	Main Channel
425.14	251.00	0.0410	Main Channel
430.43	250.00	0.0410	Main Channel
434.15	250.00	0.0410	Main Channel
436.43	250.89	0.0410 /0.0930	Main Channel
443.70	251.29	0.0930	
472.16	252.35	0.0930	
485.36	252.50	0.0930	
501.02	253.82	0.0930	
541.72	263.04	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	250.44	.417E+04	0.9	0.39	73.75
0.89	250.89	.110E+05	3.6	0.57	50.45
1.43	251.43	.282E+05	10.5	0.64	44.71
1.96	251.96	.672E+05	25.6	0.65	43.77
2.50	252.50	.129E+06	49.3	0.65	43.75

3.03	253.03	.215E+06	87.2	0.70	41.04
3.57	253.57	.313E+06	137.1	0.75	38.00
4.11	254.11	.422E+06	200.2	0.81	35.13
4.64	254.64	.541E+06	276.8	0.88	32.56
5.18	255.18	.669E+06	364.3	0.93	30.60
5.71	255.71	.808E+06	465.2	0.99	28.96
6.25	256.25	.985E+06	546.0	0.95	30.06
6.78	256.78	.124E+07	671.8	0.93	30.86
7.32	257.32	.159E+07	859.8	0.93	30.80
7.86	257.86	.196E+07	1093.1	0.96	29.92
8.39	258.39	.236E+07	1360.3	0.99	28.92
8.93	258.93	.278E+07	1662.5	1.02	27.90
9.46	259.46	.323E+07	2000.4	1.06	26.92
10.00	260.00	.370E+07	2374.8	1.10	25.99

		<---- hydrograph ---->			<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1039)	4716.32	59.74	8.50	29.95	2.65	0.66
OUTFLOW: ID= 1 (5039)	4716.32	56.25	9.25	29.95	2.60	0.66

CALIB	
NASHYD (0039)	Area (ha)= 81.93 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.75

Unit Hyd Qpeak (cms)= 4.145

PEAK FLOW (cms)= 2.259 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 28.580
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.354

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2039)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0039):	81.93	2.259	5.75	28.58
	+ ID2= 2 (5039):	4716.32	56.253	9.25	29.95
	ID = 3 (2039):	4798.25	56.616	9.25	29.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0454)	Area (ha)= 15.15
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.33	6.82
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	317.80	40.00

Mannings n	= 0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	42.54
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	9.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.09

			TOTALS
PEAK FLOW	(cms)=	0.67	0.80	1.470 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	60.35	68.72
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.75	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9119)
Inlet Cap.=2.458
#of Inlets= 1
Total(cms)= 2.5

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	15.15	1.47	5.25	68.72
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	15.15	1.47	5.25	68.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6119)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.7140	0.1930
0.0220	0.0770	1.0810	0.2120
0.0300	0.1400	1.4980	0.2320
0.1630	0.1580	2.4580	0.2560
0.4020	0.1760	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9119)	15.150	1.470	5.25	68.72
OUTFLOW: ID= 1 (6119)	15.150	1.452	5.25	68.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 98.74
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.2306

ADD HYD (4119)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 9119 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ADD HYD (3039)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2039):	4798.25	56.616	9.25	29.92
	+ ID2= 2 (4119):	15.15	1.452	5.25	68.66
	ID = 3 (3039):	4813.40	56.690	9.25	30.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0029)	Area (ha)= 90.39 Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)= 8.80 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.87

Unit Hyd Qpeak (cms)= 3.955

PEAK FLOW (cms)= 2.216 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 27.854
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.345

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1038)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0029):	90.39	2.216	5.75	27.85
	+ ID2= 2 (3039):	4813.40	56.690	9.25	30.05
	ID = 3 (1038):	4903.79	57.176	9.00	30.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5038)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5038.0) ----->

Distance	Elevation	Manning
0.00	264.96	0.0930
17.37	263.50	0.0930
57.10	253.15	0.0930

82.21	251.50	0.0930	
173.97	249.50	0.0930	
230.01	246.00	0.0930	
254.43	246.00	0.0930	
281.97	245.79	0.0930	
286.56	245.45	0.0930	
287.80	245.00	0.0930 /0.0410	Main Channel
288.00	244.50	0.0410	Main Channel
292.35	244.50	0.0410	Main Channel
292.94	245.00	0.0410 /0.0930	Main Channel
315.83	257.40	0.0930	
330.45	261.99	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.00	.228E+04	1.3	0.53	30.29
1.39	245.89	.101E+05	8.0	0.77	20.93
2.29	246.79	.679E+05	38.7	0.55	29.25
3.18	247.68	.143E+06	101.6	0.69	23.38
4.08	248.58	.231E+06	194.8	0.81	19.76
4.97	249.47	.333E+06	319.4	0.92	17.38
5.87	250.37	.460E+06	449.5	0.94	17.04
6.76	251.26	.623E+06	634.5	0.98	16.36
7.65	252.15	.817E+06	913.9	1.08	14.89
8.55	253.05	.102E+07	1260.8	1.18	13.54
9.44	253.94	.124E+07	1690.1	1.31	12.24
10.34	254.84	.146E+07	2176.8	1.43	11.20
11.23	255.73	.169E+07	2715.7	1.55	10.37
12.12	256.62	.192E+07	3305.4	1.66	9.68
13.02	257.52	.215E+07	3944.1	1.76	9.11
13.91	258.41	.239E+07	4628.0	1.86	8.62
14.81	259.31	.264E+07	5361.6	1.95	8.21
15.70	260.20	.289E+07	6144.6	2.04	7.84
16.60	261.10	.315E+07	6976.6	2.13	7.52

		<---- hydrograph ---->			<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1038)	4903.79	57.18	9.00	30.01	2.55	0.58
OUTFLOW: ID= 1 (5038)	4903.79	55.97	9.50	30.01	2.53	0.58

CALIB	
NASHYD (0038)	Area (ha)= 18.88 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.42

Unit Hyd Qpeak (cms)= 1.701

PEAK FLOW (cms)= 0.768 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 30.757
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.381

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (2038) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0038):    18.88   0.768     5.25    30.76
       + ID2= 2 (5038):  4903.79  55.966     9.50    30.01
         ================================================
         ID = 3 (2038):  4922.67  56.017     9.50    30.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0023)  |   Area    (ha)= 185.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   8.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.25

    Unit Hyd Qpeak  (cms)=   5.685

    PEAK FLOW       (cms)=   4.496 (i)
    TIME TO PEAK    (hrs)=   6.500
    RUNOFF VOLUME    (mm)=  33.242
    TOTAL RAINFALL   (mm)=  80.820
    RUNOFF COEFFICIENT   =   0.411

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1051) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0023):   185.77   4.496     6.50    33.24
       + ID2= 2 (2038):  4922.67  56.017     9.50    30.01
         ================================================
         ID = 3 (1051):  5108.44  57.392     9.50    30.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0449)  |   Area    (ha)=  59.38
|ID= 1 DT=15.0 min  |   Total Imp(%)=  46.00   Dir. Conn.(%)=  36.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      27.31        32.07
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         2.90
    Length            (m)=     629.18        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      37.17        37.21
              over (min)        15.00        15.00
    Storage Coeff.  (min)=       2.40 (ii)   15.00 (ii)
    Unit Hyd. Tpeak (min)=      15.00        15.00
    Unit Hyd. peak  (cms)=       0.11         0.07
                                                      *TOTALS*
    PEAK FLOW       (cms)=       2.21         3.17        5.374 (iii)
    TIME TO PEAK    (hrs)=       5.00         5.25         5.25
    RUNOFF VOLUME    (mm)=      79.82        54.79        63.80
    TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
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    RUNOFF COEFFICIENT   =       0.99         0.68          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  87.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9118) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):  59.38      5.37      5.25   63.80
    ================================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3):  59.38      5.37      5.25   63.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (6118) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  17.0000     0.4500
                          1.1800     0.3000   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK        R.V.
                               (ha)     (cms)     (hrs)        (mm)
    INFLOW : ID= 2 (9118)     59.380     5.374      5.25       63.80
    OUTFLOW: ID= 1 (6118)     59.380     5.564      5.25       63.80

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=103.55
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3502

    **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                   CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------

-------------------
| ADD HYD   (4118) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9118 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6118):    59.38    5.564     5.25    63.80
       + ID2= 2 (9118):     0.00    0.000     0.00     0.00
         ================================================
         ID = 3 (4118):    59.38    5.564     5.25    63.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (3051) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1051):  5108.44  57.392     9.50    30.13
       + ID2= 2 (4118):    59.38   5.564     5.25    63.80
         ================================================
         ID = 3 (3051):  5167.82  57.717     9.50    30.51

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5051) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5051.0) ------>
             Distance      Elevation       Manning
                0.00         254.99        0.0930
               45.56         252.50        0.0930
               55.02         252.50        0.0930
               73.97         254.29        0.0930
              227.89         251.34        0.0930
              260.10         248.27        0.0930
              305.08         247.61        0.0930
              342.61         243.00        0.0930
              370.31         242.00        0.0930
              383.77         242.50        0.0930
              407.52         242.50        0.0930
              427.35         242.00        0.0930
              428.40         241.76   0.0930 /0.0410  Main Channel
              429.92         241.00        0.0410     Main Channel
              437.00         241.00        0.0410     Main Channel
              437.12         241.50   0.0410 /0.0930  Main Channel
              439.50         242.50        0.0930
              471.55         242.50        0.0930
              491.51         244.88        0.0930
              515.66         256.99        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME     FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)       (cms)        (m/s)      (min)
      0.50    241.50    .856E+04        2.7          0.70      53.03
      1.21    242.21    .290E+05       13.1          1.01      36.81
      1.92    242.92    .174E+06       49.5          0.64      58.53
      2.63    243.63    .393E+06      138.4          0.79      47.30
      3.34    244.34    .630E+06      269.1          0.96      39.04
      4.05    245.05    .886E+06      439.5          1.11      33.60
      4.76    245.76    .116E+07      651.0          1.26      29.59
      5.47    246.47    .144E+07      898.5          1.40      26.65
      6.18    247.18    .173E+07     1181.0          1.53      24.40
      6.89    247.89    .204E+07     1436.7          1.58      23.65
      7.60    248.60    .241E+07     1738.7          1.62      23.08
      8.31    249.31    .280E+07     2162.7          1.73      21.58
      9.02    250.02    .321E+07     2629.6          1.84      20.32
      9.73    250.73    .363E+07     3139.3          1.94      19.25
     10.44    251.44    .406E+07     3663.4          2.02      18.48
     11.15    252.15    .454E+07     4085.1          2.01      18.52
     11.86    252.86    .509E+07     4492.2          1.98      18.89
     12.57    253.57    .574E+07     5031.6          1.96      19.02
     13.28    254.28    .648E+07     5692.0          1.97      18.99

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
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```
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (3051) 5167.82    57.72    9.50  30.51      1.99      0.65
    OUTFLOW: ID= 1 (5051) 5167.82    53.05   10.50  30.51      1.95      0.64

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0051)  |   Area    (ha)=  73.29   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   7.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.70

    Unit Hyd Qpeak  (cms)=   3.971

    PEAK FLOW       (cms)=   2.590 (i)
    TIME TO PEAK    (hrs)=   5.500
    RUNOFF VOLUME    (mm)=  34.761
    TOTAL RAINFALL   (mm)=  80.820
    RUNOFF COEFFICIENT   =   0.430

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2051) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0051):    73.29   2.590     5.50    34.76
       + ID2= 2 (5051):  5167.82  53.047    10.50    30.51
         ================================================
         ID = 3 (2051):  5241.11  53.204    10.50    30.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0067)  |   Area    (ha)=  23.75
|ID= 1 DT=15.0 min  |   Total Imp(%)=  23.00   Dir. Conn.(%)=  21.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       5.46        18.29
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         2.10
    Length            (m)=     397.91        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      37.17        26.20
              over (min)        15.00        15.00
    Storage Coeff.  (min)=       2.40 (ii)   12.60 (ii)
    Unit Hyd. Tpeak (min)=      15.00        15.00
    Unit Hyd. peak  (cms)=       0.11         0.08
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.51         1.27        1.785 (iii)
    TIME TO PEAK    (hrs)=       5.00         5.25         5.25
    RUNOFF VOLUME    (mm)=      79.82        42.62        50.44
    TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
    RUNOFF COEFFICIENT   =       0.99         0.53         0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2467)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0067):	23.75	1.785	5.25	50.44
	+ ID2= 2 (2051):	5241.11	53.204	10.50	30.57
	ID = 3 (2467):	5264.86	53.249	10.50	30.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)= 22.32
STANDHYD (0467)	Total Imp(%)= 47.00 Dir. Conn.(%)= 39.00
ID= 1 DT=15.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.49	11.83
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	385.75	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	35.88
over (min)		15.00	15.00
Storage Coeff. (min)=		1.80 (ii)	11.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	0.90 1.15 2.049 (iii)
TIME TO PEAK	(hrs)=	4.75 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 54.23 64.21
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.67 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9268)					
Inlet Cap.=0.026					
#of Inlets= 1					
Total(cms)= 0.0		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	22.32	2.05	5.25	64.21
	MAJOR SYS.(ID= 2):	20.76	2.02	5.25	64.21
	MINOR SYS.(ID= 3):	1.56	0.03	2.50	64.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6268)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1		0.0000	0.0000	0.0260	0.3400
DT= 15.0 min					

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9268)	1.556	0.026	2.50	64.21
OUTFLOW: ID= 1 (6268)	1.556	0.007	12.50	62.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 25.27
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.0860

ADD HYD (4268)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6268):	1.56	0.007	12.50	62.09
	+ ID2= 2 (9268):	20.76	2.023	5.25	64.21
	ID = 3 (4268):	22.32	2.025	5.25	64.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1069)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2467):	5264.86	53.249	10.50	30.66
	+ ID2= 2 (4268):	22.32	2.025	5.25	64.06
	ID = 3 (1069):	5287.18	53.276	10.50	30.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5069)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5069.0) ------>

Distance	Elevation	Manning	
0.00	249.35	0.0930	
17.46	245.50	0.0930	
49.96	240.00	0.0930	
64.40	240.00	0.0930	
85.68	240.46	0.0930	
104.52	238.50	0.0930	
119.89	237.61	0.0930	
150.03	237.50	0.0930	
170.81	238.00	0.0930	
198.79	238.00	0.0930	
200.49	236.53	0.0930 /0.0410	Main Channel

201.16	235.70	0.0410	Main Channel
211.80	235.70	0.0410	Main Channel
212.04	236.00	0.0410 /0.0930	Main Channel
216.53	237.00	0.0930	
222.34	237.50	0.0930	
257.68	237.50	0.0930	
279.63	243.00	0.0930	
328.63	245.49	0.0930	
342.46	247.54	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	236.00	.100E+05	1.7	0.51	100.52
0.91	236.61	.337E+05	10.8	0.98	52.06
1.51	237.21	.641E+05	26.6	1.27	40.21
2.12	237.82	.173E+06	53.5	0.94	54.05
2.73	238.43	.434E+06	117.6	0.83	61.46
3.34	239.04	.732E+06	221.2	0.93	55.16
3.94	239.64	.105E+07	356.8	1.05	48.84
4.55	240.25	.139E+07	499.3	1.10	46.42
5.16	240.86	.180E+07	702.2	1.19	42.78
5.77	241.47	.223E+07	951.9	1.31	39.02
6.37	242.07	.267E+07	1235.3	1.42	35.97
6.98	242.68	.312E+07	1551.4	1.53	33.47
7.59	243.29	.358E+07	1880.6	1.61	31.70
8.20	243.90	.407E+07	2227.4	1.68	30.42
8.80	244.50	.458E+07	2614.2	1.75	29.22
9.41	245.11	.513E+07	3040.8	1.82	28.11
10.02	245.72	.570E+07	3522.2	1.89	26.99
10.63	246.33	.629E+07	4065.9	1.98	25.80
11.23	246.93	.690E+07	4645.2	2.06	24.74

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1069)	5287.18	53.28	10.50	30.80	2.12	0.95
OUTFLOW: ID= 1 (5069)	5287.18	50.36	11.75	30.80	2.04	0.98

CALIB	Area (ha)= 155.42
STANDHYD (0069)	Total Imp(%)= 30.00 Dir. Conn.(%)= 25.00
ID= 1 DT=15.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	46.63	108.79
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	1017.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	29.94
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	4.01 8.40 12.416 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 47.30 55.43
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82

RUNOFF COEFFICIENT	=	0.99 0.59	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2069)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0069):	155.42	12.416	5.25	55.43
	+ ID2= 2 (5069):	5287.18	50.361	11.75	30.80
	ID = 3 (2069):	5442.60	50.671	11.75	31.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)= 3.35
STANDHYD (0471)	Total Imp(%)= 38.00 Dir. Conn.(%)= 30.00
ID= 1 DT=15.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.27	2.08
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.40
Length	(m)=	149.44	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	35.75
over (min)		15.00	15.00
Storage Coeff. (min)=		0.60 (ii)	4.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.11

		TOTALS
PEAK FLOW	(cms)=	0.10 0.21 0.310 (iii)
TIME TO PEAK	(hrs)=	4.50 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 55.32 62.67
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.68 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9158)					
Inlet Cap.=1.825					
#of Inlets= 1					
Total(cms)= 1.8		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

```
     TOTAL HYD.(ID= 1):   3.35      0.31      5.25   62.67
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.35      0.31      5.25   62.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (6158) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0950     0.1100
                          0.0750     0.0340   |   1.8250     0.1650

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9158)      3.350     0.310      5.25      62.67
     OUTFLOW: ID= 1 (6158)      3.350     0.091      5.75      62.64

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.51
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0962

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9158 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6158):     3.35   0.091     5.75    62.64
        + ID2= 2 (9158):     0.00   0.000     0.00     0.00
          ==========================================================
          ID = 3 (****):     3.35   0.091     5.75    62.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (3069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2069):  5442.60  50.671    11.75    31.51
        + ID2= 2 (****):     3.35   0.091     5.75    62.64
          ==========================================================
          ID = 3 (3069):  5445.95  50.690    11.75    31.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0078) |   Area    (ha)= 127.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  17.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       26.78       100.76
     Dep. Storage     (mm)=        1.00         4.00
```



```
     Average Slope     (%)=       1.00         1.90
     Length            (m)=     922.10        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        26.44
                    over (min)    15.00        30.00
     Storage Coeff.  (min)=       3.60 (ii)   21.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.24         6.53          8.765 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      79.82        41.98         48.41
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.52          0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0475) |   Area    (ha)=  62.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  44.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       33.83        28.81
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         2.30
     Length            (m)=     646.22        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        40.62
                    over (min)    15.00        15.00
     Storage Coeff.  (min)=       3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.85         3.11          5.956 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      79.82        59.69         68.55
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.74          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2475) |
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|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0078):   127.54   8.765     5.25    48.41
        + ID2= 2 (0475):    62.64   5.956     5.25    68.55
          ==========================================================
          ID = 3 (2475):   190.18  14.721     5.25    55.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| DUHYD     (9078) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)= 14.6 |      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1): 190.18    14.72      5.25    55.04
     ==========================================================
     MAJOR SYS.(ID= 2):   0.21     0.13      5.25    55.04
     MINOR SYS.(ID= 3): 189.97    14.59      5.25    55.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0015) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (3069):  5445.95  50.690    11.75    31.53
        + ID2= 2 (9078):   189.97  14.590     5.25    55.04
          ==========================================================
          ID = 3 (0015):  5635.92  51.064    11.75    32.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0066) |   Area    (ha)= 130.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  39.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       62.59        67.81
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         4.60
     Length            (m)=     932.38        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        36.74
                    over (min)    15.00        15.00
     Storage Coeff.  (min)=       3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.25         6.55         11.804 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      79.82        54.59         64.43
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.68          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1101) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0015):  5635.92  51.064    11.75    32.32
        + ID2= 2 (0066):   130.40  11.804     5.25    64.43
          ==========================================================
          ID = 3 (1101):  5766.31  51.341    11.75    33.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5101) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5101.0) ------>
                Distance      Elevation       Manning
                    0.00         241.94        0.0930
                    8.16         239.50        0.0930
                   22.34         239.00        0.0930
                   28.16         235.50        0.0930
                   31.19         235.00        0.0930
                   45.37         235.00        0.0930
                   66.87         235.30        0.0930
                   92.82         235.00        0.0930
                  128.48         235.00        0.0930
                  131.88         234.50        0.0930
                  133.09         234.00    0.0930 /0.0410  Main Channel
                  133.35         233.80        0.0410      Main Channel
                  143.76         233.80        0.0410      Main Channel
                  143.82         234.00    0.0410 /0.0930  Main Channel
                  146.15         235.00        0.0930
                  163.07         235.45        0.0930
                  172.90         235.85        0.0930
                  179.77         238.00        0.0930
                  182.39         238.10        0.0930
                  202.70         242.63        0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.20    234.00    .288E+04         0.8         0.38      59.38
       0.62    234.42    .955E+04         5.5         0.78      29.17
       1.04    234.84    .177E+05        13.2         1.02      22.25
       1.45    235.25    .536E+05        26.9         0.68      33.23
       1.87    235.67    .130E+06        60.9         0.64      35.54
       2.29    236.09    .212E+06       113.1         0.73      31.26
       2.71    236.51    .296E+06       180.8         0.83      27.30
       3.13    236.93    .381E+06       262.0         0.94      24.24
       3.54    237.34    .467E+06       355.8         1.04      21.89
       3.96    237.76    .555E+06       461.5         1.13      20.04
       4.38    238.18    .644E+06       575.5         1.22      18.64
       4.80    238.60    .735E+06       703.6         1.30      17.41
       5.21    239.01    .828E+06       841.5         1.38      16.39
```

5.63	239.43	.925E+06	958.9	1.41	16.08
6.05	239.85	.103E+07	1117.1	1.48	15.34
6.47	240.27	.113E+07	1291.9	1.55	14.63
6.89	240.69	.124E+07	1477.9	1.62	13.99
7.30	241.10	.135E+07	1675.0	1.69	13.43
7.72	241.52	.146E+07	1883.1	1.76	12.93

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1101)	5766.31	51.34	11.75	33.04	1.75	0.65
OUTFLOW: ID= 1 (5101)	5766.31	50.52	12.25	33.04	1.74	0.65

CALIB			
STANDHYD (0101)	Area (ha)= 133.45		
ID= 1 DT=15.0 min	Total Imp(%)= 47.00	Dir. Conn.(%)= 39.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.72	70.73
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	943.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	35.88
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	5.37 6.58 11.953 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 54.23 64.21
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.67 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2101)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0101):	133.45	11.953	5.25	64.21
+	ID2= 2 (5101):	5766.31	50.521	12.25	33.04
=	ID = 3 (2101):	5899.77	50.805	12.25	33.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5095)

IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5095.0) ----->

Distance	Elevation	Manning	
0.00	236.91	0.0930	
17.88	233.09	0.0930	
29.64	231.89	0.0930	
36.51	231.50	0.0930	
36.72	231.50	0.0930	
39.68	230.95	0.0930	
42.58	230.50	0.0930 /0.0410	Main Channel
42.67	229.70	0.0410	Main Channel
42.81	229.70	0.0410	Main Channel
49.66	229.70	0.0410	Main Channel
49.91	230.50	0.0410 /0.0930	Main Channel
53.95	231.00	0.0930	
111.16	232.00	0.0930	
167.36	232.00	0.0930	
183.43	233.00	0.0930	
203.76	237.50	0.0930	
211.96	238.12	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	229.97	.137E+04	1.1	0.56	21.49
0.53	230.23	.275E+04	3.3	0.86	14.11
0.80	230.50	.416E+04	6.2	1.08	11.19
1.20	230.90	.714E+04	12.6	1.28	9.45
1.60	231.30	.134E+05	21.9	1.19	10.18
2.00	231.70	.270E+05	37.2	1.00	12.08
2.40	232.10	.530E+05	59.5	0.82	14.86
2.80	232.50	.957E+05	110.2	0.84	14.47
3.20	232.90	.141E+06	179.2	0.92	13.15
3.60	233.30	.190E+06	268.0	1.03	11.79
4.01	233.71	.239E+06	374.4	1.14	10.64
4.41	234.11	.290E+06	496.3	1.25	9.72
4.81	234.51	.341E+06	633.1	1.35	8.98
5.21	234.91	.394E+06	784.4	1.45	8.37
5.61	235.31	.447E+06	949.8	1.54	7.85
6.01	235.71	.502E+06	1129.0	1.63	7.41
6.41	236.11	.558E+06	1322.0	1.72	7.04
6.81	236.51	.615E+06	1528.3	1.81	6.71
7.21	236.91	.673E+06	1748.1	1.89	6.42

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2101)	5899.77	50.80	12.25	33.75	2.25	0.88
OUTFLOW: ID= 1 (5095)	5899.77	50.46	12.50	33.75	2.24	0.88

CALIB			
STANDHYD (0095)	Area (ha)= 84.82		
ID= 1 DT=15.0 min	Total Imp(%)= 46.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.02	45.80
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	751.98	40.00

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	36.50
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	15.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	3.33 4.43 7.753 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 55.63 64.82
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.69 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2095)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0095):	84.82	7.753	5.25	64.82
+	ID2= 2 (5095):	5899.77	50.457	12.50	33.75
=	ID = 3 (2095):	5984.58	50.550	12.25	34.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0688)	Area (ha)= 43.70		
ID= 1 DT=15.0 min	Total Imp(%)= 44.00	Dir. Conn.(%)= 39.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.23	24.47
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	539.75	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.76
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	1.76 2.12 3.876 (iii)
TIME TO PEAK	(hrs)=	5.00 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 51.71 62.67
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.64 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2688)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0688):	43.70	3.876	5.25	62.67
+	ID2= 2 (9078):	0.21	0.131	5.25	55.04
=	ID = 3 (2688):	43.91	4.007	5.25	62.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0476)	Area (ha)= 22.70		
ID= 1 DT=15.0 min	Total Imp(%)= 76.00	Dir. Conn.(%)= 76.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.25	5.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.20
Length	(m)=	389.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.85
over (min)		15.00	15.00
Storage Coeff. (min)=		1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	1.78 0.49 2.267 (iii)
TIME TO PEAK	(hrs)=	5.00 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 57.89 74.56
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.72 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9331)					
Inlet Cap.=5.900					
#of Inlets= 1					
Total(cms)= 5.9		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	22.70	2.27	5.25	74.56
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	22.70	2.27	5.25	74.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6331)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		1.2500	0.7550
	0.0400	0.4210		1.6700	0.8120
	0.0800	0.4760		2.3800	0.8680
	0.1700	0.5310		3.3600	0.9250
	0.4100	0.5870		4.5400	0.9820
	0.6500	0.6430		5.9000	1.0400
	0.9500	0.6990		0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9331)	22.700	2.267	5.25	74.56
OUTFLOW: ID= 1 (6331)	22.700	1.668	5.25	74.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 73.59
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.8387

ADD HYD (****)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6331):	22.70	1.668	5.25	74.44
	+ ID2= 2 (9331):	0.00	0.000	0.00	0.00
	ID = 3 (****):	22.70	1.668	5.25	74.44

*** W A R N I N G : HYDROGRAPH 9331 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)= 4.42		
STANDHYD (0689)	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00	
ID= 1 DT=15.0 min	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	1.02	3.40	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.70	
Length (m)=	171.66	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	23.98	
over (min)	15.00	15.00	
Storage Coeff. (min)=	1.20 (ii)	7.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.10	*TOTALS*
PEAK FLOW (cms)=	0.10	0.22	0.328 (iii)
TIME TO PEAK (hrs)=	4.75	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	39.75	48.96

TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.49	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2689)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0689):	4.42	0.328	5.25	48.96
	+ ID2= 2 (****):	22.70	1.668	5.25	74.44
	ID = 3 (2689):	27.12	1.997	5.25	70.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1113)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2688):	43.91	4.007	5.25	62.63
	+ ID2= 2 (2689):	27.12	1.997	5.25	70.29
	ID = 3 (1113):	71.03	6.004	5.25	65.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5113)				
IN= 2---> OUT= 1	Routing time step (min)'= 15.00			
	<------ DATA FOR SECTION (5113.0) ------>			
	Distance	Elevation	Manning	
	0.00	244.57	0.0930	
	317.65	242.05	0.0930	
	348.79	241.03	0.0930	
	378.18	238.00	0.0930	
	381.25	236.49	0.0930 /0.0410	Main Channel
	381.97	235.89	0.0410	Main Channel
	384.32	236.39	0.0410 /0.0930	Main Channel
	413.50	241.05	0.0930	
	457.83	240.38	0.0930	
	497.88	241.26	0.0930	
	759.99	241.26	0.0930	
	924.92	242.38	0.0930	
	990.74	242.50	0.0930	
	1030.87	242.13	0.0930	
	1081.60	243.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.25	236.14	.126E+03	0.1	0.48	23.67
0.50	236.39	.504E+03	0.6	0.76	14.91
0.89	236.78	.171E+04	2.9	1.15	9.87
1.28	237.17	.379E+04	7.2	1.30	8.76
1.68	237.57	.674E+04	13.8	1.40	8.12
2.07	237.96	.106E+05	23.1	1.49	7.64
2.46	238.35	.156E+05	34.9	1.53	7.44
2.85	238.74	.223E+05	50.9	1.56	7.29
3.25	239.14	.307E+05	71.8	1.60	7.12
3.64	239.53	.407E+05	98.0	1.65	6.93
4.03	239.92	.525E+05	130.2	1.70	6.71
4.42	240.31	.659E+05	169.0	1.75	6.50
4.82	240.71	.850E+05	186.4	1.50	7.60
5.21	241.10	.117E+06	240.8	1.40	8.13
5.60	241.49	.203E+06	302.7	1.02	11.19
5.99	241.88	.336E+06	517.9	1.05	10.81
6.39	242.28	.490E+06	782.2	1.09	10.44
6.78	242.67	.691E+06	1137.8	1.13	10.12
7.17	243.06	.920E+06	1698.5	1.26	9.03

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1113)	71.03	6.00	5.25	65.56	1.17	1.26
OUTFLOW: ID= 1 (5113)	71.03	5.55	5.25	65.56	1.13	1.24

CALIB	Area (ha)= 12.71		
STANDHYD (0113)	Total Imp(%)= 52.00	Dir. Conn.(%)= 52.00	
ID= 1 DT=15.0 min	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	6.61	6.10	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.50	
Length (m)=	291.09	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	28.62	
over (min)	15.00	15.00	
Storage Coeff. (min)=	1.80 (ii)	9.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.09	*TOTALS*
PEAK FLOW (cms)=	0.68	0.48	1.159 (iii)
TIME TO PEAK (hrs)=	4.75	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	48.51	64.79
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.60	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2113)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0113):	12.71	1.159	5.25	64.79
	+ ID2= 2 (5113):	71.03	5.546	5.25	65.56
	ID = 3 (2113):	83.74	6.705	5.25	65.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)= 46.27		
STANDHYD (0120)	Total Imp(%)= 63.00	Dir. Conn.(%)= 63.00	
ID= 1 DT=15.0 min	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	29.15	17.12	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.60	
Length (m)=	555.40	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	31.45	
over (min)	15.00	15.00	
Storage Coeff. (min)=	2.40 (ii)	14.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.07	*TOTALS*
PEAK FLOW (cms)=	3.01	1.43	4.444 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	54.53	70.46
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.67	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1119)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0120):	46.27	4.444	5.25	70.46
	+ ID2= 2 (2113):	83.74	6.705	5.25	65.44
	ID = 3 (1119):	130.01	11.148	5.25	67.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5119)			
IN= 2---> OUT= 1	Routing time step (min)'= 15.00		
	<------ DATA FOR SECTION (5119.0) ------>		
	Distance	Elevation	Manning

```
  0.00        240.51        0.0930
 29.89        240.57        0.0930
116.44        238.41        0.0930
139.64        232.93    0.0930 /0.0410  Main Channel
141.61        232.28      0.0410        Main Channel
145.25        233.93    0.0410 /0.0930  Main Channel
173.42        238.12        0.0930
173.87        238.19        0.0930
270.90        240.57        0.0930
279.44        240.59        0.0930
297.64        240.11        0.0930
300.84        240.11        0.0930
309.34        240.24        0.0930
309.90        240.23        0.0930
315.37        240.29        0.0930
322.46        240.34        0.0930
324.59        240.37        0.0930
337.93        240.53        0.0930
338.14        240.54        0.0930
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	232.60	.159E+03	0.1	0.35	27.10
0.65	232.93	.636E+03	0.6	0.56	17.07
1.10	233.38	.189E+04	2.6	0.80	12.00
1.55	233.83	.390E+04	6.3	0.93	10.35
2.00	234.28	.683E+04	12.6	1.06	9.01
2.45	234.73	.110E+05	21.8	1.14	8.43
2.90	235.18	.165E+05	34.0	1.19	8.08
3.35	235.63	.232E+05	49.7	1.23	7.79
3.80	236.08	.313E+05	69.2	1.27	7.53
4.25	236.53	.406E+05	92.9	1.32	7.28
4.71	236.99	.511E+05	121.0	1.36	7.05
5.16	237.44	.630E+05	153.9	1.40	6.83
5.61	237.89	.761E+05	191.8	1.45	6.62
6.06	238.34	.908E+05	229.8	1.46	6.58
6.51	238.79	.111E+06	254.0	1.31	7.30
6.96	239.24	.141E+06	302.2	1.23	7.78
7.41	239.69	.180E+06	372.7	1.19	8.06
7.86	240.14	.229E+06	460.2	1.16	8.30
8.31	240.59	.297E+06	525.8	1.02	9.42

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1119)	130.01	11.15	5.25	67.23	1.90	1.03
OUTFLOW: ID= 1 (5119)	130.01	10.62	5.25	67.23	1.86	1.02

```
--------------------
| DUHYD     (9033) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)= 26.9 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 130.01     10.62      5.25   67.23
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 130.01     10.62      5.25   67.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR (6033) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   9.6100      1.9350
                          0.1300     1.4400   |  12.0700      2.0240
                          0.7800     1.5180   |  14.7200      2.1150
                          1.9600     1.5970   |  17.5300      2.2070
                          3.4900     1.6790   |  20.5100      2.3010
                          5.2900     1.7620   |  23.6400      2.3970
                          7.3400     1.8480   |  26.9100      2.4940

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9033)    130.015     10.615      5.25      67.23
     OUTFLOW: ID= 1 (6033)    130.015     10.141      5.25      67.21

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.53
                    TIME SHIFT OF PEAK FLOW          (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.9756
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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9033 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6033):   130.01  10.141     5.25    67.21
        + ID2= 2 (9033):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (****):   130.01  10.141     5.25    67.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| CALIB            |
| STANDHYD  (0119) |   Area    (ha)=   7.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  19.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        1.52          5.72
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          6.50
     Length            (m)=      219.70         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       37.17         25.52
               over (min)         15.00         15.00
     Storage Coeff.  (min)=        1.20 (ii)     6.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.11          0.10
                                                      *TOTALS*
     PEAK FLOW       (cms)=        0.14          0.40          0.544 (iii)
     TIME TO PEAK    (hrs)=        4.75          5.25           5.25
     RUNOFF VOLUME    (mm)=       79.82         41.44          48.73
     TOTAL RAINFALL   (mm)=       80.82         80.82          80.82
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     RUNOFF COEFFICIENT   =       0.99          0.51          0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (2119) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0119):     7.24   0.544     5.25    48.73
        + ID2= 2 (****):   130.01  10.141     5.25    67.21
          ================================================
          ID = 3 (2119):   137.25  10.685     5.25    66.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| DUHYD     (9529) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 137.25     10.69      5.25   66.23
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 137.25     10.69      5.25   66.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (6529) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   6.0000      0.2720
                          2.0000     0.0946   |   8.0000      0.3631
                          4.0000     0.1999   |  10.0000      0.4677
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9529)    137.255     10.685      5.25      66.23
     OUTFLOW: ID= 1 (6529)    137.255     10.240      5.50      66.23

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 95.84
                    TIME SHIFT OF PEAK FLOW          (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.4967
```

```
--------------------
| ADD HYD   (4529) |
```



```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9529 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6529):   137.25  10.240     5.50    66.23
        + ID2= 2 (9529):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4529):   137.25  10.240     5.50    66.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| CALIB            |
| STANDHYD  (0484) |   Area    (ha)=  10.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  42.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        5.46          4.85
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          3.10
     Length            (m)=      262.17         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       37.17         40.56
               over (min)         15.00         15.00
     Storage Coeff.  (min)=        1.80 (ii)     8.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.11          0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=        0.45          0.54          0.988 (iii)
     TIME TO PEAK    (hrs)=        4.75          5.25           5.25
     RUNOFF VOLUME    (mm)=       79.82         58.42          67.41
     TOTAL RAINFALL   (mm)=       80.82         80.82          80.82
     RUNOFF COEFFICIENT   =        0.99          0.72           0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| DUHYD     (9129) |
| Inlet Cap.=0.021 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  10.31      0.99      5.25   67.41
     ==========================================================
     MAJOR SYS.(ID= 2):   9.15      0.97      5.25   67.41
     MINOR SYS.(ID= 3):   1.16      0.02      2.50   67.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (6129) |
| IN= 2---> OUT= 1 |
```

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0160	0.0567
	0.0090	0.0175	0.0190	0.0784
	0.0130	0.0364	0.0210	0.1015

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9129)	1.165	0.021	2.50	67.41
OUTFLOW: ID= 1 (6129)	1.165	0.014	12.25	67.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 65.52
TIME SHIFT OF PEAK FLOW (min)=585.00
MAXIMUM STORAGE USED (ha.m.)= 0.0419

ADD HYD (4129) = 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6129):	1.16	0.014	12.25	67.00
+ ID2= 2 (9129):	9.15	0.967	5.25	67.41
ID = 3 (4129):	10.31	0.976	5.25	67.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2484) = 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4129):	10.31	0.976	5.25	67.36
+ ID2= 2 (4529):	137.25	10.240	5.50	66.23
ID = 3 (2484):	147.56	10.732	5.25	66.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0485) | Area (ha)= 44.69
ID= 1 DT=15.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 49.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	22.34	22.34
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.70
Length (m)=	545.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	29.38
over (min)	15.00	30.00
Storage Coeff. (min)=	3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	2.26	1.71 3.969 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	48.93 64.07

TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.61	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2485) = 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (9485):	44.69	3.969	5.25	64.07
+ ID2= 2 (2484):	147.56	10.732	5.25	66.31
ID = 3 (2485):	192.25	14.701	5.25	65.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1122) = 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2095):	5984.58	50.550	12.25	34.19
+ ID2= 2 (2485):	192.25	14.701	5.25	65.79
ID = 3 (1122):	6176.84	58.860	5.25	35.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5122)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5122.0) ------>

Distance	Elevation	Manning	
0.00	235.73	0.0930	
17.92	231.50	0.0930	
24.58	231.00	0.0930	
44.00	230.55	0.0930	
142.67	231.50	0.0930	
150.22	231.50	0.0930	
174.16	231.28	0.0930	
192.63	231.06	0.0930	
194.24	231.00	0.0930	
196.93	230.16	0.0930	
197.38	230.00	0.0930 /0.0410	Main Channel
197.43	229.98	0.0410	Main Channel
197.57	229.00	0.0410	Main Channel
205.27	229.00	0.0410	Main Channel
205.34	229.94	0.0410	Main Channel
205.54	230.00	0.0410 /0.0930	Main Channel
229.92	238.50	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	229.33	.126E+04	1.5	0.58	14.12
0.67	229.67	.254E+04	4.5	0.87	9.33
1.00	230.00	.383E+04	8.5	1.08	7.54
1.36	230.36	.544E+04	14.4	1.30	6.28
1.72	230.72	.843E+04	22.0	1.28	6.38
2.07	231.07	.197E+05	35.4	0.88	9.28
2.43	231.43	.424E+05	59.9	0.69	11.80
2.79	231.79	.757E+05	107.8	0.70	11.70
3.15	232.15	.110E+06	175.4	0.78	10.45
3.51	232.51	.145E+06	258.4	0.88	9.33
3.87	232.87	.180E+06	355.7	0.97	8.42
4.22	233.22	.215E+06	466.3	1.06	7.70
4.58	233.58	.251E+06	589.7	1.15	7.10
4.94	233.94	.288E+06	725.4	1.23	6.61
5.30	234.30	.325E+06	873.0	1.32	6.20
5.66	234.66	.362E+06	1032.1	1.40	5.85
6.01	235.01	.400E+06	1202.5	1.47	5.54
6.37	235.37	.438E+06	1384.0	1.55	5.28
6.73	235.73	.477E+06	1576.4	1.62	5.04

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1122)	6176.84	58.86	5.25	35.17	2.42	0.70
OUTFLOW: ID= 1 (5122)	6176.84	53.09	5.50	35.17	2.33	0.74

CALIB
STANDHYD (0122) | Area (ha)= 30.63
ID= 1 DT=15.0 min | Total Imp(%)= 32.00 Dir. Conn.(%)= 26.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.80	20.83
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	451.88	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	30.57
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08
		TOTALS
PEAK FLOW (cms)=	0.82	1.71 2.528 (iii)
TIME TO PEAK (hrs)=	5.00	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	47.63 56.00
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.59 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2122) = 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0122):	30.63	2.528	5.25	56.00
+ ID2= 2 (5122):	6176.84	53.095	5.50	35.17
ID = 3 (2122):	6207.47	54.186	5.50	35.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5112)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5112.0) ------>

Distance	Elevation	Manning	
0.00	235.91	0.0930	
5.76	235.56	0.0930	
118.08	233.00	0.0930	
121.46	233.00	0.0930	
158.56	231.55	0.0930	
190.22	229.04	0.0930	
190.34	229.04	0.0930	
212.62	228.00	0.0930	
225.02	227.50	0.0930	
226.84	227.00	0.0930 /0.0410	Main Channel
227.92	226.50	0.0410	Main Channel
232.46	226.50	0.0410	Main Channel
232.95	226.98	0.0410 /0.0930	Main Channel
237.55	228.00	0.0930	
247.07	228.50	0.0930	
255.73	228.80	0.0930	
268.28	229.64	0.0930	
274.49	231.50	0.0930	
283.66	232.45	0.0930	
298.53	235.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	226.74	.770E+03	0.5	0.47	23.34
0.48	226.98	.166E+04	1.8	0.70	15.51
0.95	227.45	.411E+04	6.4	1.02	10.61
1.42	227.92	.897E+04	14.3	1.04	10.49
1.90	228.40	.186E+05	27.2	0.95	11.44
2.37	228.87	.346E+05	48.1	0.91	11.99
2.84	229.34	.563E+05	80.7	0.93	11.62
3.31	229.81	.819E+05	125.6	1.00	10.87
3.78	230.28	.110E+06	183.3	1.08	10.03
4.25	230.75	.141E+06	252.3	1.17	9.31
4.73	231.23	.174E+06	333.0	1.25	8.70
5.20	231.70	.209E+06	420.3	1.31	8.30
5.67	232.17	.249E+06	512.6	1.34	8.10
6.14	232.64	.294E+06	623.0	1.38	7.87
6.61	233.11	.344E+06	742.9	1.41	7.72
7.08	233.58	.401E+06	880.3	1.43	7.60
7.56	234.06	.466E+06	1041.7	1.46	7.45
8.03	234.53	.538E+06	1228.2	1.49	7.30
8.50	235.00	.616E+06	1440.8	1.52	7.13

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2122)	6207.47	54.19	5.50	35.28	2.46	0.91
OUTFLOW: ID= 1 (5112)	6207.47	51.95	5.75	35.28	2.42	0.91

CALIB			
STANDHYD (0112)	Area (ha)=	91.24	
ID= 1 DT=15.0 min	Total Imp(%)=	48.00	Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.80	47.44
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.10
Length (m)=	779.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	38.22
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	16.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW (cms)=	3.58	4.77	8.346 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	56.34	65.26
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.70	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2112)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0112):	91.24	8.346	5.25	65.26
+ ID2= 2 (5112):	6207.47	51.948	5.75	35.28
ID = 3 (2112):	6298.71	54.976	5.75	35.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5091)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5091.0) ------>

Distance	Elevation	Manning
0.00	233.68	0.0930
57.19	231.45	0.0930
70.84	229.38	0.0930

75.11	228.00	0.0930	
76.32	227.82	0.0930	
78.35	227.50	0.0930 /0.0410	Main Channel
79.48	227.23	0.0410	Main Channel
80.40	227.00	0.0410	Main Channel
81.40	226.00	0.0410	Main Channel
87.08	226.00	0.0410	Main Channel
87.20	226.00	0.0410	Main Channel
87.27	226.50	0.0410	Main Channel
88.50	227.47	0.0410	Main Channel
88.62	227.50	0.0410	Main Channel
92.08	227.50	0.0410	Main Channel
93.44	227.80	0.0410	Main Channel
94.43	228.72	0.0410 /0.0930	Main Channel
111.61	232.98	0.0930	
115.31	233.50	0.0930	
134.67	234.81	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	226.38	.167E+04	1.4	0.61	20.11
0.75	226.75	.348E+04	4.3	0.91	13.58
1.12	227.12	.554E+04	8.3	1.10	11.19
1.50	227.50	.808E+04	13.4	1.22	10.07
1.91	227.91	.129E+05	21.9	1.25	9.82
2.32	228.32	.187E+05	36.9	1.46	8.45
2.74	228.74	.250E+05	55.3	1.63	7.54
3.15	229.15	.321E+05	78.4	1.81	6.83
3.56	229.56	.401E+05	104.9	1.94	6.37
3.97	229.97	.493E+05	135.2	2.03	6.08
4.38	230.38	.599E+05	169.9	2.10	5.88
4.80	230.80	.718E+05	209.2	2.15	5.72
5.21	231.21	.851E+05	253.2	2.20	5.60
5.62	231.62	.999E+05	299.6	2.22	5.56
6.03	232.03	.118E+06	350.3	2.20	5.61
6.44	232.44	.140E+06	409.8	2.17	5.69
6.86	232.86	.165E+06	478.0	2.14	5.76
7.27	233.27	.195E+06	554.6	2.11	5.85
7.68	233.68	.228E+06	639.5	2.07	5.95

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2112)	6298.71	54.98	5.75	35.71	2.73	1.63
OUTFLOW: ID= 1 (5091)	6298.71	54.76	5.75	35.71	2.72	1.63

CALIB			
STANDHYD (0091)	Area (ha)=	180.35	
ID= 1 DT=15.0 min	Total Imp(%)=	47.00	Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	84.76	95.59
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	1096.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	37.34
over (min)	15.00	15.00

Storage Coeff. (min)=	3.60 (ii)	19.80 (ii)		
Unit Hyd. Tpeak (min)=	15.00	15.00		
Unit Hyd. peak (cms)=	0.11	0.06		
			TOTALS	
PEAK FLOW (cms)=	7.08	9.16	16.233 (iii)	
TIME TO PEAK (hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME (mm)=	79.82	55.98	65.04	
TOTAL RAINFALL (mm)=	80.82	80.82	80.82	
RUNOFF COEFFICIENT =	0.99	0.69	0.80	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2091)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0091):	180.35	16.233	5.25	65.04
+ ID2= 2 (5091):	6298.71	54.760	5.75	35.71
ID = 3 (2091):	6479.06	64.731	5.25	36.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9023)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)= 17.8	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	6479.06	64.73	5.25	36.53
MAJOR SYS.(ID= 2):	3407.92	46.89	5.25	36.53
MINOR SYS.(ID= 3):	3071.14	17.84	4.25	36.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6023)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	6.0830	0.7376
	0.5140	0.0185	8.6630	1.7454
	1.9040	0.1110	17.8370	3.6437
	3.8440	0.3047	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9023)	3071.145	17.837	4.25	36.53
OUTFLOW: ID= 1 (6023)	3071.145	17.837	12.75	36.53

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)=510.00

MAXIMUM STORAGE USED (ha.m.)= 3.6437

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6023):	3071.14	17.837	12.75	36.53
+ ID2= 2 (9023):	3407.92	46.894	5.25	36.53
ID = 3 (****):	6479.07	63.291	5.25	36.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5530)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5530.0) ------>

Distance	Elevation	Manning	
0.00	232.00	0.0930	
4.96	232.00	0.0930	
7.83	231.50	0.0930	
17.85	231.00	0.0930	
42.32	226.50	0.0930	
90.46	226.50	0.0930	
96.74	225.00	0.0930 /0.0410	Main Channel
98.31	224.50	0.0410	Main Channel
108.69	224.50	0.0410	Main Channel
109.36	225.00	0.0410 /0.0930	Main Channel
114.19	225.50	0.0930	
117.90	227.00	0.0930	
121.45	227.50	0.0930	
134.20	227.50	0.0930	
149.51	228.94	0.0930	
154.36	229.23	0.0930	
155.62	229.30	0.0930	
155.63	232.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	224.75	.192E+04	2.5	0.92	12.70
0.50	225.00	.403E+04	8.1	1.41	8.28
0.91	225.41	.850E+04	24.2	1.99	5.86
1.32	225.82	.144E+05	48.1	2.35	4.97
1.74	226.24	.210E+05	79.6	2.66	4.40
2.15	226.65	.335E+05	118.2	2.48	4.72
2.56	227.06	.557E+05	182.5	2.30	5.09
2.97	227.47	.793E+05	264.6	2.34	5.00
3.38	227.88	.108E+06	362.6	2.36	4.96
3.79	228.29	.139E+06	488.9	2.47	4.73
4.21	228.71	.172E+06	634.9	2.60	4.50
4.62	229.12	.206E+06	799.2	2.72	4.30
5.03	229.53	.243E+06	987.9	2.85	4.10
5.44	229.94	.281E+06	1201.3	3.00	3.90
5.85	230.35	.320E+06	1433.6	3.15	3.72
6.26	230.76	.359E+06	1684.2	3.29	3.55
6.68	231.18	.399E+06	1936.0	3.41	3.43
7.09	231.59	.441E+06	2195.5	3.50	3.34
7.50	232.00	.484E+06	2505.8	3.63	3.22

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (****)	6479.07	63.29	5.25	36.53	1.52	2.49
OUTFLOW: ID= 1 (5530)	6479.07	62.93	5.50	36.53	1.52	2.49

CALIB	
STANDHYD (0530)	Area (ha)= 12.46
ID= 1 DT=15.0 min	Total Imp(%)= 33.00 Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.11	8.35
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.00
Length	(m)=	288.21	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.99
over (min)		15.00	15.00
Storage Coeff. (min)=		1.20 (ii)	7.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.10

		TOTALS
PEAK FLOW	(cms)=	0.36	0.64	0.999 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	43.65	53.77
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.54	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2530)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0530):	12.46	0.999	5.25	53.77
	+ ID2= 2 (5530):	6479.07	62.925	5.50	36.53
	ID = 3 (2530):	6491.53	63.284	5.50	36.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0114)	Area (ha)= 71.32
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.09	34.23
Dep. Storage	(mm)=	1.00	4.00

		IMPERVIOUS	PERVIOUS (i)
Average Slope	(%)=	1.00	2.90
Length	(m)=	689.54	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	38.75
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	15.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	3.17	3.53	6.692 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	57.74	67.24
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.71	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1529)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0114):	71.32	6.692	5.25	67.24
	+ ID2= 2 (2530):	6491.53	63.284	5.50	36.56
	ID = 3 (1529):	6562.85	68.312	5.25	36.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5529)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5529.0) ------>

Distance	Elevation	Manning	
0.00	229.04	0.0930	
7.45	221.83	0.0930 /0.0410	Main Channel
7.73	221.00	0.0410	Main Channel
11.19	221.00	0.0410	Main Channel
14.51	222.00	0.0410 /0.0930	Main Channel
15.34	222.00	0.0930	
16.50	222.50	0.0930	
29.47	222.35	0.0930	
55.40	222.50	0.0930	
76.32	222.50	0.0930	
144.32	223.00	0.0930	
157.97	223.80	0.0930	
163.43	224.00	0.0930	
184.95	224.50	0.0930	
193.87	225.00	0.0930	
197.46	225.00	0.0930	
203.83	225.27	0.0930	
208.01	225.56	0.0930	
214.39	225.78	0.0930	

214.40 229.00 0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	221.41	.154E+04	0.8	0.48	30.55
0.83	221.83	.362E+04	2.9	0.69	21.07
1.25	222.25	.652E+04	6.7	0.90	16.23
1.67	222.67	.235E+05	14.4	0.54	27.14
2.10	223.10	.682E+05	36.2	0.46	31.45
2.52	223.52	.121E+06	75.3	0.54	26.85
2.94	223.94	.177E+06	127.4	0.63	23.21
3.36	224.36	.238E+06	188.5	0.69	21.08
3.78	224.78	.305E+06	266.7	0.77	19.08
4.20	225.20	.376E+06	356.2	0.83	17.60
4.63	225.63	.451E+06	463.5	0.90	16.22
5.05	226.05	.529E+06	588.5	0.98	14.97
5.47	226.47	.607E+06	732.6	1.06	13.81
5.89	226.89	.685E+06	889.1	1.14	12.85
6.31	227.31	.764E+06	1057.6	1.21	12.04
6.73	227.73	.843E+06	1237.6	1.29	11.35
7.16	228.16	.922E+06	1428.6	1.36	10.75
7.58	228.58	.100E+07	1630.4	1.43	10.23
8.00	229.00	.108E+07	1842.6	1.50	9.77

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1529)	6562.85	68.31	5.25	36.89	2.44	0.53
OUTFLOW: ID= 1 (5529)	6562.85	59.39	6.25	36.89	2.34	0.51

CALIB	
STANDHYD (0529)	Area (ha)= 41.93
ID= 1 DT=15.0 min	Total Imp(%)= 33.00 Dir. Conn.(%)= 26.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	13.84	28.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.80
Length	(m)=	528.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	31.19
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	12.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	1.13	2.34	3.465 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	47.94	56.23
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.59	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2529)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0529):	41.93	3.465	5.25	56.23
	+ ID2= 2 (5529):	6562.85	59.394	6.25	36.89
	ID = 3 (2529):	6604.78	60.461	6.25	37.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0488)	Area (ha)= 47.77
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.23	20.54
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	564.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	36.88
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.52	2.03	4.542 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	57.00	68.64
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.71	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9164)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	TOTAL HYD.(ID= 1):	47.77	4.54	5.25	68.64
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	47.77	4.54	5.25	68.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (6164) | IN= 2---> OUT= 1 | DT= 15.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1280	0.6485
0.0360	0.0650	0.2220	0.6870
0.0470	0.1250	0.6040	0.7600
0.0620	0.1800	1.1450	0.8300
0.0750	0.2500	1.8080	0.9100
0.0850	0.3100	2.5730	0.9800
0.0950	0.3750	3.4270	1.0500
0.1030	0.4330	4.3630	1.1200
0.1110	0.4930	5.3730	1.1950
0.1180	0.5630	0.0000	0.0000
0.1250	0.6120	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9164)	47.770	4.542	5.25	68.64
OUTFLOW: ID= 1 (6164)	47.770	4.268	5.25	68.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 93.98
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 1.1252

| ADD HYD (4164) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9164 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6164):	47.77	4.268	5.25	68.63
+ ID2= 2 (9164):	0.00	0.000	0.00	0.00
ID = 3 (4164):	47.77	4.268	5.25	68.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (1486) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2529):	6604.78	60.461	6.25	37.02
+ ID2= 2 (4164):	47.77	4.268	5.25	68.63
ID = 3 (1486):	6652.55	61.991	6.25	37.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5486) | IN= 2---> OUT= 1 |

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5486.0) ------>

Distance	Elevation	Manning
0.00	225.00	0.0930

11.94	222.00	0.0930
16.06	221.50	0.0930
41.45	220.50	0.0930
88.07	220.00	0.0930
99.13	219.50	0.0930
102.39	219.00	0.0930 /0.0410 Main Channel
102.82	218.50	0.0410 Main Channel
108.08	218.50	0.0410 Main Channel
108.18	219.00	0.0410 /0.0930 Main Channel
109.15	219.20	0.0930
110.60	219.50	0.0930
116.50	221.36	0.0930
127.30	226.50	0.0930
144.83	227.58	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	218.75	.815E+03	0.8	0.62	16.38
0.50	219.00	.167E+04	2.6	0.93	10.82
0.85	219.35	.333E+04	6.6	1.20	8.38
1.21	219.71	.603E+04	12.7	1.27	7.93
1.56	220.06	.106E+05	21.3	1.22	8.29
1.91	220.41	.206E+05	34.9	1.02	9.84
2.26	220.76	.364E+05	59.4	0.99	10.22
2.62	221.12	.546E+05	93.6	1.04	9.71
2.97	221.47	.748E+05	137.0	1.11	9.10
3.32	221.82	.967E+05	193.1	1.21	8.34
3.68	222.18	.119E+06	259.4	1.32	7.66
4.03	222.53	.142E+06	335.2	1.42	7.08
4.38	222.88	.166E+06	419.5	1.53	6.59
4.74	223.24	.190E+06	512.1	1.63	6.18
5.09	223.59	.214E+06	612.7	1.73	5.83
5.44	223.94	.239E+06	721.2	1.82	5.53
5.79	224.29	.264E+06	837.5	1.92	5.26
6.15	224.65	.290E+06	961.5	2.00	5.03
6.50	225.00	.317E+06	1093.1	2.09	4.83

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1486)	6652.55	61.99	6.25	37.24	2.29	0.99
OUTFLOW: ID= 1 (5486)	6652.55	61.82	6.25	37.24	2.29	0.99

| CALIB | STANDHYD (0486) | ID= 1 DT=15.0 min |

Area (ha)= 35.14
Total Imp(%)= 47.00 Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.52	18.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	484.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	33.69
over (min)		15.00	15.00
Storage Coeff. (min)=		1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	1.49 1.69 3.178 (iii)
TIME TO PEAK	(hrs)=	4.75 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 52.15 63.49
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.65 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (2486) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0486):	35.14	3.178	5.25	63.49
+ ID2= 2 (5486):	6652.55	61.820	6.25	37.24
ID = 3 (2486):	6687.69	62.768	6.25	37.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB | STANDHYD (0533) | ID= 1 DT=15.0 min |

Area (ha)= 61.35
Total Imp(%)= 49.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.06	31.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	639.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	38.36
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.47 3.19 5.665 (iii)
TIME TO PEAK	(hrs)=	5.00 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 56.40 65.53
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.70 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (1165) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0533):	61.35	5.665	5.25	65.53
+ ID2= 2 (2486):	6687.69	62.768	6.25	37.38
ID = 3 (1165):	6749.04	64.486	6.25	37.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5165) | IN= 2---> OUT= 1 |

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5165.0) ------>

Distance	Elevation	Manning
0.00	217.93	0.0930
93.89	215.00	0.0930
100.20	213.00	0.0930
110.33	212.37	0.0930
119.07	212.00	0.0930
119.29	212.00	0.0930
131.29	211.51	0.0930
131.54	211.50	0.0930 /0.0410 Main Channel
133.06	211.27	0.0410 Main Channel
133.84	211.00	0.0410 Main Channel
145.04	211.00	0.0410 Main Channel
145.53	211.37	0.0410 /0.0930 Main Channel
148.07	212.50	0.0930
159.61	213.50	0.0930
179.18	214.00	0.0930
235.23	213.00	0.0930
247.26	213.00	0.0930
261.80	214.00	0.0930
277.22	218.03	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	211.18	.179E+04	0.9	0.44	31.48
0.37	211.37	.372E+04	3.0	0.68	20.65
0.76	211.76	.900E+04	10.9	1.01	13.79
1.14	212.14	.175E+05	24.0	1.14	12.17
1.53	212.53	.292E+05	42.8	1.23	11.37
1.91	212.91	.440E+05	67.9	1.29	10.81
2.30	213.30	.675E+05	101.8	1.26	11.05
2.69	213.69	.103E+06	148.9	1.21	11.48
3.07	214.07	.151E+06	213.5	1.18	11.80
3.46	214.46	.205E+06	302.0	1.23	11.31
3.84	214.84	.260E+06	407.0	1.31	10.63
4.23	215.23	.316E+06	516.4	1.37	10.19
4.61	215.61	.376E+06	638.6	1.42	9.81
5.00	216.00	.441E+06	780.7	1.48	9.41
5.39	216.39	.510E+06	941.7	1.54	9.03
5.77	216.77	.584E+06	1121.6	1.61	8.67
6.16	217.16	.662E+06	1320.5	1.67	8.35
6.54	217.54	.744E+06	1538.7	1.73	8.06
6.93	217.93	.832E+06	1776.7	1.79	7.80

<---- hydrograph ----> <-pipe / channel->

AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1165)	6749.04	64.49	6.25	37.64	1.86	1.28
OUTFLOW: ID= 1 (5165)	6749.04	63.80	6.25	37.64	1.85	1.28

CALIB			
STANDHYD (0165)	Area (ha)= 101.91		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 42.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	50.96	50.96
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	824.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	36.23
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	17.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	4.42	4.81 9.230 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	54.38 65.06
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.67 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2165)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0165):	101.91	9.230	5.25	65.06	
+ ID2= 2 (5165):	6749.04	63.803	6.25	37.64	
ID = 3 (2165):	6850.95	66.672	6.25	38.04	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5383)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (5383.0) ------>

Distance	Elevation	Manning	
0.00	217.40	0.0930	
9.80	217.00	0.0930	
16.80	215.50	0.0930	
48.20	214.50	0.0930	
66.70	214.50	0.0930	
92.00	211.00	0.0930	
96.20	210.50	0.0930 /0.0410	Main Channel
97.00	210.10	0.0410	Main Channel
107.00	210.10	0.0410	Main Channel
107.50	210.50	0.0410 /0.0930	Main Channel
112.00	211.00	0.0930	
120.50	212.50	0.0930	
131.90	213.00	0.0930	
199.00	213.00	0.0930	
201.70	212.50	0.0930	
214.00	212.00	0.0930	
229.70	212.00	0.0930	
243.80	215.00	0.0930	
270.00	215.00	0.0930	
310.90	216.00	0.0930	

407 TWY 3 - Etobicoke - 12hr AES (EX)

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
Unit Hyd. peak (cms)=	0.11	0.07				
					TOTALS	
PEAK FLOW (cms)=	1.96	3.34			5.294 (iii)	
TIME TO PEAK (hrs)=	5.00	5.25			5.25	
RUNOFF VOLUME (mm)=	79.82	51.43			60.23	
TOTAL RAINFALL (mm)=	80.82	80.82			80.82	
RUNOFF COEFFICIENT =	0.99	0.64			0.75	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2383)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0383):	61.08	5.294	5.25	60.23	
+ ID2= 2 (5383):	6850.95	65.720	6.50	38.04	
ID = 3 (2383):	6912.03	66.994	6.25	38.24	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0177)	Area (ha)= 144.80		
ID= 1 DT=15.0 min	Total Imp(%)= 52.00	Dir. Conn.(%)= 43.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.30	69.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	982.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	38.75
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	6.38	3.55 8.635 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	79.82	57.74 67.24
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.71 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1720)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0177):	144.80	8.635	5.25	67.24	
+ ID2= 2 (2383):	6912.03	66.994	6.25	38.24	
ID = 3 (1720):	7056.83	72.415	6.25	38.84	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DIVERT HYD (1800)	
IN= 1 # OUT= 5	

Outflow / Inflow Relationships

Flow 1 (cms)	+ Flow 2 (cms)	+ Flow 3 (cms)	+ Flow 4 (cms)	+ Flow 5 (cms)	= Total (cms)
0.00	0.00	0.00	0.00	0.00	0.00
0.00	******	0.00	0.00	0.00	******

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	7056.83	72.41	6.25	38.84
ID= 2 (2) :	0.01	0.00	6.25	38.84
ID= 3 (2) :	7056.82	72.41	6.25	38.84
ID= 4 (2) :	0.00	0.00	0.00	0.00
ID= 5 (2) :	0.00	0.00	0.00	0.00
ID= 6 (2) :	0.00	0.00	0.00	0.00

ROUTE CHN (5800)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<---- DATA FOR SECTION (5800.0) ------>

Distance	Elevation	Manning	
0.00	214.42	0.0700	
79.28	213.89	0.0700	
120.12	213.16	0.0700	
155.24	211.47	0.0700 /0.0700	Main Channel
158.88	211.30	0.0700	Main Channel
162.95	211.27	0.0700	Main Channel
173.48	211.26	0.0700	Main Channel
221.99	210.58	0.0700	Main Channel
245.42	210.53	0.0700	Main Channel
264.64	210.60	0.0700	Main Channel
283.77	210.98	0.0700	Main Channel
294.38	211.50	0.0700 /0.0700	Main Channel
314.27	212.46	0.0700	
375.00	214.31	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	210.72	.117E+05	1.6	0.20	122.43
0.38	210.91	.314E+05	6.6	0.32	78.97
0.56	211.09	.573E+05	15.6	0.41	61.03
0.75	211.28	.884E+05	27.4	0.46	53.77
0.94	211.47	.126E+06	47.3	0.56	44.53

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	210.30	.188E+04	1.1	0.53	28.54
0.40	210.50	.388E+04	3.5	0.82	18.44
0.72	210.82	.804E+04	10.0	1.14	13.34
1.05	211.15	.138E+05	19.8	1.30	11.64
1.37	211.47	.209E+05	32.8	1.43	10.61
1.69	211.79	.292E+05	49.2	1.54	9.89
2.02	212.12	.406E+05	67.1	1.51	10.07
2.34	212.44	.584E+05	93.8	1.46	10.37
2.66	212.76	.801E+05	127.3	1.45	10.49
2.99	213.09	.111E+06	158.3	1.30	11.68
3.31	213.41	.158E+06	222.8	1.28	11.83
3.64	213.74	.206E+06	301.4	1.33	11.41
3.96	214.06	.256E+06	393.0	1.40	10.84
4.28	214.38	.306E+06	497.1	1.48	10.26
4.61	214.71	.362E+06	595.1	1.50	10.13
4.93	215.03	.423E+06	682.5	1.47	10.34
5.25	215.35	.497E+06	819.4	1.50	10.12
5.58	215.68	.578E+06	979.1	1.54	9.84
5.90	216.00	.663E+06	1160.9	1.59	9.52

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2165)	6850.95	66.67	6.25	38.04	2.01	1.51
OUTFLOW: ID= 1 (5383)	6850.95	65.72	6.50	38.04	1.99	1.51

CALIB			
STANDHYD (0383)	Area (ha)= 61.08		
ID= 1 DT=15.0 min	Total Imp(%)= 40.00	Dir. Conn.(%)= 31.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.43	36.65
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.60
Length (m)=	638.12	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	34.38
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00

1.14	211.67	.170E+06	76.4	0.68	37.02
1.35	211.88	.216E+06	111.7	0.78	32.20
1.55	212.08	.264E+06	152.9	0.87	28.81
1.75	212.28	.315E+06	200.1	0.95	26.27
1.95	212.48	.369E+06	253.3	1.03	24.29
2.16	212.69	.426E+06	312.4	1.10	22.72
2.36	212.89	.486E+06	377.9	1.17	21.42
2.56	213.09	.549E+06	450.2	1.23	20.33
2.77	213.30	.616E+06	527.6	1.28	19.47
2.97	213.50	.689E+06	612.3	1.33	18.75
3.17	213.70	.767E+06	705.3	1.38	18.12
3.37	213.90	.850E+06	806.4	1.42	17.57
3.58	214.11	.942E+06	911.2	1.45	17.23
3.78	214.31	.105E+07	1029.3	1.48	16.93

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	0.01	0.00	6.25	38.84	0.00	0.20
OUTFLOW: ID= 1 (5800)	0.01	0.00	8.00	38.84	0.00	0.20

ROUTE CHN (5720)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5720.0) ------>

Distance	Elevation	Manning	
0.00	217.21	0.1110	
21.44	216.00	0.1110	
44.42	215.50	0.1110	
50.34	215.00	0.1110	
62.51	209.50	0.1110	
65.10	209.15	0.1110	
66.24	209.00	0.1110 /0.0490	Main Channel
66.50	208.60	0.0490	Main Channel
68.40	208.60	0.0490	Main Channel
68.93	209.00	0.0490 /0.1110	Main Channel
69.89	209.12	0.1110	
72.86	209.50	0.1110	
80.96	213.52	0.1110	
83.23	214.31	0.1110	
86.07	215.00	0.1110	
87.25	215.10	0.1110	
97.04	215.50	0.1110	
101.19	215.50	0.1110	
112.34	215.74	0.1110	
112.52	215.74	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	208.80	.325E+03	0.2	0.46	28.04
0.40	209.00	.710E+03	0.6	0.67	19.10
0.80	209.40	.247E+04	2.5	0.79	16.41
1.19	209.79	.573E+04	6.3	0.86	15.03
1.59	210.19	.954E+04	12.0	0.98	13.20
1.99	210.59	.139E+05	19.5	1.09	11.85
2.38	210.98	.187E+05	28.7	1.19	10.85
2.78	211.38	.241E+05	39.8	1.28	10.08
3.18	211.78	.299E+05	52.7	1.36	9.46
3.57	212.17	.363E+05	67.6	1.44	8.95

3.97	212.57	.432E+05	84.5	1.51	8.52
4.36	212.96	.506E+05	103.6	1.58	8.14
4.76	213.36	.585E+05	124.8	1.65	7.82
5.16	213.76	.670E+05	147.8	1.71	7.55
5.55	214.15	.761E+05	173.1	1.76	7.32
5.95	214.55	.858E+05	200.2	1.81	7.14
6.35	214.95	.962E+05	229.9	1.85	6.98
6.74	215.34	.109E+06	242.9	1.73	7.45
7.14	215.74	.127E+06	242.9	1.48	8.73

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	7056.82	72.41	6.25	38.84	3.68	1.46
OUTFLOW: ID= 1 (5720)	7056.82	71.86	6.50	38.84	3.66	1.46

ADD HYD (2800)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (5720):	7056.82	71.857	6.50	38.84
+ ID2= 2 (5800):	0.01	0.000	8.00	38.84
ID = 3 (2800):	7056.83	71.857	6.50	38.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0720)	Area (ha)= 50.88
ID= 1 DT=15.0 min	Total Imp(%)= 36.00 Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.32	32.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	582.41	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.30
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.68 1.65 3.146 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	79.82 48.43 58.48
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.60 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2720)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0720):	50.88	3.146	5.25	58.48
+ ID2= 2 (2800):	7056.83	71.857	6.50	38.84
ID = 3 (2720):	7107.71	73.263	6.50	38.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0393)	Area (ha)= 98.98
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	56.42	42.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	812.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	36.88
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	67.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	5.20 2.25 6.644 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	79.82 57.00 68.64
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.71 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1394)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0393):	98.98	6.644	5.25	68.64
+ ID2= 2 (2720):	7107.71	73.263	6.50	38.98
ID = 3 (1394):	7206.69	76.794	6.25	39.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5394)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5394.0) ------>

Distance	Elevation	Manning	
0.00	213.16	0.1110	
20.83	211.00	0.1110	
60.38	209.34	0.1110	
86.89	209.00	0.1110	
94.15	208.62	0.1110	
151.69	206.40	0.1110	
157.26	206.00	0.1110	
161.49	205.39	0.1110	
163.96	204.98	0.1110 /0.0490	Main Channel
166.91	204.50	0.0490	Main Channel
174.77	204.50	0.0490	Main Channel
177.78	204.96	0.0490	Main Channel
178.68	205.00	0.0490	Main Channel
178.78	204.99	0.0490 /0.1110	Main Channel
180.81	206.00	0.1110	
203.93	206.50	0.1110	
209.84	206.50	0.1110	
222.90	207.00	0.1110	
250.93	210.92	0.1110	
250.94	213.16	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	204.74	.209E+04	0.7	0.33	47.42
0.48	204.98	.486E+04	2.5	0.48	32.36
0.96	205.46	.123E+05	10.4	0.78	19.84
1.44	205.94	.216E+05	22.7	0.97	15.86
1.92	206.42	.372E+05	39.8	0.99	15.55
2.40	206.90	.676E+05	65.8	0.90	17.13
2.89	207.39	.108E+06	104.1	0.89	17.35
3.37	207.87	.156E+06	154.4	0.92	16.88
3.85	208.35	.211E+06	217.1	0.95	16.23
4.33	208.83	.273E+06	293.4	0.99	15.54
4.81	209.31	.344E+06	374.8	1.01	15.30
5.29	209.79	.427E+06	483.1	1.05	14.73
5.77	210.27	.517E+06	608.5	1.09	14.15
6.25	210.75	.613E+06	750.5	1.14	13.61
6.74	211.24	.715E+06	918.2	1.19	12.98
7.22	211.72	.820E+06	1109.3	1.26	12.32
7.70	212.20	.927E+06	1316.7	1.32	11.73
8.18	212.68	.104E+07	1539.9	1.38	11.21
8.66	213.16	.115E+07	1778.7	1.44	10.74

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1394)	7206.69	76.79	6.25	39.38	2.54	0.90
OUTFLOW: ID= 1 (5394)	7206.69	74.62	6.50	39.38	2.52	0.90

CALIB	
STANDHYD (0394)	Area (ha)= 38.01
ID= 1 DT=15.0 min	Total Imp(%)= 31.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.78	26.23
Dep. Storage	(mm)=	1.00	4.00

Average Slope	(%)=	1.00	4.70
Length	(m)=	503.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	29.82
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	0.98	1.34 2.171 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	79.82	46.33 54.70
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.57 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2394)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0394):	38.01	2.171	5.25	54.70
+ ID2= 2 (5394):	7206.69	74.624	6.50	39.38
ID = 3 (2394):	7244.70	75.665	6.50	39.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5221)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5221.0) ------>

Distance	Elevation	Manning	
0.00	209.40	0.1110	
6.90	205.50	0.1110	
12.79	205.00	0.1110	
50.72	205.00	0.1110	
54.17	204.40	0.1110	
58.47	204.00	0.1110	
68.03	203.71	0.1110	
77.31	203.69	0.1110	
81.46	203.50	0.1110	
86.45	203.56	0.1110	
89.27	202.50	0.1110	
89.61	202.33	0.1110 /0.0490	Main Channel
90.01	201.80	0.0490	Main Channel
100.15	201.80	0.0490	Main Channel
100.63	202.43	0.0490 /0.1110	Main Channel
104.18	204.27	0.1110	
115.16	204.94	0.1110	
119.53	204.93	0.1110	
121.87	205.00	0.1110	

148.39 209.73 0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	202.07	.229E+04	1.1	0.40	34.80
0.53	202.33	.467E+04	3.5	0.62	22.52
0.95	202.75	.875E+04	9.3	0.89	15.59
1.36	203.16	.135E+05	17.6	1.09	12.75
1.78	203.58	.191E+05	27.9	1.22	11.42
2.19	203.99	.314E+05	42.1	1.12	12.44
2.61	204.41	.481E+05	61.9	1.08	12.96
3.03	204.83	.679E+05	87.5	1.08	12.95
3.44	205.24	.999E+05	113.6	0.95	14.66
3.86	205.66	.140E+06	161.3	0.96	14.52
4.27	206.07	.182E+06	219.4	1.01	13.86
4.69	206.49	.225E+06	286.6	1.06	13.11
5.10	206.90	.269E+06	362.5	1.13	12.39
5.52	207.32	.315E+06	446.9	1.19	11.73
5.94	207.74	.361E+06	539.4	1.25	11.15
6.35	208.15	.408E+06	640.0	1.31	10.62
6.77	208.57	.456E+06	748.5	1.37	10.16
7.18	208.98	.506E+06	864.8	1.43	9.74
7.60	209.40	.556E+06	988.9	1.49	9.37

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2394)	7244.70	75.67	6.50	39.46	2.83	1.08
OUTFLOW: ID= 1 (5221)	7244.70	74.70	6.75	39.46	2.82	1.08

CALIB
STANDHYD (0221) | Area (ha)= 129.39
ID= 1 DT=15.0 min | Total Imp(%)= 48.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.11	67.28
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	928.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	38.19
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	75.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	5.18	3.52 7.434 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	79.82	57.52 66.22
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.71 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2221)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0221):	129.39	7.434	5.25	66.22
+ ID2= 2 (5221):	7244.70	74.703	6.75	39.46
ID = 3 (2221):	7374.09	78.512	6.75	39.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5233)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5233.0) ------>

Distance	Elevation	Manning	
0.00	211.05	0.1110	
13.16	206.00	0.1110	
38.98	205.50	0.1110	
46.73	205.50	0.1110	
58.41	203.00	0.1110	
69.39	202.53	0.1110	
79.51	202.50	0.1110	
95.91	202.01	0.1110 /0.0490	Main Channel
96.32	201.98	0.0490	Main Channel
100.74	201.58	0.0490	Main Channel
109.40	201.58	0.0490	Main Channel
111.17	202.00	0.0490 /0.1110	Main Channel
111.89	202.15	0.1110	
117.63	203.50	0.1110	
119.63	204.24	0.1110	
122.33	205.00	0.1110	
127.31	205.55	0.1110	
140.44	206.50	0.1110	
170.27	211.50	0.1110	
180.32	212.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	202.00	.395E+04	2.6	0.51	25.73
0.90	202.48	.130E+05	12.1	0.74	17.85
1.37	202.95	.313E+05	30.7	0.78	17.01
1.85	203.43	.535E+05	59.9	0.89	14.88
2.33	203.91	.772E+05	98.3	1.01	13.09
2.80	204.38	.102E+06	145.0	1.12	11.76
3.28	204.86	.129E+06	199.5	1.23	10.76
3.75	205.33	.157E+06	261.1	1.32	10.02
4.23	205.81	.191E+06	306.9	1.27	10.40
4.71	206.29	.237E+06	388.0	1.30	10.16
5.18	206.76	.285E+06	493.3	1.37	9.63
5.66	207.24	.335E+06	612.1	1.45	9.13
6.14	207.72	.387E+06	742.9	1.52	8.68
6.61	208.19	.440E+06	885.6	1.60	8.29
7.09	208.67	.495E+06	1040.0	1.67	7.94
7.56	209.14	.552E+06	1206.2	1.73	7.62
8.04	209.62	.609E+06	1384.0	1.80	7.34

8.52	210.10	.669E+06	1573.4	1.87 7.09
8.99	210.57	.730E+06	1774.6	1.93 6.86

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2221)	7374.09	78.51	6.75	39.93	2.08	0.94
OUTFLOW: ID= 1 (5233)	7374.09	77.96	7.00	39.93	2.07	0.94

CALIB
STANDHYD (0233) | Area (ha)= 60.17
ID= 1 DT=15.0 min | Total Imp(%)= 44.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.47	33.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.10
Length	(m)=	633.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	37.71
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.17	2.09 3.834 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	79.82	57.33 65.20
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.71 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2233)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0233):	60.17	3.834	5.25	65.20
+ ID2= 2 (5233):	7374.09	77.955	7.00	39.93
ID = 3 (2233):	7434.26	79.512	7.00	40.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5242)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5242.0) ------>

Distance	Elevation	Manning

0.00	206.25	0.1110	
7.53	204.51	0.1110	
40.12	201.31	0.1110	
59.19	200.00	0.1110	
69.28	199.50	0.1110	
73.36	199.03	0.1110 /0.0490	Main Channel
74.00	198.50	0.0490	Main Channel
83.49	198.50	0.0490	Main Channel
84.08	199.00	0.0490 /0.1110	Main Channel
84.49	199.26	0.1110	
86.60	200.30	0.1110	
87.15	200.50	0.1110	
94.96	201.00	0.1110	
98.93	201.50	0.1110	
111.89	204.46	0.1110	
115.16	205.00	0.1110	
122.69	207.55	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	198.75	.233E+04	1.0	0.40	39.67
0.50	199.00	.480E+04	3.1	0.62	25.72
0.93	199.43	.995E+04	9.2	0.88	17.97
1.35	199.85	.176E+05	18.3	0.99	16.00
1.78	200.28	.289E+05	31.3	1.03	15.39
2.21	200.71	.434E+05	48.2	1.06	15.01
2.63	201.13	.628E+05	70.2	1.07	14.90
3.06	201.56	.862E+05	98.6	1.09	14.58
3.49	201.99	.113E+06	133.3	1.13	14.06
3.91	202.41	.141E+06	174.0	1.17	13.53
4.34	202.84	.173E+06	220.8	1.22	13.03
4.76	203.26	.206E+06	273.9	1.26	12.57
5.19	203.69	.243E+06	333.4	1.31	12.14
5.62	204.12	.282E+06	399.8	1.35	11.74
6.04	204.54	.323E+06	473.2	1.39	11.38
6.47	204.97	.367E+06	557.1	1.45	10.97
6.90	205.40	.412E+06	650.2	1.50	10.56
7.32	205.82	.458E+06	750.3	1.56	10.18
7.75	206.25	.506E+06	857.3	1.61	9.83

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2233)	7434.26	79.51	7.00	40.14	2.77	1.07
OUTFLOW: ID= 1 (5242)	7434.26	78.56	7.25	40.14	2.75	1.07

CALIB
STANDHYD (0242)
ID= 1 DT=15.0 min

Area (ha)= 144.68
Total Imp(%)= 52.00 Dir. Conn.(%)= 44.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.23	69.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	982.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	38.65
over (min)	15.00	30.00

Storage Coeff. (min)= 12.60 (ii) 73.20 (ii)
Unit Hyd. Tpeak (min)= 15.00 75.00
Unit Hyd. peak (cms)= 0.08 0.02

		TOTALS
PEAK FLOW	(cms)=	6.54 3.76 8.971 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	79.82 58.96 68.14
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.73 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2242)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0242):	144.68	8.971	5.25	68.14
+ ID2= 2 (5242):	7434.26	78.561	7.25	40.14
ID = 3 (2242):	7578.94	82.151	7.25	40.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5551)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5551.0) ------>

Distance	Elevation	Manning	
0.00	206.24	0.1110	
25.71	201.81	0.1110	
46.60	199.50	0.1110	
67.80	199.50	0.1110	
74.10	198.50	0.1110	
97.90	197.50	0.1110	
132.90	197.50	0.1110	
138.60	197.00	0.1110	
146.80	196.50	0.1110 /0.0490	Main Channel
150.90	196.00	0.0490	Main Channel
160.46	196.00	0.0490	Main Channel
161.39	196.31	0.0490	Main Channel
161.98	196.50	0.0490 /0.1110	Main Channel
163.24	196.92	0.1110	
163.50	197.00	0.1110	
165.25	197.50	0.1110	
193.50	204.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	196.25	.400E+04	1.8	0.65	37.22
0.50	196.50	.903E+04	6.1	0.98	24.86
0.94	196.94	.216E+05	21.1	1.43	17.03
1.38	197.38	.392E+05	44.8	1.67	14.58

1.82	197.82	.785E+05	80.3	1.49	16.31
2.26	198.26	.132E+06	136.7	1.52	16.07
2.71	198.71	.193E+06	212.4	1.61	15.11
3.15	199.15	.257E+06	307.3	1.75	13.94
3.59	199.59	.327E+06	395.1	1.76	13.80
4.03	200.03	.412E+06	531.2	1.88	12.93
4.47	200.47	.500E+06	686.6	2.00	12.15
4.91	200.91	.593E+06	861.3	2.12	11.47
5.35	201.35	.689E+06	1054.9	2.24	10.88
5.79	201.79	.789E+06	1267.4	2.35	10.37
6.24	202.24	.892E+06	1504.2	2.46	9.88
6.68	202.68	.998E+06	1760.2	2.57	9.45
7.12	203.12	.111E+07	2034.9	2.68	9.07
7.56	203.56	.122E+07	2328.5	2.79	8.73
8.00	204.00	.133E+07	2640.8	2.89	8.42

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2242)	7578.94	82.15	7.25	40.67	1.84	1.49
OUTFLOW: ID= 1 (5551)	7578.94	80.96	7.50	40.67	1.83	1.49

CALIB
NASHYD (0551)
ID= 1 DT=15.0 min

Area (ha)= 27.37 Curve Number (CN)= 79.1
Ia (mm)= 6.70 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.31

Unit Hyd Qpeak (cms)= 3.405

PEAK FLOW (cms)= 1.588 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 37.969
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.470

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2551)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0551):	27.37	1.588	5.25	37.97
+ ID2= 2 (5551):	7578.94	80.961	7.50	40.67
ID = 3 (2551):	7606.31	81.218	7.50	40.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0554)
ID= 1 DT=15.0 min

Area (ha)= 16.13
Total Imp(%)= 50.00 Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.06	8.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30

Length	(m)=	327.92 40.00
Mannings n	=	0.013 0.250
Max.Eff.Inten.(mm/hr)=		37.17 40.72
over (min)		15.00 30.00
Storage Coeff. (min)=		6.60 (ii) 37.80 (ii)
Unit Hyd. Tpeak (min)=		15.00 45.00
Unit Hyd. peak (cms)=		0.10 0.03

		TOTALS
PEAK FLOW	(cms)=	0.65 0.65 1.252 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	79.82 59.72 67.56
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.74 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9099)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	16.13	1.25	5.25	67.56
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	16.13	1.25	5.25	67.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6099)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1500	2.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9099)	16.130	1.252	5.25	67.56
OUTFLOW: ID= 1 (6099)	16.130	0.070	9.50	67.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.60
TIME SHIFT OF PEAK FLOW (min)=255.00
MAXIMUM STORAGE USED (ha.m.)= 0.9358

ADD HYD (4099)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				

*** W A R N I N G : HYDROGRAPH 9099 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6099):	16.13	0.070	9.50	67.35
+ ID2= 2 (9099):	0.00	0.000	0.00	0.00
ID = 3 (4099):	16.13	0.070	9.50	67.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1230)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2551):	7606.31	81.218	7.50	40.66
+ ID2= 2 (4099):	16.13	0.070	9.50	67.35
ID = 3 (1230):	7622.44	81.284	7.50	40.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5230)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5230.0) ------>

Distance	Elevation	Manning	
0.00	206.83	0.1110	
4.14	206.00	0.1110	
22.63	198.67	0.1110	
36.40	196.50	0.1110	
112.13	195.70	0.1110	
118.23	195.50	0.1110	
122.94	195.00	0.1110	
123.65	194.50	0.1110 /0.0490	Main Channel
123.86	194.36	0.0490	Main Channel
135.37	194.41	0.0490	Main Channel
135.47	194.41	0.0490	Main Channel
135.58	194.50	0.0490 /0.1110	Main Channel
136.38	195.21	0.1110	
163.77	196.50	0.1110	
176.41	197.50	0.1110	
187.00	199.50	0.1110	
197.29	200.50	0.1110	
222.22	205.14	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	194.50	.102E+04	0.3	0.22	57.77
0.70	195.06	.639E+04	5.8	0.69	18.34
1.26	195.62	.149E+05	16.6	0.84	14.95
1.82	196.18	.395E+05	36.4	0.70	18.12
2.38	196.74	.894E+05	77.0	0.65	19.35
2.94	197.30	.147E+06	141.7	0.73	17.35
3.50	197.86	.210E+06	227.1	0.82	15.39
4.06	198.42	.275E+06	331.5	0.91	13.82
4.62	198.98	.343E+06	455.0	1.00	12.55
5.18	199.54	.412E+06	596.4	1.09	11.52
5.74	200.10	.485E+06	751.0	1.17	10.75
6.30	200.66	.560E+06	924.2	1.25	10.09
6.86	201.22	.637E+06	1117.9	1.33	9.50
7.42	201.78	.716E+06	1327.9	1.40	8.99

7.98	202.34	.797E+06	1554.0	1.47	8.55
8.54	202.90	.880E+06	1796.2	1.54	8.17
9.10	203.46	.965E+06	2054.2	1.61	7.83
9.66	204.02	.105E+07	2328.1	1.67	7.53
10.22	204.58	.114E+07	2617.9	1.74	7.26

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1230)	7622.44	81.28	7.50	40.72	2.42	0.66
OUTFLOW: ID= 1 (5230)	7622.44	79.63	7.75	40.72	2.40	0.65

CALIB	
STANDHYD (0230)	Area (ha)= 73.89
ID= 1 DT=15.0 min	Total Imp(%)= 28.00 Dir. Conn.(%)= 22.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.69	53.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.40
Length	(m)=	701.85	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.53
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	54.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.68	2.71	3.761 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	51.59	57.80
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.64	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2230)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0230):	73.89	3.761	5.25	57.80
+ ID2= 2 (5230):	7622.44	79.635	7.75	40.72
ID = 3 (2230):	7696.33	80.914	7.75	40.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0561)	Area (ha)= 20.84

CALIB	
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.46	9.38
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80
Length	(m)=	372.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	36.48
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	49.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.08	0.60	1.618 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	79.82	58.11	68.96
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.72	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9561)	
Inlet Cap.=0.850	
#of Inlets= 1	
Total(cms)= 0.9	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	20.84	1.62	5.25	68.96
MAJOR SYS.(ID= 2):	3.15	0.77	5.25	68.96
MINOR SYS.(ID= 3):	17.69	0.85	4.50	68.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2230):	7696.33	80.914	7.75	40.88
+ ID2= 2 (9561):	17.69	0.850	4.50	68.96
ID = 3 (****):	7714.02	81.206	7.75	40.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5389)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5389.0) ------>

Distance	Elevation	Manning

0.00	199.34	0.1110
3.25	198.31	0.1110
8.26	194.50	0.1110
12.49	192.78	0.1110
35.23	192.57	0.1110
45.14	192.86	0.1110
56.75	192.19	0.1110
64.87	192.00	0.1110
86.92	192.00	0.1110
87.41	191.50	0.1110
87.93	191.00	0.1110
88.41	190.96	0.1110 /0.0490 Main Channel
89.77	190.00	0.0490 Main Channel
93.81	190.00	0.0490 Main Channel
95.69	190.80	0.0490 Main Channel
96.61	191.00	0.0490 /0.1110 Main Channel
98.47	191.50	0.1110
113.20	193.50	0.1110
129.63	197.50	0.1110
129.73	197.53	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	190.32	.222E+04	0.9	0.58	42.60
0.64	190.64	.502E+04	2.9	0.87	28.76
0.96	190.96	.843E+04	5.9	1.05	23.65
1.37	191.37	.142E+05	12.9	1.35	18.41
1.78	191.78	.214E+05	22.3	1.55	16.04
2.19	192.19	.382E+05	35.0	1.37	18.18
2.60	192.60	.702E+05	55.8	1.19	20.95
3.01	193.01	.124E+06	87.2	1.05	23.68
3.42	193.42	.185E+06	135.4	1.09	22.78
3.83	193.83	.248E+06	195.9	1.18	21.14
4.24	194.24	.313E+06	267.3	1.27	19.55
4.66	194.66	.380E+06	349.2	1.37	18.15
5.07	195.07	.448E+06	441.3	1.47	16.93
5.48	195.48	.518E+06	542.9	1.57	15.90
5.89	195.89	.589E+06	653.9	1.66	15.00
6.30	196.30	.661E+06	773.9	1.75	14.23
6.71	196.71	.734E+06	902.9	1.84	13.56
7.12	197.12	.809E+06	1040.7	1.92	12.96
7.53	197.53	.886E+06	1187.4	2.00	12.43

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (****)	7714.02	81.21	7.75	40.95	2.94	1.08
OUTFLOW: ID= 1 (5389)	7714.02	79.06	8.25	40.95	2.90	1.09

CALIB	
STANDHYD (0389)	Area (ha)= 77.16
ID= 1 DT=15.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.52	58.64
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.50
Length	(m)=	717.22	40.00
Mannings n	=	0.013	0.250

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     Max.Eff.Inten.(mm/hr)=      37.17        27.24
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   52.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.91         2.54          4.127 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      79.82        45.80         53.97
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.57          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2389) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0389):    77.16   4.127     5.25    53.97
       + ID2= 2 (5389):  7714.02  79.064     8.25    40.95
         ==========================================
         ID = 3 (2389):  7791.18  79.956     8.25    41.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5680) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5680.0) ------>
               Distance      Elevation       Manning
                   0.00         192.05        0.1110
                   4.42         191.50        0.1110
                  19.11         187.00        0.1110
                  24.86         186.33        0.1110
                  30.83         186.31        0.1110
                  36.85         186.50        0.1110
                  56.81         186.50        0.1110
                  63.15         186.00        0.1110
                  73.63         186.00        0.1110
                  74.48         185.90    0.1110 /0.0490  Main Channel
                  75.36         184.90        0.0490      Main Channel
                  82.36         184.90        0.0490      Main Channel
                  83.09         185.85    0.0490 /0.1110  Main Channel
                  83.24         185.85        0.1110
                  96.38         186.50        0.1110
                 112.87         191.86        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.32   185.22    .230E+04       1.5          0.64      26.12
      0.63   185.53    .476E+04       4.6          0.97      17.18
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      0.95   185.85    .739E+04       9.1          1.22      13.61
      1.33   186.23    .150E+05      17.5          1.16      14.35
      1.70   186.60    .339E+05      31.6          0.93      17.88
      2.08   186.98    .626E+05      58.2          0.93      17.92
      2.45   187.35    .925E+05      94.4          1.02      16.33
      2.83   187.73    .123E+06     139.1          1.13      14.79
      3.20   188.10    .155E+06     191.4          1.23      13.51
      3.58   188.48    .188E+06     251.2          1.34      12.47
      3.96   188.86    .221E+06     318.1          1.44      11.60
      4.33   189.23    .256E+06     392.0          1.53      10.88
      4.71   189.61    .291E+06     472.7          1.62      10.27
      5.08   189.98    .328E+06     560.2          1.71       9.74
      5.46   190.36    .365E+06     654.4          1.79       9.29
      5.83   190.73    .403E+06     755.2          1.87       8.89
      6.21   191.11    .442E+06     862.6          1.95       8.53
      6.58   191.48    .482E+06     976.5          2.03       8.22
      6.96   191.86    .523E+06    1088.5          2.08       8.00

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2389) 7791.18    79.96    8.25  41.08      2.30      0.98
     OUTFLOW: ID= 1 (5680) 7791.18    79.39    8.50  41.08      2.29      0.98


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| CALIB            |
| STANDHYD  (0680) |   Area    (ha)=  29.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  19.00   Dir. Conn.(%)=  19.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.64        24.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         8.80
     Length            (m)=     444.97        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        27.24
               over (min)       15.00        15.00
     Storage Coeff.  (min)=       6.00 (ii)   34.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.58         1.28          1.859 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      79.82        45.80         52.26
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.57          0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2680) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0680):    29.70   1.859     5.25    52.26
       + ID2= 2 (5680):  7791.18  79.395     8.50    41.08
         ==========================================
         ID = 3 (2680):  7820.88  79.615     8.50    41.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0215) |   Area    (ha)= 168.73
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  52.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      97.86        70.87
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.80
     Length            (m)=    1060.60        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        38.42
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      15.60 (ii)   91.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        90.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.94         3.37         10.776 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=      79.82        60.20         70.40
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.74          0.87


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (5563) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5563.0) ------>
               Distance      Elevation       Manning
                   0.00         191.36        0.1110
                  14.77         191.00        0.1110
                  25.44         190.67        0.1110
                  80.93         190.90        0.1110
                 145.10         190.42        0.1110
                 212.09         190.83        0.1110
                 285.12         189.56        0.1110
                 295.52         188.71        0.1110
                 307.38         188.32        0.1110
                 307.51         188.31        0.1110
                 312.32         188.04    0.1110 /0.0490  Main Channel
                 317.15         187.12        0.0490      Main Channel
                 321.73         188.01    0.0490 /0.1110  Main Channel
                 327.33         189.06        0.1110
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                 328.00         189.07        0.1110
                 347.82         189.58        0.1110
                 348.77         189.58        0.1110
                 359.57         189.55        0.1110
                 452.50         191.17        0.1110
                 496.50         191.28        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.18   187.30    .208E+03       0.1          0.42      50.17
      0.36   187.48    .832E+03       0.4          0.67      31.60
      0.53   187.65    .187E+04       1.3          0.87      24.12
      0.71   187.83    .333E+04       2.8          1.06      19.91
      0.89   188.01    .520E+04       5.1          1.23      17.16
      1.12   188.24    .862E+04      10.3          1.51      13.96
      1.36   188.48    .138E+05      17.5          1.60      13.14
      1.59   188.71    .214E+05      27.2          1.61      13.11
      1.82   188.94    .309E+05      40.1          1.64      12.84
      2.06   189.18    .419E+05      55.2          1.67      12.64
      2.29   189.41    .561E+05      74.0          1.66      12.65
      2.52   189.64    .755E+05      94.5          1.58      13.32
      2.76   189.88    .104E+06     122.0          1.47      14.28
      2.99   190.11    .141E+06     158.7          1.42      14.85
      3.23   190.35    .186E+06     205.5          1.39      15.10
      3.46   190.58    .244E+06     249.0          1.29      16.31
      3.69   190.81    .332E+06     310.8          1.18      17.80
      3.93   191.05    .455E+06     425.1          1.18      17.82
      4.16   191.28    .588E+06     551.2          1.18      17.79

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0215)  168.73    10.78    5.25  70.40      1.14      1.51
     OUTFLOW: ID= 1 (5563)  168.73    10.30    5.25  70.40      1.12      1.50


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--------------------
| CALIB            |
| STANDHYD  (0563) |   Area    (ha)=  27.61
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  37.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      10.22        17.39
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.90
     Length            (m)=     429.03        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        29.32
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   42.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.05         0.90          1.868 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      79.82        49.94         60.99
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.62          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2563) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0563):    27.61   1.868     5.25    60.99
        + ID2= 2 (5563):   168.73  10.303     5.25    70.40
          ================================================
          ID = 3 (2563):   196.34  12.171     5.25    69.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| STANDHYD  (0565) |   Area    (ha)=  11.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  54.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.11         5.20
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.20
     Length            (m)=    274.59        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        32.15
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.63         0.32       0.924 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50        5.25
     RUNOFF VOLUME    (mm)=     79.82        56.18       68.94
     TOTAL RAINFALL   (mm)=     80.82        80.82       80.82
     RUNOFF COEFFICIENT   =      0.99         0.70        0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9290) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  11.31      0.92      5.25   68.94
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
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     MINOR SYS.(ID= 3):  11.31      0.92      5.25   68.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0680      0.3357
                          0.0690     0.0792   |   0.9860      0.4276
                          0.2090     0.1615   |   1.3660      0.5226
                          0.4090     0.2471   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9290)     11.310     0.924      5.25      68.94
     OUTFLOW: ID= 1 (6290)     11.310     0.520      5.50      68.92

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 56.30
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2861

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-------------------
| ADD HYD   (4290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9290 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6290):    11.31   0.520     5.50    68.92
        + ID2= 2 (9290):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4290):    11.31   0.520     5.50    68.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (3563) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2563):   196.34  12.171     5.25    69.08
        + ID2= 2 (4290):    11.31   0.520     5.50    68.92
          ================================================
          ID = 3 (3563):   207.65  12.627     5.25    69.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (3680) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2680):  7820.88  79.615     8.50    41.12
        + ID2= 2 (3563):   207.65  12.627     5.25    69.07
          ================================================
          ID = 3 (3680):  8028.53  82.928     8.25    41.84
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   0.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.19         0.41
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00        13.50
     Length            (m)=     63.25        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        30.02
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.02         0.03       0.046 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=     79.82        51.42       60.19
     TOTAL RAINFALL   (mm)=     80.82        80.82       80.82
     RUNOFF COEFFICIENT   =      0.99         0.64        0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   1.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.50         1.10
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00        13.50
     Length            (m)=    103.28        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        30.02
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.05         0.07       0.123 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=     79.82        51.42       60.21
     TOTAL RAINFALL   (mm)=     80.82        80.82       80.82
     RUNOFF COEFFICIENT   =      0.99         0.64        0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  19.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.14        13.67
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00        13.50
     Length            (m)=    363.41        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        30.02
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.63         0.89       1.524 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=     79.82        51.42       60.22
     TOTAL RAINFALL   (mm)=     80.82        80.82       80.82
     RUNOFF COEFFICIENT   =      0.99         0.64        0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    19.81   1.524     5.25    60.22
        + ID2= 2 (****):     1.60   0.123     5.25    60.21
          ================================================
          ID = 3 (0405):    21.41   1.647     5.25    60.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0404) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0405):    21.41   1.647     5.25    60.22
        + ID2= 2 (****):     0.60   0.046     5.25    60.19
          ================================================
          ID = 3 (0404):    22.01   1.693     5.25    60.22
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9473)				
Inlet Cap.=0.059				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	22.01	1.69	5.25	60.22
MAJOR SYS.(ID= 2):	18.48	1.63	5.25	60.22
MINOR SYS.(ID= 3):	3.53	0.06	2.50	60.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6473)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0590	0.2565

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9473)	3.525	0.059	2.50	60.22
OUTFLOW: ID= 1 (6473)	3.525	0.032	12.50	59.91

PEAK FLOW REDUCTION [Qout/Qin](%)= 53.44
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.1373

ADD HYD (4473)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6473):	3.53	0.032	12.50	59.91
+ ID2= 2 (9473):	18.48	1.634	5.25	60.22
ID = 3 (4473):	22.01	1.648	5.25	60.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1227)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3680):	8028.53	82.928	8.25	41.84
+ ID2= 2 (4473):	22.01	1.648	5.25	60.17
ID = 3 (1227):	8050.54	83.092	8.25	41.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5227)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<-------- DATA FOR SECTION (5227.0) ------>

Distance	Elevation	Manning	
0.00	183.10	0.1110	
2.58	183.12	0.1110	
12.20	179.50	0.1110	
18.00	179.50	0.1110	
24.51	179.00	0.1110	
31.60	179.00	0.1110	
36.79	179.37	0.1110	
53.69	179.00	0.1110 /0.0490	Main Channel
55.00	178.00	0.0490	Main Channel
68.00	178.00	0.0490	Main Channel
69.17	179.00	0.0490 /0.1110	Main Channel
81.13	179.50	0.1110	
103.11	179.50	0.1110	
130.08	180.00	0.1110	
146.16	180.75	0.1110	
171.96	185.35	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	178.25	.765E+04	2.3	0.70	54.53
0.50	178.50	.157E+05	7.4	1.09	35.12
0.75	178.75	.240E+05	14.6	1.40	27.35
1.00	179.00	.327E+05	23.7	1.67	23.01
1.27	179.27	.552E+05	37.9	1.58	24.27
1.55	179.55	.952E+05	58.0	1.40	27.36
1.82	179.82	.159E+06	89.5	1.29	29.60
2.09	180.09	.232E+06	131.2	1.30	29.46
2.37	180.37	.310E+06	183.3	1.36	28.21
2.64	180.64	.393E+06	244.7	1.43	26.77
2.91	180.91	.479E+06	316.3	1.52	25.24
3.19	181.19	.567E+06	397.7	1.61	23.76
3.46	181.46	.656E+06	487.5	1.71	22.43
3.73	181.73	.747E+06	585.4	1.80	21.26
4.01	182.01	.839E+06	691.2	1.89	20.23
4.28	182.28	.933E+06	804.7	1.98	19.32
4.55	182.55	.103E+07	925.7	2.07	18.50
4.83	182.83	.112E+07	1054.1	2.16	17.77
5.10	183.10	.122E+07	1189.9	2.24	17.11

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1227)	8050.54	83.09	8.25	41.89	1.76	1.32
OUTFLOW: ID= 1 (5227)	8050.54	80.75	9.00	41.89	1.74	1.32

CALIB			
STANDHYD (****)	Area (ha)=	91.82	
ID= 1 DT=15.0 min	Total Imp(%)=	32.00	Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	29.38	62.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.60
Length	(m)=	782.39	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	27.92	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	3.03	2.53	4.913 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	47.13	57.59
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.58	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	4.30	
ID= 1 DT=15.0 min	Total Imp(%)=	32.00	Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.38	2.92
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.60
Length	(m)=	169.31	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	27.92	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	0.14	0.12	0.230 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	47.13	57.59
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.58	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	12.48	
ID= 1 DT=15.0 min	Total Imp(%)=	32.00	Dir. Conn.(%)= 32.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	8.49
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.60

Length (m)=	288.44	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	27.92	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	0.41	0.34	0.668 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	47.13	57.59
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.58	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0359)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	12.48	0.668	5.25	57.59
+ ID2= 2 (****):	4.30	0.230	5.25	57.59
ID = 3 (0359):	16.78	0.898	5.25	57.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0358)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0359):	16.78	0.898	5.25	57.59
+ ID2= 2 (****):	91.82	4.913	5.25	57.59
ID = 3 (0358):	108.60	5.811	5.25	57.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2227)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0358):	108.60	5.811	5.25	57.59
+ ID2= 2 (5227):	8050.54	80.753	9.00	41.89
ID = 3 (2227):	8159.14	81.719	8.75	42.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0197)	Area (ha)= 124.38		
ID= 1 DT=15.0 min	Total Imp(%)= 67.00	Dir. Conn.(%)= 62.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	83.33	41.05	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.50	
Length	(m)=	910.60	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	39.42	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.20 (ii)	76.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.01	
			TOTALS	
PEAK FLOW	(cms)=	7.91	2.27	9.403 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	61.98	73.04
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.77	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0183)	Area (ha)= 74.89		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	63.66	11.23	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.30	
Length	(m)=	706.59	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	35.44	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.40 (ii)	67.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	60.00	
Unit Hyd. peak (cms)=		0.08	0.02	
			TOTALS	
PEAK FLOW	(cms)=	6.55	0.62	7.053 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	65.43	77.66
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.81	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1191)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0183):	74.89	7.053	5.25	77.66	
+ ID2= 2 (0197):	124.38	9.403	5.25	73.04	
ID = 3 (1191):	199.27	16.456	5.25	74.78	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5191)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5191.0) ------>

Distance	Elevation	Manning	
0.00	206.09	0.1110	
41.11	202.34	0.1110	
69.44	202.09	0.1110	
120.54	202.43	0.1110	
159.64	202.06	0.1110	
176.80	201.18	0.1110	
193.03	197.88	0.1110	
193.97	197.91	0.1110 /0.0490	Main Channel
202.84	197.45	0.0490	Main Channel
207.88	196.02	0.0490 /0.1110	Main Channel
219.68	198.15	0.1110	
226.18	199.27	0.1110	
252.21	200.52	0.1110	
288.65	200.95	0.1110	
324.33	200.78	0.1110	
336.83	201.55	0.1110	
350.63	201.56	0.1110	
407.58	202.86	0.1110	
457.84	201.67	0.1110	
478.94	202.83	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	196.38	.805E+03	0.2	0.26	88.04
0.72	196.74	.322E+04	1.0	0.42	55.46
1.08	197.10	.724E+04	2.9	0.54	42.32
1.43	197.45	.129E+05	6.1	0.66	35.09
1.79	197.81	.215E+05	10.3	0.66	34.83
2.15	198.17	.344E+05	20.5	0.83	27.92
2.51	198.53	.493E+05	35.2	0.99	23.31
2.87	198.89	.661E+05	53.8	1.13	20.47
3.23	199.25	.848E+05	76.3	1.24	18.53
3.58	199.60	.107E+06	99.7	1.29	17.82
3.94	199.96	.133E+06	128.8	1.34	17.20
4.30	200.32	.164E+06	163.8	1.38	16.67
4.66	200.68	.201E+06	198.9	1.37	16.81
5.02	201.04	.260E+06	234.3	1.24	18.51
5.38	201.40	.337E+06	305.3	1.25	18.42
5.73	201.75	.425E+06	376.5	1.22	18.83
6.09	202.11	.535E+06	456.7	1.18	19.53

6.45	202.47	.701E+06	555.9	1.10	21.03
6.81	202.83	.909E+06	714.3	1.09	21.22

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1191)		199.27	16.46	5.25	74.78	2.01	0.75
OUTFLOW: ID= 1 (5191)		199.27	13.57	5.25	74.77	1.90	0.71

CALIB			
STANDHYD (0191)	Area (ha)= 162.87		
ID= 1 DT=15.0 min	Total Imp(%)= 82.00	Dir. Conn.(%)= 81.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	133.55	29.32	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.00	
Length	(m)=	1042.02	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	36.98	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.20 (ii)	78.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.01	
			TOTALS	
PEAK FLOW	(cms)=	13.53	1.53	14.549 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	64.22	76.86
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.79	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2191)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0191):	162.87	14.549	5.25	76.86	
+ ID2= 2 (5191):	199.27	13.569	5.25	74.77	
ID = 3 (2191):	362.14	28.118	5.25	75.71	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5214)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5214.0) ------>

Distance	Elevation	Manning

0.00	190.50	0.1110
2.09	189.13	0.1110
13.57	187.20	0.1110
23.54	186.97	0.1110 /0.0490 Main Channel
26.84	186.32	0.0490 Main Channel
27.21	186.25	0.0490 Main Channel
31.31	187.11	0.0490 /0.1110 Main Channel
35.60	187.49	0.1110
46.65	189.04	0.1110
49.91	188.81	0.1110
63.03	189.57	0.1110
78.54	190.45	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	186.43	.305E+03	0.1	0.37	85.15
0.36	186.61	.121E+04	0.4	0.59	53.70
0.54	186.79	.272E+04	1.1	0.77	41.01
0.72	186.97	.484E+04	2.4	0.93	33.86
0.95	187.20	.104E+05	5.6	1.01	31.17
1.18	187.43	.196E+05	11.1	1.07	29.32
1.42	187.67	.303E+05	18.7	1.17	27.02
1.65	187.90	.424E+05	28.2	1.26	25.01
1.88	188.13	.558E+05	39.8	1.35	23.38
2.11	188.36	.705E+05	53.3	1.43	22.05
2.34	188.59	.866E+05	68.9	1.50	20.94
2.58	188.83	.104E+06	86.4	1.57	20.06
2.81	189.06	.125E+06	104.5	1.58	19.87
3.04	189.29	.148E+06	128.2	1.63	19.28
3.27	189.52	.174E+06	155.0	1.68	18.70
3.50	189.75	.201E+06	184.8	1.73	18.17
3.74	189.99	.231E+06	217.7	1.78	17.68
3.97	190.22	.262E+06	253.8	1.83	17.24
4.20	190.45	.296E+06	293.1	1.87	16.82

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2191)		362.14	28.12	5.25	75.71	1.65	1.26
OUTFLOW: ID= 1 (5214)		362.14	23.85	5.50	75.71	1.54	1.21

CALIB			
STANDHYD (0214)	Area (ha)= 38.36		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 50.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	19.18	19.18	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	4.80	
Length	(m)=	505.70	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	31.45	
over (min)		15.00	30.00	
Storage Coeff. (min)=		7.20 (ii)	43.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.10	0.03	
			TOTALS	
PEAK FLOW	(cms)=	1.98	1.09	2.967 (iii)

```
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      79.82        54.53         67.18
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.67          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0214):    38.36   2.967     5.25    67.18
        + ID2= 2 (5214):   362.14  23.853     5.50    75.71
          ================================================
          ID = 3 (2214):   400.50  26.266     5.25    74.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0134) |   Area    (ha)=  24.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.95         6.31
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.30
     Length            (m)=     402.16        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        34.21
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.40 (ii)   48.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.85         0.39          2.213 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      79.82        61.51         75.06
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.76          0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (9313) |
| Inlet Cap.=8.700 |
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| #of Inlets=    1 |
| Total(cms)=  8.7 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.26      2.21      5.25   75.06
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  24.26      2.21      5.25   75.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (6313) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1050      0.6800
                         0.1030     0.5950   |   8.7000      0.9200

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9313)     24.260      2.213      5.25       75.06
     OUTFLOW: ID= 1 (6313)     24.260      2.443      5.25       75.00

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=110.39
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7556

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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-------------------
| ADD HYD   (4313) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9313 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6313):    24.26   2.443     5.25    75.00
        + ID2= 2 (9313):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4313):    24.26   2.443     5.25    75.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (3214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2214):   400.50  26.266     5.25    74.89
        + ID2= 2 (4313):    24.26   2.443     5.25    75.00
          ================================================
          ID = 3 (3214):   424.76  28.709     5.25    74.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0189) |   Area    (ha)= 116.03
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|ID= 1 DT=15.0 min |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      85.86        30.17
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.20
     Length            (m)=     879.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        34.21
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.80 (ii)   63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.84         1.61         10.117 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      79.82        61.51         75.06
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.76          0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (5200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (5200.0) ------>
              Distance      Elevation       Manning
                  0.00         193.37        0.1110
                 17.44         193.51        0.1110
                 50.09         193.00        0.1110
                 90.09         192.83        0.1110
                121.68         192.17        0.1110
                128.93         192.61        0.1110
                141.32         191.78        0.1110
                147.98         191.88        0.1110
                197.61         189.48    0.1110 /0.0490  Main Channel
                204.01         189.06        0.0490      Main Channel
                205.40         188.96        0.0490      Main Channel
                211.29         189.53    0.0490 /0.1110  Main Channel
                222.97         191.23        0.1110
                226.70         191.10        0.1110
                263.00         191.03        0.1110
                355.09         192.45        0.1110
                382.19         192.49        0.1110
                383.02         192.49        0.1110
                396.28         192.31        0.1110
                520.20         195.65        0.1110

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.17   189.13    .489E+03        0.1         0.39      56.62
      0.35   189.31    .199E+04        0.9         0.62      35.61
      0.52   189.48    .451E+04        2.8         0.82      27.13
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      0.76   189.72    .990E+04        8.6         1.15      19.26
      1.01   189.97    .175E+05       17.5         1.33      16.62
      1.25   190.21    .272E+05       29.7         1.45      15.26
      1.49   190.45    .391E+05       45.3         1.54      14.36
      1.74   190.70    .531E+05       64.6         1.62      13.70
      1.98   190.94    .693E+05       87.8         1.68      13.16
      2.22   191.18    .945E+05      112.8         1.59      13.96
      2.47   191.43    .133E+06      151.5         1.51      14.68
      2.71   191.67    .179E+06      199.9         1.48      14.95
      2.95   191.91    .233E+06      253.7         1.45      15.28
      3.19   192.15    .294E+06      326.4         1.47      15.02
      3.44   192.40    .365E+06      396.3         1.44      15.34
      3.68   192.64    .457E+06      480.9         1.40      15.85
      3.92   192.88    .561E+06      600.7         1.42      15.57
      4.17   193.13    .680E+06      737.3         1.44      15.37
      4.41   193.37    .808E+06      909.7         1.50      14.81

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0189)  116.03    10.12    5.25  75.06      0.81      1.18
     OUTFLOW: ID= 1 (5200)  116.03     9.64    5.25  75.06      0.79      1.17


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| CALIB             |
| STANDHYD  (0200) |   Area    (ha)=  47.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.50         9.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     562.91        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        34.84
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   55.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.97         0.53          4.399 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      79.82        63.43         76.71
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.78          0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2200) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
```

```
        ID1= 1 (0200):    47.53  4.399     5.25    76.71
      + ID2= 2 (5200):   116.03  9.641     5.25    75.06
        ==================================================
        ID = 3 (2200):   163.56 14.040     5.25    75.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1650) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2200):   163.56 14.040     5.25    75.54
      + ID2= 2 (3214):   424.76 28.709     5.25    74.90
        ==================================================
        ID = 3 (1650):   588.32 42.749     5.25    75.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5650) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5650.0) ------>
               Distance      Elevation       Manning
                   0.00       186.99       0.1110
                   0.62       186.98       0.1110
                  54.47       185.71       0.1110
                  69.34       182.09    0.1110 /0.0490  Main Channel
                  71.18       181.64       0.0490       Main Channel
                  73.43       182.23    0.0490 /0.1110  Main Channel
                  82.69       184.73       0.1110
                  87.60       185.04       0.1110
                 110.20       184.66       0.1110
                 129.32       184.73       0.1110
                 164.79       185.85       0.1110
                 170.26       185.86       0.1110

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.15   181.79    .249E+02       0.0         0.18       26.45
       0.30   181.94    .997E+02       0.1         0.28       16.66
       0.45   182.09    .224E+03       0.3         0.37       12.71
       0.69   182.33    .521E+03       1.0         0.53        8.87
       0.92   182.56    .939E+03       2.1         0.63        7.37
       1.16   182.80    .148E+04       3.7         0.70        6.65
       1.39   183.03    .214E+04       5.7         0.75        6.21
       1.63   183.27    .292E+04       8.3         0.79        5.90
       1.86   183.50    .383E+04      11.3         0.83        5.65
       2.10   183.74    .486E+04      14.9         0.86        5.44
       2.34   183.98    .600E+04      19.0         0.89        5.26
       2.57   184.21    .727E+04      23.7         0.92        5.10
       2.81   184.45    .866E+04      29.1         0.94        4.96
       3.04   184.68    .102E+05      33.4         0.92        5.09
       3.28   184.92    .138E+05      39.5         0.80        5.82
       3.51   185.15    .190E+05      50.2         0.74        6.31
       3.75   185.39    .250E+05      64.4         0.72        6.46
       3.98   185.62    .315E+05      81.4         0.72        6.45
       4.22   185.86    .387E+05      96.4         0.70        6.69
```



```
                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1650)  588.32    42.75    5.25  75.08      3.35      0.78
     OUTFLOW: ID= 1 (5650)  588.32    39.46    5.25  75.08      3.26      0.81


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0650) |   Area    (ha)=  10.55
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.59         4.96
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     265.20        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        30.73
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       5.40 (ii)   33.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.58         0.31          0.891 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        52.95          67.19
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.66           0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2650) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0650):    10.55  0.891     5.25    67.19
      + ID2= 2 (5650):   588.32 39.457     5.25    75.08
        ==================================================
        ID = 3 (2650):   598.87 40.348     5.25    74.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0187) |   Area    (ha)= 103.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      83.83        19.66
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.10
```



```
     Length            (m)=     830.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        34.84
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.20 (ii)   76.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                            *TOTALS*
     PEAK FLOW       (cms)=       8.60         0.97          9.242 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME    (mm)=      79.82        63.43          76.71
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.78           0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2187) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0187):   103.50  9.242     5.25    76.71
      + ID2= 2 (2650):   598.87 40.348     5.25    74.94
        ==================================================
        ID = 3 (2187):   702.37 49.590     5.25    75.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0212) |   Area    (ha)=  14.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.38        10.71
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.60
     Length            (m)=     306.49        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.62
                over (min)       15.00        15.00
     Storage Coeff.  (min)=       5.40 (ii)   31.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.35         0.63          0.977 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        48.51          56.03
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.60           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```



```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9474) |
| Inlet Cap.=0.031 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  14.09      0.98      5.25   56.03
     =====================================================
     MAJOR SYS.(ID= 2):  12.01      0.95      5.25   56.03
     MINOR SYS.(ID= 3):   2.08      0.03      2.50   56.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6474) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0310     0.1340

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9474)      2.082     0.031      2.50       56.03
     OUTFLOW: ID= 1 (6474)      2.082     0.017     12.50       55.51

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 56.36
                  TIME SHIFT OF PEAK FLOW         (min)=600.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0755

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4474) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6474):     2.08  0.017    12.50    55.51
      + ID2= 2 (9474):    12.01  0.946     5.25    56.03
        ==================================================
        ID = 3 (4474):    14.09  0.953     5.25    55.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1210) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2187):   702.37 49.590     5.25    75.20
      + ID2= 2 (4474):    14.09  0.953     5.25    55.95
        ==================================================
        ID = 3 (1210):   716.46 50.542     5.25    74.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<----- DATA FOR SECTION (5210.0) ------>

Distance	Elevation	Manning	
0.00	186.99	0.1110	
0.62	186.98	0.1110	
54.47	185.71	0.1110	
69.34	182.09	0.1110 /0.0490	Main Channel
71.18	181.64	0.0490	Main Channel
73.43	182.23	0.0490 /0.1110	Main Channel
82.69	184.73	0.1110	
87.60	185.04	0.1110	
110.20	184.66	0.1110	
129.32	184.73	0.1110	
164.79	185.85	0.1110	
170.26	185.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	181.79	.140E+03	0.0	0.24	111.40
0.30	181.94	.561E+03	0.1	0.37	70.18
0.45	182.09	.126E+04	0.4	0.49	53.56
0.69	182.33	.293E+04	1.3	0.70	37.38
0.92	182.56	.528E+04	2.8	0.85	31.04
1.16	182.80	.832E+04	4.9	0.94	28.03
1.39	183.03	.120E+05	7.7	1.00	26.17
1.63	183.27	.164E+05	11.0	1.06	24.84
1.86	183.50	.215E+05	15.1	1.10	23.79
2.10	183.74	.273E+05	19.8	1.15	22.92
2.34	183.98	.338E+05	25.4	1.19	22.17
2.57	184.21	.409E+05	31.7	1.22	21.50
2.81	184.45	.487E+05	38.8	1.26	20.91
3.04	184.68	.573E+05	44.5	1.22	21.46
3.28	184.92	.774E+05	52.7	1.07	24.50
3.51	185.15	.107E+06	67.1	0.99	26.57
3.75	185.39	.140E+06	86.0	0.97	27.21
3.98	185.62	.177E+06	108.6	0.97	27.17
4.22	185.86	.218E+06	128.7	0.93	28.18

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1210)	716.46	50.54	5.25	74.82	3.22	1.11
OUTFLOW:	ID= 1 (5210)	716.46	43.77	5.50	74.82	3.02	1.23

```
| CALIB                |
| STANDHYD  (****) |   Area    (ha)=  20.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.38	16.47
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	372.83	40.00
Mannings n	=	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	37.17	27.24	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
PEAK FLOW (cms)=	0.45	0.69	0.967 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	52.94
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB                |
| STANDHYD  (****) |   Area    (ha)=   1.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.29	1.11
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	96.61	40.00
Mannings n	=	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	37.17	27.24	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
PEAK FLOW (cms)=	0.03	0.05	0.065 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	52.92
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (0352) |
|   1 +  2 =  3    |
```

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):		20.85	0.967	5.25	52.94
+ ID2= 2 (****):		1.40	0.065	5.25	52.92
ID = 3 (0352):		22.25	1.032	5.25	52.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB                |
| STANDHYD  (****) |   Area    (ha)=  32.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.90	25.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	468.05	40.00
Mannings n	=	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	37.17	27.24	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
PEAK FLOW (cms)=	0.71	1.08	1.524 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	52.94
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (0351) |
|   1 +  2 =  3    |
```

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):		22.25	1.032	5.25	52.94
+ ID2= 2 (****):		32.86	1.524	5.25	52.94
ID = 3 (0351):		55.11	2.556	5.25	52.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (2210) |
|   1 +  2 =  3    |
```

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0351):		55.11	2.556	5.25	52.94
+ ID2= 2 (5210):		716.46	43.768	5.50	74.82
ID = 3 (2210):		771.57	45.933	5.50	73.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.


```
| ADD HYD   (1431) |
|   1 +  2 =  3    |
```

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2210):		771.57	45.933	5.50	73.26
+ ID2= 2 (2227):		8159.14	81.719	8.75	42.10
ID = 3 (1431):		8930.71	92.938	8.50	44.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (5431) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5431.0) ------>

Distance	Elevation	Manning	
0.00	176.00	0.1110	
18.09	175.90	0.1110	
27.45	175.50	0.1110	
47.50	172.50	0.1110	
67.08	171.89	0.1110	
142.45	171.74	0.1110	
221.81	171.00	0.1110	
241.52	171.00	0.1110	
242.37	170.64	0.1110 /0.0490	Main Channel
242.71	170.00	0.0490	Main Channel
253.79	170.00	0.0490	Main Channel
256.58	170.50	0.0490 /0.1110	Main Channel
257.61	170.61	0.1110	
261.77	171.00	0.1110	
278.03	171.50	0.1110	
301.37	172.00	0.1110	
309.55	174.50	0.1110	
324.51	174.87	0.1110	
351.19	174.68	0.1110	
357.20	176.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	170.25	.704E+03	2.0	0.68	5.79
0.50	170.50	.150E+04	6.6	1.04	3.81
0.82	170.82	.273E+04	16.4	1.43	2.78
1.15	171.15	.528E+04	30.8	1.38	2.86
1.47	171.47	.117E+05	55.8	1.14	3.49
1.79	171.79	.218E+05	93.3	1.02	3.90
2.12	172.12	.393E+05	161.6	0.98	4.05
2.44	172.44	.584E+05	263.6	1.07	3.69
2.76	172.76	.781E+05	393.2	1.20	3.31
3.09	173.09	.981E+05	546.6	1.33	2.99
3.41	173.41	.118E+06	721.6	1.45	2.73
3.74	173.74	.139E+06	917.2	1.57	2.52
4.06	174.06	.160E+06	1132.4	1.69	2.35
4.38	174.38	.181E+06	1366.6	1.80	2.20
4.71	174.71	.202E+06	1590.5	1.87	2.12
5.03	175.03	.226E+06	1819.4	1.91	2.07
5.35	175.35	.251E+06	2124.7	2.01	1.97
5.68	175.68	.276E+06	2436.9	2.10	1.89
6.00	176.00	.302E+06	2681.4	2.11	1.88

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1431)	8930.71	92.94	8.50	44.79	1.79	1.02
OUTFLOW: ID= 1 (5431)	8930.71	92.97	8.50	44.79	1.79	1.02

CALIB	
STANDHYD (0431)	Area (ha)= 8.28
ID= 1 DT=15.0 min	Total Imp(%)= 22.00 Dir. Conn.(%)= 22.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.82	6.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	234.95	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	25.25
over (min)	15.00	30.00
Storage Coeff. (min)=	5.40 (ii)	30.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04
		TOTALS
PEAK FLOW (cms)=	0.19	0.33 0.516 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	42.06 50.36
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.52 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2431)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0431):	8.28	0.516	5.25	50.36
+ ID2= 2 (5431):	8930.71	92.974	8.50	44.79
ID = 3 (2431):	8938.99	93.029	8.50	44.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5213)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5213.0) ------>

Distance	Elevation	Manning
0.00	171.99	0.1110
10.86	169.00	0.1110
21.10	168.00	0.1110

30.39	165.73	0.1110	
64.57	165.00	0.1110	
65.32	164.91	0.1110	
68.94	164.50	0.1110	
71.70	164.50	0.1110 /0.0490	Main Channel
71.83	163.50	0.0490	Main Channel
75.93	163.50	0.0490	Main Channel
76.19	164.48	0.0490 /0.1110	Main Channel
76.80	164.50	0.1110	
78.99	165.50	0.1110	
107.09	166.50	0.1110	
126.24	171.00	0.1110	
133.28	171.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	163.83	.319E+04	0.9	0.63	62.42
0.65	164.15	.647E+04	2.5	0.92	42.47
0.98	164.48	.986E+04	4.7	1.13	34.66
1.42	164.92	.201E+05	9.6	1.13	34.67
1.86	165.36	.410E+05	17.2	0.98	39.67
2.30	165.80	.862E+05	31.4	0.85	45.81
2.73	166.24	.152E+06	57.6	0.89	44.08
3.17	166.67	.232E+06	95.3	0.96	40.57
3.61	167.11	.317E+06	144.7	1.07	36.56
4.05	167.55	.407E+06	204.0	1.18	33.22
4.49	167.99	.500E+06	272.8	1.28	30.53
4.93	168.43	.598E+06	346.1	1.36	28.78
5.37	168.87	.702E+06	429.2	1.43	27.27
5.81	169.31	.813E+06	527.3	1.52	25.69
6.24	169.74	.927E+06	637.5	1.61	24.23
6.68	170.18	.104E+07	757.3	1.70	22.98
7.12	170.62	.117E+07	886.9	1.78	21.91
7.56	171.06	.129E+07	1023.7	1.86	21.01
8.00	171.50	.142E+07	1156.8	1.91	20.48

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2431)	8938.99	93.03	8.50	44.80	3.15	0.96
OUTFLOW: ID= 1 (5213)	8938.99	91.51	9.00	44.80	3.12	0.95

CALIB	
STANDHYD (0213)	Area (ha)= 101.69
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	50.85	50.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.80
Length (m)=	823.37	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	29.32
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS

PEAK FLOW (cms)=	5.24	2.15	6.847 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	49.94	64.88
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.62	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2213)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0213):	101.69	6.847	5.25	64.88
+ ID2= 2 (5213):	8938.99	91.509	9.00	44.80
ID = 3 (2213):	9040.68	92.349	8.75	45.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0559)	Area (ha)= 35.17
ID= 1 DT=15.0 min	Total Imp(%)= 49.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.23	17.94
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	484.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	40.56
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	50.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	1.38	1.28 2.545 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	79.82	59.66 67.32
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.74 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2561)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0559):	35.17	2.545	5.25	67.32
+ ID2= 2 (9561):	3.15	0.768	5.25	68.96
ID = 3 (2561):	38.32	3.313	5.25	67.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9105)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	38.32	3.31	5.25	67.46
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	38.32	3.31	5.25	67.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6105)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6400	0.3000
	0.0990	0.0030	0.8600	0.4700
	0.2100	0.0050	1.3200	0.7100
	0.3400	0.0100	1.9000	0.9500
	0.4600	0.0330	2.5600	1.2000
	0.5600	0.1330	3.2000	1.4500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9105)	38.318	3.313	5.25	67.46
OUTFLOW: ID= 1 (6105)	38.318	1.539	6.00	67.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.47
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.8038

ADD HYD (4105)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				

*** W A R N I N G : HYDROGRAPH 9105 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6105):	38.32	1.539	6.00	67.46
+ ID2= 2 (9105):	0.00	0.000	0.00	0.00
ID = 3 (4105):	38.32	1.539	6.00	67.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   3.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.73         2.31
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.60
     Length            (m)=    142.36        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        27.92
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      3.60 (ii)   22.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.11         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.08         0.16          0.233 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=     79.82        47.13          54.97
     TOTAL RAINFALL   (mm)=     80.82        80.82          80.82
     RUNOFF COEFFICIENT   =      0.99         0.58           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9470) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.04      0.23      5.25   54.97
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.04      0.23      5.25   54.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6470) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0190      0.1800
                          0.0110     0.0490   |   0.4930      0.2300
                          0.0160     0.1130   |   2.4340      0.3150

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9470)     3.040     0.233      5.25      54.97
     OUTFLOW: ID= 1 (6470)     3.040     0.017      8.50      54.61

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.23
                    TIME SHIFT OF PEAK FLOW         (min)=195.00
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                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1324

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| ADD HYD   (4470) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9470 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
       ID1= 1 (6470):     3.04   0.017     8.50    54.61
     + ID2= 2 (9470):     0.00   0.000     0.00     0.00
       ================================================
       ID = 3 (4470):     3.04   0.017     8.50    54.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (2568) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (4105):    38.32   1.539     6.00    67.46
     + ID2= 2 (4470):     3.04   0.017     8.50    54.61
       ================================================
       ID = 3 (2568):    41.36   1.555     6.00    66.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   3.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.85         1.92
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.90
     Length            (m)=    158.53        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        32.15
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      4.20 (ii)   25.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.19         0.14          0.331 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=     79.82        56.18          67.76
     TOTAL RAINFALL   (mm)=     80.82        80.82          80.82
     RUNOFF COEFFICIENT   =      0.99         0.70           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| DUHYD     (9471) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.77      0.33      5.25   67.76
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.77      0.33      5.25   67.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6471) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0110      0.1460
                          0.0050     0.0110   |   0.1620      0.1660
                          0.0090     0.0690   |   0.9650      0.2080

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9471)     3.770     0.331      5.25      67.76
     OUTFLOW: ID= 1 (6471)     3.770     0.121      6.25      67.62

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.53
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1607

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--------------------
| ADD HYD   (4471) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9471 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
       ID1= 1 (6471):     3.77   0.121     6.25    67.62
     + ID2= 2 (9471):     0.00   0.000     0.00     0.00
       ================================================
       ID = 3 (4471):     3.77   0.121     6.25    67.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (2605) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (2568):    41.36   1.555     6.00    66.51
     + ID2= 2 (4471):     3.77   0.121     6.25    67.62
       ================================================
       ID = 3 (2605):    45.13   1.673     6.00    66.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 128.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     57.83        70.68
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.60
     Length            (m)=    925.56        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        30.02
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.80 (ii)   81.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=      5.92         2.70          7.550 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25           5.25
     RUNOFF VOLUME    (mm)=     79.82        51.42          64.20
     TOTAL RAINFALL   (mm)=     80.82        80.82          80.82
     RUNOFF COEFFICIENT   =      0.99         0.64           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   3.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.37         1.67
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.60
     Length            (m)=    142.36        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        30.02
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.80 (ii)   81.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.14         0.06          0.179 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25           5.25
     RUNOFF VOLUME    (mm)=     79.82        51.42          64.18
     TOTAL RAINFALL   (mm)=     80.82        80.82          80.82
     RUNOFF COEFFICIENT   =      0.99         0.64           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 24.00
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.80	13.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	400.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.02
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	1.11	0.50	1.410 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	79.82	51.42	64.20
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.64	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0390)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	24.00	1.410	5.25	64.20
+	ID2= 2 (****):	3.04	0.179	5.25	64.18
	ID = 3 (0390):	27.04	1.589	5.25	64.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0391)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0390):	27.04	1.589	5.25	64.19
+	ID2= 2 (****):	128.50	7.550	5.25	64.20
	ID = 3 (0391):	155.54	9.139	5.25	64.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2603)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0391):	155.54	9.139	5.25	64.20
+	ID2= 2 (2605):	45.13	1.673	6.00	66.61
	ID = 3 (2603):	200.67	10.344	5.25	64.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9961)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		200.67	10.34	5.25	64.74
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		200.67	10.34	5.25	64.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6961)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	5.7000	4.8500
		1.6000	3.9500	6.2000	5.1400
		3.4000	4.2400	7.2000	5.6300
		4.2000	4.4000	23.4500	7.4400

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9961)	200.668	10.344	5.25	64.74
OUTFLOW: ID= 1 (6961)	200.668	5.890	6.50	64.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 56.94
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 4.9679

ADD HYD (4961)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G :	HYDROGRAPH 9961 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
	ID1= 1 (6961):	200.67	5.890	6.50	64.74
+	ID2= 2 (9961):	0.00	0.000	0.00	0.00
	ID = 3 (4961):	200.67	5.890	6.50	64.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5602)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5602.0) ------>

Distance	Elevation	Manning	
0.00	188.36	0.1110	
46.99	187.30	0.1110	
162.32	186.72	0.1110	
234.98	185.20	0.1110	
249.46	183.65	0.1110 /0.0490	Main Channel
254.33	182.64	0.0490	Main Channel
258.04	183.49	0.0490	Main Channel
258.31	183.51	0.0490	Main Channel
262.53	182.77	0.0490	Main Channel
262.63	182.75	0.0490	Main Channel
267.86	183.52	0.0490 /0.1110	Main Channel
270.83	183.61	0.1110	
286.95	183.40	0.1110	
289.09	183.46	0.1110	
298.71	185.52	0.1110	
325.92	186.31	0.1110	
406.09	185.45	0.1110	
529.18	187.66	0.1110	
556.31	187.61	0.1110	
804.52	190.22	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	182.93	.360E+03	0.3	0.50	19.84
0.59	183.23	.179E+04	2.5	0.84	11.80
0.88	183.52	.478E+04	8.3	1.03	9.61
1.18	183.82	.119E+05	23.5	1.18	8.45
1.49	184.13	.200E+05	46.9	1.40	7.12
1.79	184.43	.289E+05	77.4	1.60	6.23
2.09	184.73	.386E+05	114.7	1.77	5.61
2.39	185.03	.490E+05	158.8	1.93	5.15
2.70	185.34	.604E+05	208.1	2.05	4.84
3.00	185.64	.761E+05	241.2	1.89	5.26
3.30	185.94	.103E+06	300.5	1.73	5.74
3.60	186.24	.143E+06	390.6	1.63	6.12
3.90	186.54	.194E+06	522.2	1.61	6.19
4.21	186.85	.251E+06	675.9	1.61	6.19
4.51	187.15	.321E+06	859.4	1.60	6.22
4.81	187.45	.403E+06	1099.0	1.63	6.11
5.11	187.75	.494E+06	1347.8	1.63	6.11
5.42	188.06	.596E+06	1679.2	1.68	5.92
5.72	188.36	.706E+06	2056.8	1.74	5.72

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4961)	200.67	5.89	6.50	64.74	0.76	0.95
OUTFLOW: ID= 1 (5602)	200.67	5.88	6.75	64.74	0.76	0.94

CALIB		
STANDHYD (0602)	Area (ha)=	42.99
ID= 1 DT=15.0 min	Total Imp(%)=	67.00 Dir. Conn.(%)= 67.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.80	14.19
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	535.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.85
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.97	0.77	3.583 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	57.89	72.58
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.72	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2602)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0602):	42.99	3.583	5.25	72.58
+	ID2= 2 (5602):	200.67	5.885	6.75	64.74
	ID = 3 (2602):	243.66	7.053	6.25	66.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5271)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5271.0) ------>

Distance	Elevation	Manning	
0.00	187.00	0.1110	
3.39	183.79	0.1110	
10.53	183.00	0.1110	
21.75	182.99	0.1110	
23.53	182.68	0.1110 /0.0490	Main Channel
33.07	181.08	0.0490	Main Channel
41.98	183.10	0.0490 /0.1110	Main Channel
44.71	183.70	0.1110	
62.12	184.09	0.1110	
77.77	183.81	0.1110	
120.17	183.78	0.1110	
169.07	183.98	0.1110	
228.74	185.84	0.1110	
358.41	186.79	0.1110	
420.15	186.79	0.1110	
448.98	187.02	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	181.35	.272E+03	0.1	0.36	33.75
0.53	181.61	.109E+04	0.9	0.58	21.26
0.80	181.88	.245E+04	2.5	0.76	16.23
1.07	182.15	.436E+04	5.4	0.92	13.39
1.33	182.41	.681E+04	9.8	1.07	11.54
1.60	182.68	.980E+04	16.0	1.20	10.22
1.93	183.01	.144E+05	27.6	1.41	8.73
2.26	183.34	.226E+05	44.8	1.46	8.42
2.60	183.68	.319E+05	67.2	1.55	7.92
2.93	184.01	.558E+05	97.7	1.29	9.52
3.26	184.34	.978E+05	149.0	1.12	10.95
3.59	184.67	.143E+06	217.6	1.12	10.94
3.93	185.01	.190E+06	301.7	1.17	10.52
4.26	185.34	.241E+06	400.7	1.23	10.02
4.59	185.67	.294E+06	514.3	1.29	9.53
4.92	186.00	.351E+06	627.2	1.32	9.32
5.26	186.34	.418E+06	746.8	1.32	9.32
5.59	186.67	.496E+06	891.5	1.33	9.27
5.92	187.00	.594E+06	1023.1	1.27	9.68

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2602)	243.66	7.05	6.25	66.12	1.17	0.97
OUTFLOW: ID= 1 (5271)	243.66	6.95	6.50	66.12	1.16	0.96

CALIB / STANDHYD (0271) / ID= 1 DT=15.0 min	Area (ha)= 17.58 / Total Imp(%)= 40.00 Dir. Conn.(%)= 40.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	7.03	10.55
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	342.34	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	30.02
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.73	1.358 (iii)
TIME TO PEAK (hrs)=	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	62.78
TOTAL RAINFALL (mm)=	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.64	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2271) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0271):	17.58	1.358	5.25	62.78
+ ID2= 2 (5271):	243.66	6.954	6.50	66.12
ID = 3 (2271):	261.24	7.381	6.50	65.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****) / ID= 1 DT=15.0 min	Area (ha)= 198.33 / Total Imp(%)= 57.00 Dir. Conn.(%)= 57.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	113.05	85.28
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	1149.87	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	33.54
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	11.58	3.80	14.011 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	79.82	59.67	71.15
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.74	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****) / ID= 1 DT=15.0 min	Area (ha)= 35.00 / Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	29.75	5.25
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	483.05	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	33.54
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)

		TOTALS
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
PEAK FLOW (cms)=	3.05	0.23	3.196 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	79.82	59.67	76.80
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.74	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****) / Inlet Cap.=***** / #of Inlets= 1 / Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	35.00	3.20	5.25	76.80
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	35.00	3.20	5.25	76.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.2800	1.3790
	0.3900	0.0010	1.3400	1.7290
	0.8700	0.1530	1.4700	2.5690
	1.0600	0.4640	5.1200	2.6000
	1.2300	1.0530	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	35.000	3.196	5.25	76.80
OUTFLOW: ID= 1 (****)	35.000	1.186	6.00	76.98

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.10
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.9005

ADD HYD (****) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	35.00	1.186	6.00	76.98
+ ID2= 2 (****):	0.00	0.000	0.00	0.00

*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID = 3 (****):	35.00	1.186	6.00	76.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****) / ID= 1 DT=15.0 min	Area (ha)= 17.10 / Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	14.54	2.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	337.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	33.54
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	1.49	0.11	1.562 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	79.82	59.67	76.79
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.74	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****) / Inlet Cap.=***** / #of Inlets= 1 / Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	17.10	1.56	5.25	76.79
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	17.10	1.56	5.25	76.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6300	0.6750
	0.1900	0.0610	0.6600	0.8460
	0.4200	0.0770	0.7200	1.2570
	0.5200	0.2270	1.2500	1.3000
	0.6000	0.5150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.100	1.562	5.25	76.79
OUTFLOW: ID= 1 (****)	17.100	0.585	6.00	76.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.48
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.4623

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	17.10	0.585	6.00	76.79
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	17.10	0.585	6.00	76.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	35.00	1.186	6.00	76.98
+ ID2= 2 (****):	17.10	0.585	6.00	76.79
ID = 3 (****):	52.10	1.771	6.00	76.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 16.10
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	13.69	2.41
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	327.62	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	33.54
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	1.40	0.11	1.470 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	79.82	59.67	76.79
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.74	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)
Inlet Cap.=***** |
#of Inlets= 1 |
Total(cms)=***** |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	16.10	1.47	5.25	76.79
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	16.10	1.47	5.25	76.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.5000	0.6350
0.1800	0.0610	0.6200	0.7960
0.4000	0.0730	0.6800	1.1820
0.4900	0.2140	2.3600	1.2000
0.5600	0.4850	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	16.100	1.470	5.25	76.79
OUTFLOW: ID= 1 (****)	16.100	0.547	6.00	76.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.23
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.4363

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	16.10	0.547	6.00	76.79
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	16.10	0.547	6.00	76.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	52.10	1.771	6.00	76.92
+ ID2= 2 (****):	16.10	0.547	6.00	76.79
ID = 3 (****):	68.20	2.319	6.00	76.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 37.00
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	31.45	5.55
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	496.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	33.54
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	3.22	0.25	3.379 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	79.82	59.67	76.80
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.74	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)
Inlet Cap.=***** |
#of Inlets= 1 |
Total(cms)=***** |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	37.00	3.38	5.25	76.80
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	37.00	3.38	5.25	76.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

0.0000	0.0000	1.3600	1.4580
0.4100	0.0010	1.4200	1.8280
0.9200	0.1670	1.5600	2.7160
1.1200	0.4910	5.4000	2.8000
1.3000	1.1140	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	37.000	3.379	5.25	76.80
OUTFLOW: ID= 1 (****)	37.000	1.253	6.00	76.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.09
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.9523

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	37.00	1.253	6.00	76.97
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	37.00	1.253	6.00	76.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	68.20	2.319	6.00	76.89
+ ID2= 2 (****):	37.00	1.253	6.00	76.97
ID = 3 (****):	105.20	3.572	6.00	76.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 17.40
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	14.79	2.61
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.10
Length (m)=	340.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	33.54
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

TOTALS

PEAK FLOW	(cms)=	1.51	0.12	1.589 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	59.67	76.79
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.74	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****) / Inlet Cap.=***** / #of Inlets= 1 / Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	17.40	1.59	5.25	76.79
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	17.40	1.59	5.25	76.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6300	0.6750
	0.1900	0.0610	0.6600	0.8460
	0.4200	0.0770	0.7200	1.2570
	0.5200	0.2270	2.5500	1.3000
	0.6000	0.5150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.400	1.589	5.25	76.79
OUTFLOW: ID= 1 (****)	17.400	0.589	6.00	76.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.05
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.4746

ADD HYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH **** <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (****):	17.40	0.589	6.00	76.79
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	17.40	0.589	6.00	76.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0218)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	105.20	3.572	6.00	76.91
+ ID2= 2 (****):	17.40	0.589	6.00	76.79
ID = 3 (0218):	122.60	4.161	6.00	76.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0218):	122.60	4.161	6.00	76.90
+ ID2= 2 (****):	198.33	14.011	5.25	71.15
ID = 3 (****):	320.93	18.013	5.25	73.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9962) / Inlet Cap.=***** / #of Inlets= 1 / Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	320.93	18.01	5.25	73.35
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	320.93	18.01	5.25	73.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6962) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	8.8300	5.8290
	0.7800	0.0930	14.9900	7.2690
	3.3000	1.1140	22.7900	8.7080
	4.6600	3.2000	28.8000	10.2730
	5.2100	4.5150	31.2000	11.8370

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9962)	320.930	18.013	5.25	73.35
OUTFLOW: ID= 1 (6962)	320.930	10.883	6.25	73.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 60.42
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 6.3300

ADD HYD (4962)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9962 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6962):	320.93	10.883	6.25	73.35
+ ID2= 2 (9962):	0.00	0.000	0.00	0.00
ID = 3 (4962):	320.93	10.883	6.25	73.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1273)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2271):	261.24	7.381	6.50	65.89
+ ID2= 2 (4962):	320.93	10.883	6.25	73.35
ID = 3 (1273):	582.17	18.193	6.50	70.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5273) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5273.0) ------>

Distance	Elevation	Manning	
0.00	179.99	0.1110	
18.34	178.57	0.1110	
55.29	178.07	0.1110	
114.00	177.92	0.1110	
155.06	177.41	0.1110	
161.65	174.89	0.1110 /0.0490	Main Channel
164.66	174.75	0.0490	Main Channel
167.51	174.61	0.0490 /0.1110	Main Channel
169.36	174.72	0.1110	
179.42	177.94	0.1110	
271.83	179.31	0.1110	
298.09	178.85	0.1110	
325.92	179.14	0.1110	
444.55	179.57	0.1110	
496.32	180.68	0.1110	
506.76	181.27	0.1110	
526.42	185.07	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	174.89	.871E+03	0.7	0.51	21.75
0.57	175.18	.260E+04	3.9	1.01	11.13
0.85	175.46	.463E+04	9.2	1.34	8.38
1.13	175.74	.697E+04	16.5	1.59	7.05
1.42	176.03	.963E+04	25.7	1.79	6.25
1.70	176.31	.126E+05	36.8	1.96	5.70
1.98	176.59	.159E+05	49.9	2.11	5.30
2.27	176.88	.194E+05	65.0	2.24	4.99
2.55	177.16	.233E+05	82.1	2.36	4.74
2.83	177.44	.275E+05	99.6	2.43	4.61
3.11	177.72	.346E+05	118.3	2.29	4.88
3.40	178.01	.471E+05	137.4	1.96	5.71
3.68	178.29	.741E+05	173.1	1.57	7.13
3.96	178.57	.109E+06	235.8	1.45	7.71
4.25	178.86	.150E+06	326.1	1.46	7.67
4.53	179.14	.200E+06	429.3	1.44	7.75
4.81	179.42	.266E+06	565.0	1.43	7.85
5.10	179.71	.348E+06	760.3	1.47	7.63
5.38	179.99	.435E+06	1005.3	1.55	7.21

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1273)	582.17	18.19	6.50	70.00	1.19	1.62
OUTFLOW: ID= 1 (5273)	582.17	18.26	6.50	70.00	1.19	1.62

CALIB / STANDHYD (0273) / ID= 1 DT=15.0 min	Area (ha)= 25.66 / Total Imp(%)= 65.00	Dir. Conn.(%)= 65.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.68	8.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	413.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	33.54
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.72 / 0.59 / 2.266 (iii)
TIME TO PEAK	(hrs)=	5.25 / 5.50 / 5.25
RUNOFF VOLUME	(mm)=	79.82 / 59.67 / 72.76
TOTAL RAINFALL	(mm)=	80.82 / 80.82 / 80.82
RUNOFF COEFFICIENT	=	0.99 / 0.74 / 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2273)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0273):	25.66	2.266	5.25	72.76
+ ID2= 2 (5273):	582.17	18.260	6.50	70.00

ID = 3 (2273): 607.83 18.877 6.50 70.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0272)	Area (ha)= 42.09		
ID= 1 DT=15.0 min	Total Imp(%)= 78.00	Dir. Conn.(%)= 78.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	32.83	9.26
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.70
Length (m)=	529.72	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	34.84
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

			TOTALS
PEAK FLOW (cms)=	3.38	0.51	3.794 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	63.43	76.21
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.78	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2272)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0272):	42.09	3.794	5.25	76.21	
+ ID2= 2 (2273):	607.83	18.877	6.50	70.12	
ID = 3 (2272):	649.92	20.221	6.25	70.51	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5260)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5260.0) ------>

Distance	Elevation	Manning
0.00	175.32	0.1110
51.36	174.58	0.1110
87.35	174.75	0.1110
122.73	174.10	0.1110
131.56	174.13	0.1110
202.82	173.44	0.1110

276.03	173.59	0.1110	
349.20	172.56	0.1110	
376.00	173.21	0.1110	
384.10	170.08	0.1110 /0.0490	Main Channel
390.86	169.74	0.0490	Main Channel
394.42	170.00	0.0490 /0.1110	Main Channel
398.31	170.30	0.1110	
402.54	173.35	0.1110	
447.19	173.02	0.1110	
550.72	173.46	0.1110	
592.93	173.28	0.1110	
680.14	173.52	0.1110	
753.95	175.23	0.1110	
784.10	175.41	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	170.00	.960E+03	0.4	0.39	36.34
0.54	170.28	.382E+04	3.3	0.72	19.54
0.82	170.56	.743E+04	8.5	0.97	14.53
1.10	170.84	.113E+05	15.8	1.18	11.94
1.38	171.12	.155E+05	24.9	1.36	10.36
1.66	171.40	.199E+05	35.7	1.52	9.28
1.94	171.68	.245E+05	48.1	1.66	8.49
2.22	171.96	.295E+05	62.2	1.79	7.89
2.50	172.24	.346E+05	77.9	1.90	7.41
2.78	172.52	.401E+05	95.2	2.01	7.02
3.06	172.80	.486E+05	111.1	1.93	7.29
3.34	173.08	.652E+05	125.2	1.62	8.68
3.62	173.36	.108E+06	156.2	1.23	11.50
3.90	173.64	.206E+06	216.9	0.89	15.81
4.18	173.92	.330E+06	333.6	0.86	16.48
4.46	174.20	.464E+06	483.8	0.88	15.99
4.74	174.48	.608E+06	675.3	0.94	15.00
5.02	174.76	.761E+06	877.5	0.97	14.46
5.30	175.04	.930E+06	1142.6	1.04	13.56

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2272)	649.92	20.22	6.25	70.51	1.24	1.26
OUTFLOW: ID= 1 (5260)	649.92	20.07	6.50	70.51	1.23	1.26

CALIB			
STANDHYD (0260)	Area (ha)= 60.94		
ID= 1 DT=15.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	45.70	15.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.60
Length (m)=	637.39	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	34.21
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

			TOTALS
PEAK FLOW (cms)=	4.71	0.83	5.372 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	61.51	75.24
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.76	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2260)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0260):	60.94	5.372	5.25	75.24	
+ ID2= 2 (5260):	649.92	20.073	6.50	70.51	
ID = 3 (2260):	710.86	22.026	5.25	70.92	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0643)	Area (ha)= 7.16		
ID= 1 DT=15.0 min	Total Imp(%)= 48.00	Dir. Conn.(%)= 48.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.44	3.72
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	11.00
Length (m)=	218.48	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	32.15
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06

			TOTALS
PEAK FLOW (cms)=	0.35	0.30	0.659 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	56.18	67.53
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.70	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9472)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	7.16	0.66	5.25	67.53
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	7.16	0.66	5.25	67.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6472)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3490	0.9110
	0.0190	0.1220	0.4450	0.9620
	0.0270	0.2490	1.0700	1.0670
	0.1280	0.5180	2.6100	1.2280
	0.2430	0.7100	4.0000	1.3380

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9472)	7.160	0.659	5.25	67.53
OUTFLOW: ID= 1 (6472)	7.160	0.073	7.50	67.30

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.11
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 0.3721

ADD HYD (4472)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G :	HYDROGRAPH 9472 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6472):	7.16	0.073	7.50	67.30	
+ ID2= 2 (9472):	0.00	0.000	0.00	0.00	
ID = 3 (4472):	7.16	0.073	7.50	67.30	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 76.38		
ID= 1 DT=15.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	18.33	58.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	713.58	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	27.24

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                over (min)       15.00         30.00
     Storage Coeff.  (min)=      11.40 (ii)    68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.89          2.11          3.151 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      79.82         45.80         53.97
     TOTAL RAINFALL   (mm)=      80.82         80.82         80.82
     RUNOFF COEFFICIENT   =       0.99          0.57          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   2.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.54          1.70
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.70
     Length            (m)=     122.20         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         27.24
                over (min)       15.00         30.00
     Storage Coeff.  (min)=      11.40 (ii)    68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.06          0.06          0.092 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      79.82         45.80         53.95
     TOTAL RAINFALL   (mm)=      80.82         80.82         80.82
     RUNOFF COEFFICIENT   =       0.99          0.57          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  84.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.37         64.52
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.70
     Length            (m)=     752.29         40.00
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     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         27.24
                over (min)       15.00         30.00
     Storage Coeff.  (min)=      11.40 (ii)    68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.10          2.34          3.502 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      79.82         45.80         53.97
     TOTAL RAINFALL   (mm)=      80.82         80.82         80.82
     RUNOFF COEFFICIENT   =       0.99          0.57          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0380) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    84.89   3.502     5.25    53.97
        + ID2= 2 (****):     2.24   0.092     5.25    53.95
          ==========================================================
          ID = 3 (0380):    87.13   3.595     5.25    53.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0381) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0380):    87.13   3.595     5.25    53.97
        + ID2= 2 (****):    76.38   3.151     5.25    53.97
          ==========================================================
          ID = 3 (0381):   163.51   6.746     5.25    53.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (2251) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0381):   163.51   6.746     5.25    53.97
        + ID2= 2 (4472):     7.16   0.073     7.50    67.30
          ==========================================================
          ID = 3 (2251):   170.67   6.776     5.25    54.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| STANDHYD  (0709) |   Area    (ha)=   7.69
|ID= 1 DT=15.0 min |   Total Imp(%)=   4.00   Dir. Conn.(%)=   4.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31          7.38
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.30
     Length            (m)=     226.42         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         24.61
                over (min)       15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    33.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.03          0.35          0.379 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=      79.82         40.89         42.44
     TOTAL RAINFALL   (mm)=      80.82         80.82         80.82
     RUNOFF COEFFICIENT   =       0.99          0.51          0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9219) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   7.69      0.38      5.25   42.44
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   7.69      0.38      5.25   42.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (6219) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5000     0.0350

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9219)     7.690     0.379      5.25      42.44
     OUTFLOW: ID= 1 (6219)     7.690     0.359      5.50      42.44

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.72
                TIME SHIFT OF PEAK FLOW        (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0252
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| ADD HYD   (4219) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9219 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6219):     7.69   0.359     5.50    42.44
        + ID2= 2 (9219):     0.00   0.000     0.00     0.00
          ==========================================================
          ID = 3 (4219):     7.69   0.359     5.50    42.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  40.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.44         25.67
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.10
     Length            (m)=     517.11         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         29.32
                over (min)       15.00         30.00
     Storage Coeff.  (min)=      10.80 (ii)    63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.49          1.08          2.300 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75          5.25
     RUNOFF VOLUME    (mm)=      79.82         49.94         60.70
     TOTAL RAINFALL   (mm)=      80.82         80.82         80.82
     RUNOFF COEFFICIENT   =       0.99          0.62          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   1.17
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42          0.75
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.10
     Length            (m)=      88.32         40.00
     Mannings n           =      0.013         0.250
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Max.Eff.Inten.(mm/hr)=	37.17	29.32	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	0.04	0.03	0.067 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	49.94	60.66
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.62	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0371)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	40.11	2.300	5.25	60.70
+ ID2= 2 (****):	1.17	0.067	5.25	60.66
ID = 3 (0371):	41.28	2.367	5.25	60.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (****)	Area (ha)= 70.33	
ID= 1 DT=15.0 min	Total Imp(%)= 36.00	Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.32	45.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	684.74	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	29.32	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	2.61	1.90	4.033 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	49.94	60.70
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.62	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0377)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0371):	41.28	2.367	5.25	60.69
+ ID2= 2 (****):	70.33	4.033	5.25	60.70
ID = 3 (0377):	111.61	6.400	5.25	60.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2248)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0377):	111.61	6.400	5.25	60.70
+ ID2= 2 (4219):	7.69	0.359	5.50	42.44
ID = 3 (2248):	119.30	6.721	5.25	59.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1252)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2248):	119.30	6.721	5.25	59.52
+ ID2= 2 (2251):	170.67	6.776	5.25	54.52
ID = 3 (1252):	289.97	13.496	5.25	56.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0252)	Area (ha)= 58.15	
ID= 1 DT=15.0 min	Total Imp(%)= 76.00	Dir. Conn.(%)= 76.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	44.19	13.96
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.60
Length (m)=	622.63	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	34.21	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	69.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	4.54	0.70	5.003 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25

RUNOFF VOLUME (mm)=	79.82	61.51	75.43
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.76	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2252)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):	58.15	5.003	5.25	75.43
+ ID2= 2 (1252):	289.97	13.496	5.25	56.58
ID = 3 (2252):	348.12	18.500	5.25	59.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1261)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2252):	348.12	18.500	5.25	59.73
+ ID2= 2 (2260):	710.86	22.026	5.25	70.92
ID = 3 (1261):	1058.98	40.526	5.25	67.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0261)	Area (ha)= 53.92	
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	45.83	8.09
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	599.56	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	35.44	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.80 (ii)	62.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	4.72	0.46	5.098 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	65.43	77.66
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.81	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1256)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0261):	53.92	5.098	5.25	77.66
+ ID2= 2 (1261):	1058.98	40.526	5.25	67.24
ID = 3 (1256):	1112.90	45.623	5.25	67.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5256)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5256.0) ------>

Distance	Elevation	Manning	
0.00	169.02	0.1110	
20.27	168.76	0.1110	
52.65	169.09	0.1110	
62.64	168.83	0.1110	
71.51	165.89	0.1110	
80.77	164.57	0.1110	
89.62	164.27	0.1110 /0.0490	Main Channel
90.94	164.26	0.0490	Main Channel
95.82	164.32	0.0490	Main Channel
100.45	164.36	0.0490 /0.1110	Main Channel
108.74	168.86	0.1110	
132.94	169.64	0.1110	
157.62	169.90	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.01	164.27	.329E+01	0.0	0.07	75.11
0.26	164.52	.997E+03	2.1	0.66	7.75
0.51	164.77	.258E+04	8.6	1.02	5.02
0.76	165.02	.435E+04	18.4	1.31	3.93
1.01	165.27	.629E+04	31.4	1.54	3.34
1.26	165.52	.840E+04	47.4	1.74	2.95
1.51	165.77	.107E+05	66.3	1.91	2.68
1.76	166.02	.131E+05	88.5	2.08	2.47
2.01	166.27	.157E+05	113.9	2.24	2.29
2.26	166.52	.183E+05	142.1	2.39	2.15
2.51	166.77	.210E+05	173.0	2.54	2.02
2.76	167.02	.238E+05	206.6	2.67	1.92
3.01	167.27	.268E+05	242.9	2.80	1.84
3.26	167.52	.298E+05	281.9	2.92	1.76
3.51	167.77	.329E+05	323.6	3.03	1.69
3.76	168.02	.361E+05	367.9	3.14	1.63
4.01	168.27	.393E+05	414.8	3.25	1.58
4.26	168.52	.427E+05	464.5	3.35	1.53

4.51	168.77	.462E+05	509.4	3.40	1.51

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1256)	1112.90	45.62	5.25	67.75	1.23	1.71
OUTFLOW: ID= 1 (5256)	1112.90	45.15	5.25	67.75	1.22	1.71

CALIB	
STANDHYD (0256)	Area (ha)= 20.70
ID= 1 DT=15.0 min	Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	15.94	4.76
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	371.48	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	34.84
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	43.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	1.65	0.32	1.942 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	79.82	63.43	76.05
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.78	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0256)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0256):	20.70	1.942	5.25	76.05
	+ ID2= 2 (5256):	1112.90	45.148	5.25	67.75
	ID = 3 (2256):	1133.60	47.091	5.25	67.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 116.17
ID= 1 DT=15.0 min	Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	85.97	30.20

Dep. Storage (mm)=	1.00	4.00			
Average Slope (%)=	1.00	1.60			
Length (m)=	880.04	40.00			
Mannings n =	0.013	0.250			
Max.Eff.Inten.(mm/hr)=	37.17	34.21			
over (min)	15.00	30.00			
Storage Coeff. (min)=	14.40 (ii)	85.20 (ii)			
Unit Hyd. Tpeak (min)=	15.00	90.00			
Unit Hyd. peak (cms)=	0.07	0.01			
			TOTALS		
PEAK FLOW (cms)=	8.79	1.34	9.531 (iii)		
TIME TO PEAK (hrs)=	5.25	6.25	5.25		
RUNOFF VOLUME (mm)=	79.82	61.51	75.06		
TOTAL RAINFALL (mm)=	80.82	80.82	80.82		
RUNOFF COEFFICIENT =	0.99	0.76	0.93		

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.11
ID= 1 DT=15.0 min	Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.08	0.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.60
Length (m)=	27.08	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	34.21
over (min)	15.00	30.00
Storage Coeff. (min)=	14.40 (ii)	85.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW (cms)=	0.01	0.00	0.009 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	79.82	61.51	74.62
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.76	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0367)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3					

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	116.17	9.531	5.25	75.06
+ ID2= 2 (****):	0.11	0.009	5.25	74.62
ID = 3 (0367):	116.28	9.540	5.25	75.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1247)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0367):	116.28	9.540	5.25	75.06
	+ ID2= 2 (2256):	1133.60	47.091	5.25	67.90
	ID = 3 (1247):	1249.88	56.630	5.25	68.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5247)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5247.0) ------>

Distance	Elevation	Manning	
0.00	164.49	0.1110	
96.53	159.50	0.1110	
96.60	159.50	0.1110	
98.32	159.15	0.1110	
99.07	159.00	0.1110 /0.0490	Main Channel
101.36	158.57	0.0490	Main Channel
101.75	158.00	0.0490	Main Channel
102.83	158.00	0.0490	Main Channel
104.82	158.00	0.0490	Main Channel
105.65	158.66	0.0490	Main Channel
107.41	159.00	0.0490 /0.1110	Main Channel
109.23	159.35	0.1110	
110.01	159.50	0.1110	
111.19	159.56	0.1110	
111.57	159.58	0.1110	
121.33	160.00	0.1110	
148.53	160.00	0.1110	
158.08	161.00	0.1110	
169.93	164.43	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	158.33	.750E+03	0.9	0.78	14.16
0.67	158.67	.166E+04	2.7	1.09	10.15
1.00	159.00	.311E+04	5.5	1.18	9.36
1.34	159.34	.538E+04	12.3	1.52	7.28
1.68	159.68	.874E+04	21.6	1.64	6.76
2.02	160.02	.154E+05	34.0	1.46	7.54
2.36	160.36	.305E+05	57.4	1.25	8.85
2.70	160.70	.478E+05	90.5	1.26	8.79
3.04	161.04	.673E+05	133.4	1.31	8.40
3.38	161.38	.887E+05	186.9	1.40	7.91
3.71	161.71	.112E+06	250.3	1.48	7.45
4.05	162.05	.137E+06	323.8	1.57	7.04

4.39	162.39	.163E+06	407.4	1.65	6.68
4.73	162.73	.192E+06	501.6	1.73	6.37
5.07	163.07	.222E+06	606.4	1.81	6.10
5.41	163.41	.254E+06	722.2	1.89	5.86
5.75	163.75	.287E+06	849.3	1.96	5.64
6.09	164.09	.323E+06	987.9	2.03	5.45
6.43	164.43	.360E+06	1138.4	2.10	5.27

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1247)	1249.88	56.63	5.25	68.56	2.35	1.25
OUTFLOW: ID= 1 (5247)	1249.88	52.48	5.25	68.56	2.29	1.28

CALIB	
STANDHYD (0247)	Area (ha)= 38.02
ID= 1 DT=15.0 min	Total Imp(%)= 64.00 Dir. Conn.(%)= 64.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.33	13.69
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.50
Length (m)=	503.45	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	32.85
over (min)	15.00	30.00
Storage Coeff. (min)=	7.80 (ii)	45.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	2.51	0.82	3.260 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	79.82	57.89	71.92
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.72	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2247)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0247):	38.02	3.260	5.25	71.92
	+ ID2= 2 (5247):	1249.88	52.479	5.25	68.56
	ID = 3 (2247):	1287.90	55.738	5.25	68.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1226)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2213):	9040.68	92.349	8.75	45.02
	+ ID2= 2 (2247):	1287.90	55.738	5.25	68.66
	ID = 3 (1226):	10328.58	120.254	6.50	47.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5226)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5226.0) ------>

Distance	Elevation	Manning	
0.00	167.48	0.1110	
4.33	163.54	0.1110	
26.47	158.00	0.1110	
57.29	157.00	0.1110	
63.27	155.78	0.1110	
63.95	155.50	0.1110 /0.0490	Main Channel
64.81	155.10	0.0490	Main Channel
74.07	155.10	0.0490	Main Channel
75.37	155.50	0.0490 /0.1110	Main Channel
81.00	157.00	0.1110	
137.94	159.50	0.1110	
171.75	168.01	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	155.50	.560E+04	3.0	0.72	31.36
1.03	156.13	.172E+05	16.4	1.29	17.55
1.66	156.76	.334E+05	38.9	1.58	14.28
2.29	157.39	.588E+05	70.0	1.61	14.02
2.92	158.02	.111E+06	119.9	1.46	15.48
3.55	158.65	.185E+06	198.8	1.45	15.52
4.18	159.28	.273E+06	304.3	1.51	14.97
4.81	159.91	.374E+06	443.6	1.61	14.04
5.44	160.54	.479E+06	613.0	1.73	13.02
6.07	161.17	.588E+06	808.3	1.86	12.13
6.71	161.81	.702E+06	1028.8	1.98	11.38
7.34	162.44	.820E+06	1274.3	2.10	10.73
7.97	163.07	.943E+06	1544.4	2.22	10.18
8.60	163.70	.107E+07	1841.5	2.33	9.68
9.23	164.33	.120E+07	2170.2	2.45	9.21
9.86	164.96	.133E+07	2522.8	2.57	8.80
10.49	165.59	.147E+07	2898.9	2.68	8.44
11.12	166.22	.161E+07	3298.4	2.78	8.11
11.75	166.85	.175E+07	3721.0	2.89	7.82

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1226) *******	120.25	6.50	47.97	2.92	1.46	
OUTFLOW: ID= 1 (5226) *******	118.77	7.00	47.97	2.90	1.46	

CALIB	STANDHYD (0226)	Area (ha)= 128.50	
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 50.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.25	64.25
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.40
Length	(m)=	925.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.02
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	6.62	2.78	8.710 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	51.42	65.62
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.64	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2226)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0226):	128.50	8.710	5.25	65.62
	+ ID2= 2 (5226):	10328.58	118.774	7.00	47.97
	ID = 3 (2226):	10457.08	121.688	7.00	48.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5237)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5237.0) ------>

Distance	Elevation	Manning	
0.00	158.00	0.1110	
14.00	155.00	0.1110	
15.00	154.50	0.1110	
45.00	154.00	0.1110	
65.00	153.50	0.1110	
97.00	153.50	0.1110	
101.00	154.00	0.1110	
102.00	154.00	0.1110	
105.00	153.50	0.1110	
120.00	153.00	0.1110	
121.00	152.50	0.1110 /0.0490	Main Channel
122.00	151.40	0.0490	Main Channel

134.00	151.40	0.0490	Main Channel
135.00	152.50	0.0490 /0.1110	Main Channel
144.00	153.50	0.1110	
146.00	154.00	0.1110	
160.00	164.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	151.67	.218E+04	1.7	0.51	21.12
0.55	151.95	.446E+04	5.4	0.79	13.63
0.83	152.22	.682E+04	10.7	1.01	10.64
1.10	152.50	.927E+04	17.2	1.20	8.97
1.47	152.87	.131E+05	28.8	1.43	7.56
1.83	153.23	.183E+05	43.3	1.53	7.05
2.20	153.60	.290E+05	61.9	1.39	7.79
2.57	153.97	.497E+05	90.9	1.18	9.12
2.93	154.33	.759E+05	130.0	1.11	9.73
3.30	154.70	.107E+06	183.2	1.11	9.71
3.67	155.07	.138E+06	249.6	1.17	9.23
4.03	155.43	.170E+06	325.8	1.24	8.71
4.40	155.80	.203E+06	411.6	1.31	8.22
4.77	156.17	.236E+06	506.6	1.39	7.77
5.13	156.53	.270E+06	610.4	1.47	7.36
5.50	156.90	.304E+06	722.7	1.54	7.01
5.87	157.27	.339E+06	843.4	1.61	6.69
6.23	157.63	.374E+06	972.3	1.69	6.41
6.60	158.00	.410E+06	1109.3	1.76	6.15

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2226) *******	121.69	7.00	48.19	2.86	1.13	
OUTFLOW: ID= 1 (5237) *******	121.48	7.25	48.19	2.84	1.13	

CALIB	STANDHYD (0237)	Area (ha)= 15.48	
ID= 1 DT=15.0 min	Total Imp(%)= 25.00	Dir. Conn.(%)= 25.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	11.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.30
Length	(m)=	321.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	26.57
over (min)		15.00	15.00
Storage Coeff. (min)=		5.40 (ii)	32.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.40	0.61	1.009 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	44.51	53.34
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.55	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2237)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0237):	15.48	1.009	5.25	53.34
	+ ID2= 2 (5237):	10457.08	121.482	7.25	48.19
	ID = 3 (2237):	10472.56	121.725	7.25	48.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0447)	Area (ha)= 106.74	Curve Number (CN)= 79.0
ID= 1 DT=15.0 min	Ia (mm)= 6.80	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.58		

Unit Hyd Qpeak (cms)= 6.969

PEAK FLOW (cms)= 4.726 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 38.629
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.478

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5024)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5024.0) ------>

Distance	Elevation	Manning	
0.00	247.19	0.1000	
52.21	246.15	0.1000	
62.95	246.38	0.1000	
94.83	245.47	0.1000	
131.08	245.92	0.1000	
263.16	244.86	0.1000	
320.30	244.93	0.1000	
355.96	243.82	0.1000	
398.49	243.50	0.1000	
420.89	243.19	0.1000 /0.0440	Main Channel
421.43	243.14	0.0440	Main Channel
424.25	243.19	0.0440 /0.1000	Main Channel
502.84	245.16	0.1000	
552.79	245.54	0.1000	
669.65	247.85	0.1000	
770.08	247.29	0.1000	
869.85	249.34	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.05	243.19	.204E+03	0.0	0.13	310.61
0.26	243.40	.796E+04	0.8	0.25	159.47
0.47	243.61	.287E+05	3.6	0.31	131.52
0.68	243.82	.673E+05	9.9	0.36	112.91
0.89	244.03	.119E+06	21.9	0.45	90.72
1.10	244.24	.178E+06	38.5	0.52	77.32
1.31	244.45	.246E+06	59.9	0.59	68.34
1.52	244.66	.321E+06	86.4	0.65	61.83
1.73	244.87	.403E+06	112.5	0.68	59.76
1.94	245.08	.527E+06	138.2	0.64	63.51
2.16	245.30	.673E+06	183.9	0.66	60.98
2.37	245.51	.846E+06	238.8	0.69	59.06
2.58	245.72	.105E+07	306.9	0.71	57.14
2.79	245.93	.129E+07	393.3	0.74	54.65
3.00	246.14	.155E+07	515.2	0.81	50.02
3.21	246.35	.182E+07	640.6	0.86	47.28
3.42	246.56	.210E+07	791.7	0.91	44.30
3.63	246.77	.240E+07	960.6	0.97	41.68
3.84	246.98	.271E+07	1145.3	1.03	39.46

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0447)	106.74	4.73	5.50	38.63	0.51	0.32
OUTFLOW: ID= 1 (5024)	106.74	2.06	6.50	38.61	0.35	0.27

CALIB			
NASHYD (0024)	Area (ha)= 140.14	Curve Number (CN)= 76.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.10	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.56		

Unit Hyd Qpeak (cms)= 9.610

PEAK FLOW (cms)= 5.622 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 34.491
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.427

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2024)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0024):	140.14	5.622	5.50	34.49	
+ ID2= 2 (5024):	106.74	2.061	6.50	38.61	
ID = 3 (2024):	246.88	6.868	5.50	36.27	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5045)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5045.0) ------>

Distance	Elevation	Manning	
0.00	245.32	0.1000	
48.84	244.35	0.1000	
66.83	244.49	0.1000	
77.60	244.28	0.1000	
92.37	244.53	0.1000	
148.98	243.76	0.1000	
202.60	243.77	0.1000	
250.13	244.20	0.1000	
292.80	243.79	0.1000	
323.01	243.86	0.1000	
373.16	242.22	0.1000 /0.0440	Main Channel
377.19	242.15	0.0440	Main Channel
382.31	242.13	0.0440	Main Channel
387.43	242.26	0.0440 /0.1000	Main Channel
438.88	244.46	0.1000	
489.19	244.67	0.1000	
537.88	243.99	0.1000	
580.30	244.40	0.1000	
602.74	244.26	0.1000	
764.27	245.55	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	242.22	.178E+03	0.3	0.43	9.82
0.25	242.38	.901E+03	3.2	0.90	4.65
0.42	242.55	.199E+04	9.0	1.14	3.67
0.58	242.71	.343E+04	17.7	1.29	3.24
0.74	242.87	.524E+04	29.4	1.41	2.97
0.91	243.04	.741E+04	44.5	1.51	2.78
1.07	243.20	.994E+04	63.0	1.59	2.63
1.23	243.36	.128E+05	85.3	1.67	2.51
1.40	243.53	.161E+05	111.5	1.74	2.40
1.56	243.69	.197E+05	141.8	1.81	2.31
1.72	243.85	.252E+05	158.6	1.58	2.65
1.88	244.01	.348E+05	205.5	1.48	2.82
2.05	244.18	.472E+05	259.7	1.38	3.03
2.21	244.34	.626E+05	336.4	1.35	3.10
2.37	244.50	.822E+05	430.4	1.31	3.18
2.54	244.67	.106E+06	568.2	1.34	3.11
2.70	244.83	.132E+06	747.9	1.42	2.94
2.86	244.99	.159E+06	953.9	1.50	2.78
3.03	245.16	.188E+06	1185.5	1.59	2.64

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2024)	246.88	6.87	5.50	36.27	0.36	1.04
OUTFLOW: ID= 1 (5045)	246.88	6.78	5.75	36.27	0.35	1.03

CALIB			
NASHYD (0045)	Area (ha)= 69.60	Curve Number (CN)= 78.0	
ID= 1 DT=15.0 min	Ia (mm)= 7.10	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.59		

Unit Hyd Qpeak (cms)= 4.483

PEAK FLOW (cms)= 2.951 (i)

TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 37.313
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.462

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2045)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0045):	69.60	2.951	5.50	37.31	
+ ID2= 2 (5045):	246.88	6.784	5.75	36.27	
ID = 3 (2045):	316.48	9.725	5.50	36.50	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0016)	Area (ha)= 208.86	Curve Number (CN)= 79.0	
ID= 1 DT=15.0 min	Ia (mm)= 6.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.80		

Unit Hyd Qpeak (cms)= 9.972

PEAK FLOW (cms)= 7.787 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 38.840
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.481

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1048)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0016):	208.86	7.787	5.75	38.84	
+ ID2= 2 (2045):	316.48	9.725	5.50	36.50	
ID = 3 (1048):	525.34	17.283	5.50	37.43	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5048)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5048.0) ------>

Distance	Elevation	Manning
0.00	243.03	0.1000
359.76	240.13	0.1000
503.08	241.12	0.1000
509.36	239.75	0.1000
547.35	239.09	0.1000
550.14	239.02	0.1000

571.65	237.24	0.1000 /0.0440	Main Channel
573.01	237.04	0.0440	Main Channel
575.59	237.59	0.0440 /0.1000	Main Channel
588.26	239.41	0.1000	
637.64	239.34	0.1000	
713.38	240.34	0.1000	
773.29	240.09	0.1000	
817.41	241.38	0.1000	
880.91	240.96	0.1000	
1218.10	243.31	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	237.24	.152E+03	0.0	0.15	75.62
0.50	237.54	.113E+04	0.4	0.23	46.91
0.81	237.85	.318E+04	1.4	0.30	36.85
1.11	238.15	.640E+04	3.3	0.34	32.68
1.42	238.46	.108E+05	6.0	0.37	29.97
1.72	238.76	.163E+05	9.8	0.39	27.86
2.03	239.07	.231E+05	14.5	0.41	26.52
2.33	239.37	.328E+05	18.1	0.36	30.17
2.64	239.68	.585E+05	28.4	0.32	34.30
2.94	239.98	.918E+05	46.9	0.34	32.63
3.25	240.29	.136E+06	61.5	0.30	36.76
3.55	240.59	.208E+06	94.6	0.30	36.68
3.86	240.90	.300E+06	146.5	0.32	34.13
4.16	241.20	.416E+06	204.2	0.32	33.93
4.47	241.51	.561E+06	293.7	0.35	31.81
4.77	241.81	.724E+06	413.2	0.38	29.19
5.08	242.12	.903E+06	556.1	0.41	27.06
5.38	242.42	.110E+07	723.7	0.43	25.30
5.69	242.73	.131E+07	917.4	0.46	23.82

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1048)	525.34	17.28	5.50	37.43	2.26	0.38
OUTFLOW: ID= 1 (5048)	525.34	14.79	6.00	37.43	2.06	0.41

CALIB			
STANDHYD (0048)	Area (ha)= 61.81		
ID= 1 DT=15.0 min	Total Imp(%)= 29.00	Dir. Conn.(%)= 23.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.92	43.89
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	641.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	29.73
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)= 1.47	1.89	2.870 (iii)
TIME TO PEAK	(hrs)= 5.25	5.75	5.25
RUNOFF VOLUME	(mm)= 79.82	46.28	54.00

TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2048)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0048):	61.81	2.870	5.25	54.00
+ ID2= 2 (5048):	525.34	14.785	6.00	37.43
ID = 3 (2048):	587.15	17.097	6.00	39.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5046)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (5046.0) ------>

Distance	Elevation	Manning	
0.00	242.13	0.1000	
21.95	242.56	0.1000	
73.65	242.53	0.1000	
129.75	241.36	0.1000	
150.90	241.54	0.1000	
175.31	240.19	0.1000	
191.36	239.80	0.1000	
206.39	238.06	0.1000	
242.75	238.88	0.1000	
260.87	237.01	0.1000 /0.0440	Main Channel
262.52	236.94	0.0440	Main Channel
262.96	236.99	0.0440 /0.1000	Main Channel
316.06	239.46	0.1000	
411.45	238.61	0.1000	
755.24	241.81	0.1000	
768.93	242.79	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	236.99	.275E+02	0.0	0.13	85.24
0.32	237.26	.115E+04	0.6	0.36	31.89
0.59	237.53	.383E+04	2.5	0.44	25.54
0.86	237.80	.806E+04	6.2	0.52	21.83
1.13	238.07	.138E+05	11.9	0.58	19.41
1.40	238.34	.226E+05	19.8	0.59	19.09
1.67	238.61	.356E+05	32.4	0.62	18.28
1.94	238.88	.583E+05	45.2	0.53	21.51
2.21	239.15	.948E+05	78.6	0.56	20.10
2.48	239.42	.144E+06	129.6	0.61	18.49
2.76	239.70	.203E+06	205.8	0.69	16.41
3.03	239.97	.268E+06	297.8	0.76	14.98

3.30	240.24	.340E+06	408.5	0.82	13.86
3.57	240.51	.419E+06	544.6	0.88	12.81
3.84	240.78	.504E+06	702.1	0.95	11.96
4.11	241.05	.595E+06	882.1	1.01	11.25
4.38	241.32	.693E+06	1085.3	1.07	10.64
4.65	241.59	.800E+06	1271.2	1.08	10.48
4.92	241.86	.916E+06	1530.3	1.14	9.98

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2048)	587.15	17.10	6.00	39.17	1.31	0.59
OUTFLOW: ID= 1 (5046)	587.15	16.32	6.25	39.17	1.28	0.59

CALIB			
STANDHYD (0046)	Area (ha)= 117.70		
ID= 1 DT=15.0 min	Total Imp(%)= 37.00	Dir. Conn.(%)= 30.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.55	74.15
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	885.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	31.44
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	3.62	2.98	5.405 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	79.82	48.07	57.60
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.59	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2046)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0046):	117.70	5.405	5.25	57.60
+ ID2= 2 (5046):	587.15	16.315	6.25	39.17
ID = 3 (2046):	704.85	20.355	6.25	42.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0058)	Area (ha)= 66.21		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 39.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	33.10	33.10
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	664.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	39.29
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	66.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	2.66	1.93	4.148 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	56.76	65.75
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.70	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1065)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0058):	66.21	4.148	5.25	65.75
+ ID2= 2 (2046):	704.85	20.355	6.25	42.25
ID = 3 (1065):	771.06	22.854	6.25	44.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5065)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (5065.0) ------>

Distance	Elevation	Manning	
0.00	239.31	0.1000	
5.58	239.49	0.1000	
15.91	238.39	0.1000	
40.00	238.08	0.1000	
49.46	237.62	0.1000	
60.68	238.23	0.1000	
78.72	234.07	0.1000	
80.23	233.37	0.1000 /0.0440	Main Channel
81.64	232.65	0.0440	Main Channel
82.98	233.25	0.0440 /0.1000	Main Channel
90.42	235.93	0.1000	
96.97	235.80	0.1000	

141.98	236.43	0.1000
154.34	236.80	0.1000
162.27	236.56	0.1000
167.80	237.32	0.1000

<---------- TRAVEL TIME TABLE ----------

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	232.95	.996E+02	0.1	0.73	12.12
0.60	233.25	.399E+03	0.9	1.15	7.63
0.97	233.62	.106E+04	3.4	1.71	5.16
1.33	233.98	.207E+04	7.8	1.98	4.44
1.70	234.35	.347E+04	14.0	2.13	4.14
2.07	234.72	.538E+04	22.5	2.21	3.98
2.44	235.09	.780E+04	33.7	2.28	3.86
2.80	235.45	.107E+05	47.7	2.35	3.74
3.17	235.82	.142E+05	63.0	2.35	3.75
3.54	236.19	.220E+05	81.7	1.97	4.48
3.90	236.55	.352E+05	120.0	1.80	4.89
4.27	236.92	.528E+05	176.3	1.76	4.99
4.64	237.29	.723E+05	258.3	1.89	4.67
5.00	237.65	.925E+05	357.0	2.04	4.32
5.37	238.02	.115E+06	459.2	2.12	4.16
5.74	238.39	.141E+06	584.5	2.19	4.02
6.11	238.76	.171E+06	760.2	2.35	3.74
6.47	239.12	.201E+06	958.4	2.52	3.50
6.84	239.49	.233E+06	1168.1	2.65	3.32

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1065)	771.06	22.85	6.25	44.27	2.08	2.21
OUTFLOW: ID= 1 (5065)	771.06	22.85	6.25	44.27	2.08	2.21

CALIB			
STANDHYD (0065)	Area (ha)= 10.36		
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 53.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.91	4.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.40
Length (m)=	262.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	34.35
over (min)	15.00	15.00
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.57	0.34	0.912 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	54.70	68.01
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.68	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2065)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0065):	10.36	0.912	5.25	68.01
	+ ID2= 2 (5065):	771.06	22.854	6.25	44.27
	ID = 3 (2065):	781.42	23.174	6.25	44.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0734)	Area (ha)= 28.31	Curve Number (CN)= 80.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.50	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.30				

Unit Hyd Qpeak (cms)= 3.653

PEAK FLOW (cms)= 1.633 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 36.700
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.454

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0545)	Area (ha)= 6.45				
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 42.00			
	IMPERVIOUS	PERVIOUS (i)			
Surface Area (ha)=	3.42	3.03			
Dep. Storage (mm)=	1.00	4.00			
Average Slope (%)=	1.00	4.80			
Length (m)=	207.36	40.00			
Mannings n =	0.013	0.250			
Max.Eff.Inten.(mm/hr)=	37.17	41.27			
over (min)	15.00	15.00			
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)			
Unit Hyd. Tpeak (min)=	15.00	30.00			
Unit Hyd. peak (cms)=	0.11	0.04			
			TOTALS		
PEAK FLOW (cms)=	0.28	0.29	0.570 (iii)		
TIME TO PEAK (hrs)=	5.25	5.25	5.25		
RUNOFF VOLUME (mm)=	79.82	59.92	68.27		
TOTAL RAINFALL (mm)=	80.82	80.82	80.82		
RUNOFF COEFFICIENT =	0.99	0.74	0.84		

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9130)					
Inlet Cap.=0.009					
#of Inlets= 1					
Total(cms)= 0.0		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	TOTAL HYD.(ID= 1):	6.45	0.57	5.25	68.27
	MAJOR SYS.(ID= 2):	5.93	0.56	5.25	68.27
	MINOR SYS.(ID= 3):	0.52	0.01	2.50	68.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6130)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0090	0.0800	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
INFLOW : ID= 2 (9130)	0.519	0.009	2.50	68.27	
OUTFLOW: ID= 1 (6130)	0.519	0.003	12.75	63.94	

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.10
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.0281

ADD HYD (4130)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6130):	0.52	0.003	12.75	63.94
	+ ID2= 2 (9130):	5.93	0.561	5.25	68.27
	ID = 3 (4130):	6.45	0.562	5.25	67.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2734)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0734):	28.31	1.633	5.25	36.70
	+ ID2= 2 (4130):	6.45	0.562	5.25	67.93
	ID = 3 (2734):	34.76	2.195	5.25	42.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0741)	Area (ha)= 3.39				
ID= 1 DT=15.0 min	Total Imp(%)= 47.00	Dir. Conn.(%)= 44.00			
	IMPERVIOUS	PERVIOUS (i)			
Surface Area (ha)=	1.59	1.80			
Dep. Storage (mm)=	1.00	4.00			
Average Slope (%)=	1.00	6.50			
Length (m)=	150.33	40.00			
Mannings n =	0.013	0.250			
Max.Eff.Inten.(mm/hr)=	37.17	22.34			
over (min)	15.00	15.00			
Storage Coeff. (min)=	3.60 (ii)	19.20 (ii)			
Unit Hyd. Tpeak (min)=	15.00	15.00			
Unit Hyd. peak (cms)=	0.11	0.06			
			TOTALS		
PEAK FLOW (cms)=	0.15	0.10	0.253 (iii)		
TIME TO PEAK (hrs)=	5.25	5.25	5.25		
RUNOFF VOLUME (mm)=	79.82	34.80	54.61		
TOTAL RAINFALL (mm)=	80.82	80.82	80.82		
RUNOFF COEFFICIENT =	0.99	0.43	0.68		

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2741)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0741):	3.39	0.253	5.25	54.61
	+ ID2= 2 (2734):	34.76	2.195	5.25	42.49
	ID = 3 (2741):	38.15	2.447	5.25	43.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0041)	Area (ha)= 263.00	Curve Number (CN)= 74.0			
ID= 1 DT=15.0 min	Ia (mm)= 8.90	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.52				

Unit Hyd Qpeak (cms)= 19.468

PEAK FLOW (cms)= 10.014 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 31.985
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2041)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0041):	263.00	10.014	5.50	31.99
	+ ID2= 2 (2741):	38.15	2.447	5.25	43.57
	ID = 3 (2041):	301.15	12.199	5.25	33.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9001)					
Inlet Cap.=0.000					
#of Inlets= 1					
Total(cms)= 0.0		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	TOTAL HYD.(ID= 1):	301.15	12.20	5.25	33.45
	MAJOR SYS.(ID= 2):	301.15	12.20	5.25	33.45
	MINOR SYS.(ID= 3):	0.00	0.00	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0064)	Area (ha)= 67.94	Curve Number (CN)= 75.0			
ID= 1 DT=15.0 min	Ia (mm)= 8.50	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.37				

Unit Hyd Qpeak (cms)= 7.071

PEAK FLOW (cms)= 3.202 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 32.902
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.407

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1068)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0064):	67.94	3.202	5.25	32.90
	+ ID2= 2 (9001):	301.15	12.199	5.25	33.45
	ID = 3 (1068):	369.09	15.401	5.25	33.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5068)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5068.0) ------>
Distance Elevation Manning

0.00	243.69	0.1000	
1.05	244.22	0.1000	
19.37	243.89	0.1000	
41.05	239.31	0.1000	
42.39	239.06	0.1000	
54.90	238.66	0.1000	
104.87	239.47	0.1000	
187.22	239.06	0.1000	
198.63	238.28	0.1000	
214.93	233.81	0.1000 /0.0440	Main Channel
224.74	232.68	0.0440	Main Channel
234.23	233.89	0.0440 /0.1000	Main Channel
244.57	237.42	0.1000	
253.16	237.28	0.1000	
264.49	238.25	0.1000	
303.31	239.05	0.1000	
336.23	238.84	0.1000	
370.20	238.82	0.1000	
618.04	242.11	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.57	233.24	.503E+04	2.0	0.75	42.17
1.13	233.81	.201E+05	12.6	1.20	26.56
1.74	234.42	.447E+05	43.5	1.86	17.13
2.35	235.03	.741E+05	90.1	2.32	13.71
2.97	235.65	.108E+06	151.2	2.67	11.92
3.58	236.26	.147E+06	226.7	2.95	10.80
4.19	236.87	.190E+06	316.7	3.18	10.02
4.80	237.48	.241E+06	415.4	3.29	9.67
5.42	238.10	.310E+06	540.6	3.33	9.55
6.03	238.71	.399E+06	666.7	3.19	9.97
6.64	239.32	.651E+06	821.2	2.41	13.21
7.25	239.93	.110E+07	1176.4	2.04	15.63
7.87	240.55	.162E+07	1669.2	1.97	16.15
8.48	241.16	.219E+07	2289.5	2.00	15.94
9.09	241.77	.282E+07	3040.5	2.06	15.45
9.70	242.38	.350E+07	3971.5	2.17	14.69
10.32	243.00	.419E+07	5093.0	2.32	13.72
10.93	243.61	.489E+07	6341.8	2.48	12.85
11.54	244.22	.560E+07	7596.9	2.59	12.28

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1068)	369.09	15.40	5.25	33.35	1.18	1.24
OUTFLOW: ID= 1 (5068)	369.09	12.99	5.75	33.35	1.14	1.20

CALIB
STANDHYD (0068)
ID= 1 DT=15.0 min

Area (ha)= 67.87
Total Imp(%)= 24.00 Dir. Conn.(%)= 22.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.29	51.58
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	672.66	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	26.21	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.60 (ii)	56.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	1.54	1.98	3.004 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	42.63	50.81
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.53	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2068)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0068):	67.87	3.004	5.25	50.81
+ ID2= 2 (5068):	369.09	12.986	5.75	33.35
ID = 3 (2068):	436.96	15.454	5.75	36.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0075)
ID= 1 DT=15.0 min

Area (ha)= 90.63
Total Imp(%)= 59.00 Dir. Conn.(%)= 54.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	53.47	37.16
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	777.30	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	34.03	
over (min)	15.00	30.00	
Storage Coeff. (min)=	11.40 (ii)	66.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	5.04	1.82	6.412 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	52.30	67.16
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.65	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1074)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0075):	90.63	6.412	5.25	67.16
+ ID2= 2 (2068):	436.96	15.454	5.75	36.06
ID = 3 (1074):	527.59	19.121	5.50	41.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5074)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5074.0) ------>

Distance	Elevation	Manning	
0.00	237.79	0.1000	
113.79	235.41	0.1000	
164.89	228.84	0.1000 /0.0440	Main Channel
166.86	228.66	0.0440	Main Channel
168.93	229.03	0.0440 /0.1000	Main Channel
184.89	232.46	0.1000	
190.40	232.85	0.1000	
196.98	234.94	0.1000	
215.36	235.65	0.1000	
232.15	237.32	0.1000	
254.34	236.11	0.1000	
290.72	237.19	0.1000	
335.58	237.37	0.1000	
355.30	236.87	0.1000	
416.53	238.54	0.1000	
454.71	237.66	0.1000	
532.81	237.74	0.1000	
585.25	238.79	0.1000	
633.15	238.27	0.1000	
651.47	238.62	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	228.84	.883E+02	0.1	0.42	13.12
0.70	229.36	.119E+04	3.7	1.03	5.33
1.23	229.89	.342E+04	13.1	1.26	4.34
1.75	230.41	.677E+04	29.3	1.43	3.85
2.27	230.93	.112E+05	53.3	1.56	3.51
2.80	231.46	.168E+05	86.4	1.69	3.25
3.32	231.98	.236E+05	129.4	1.81	3.04
3.85	232.51	.314E+05	182.7	1.92	2.87
4.37	233.03	.408E+05	246.6	1.99	2.76
4.89	233.55	.514E+05	329.5	2.11	2.60
5.42	234.08	.630E+05	426.4	2.23	2.46
5.94	234.60	.756E+05	537.9	2.34	2.34
6.46	235.12	.893E+05	650.4	2.40	2.29
6.99	235.65	.106E+06	732.6	2.28	2.41
7.51	236.17	.128E+06	845.2	2.17	2.53
8.04	236.70	.158E+06	973.3	2.02	2.71

8.56	237.22	.200E+06	1148.0	1.89	2.90
9.08	237.74	.263E+06	1390.2	1.74	3.15
9.61	238.27	.349E+06	1932.2	1.82	3.01

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1074)	527.59	19.12	5.50	41.41	1.42	1.32
OUTFLOW: ID= 1 (5074)	527.59	19.50	5.50	41.41	1.43	1.32

CALIB
STANDHYD (0074)
ID= 1 DT=15.0 min

Area (ha)= 22.67
Total Imp(%)= 50.00 Dir. Conn.(%)= 40.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	11.34	11.34
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	388.76	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	37.79	
over (min)	15.00	30.00	
Storage Coeff. (min)=	7.20 (ii)	41.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	0.94	0.79	1.661 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	79.82	55.03	64.94
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.68	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2074)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0074):	22.67	1.661	5.25	64.94
+ ID2= 2 (5074):	527.59	19.496	5.50	41.41
ID = 3 (2074):	550.26	20.637	5.50	42.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1073)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (2065):	781.42	23.174	6.25	44.58
+ ID2= 2 (2074):	550.26	20.637	5.50	42.38
ID = 3 (1073):	1331.68	41.408	6.00	43.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0073) / ID= 1 DT=15.0 min	Area (ha)= 52.49	Total Imp(%)= 52.00	Dir. Conn.(%)= 44.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.29	25.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	591.55	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	35.02
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.38	1.40	3.463 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	51.72	64.08
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.64	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2073) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0073):	52.49	3.463	5.25	64.08
+ ID2= 2 (1073):	1331.68	41.408	6.00	43.67
ID = 3 (2073):	1384.17	43.459	6.00	44.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9013) / Inlet Cap.=***** / #of Inlets= 1 / Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	1384.17	43.46	6.00	44.44
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00

MINOR SYS.(ID= 3):	1384.17	43.46	6.00	44.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6013) / IN= 2---> OUT= 1 / DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.8550	10.8920
	0.0000	0.0000	4.2540	12.9360
	0.0400	0.8560	4.6190	15.0330
	0.1500	1.7950	4.9570	17.1840
	0.5660	2.8160	5.2730	19.3870
	0.7780	3.9200	5.6900	20.1320
	0.9440	5.1060	9.2940	23.1620
	1.1480	6.9760	13.1840	25.4880
	1.3740	7.6130	17.8240	27.8720
	3.1710	8.9050	0.0000	0.0000
	3.5640	9.5610	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9013)	1384.170	43.459	6.00	44.44
OUTFLOW: ID= 1 (6013)	1384.170	20.191	8.00	44.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.46
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 31.5761

ADD HYD (4013) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9013 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6013):	1384.17	20.191	8.00	44.44
+ ID2= 2 (9013):	0.00	0.000	0.00	0.00
ID = 3 (4013):	1384.17	20.191	8.00	44.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5081) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5081.0) ------>

Distance	Elevation	Manning
0.00	225.82	0.1000
5.97	224.62	0.1000
29.57	222.64	0.1000
40.42	222.57	0.1000
76.56	222.70	0.1000
80.13	222.70	0.1000
86.10	222.50	0.1000
92.53	222.61	0.1000

98.56	222.41	0.1000	
98.87	222.40	0.1000	
105.10	222.00	0.1000 /0.0440	Main Channel
110.31	221.50	0.0440	Main Channel
112.61	221.67	0.0440	Main Channel
114.64	221.50	0.0440	Main Channel
114.83	221.49	0.0440	Main Channel
116.29	222.00	0.0440 /0.1000	Main Channel
119.94	222.25	0.1000	
167.66	226.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	221.66	.987E+03	0.2	0.35	87.86
0.34	221.83	.345E+04	1.2	0.65	47.66
0.51	222.00	.662E+04	3.1	0.86	35.87
0.75	222.24	.132E+05	8.0	1.12	27.52
0.99	222.48	.229E+05	15.2	1.23	25.11
1.23	222.72	.475E+05	25.7	1.00	30.83
1.46	222.95	.917E+05	46.2	0.94	33.04
1.70	223.19	.138E+06	74.5	1.00	30.96
1.94	223.43	.188E+06	109.8	1.08	28.50
2.18	223.67	.240E+06	151.7	1.17	26.33
2.42	223.91	.294E+06	200.1	1.26	24.49
2.66	224.15	.351E+06	254.8	1.35	22.95
2.90	224.39	.410E+06	316.0	1.43	21.64
3.14	224.63	.472E+06	383.6	1.51	20.52
3.37	224.86	.537E+06	460.0	1.59	19.44
3.61	225.10	.603E+06	542.8	1.67	18.50
3.85	225.34	.670E+06	632.0	1.75	17.68
4.09	225.58	.740E+06	727.6	1.82	16.95
4.33	225.82	.811E+06	829.6	1.90	16.30

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4013)	1384.17	20.19	8.00	44.44	1.10	1.11
OUTFLOW: ID= 1 (5081)	1384.17	19.79	8.75	44.44	1.09	1.12

CALIB / STANDHYD (0081) / ID= 1 DT=15.0 min	Area (ha)= 131.60	Total Imp(%)= 44.00	Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.90	73.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	936.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	35.57
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	69.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	4.87	3.65	7.179 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	54.09	63.35

TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.67	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2081) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0081):	131.60	7.179	5.25	63.35
+ ID2= 2 (5081):	1384.17	19.787	8.75	44.44
ID = 3 (2081):	1515.77	21.539	8.25	46.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5446) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5446.0) ------>

Distance	Elevation	Manning	
0.00	217.81	0.1000	
11.08	216.00	0.1000	
36.54	215.00	0.1000	
55.05	214.88	0.1000	
57.65	214.50	0.1000	
65.88	212.00	0.1000 /0.0440	Main Channel
65.89	212.00	0.0440	Main Channel
68.31	211.78	0.0440	Main Channel
71.62	211.62	0.0440	Main Channel
74.08	211.60	0.0440	Main Channel
82.25	211.66	0.0440	Main Channel
86.11	212.00	0.0440	Main Channel
86.23	212.02	0.0440 /0.1000	Main Channel
94.33	213.50	0.1000	
134.71	215.48	0.1000	
170.10	216.00	0.1000	
190.26	216.67	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	211.80	.388E+04	1.2	0.50	56.18
0.40	212.00	.994E+04	4.7	0.79	35.45
0.67	212.27	.199E+05	14.2	1.20	23.33
0.95	212.55	.309E+05	27.8	1.52	18.54
1.22	212.82	.431E+05	45.1	1.77	15.91
1.50	213.10	.564E+05	66.1	1.98	14.22
1.77	213.37	.708E+05	90.5	2.16	13.03
2.05	213.65	.865E+05	118.0	2.30	12.23
2.32	213.92	.105E+06	149.2	2.39	11.75
2.60	214.20	.127E+06	184.8	2.46	11.43
2.87	214.47	.151E+06	224.9	2.51	11.22

3.15	214.75	.179E+06	269.4	2.53	11.09
3.42	215.02	.213E+06	313.7	2.48	11.31
3.70	215.30	.257E+06	372.2	2.44	11.52
3.97	215.57	.308E+06	435.1	2.38	11.79
4.25	215.85	.369E+06	503.4	2.30	12.21
4.52	216.12	.441E+06	588.7	2.25	12.48
4.80	216.40	.519E+06	690.4	2.24	12.53
5.07	216.67	.602E+06	802.7	2.25	12.49

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2081)	1515.77	21.54	8.25	46.08	0.82	1.35
OUTFLOW: ID= 1 (5446)	1515.77	21.43	8.50	46.08	0.82	1.35

CALIB
STANDHYD (0446)
ID= 1 DT=15.0 min | Area (ha)= 124.88 | Total Imp(%)= 35.00 | Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.71	81.17
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	912.43	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.03
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	3.60 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	57.85
TOTAL RAINFALL	(mm)=	80.82
RUNOFF COEFFICIENT	=	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2446)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0446):		124.88	6.324	5.25	57.85
+ ID2= 2 (5446):		1515.77	21.430	8.50	46.08
ID = 3 (2446):		1640.65	23.086	8.25	46.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5110)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5110.0) ------>

Distance	Elevation	Manning		
0.00	210.19	0.1000		
21.36	209.50	0.1000		
46.49	206.88	0.1000		
52.44	205.50	0.1000 /0.0440	Main	Channel
56.57	203.68	0.0440	Main	Channel
58.67	203.50	0.0440	Main	Channel
62.44	203.66	0.0440	Main	Channel
67.42	205.50	0.0440 /0.1000	Main	Channel
71.31	206.50	0.1000		
89.08	207.50	0.1000		
149.36	207.99	0.1000		
149.52	208.00	0.1000		
155.13	208.50	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.75	.141E+04	0.6	0.64	36.91
0.50	204.00	.384E+04	3.0	1.10	21.46
0.75	204.25	.672E+04	6.8	1.43	16.47
1.00	204.50	.100E+05	12.1	1.71	13.82
1.25	204.75	.138E+05	19.0	1.94	12.13
1.50	205.00	.180E+05	27.5	2.16	10.93
1.75	205.25	.226E+05	37.7	2.36	10.01
2.00	205.50	.277E+05	49.8	2.54	9.28
2.27	205.77	.339E+05	68.3	2.85	8.28
2.55	206.05	.410E+05	89.4	3.09	7.64
2.82	206.32	.489E+05	113.3	3.27	7.20
3.09	206.59	.578E+05	139.7	3.42	6.90
3.36	206.86	.687E+05	169.1	3.48	6.77
3.64	207.14	.822E+05	201.9	3.48	6.78
3.91	207.41	.985E+05	239.1	3.44	6.86
4.18	207.68	.120E+06	277.9	3.27	7.20
4.45	207.95	.155E+06	326.8	2.98	7.91
4.73	208.23	.200E+06	392.5	2.78	8.48
5.00	208.50	.247E+06	469.4	2.69	8.75

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2446)	1640.65	23.09	8.25	46.98	1.37	2.04
OUTFLOW: ID= 1 (5110)	1640.65	23.01	8.25	46.98	1.36	2.04

CALIB
STANDHYD (0110)
ID= 1 DT=15.0 min | Area (ha)= 86.93 | Total Imp(%)= 36.00 | Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.29	55.64
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	761.27	40.00
Mannings n	=	0.013	0.250

		IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=		37.17	33.66
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.753 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	61.20
TOTAL RAINFALL	(mm)=	80.82
RUNOFF COEFFICIENT	=	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2110)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):		86.93	4.753	5.25	61.20
+ ID2= 2 (5110):		1640.65	23.011	8.25	46.98
ID = 3 (2110):		1727.58	24.268	8.25	47.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5721)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5721.0) ------>

Distance	Elevation	Manning		
0.00	199.53	0.1000		
12.53	199.00	0.1000		
12.61	199.00	0.1000		
22.51	197.82	0.1000 /0.0440	Main	Channel
24.05	197.50	0.0440	Main	Channel
30.35	196.57	0.0440	Main	Channel
32.97	196.00	0.0440	Main	Channel
34.58	195.50	0.0440	Main	Channel
38.37	195.83	0.0440	Main	Channel
39.72	196.22	0.0440	Main	Channel
45.13	197.31	0.0440	Main	Channel
49.32	197.68	0.0440 /0.1000	Main	Channel
62.29	198.50	0.1000		
76.95	199.00	0.1000		
82.76	199.28	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	195.70	.369E+03	0.1	0.46	46.56
0.40	195.90	.145E+04	0.9	0.77	27.85
0.59	196.09	.297E+04	2.4	1.05	20.39
0.79	196.29	.489E+04	4.8	1.25	17.02

0.99	196.49	.727E+04	8.1	1.43	14.94
1.19	196.69	.102E+05	12.5	1.57	13.56
1.39	196.89	.136E+05	18.2	1.71	12.49
1.59	197.09	.177E+05	25.5	1.84	11.56
1.78	197.28	.223E+05	34.5	1.98	10.77
1.98	197.48	.277E+05	44.4	2.05	10.38
2.18	197.68	.339E+05	57.1	2.15	9.90
2.38	197.88	.411E+05	76.1	2.37	9.00
2.58	198.08	.495E+05	99.1	2.56	8.33
2.78	198.28	.592E+05	125.0	2.70	7.89
2.98	198.48	.701E+05	153.9	2.81	7.59
3.18	198.68	.825E+05	185.7	2.88	7.40
3.38	198.88	.968E+05	221.1	2.92	7.30
3.58	199.08	.113E+06	260.2	2.94	7.24
3.78	199.28	.132E+06	303.3	2.95	7.23

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2110)	1727.58	24.27	8.25	47.69	1.55	1.82
OUTFLOW: ID= 1 (5721)	1727.58	24.23	8.25	47.69	1.55	1.81

CALIB
STANDHYD (0721)
ID= 1 DT=15.0 min | Area (ha)= 44.92 | Total Imp(%)= 38.00 | Dir. Conn.(%)= 31.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.07	27.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	547.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	35.13
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.682 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	62.72
TOTAL RAINFALL	(mm)=	80.82
RUNOFF COEFFICIENT	=	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2721)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0721):	44.92	2.682	5.25	62.72

+ ID2= 2 (5721):	1727.58	24.225	8.25	47.69
ID = 3 (2721):	1772.50	24.826	8.25	48.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0699)	Area (ha)=	49.10	Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)=	7.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.37	

Unit Hyd Qpeak (cms)= 5.138

PEAK FLOW (cms)= 2.508 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 35.503
TOTAL RAINFALL (mm)= 80.820
RUNOFF COEFFICIENT = 0.439

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0540)	Area (ha)=	11.06	
ID= 1 DT=15.0 min	Total Imp(%)=	55.00	Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.08	4.98
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	271.54	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	40.81
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.51	0.40	0.882 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	79.82	59.75	68.78
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.74	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9214)				
Inlet Cap.=0.031				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

TOTAL HYD.(ID= 1):	11.06	0.88	5.25	68.78
MAJOR SYS.(ID= 2):	9.39	0.85	5.25	68.78
MINOR SYS.(ID= 3):	1.67	0.03	2.50	68.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6214)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0280	0.3760
	0.0230	0.2300	0.0290	0.4150
	0.0240	0.2640	0.0300	0.4560
	0.0260	0.3000	0.0310	0.4990
	0.0270	0.3370	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9214)	1.672	0.031	2.50	68.78
OUTFLOW: ID= 1 (6214)	1.672	0.009	12.75	67.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.91
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.0928

ADD HYD (4214)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6214):	1.67	0.009	12.75	67.28
+ ID2= 2 (9214):	9.39	0.851	5.25	68.78
ID = 3 (4214):	11.06	0.854	5.25	68.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0539)	Area (ha)=	12.31	
ID= 1 DT=15.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.52	5.79
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.20
Length (m)=	286.47	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	30.73
over (min)	15.00	15.00
Storage Coeff. (min)=	4.80 (ii)	27.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.67	0.39	1.063 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	52.95	67.19

TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.66	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9381)					
Inlet Cap.=1.587					
#of Inlets= 1					
Total(cms)= 1.6	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	12.31	1.06	5.25	67.19	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	12.31	1.06	5.25	67.19	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6381)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0140	0.4484
	0.0100	0.1881	0.1560	0.5370
	0.0110	0.2208	0.7460	0.6320
	0.0120	0.2905	1.5870	0.7334
	0.0130	0.3662	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9381)	12.310	1.063	5.25	67.19
OUTFLOW: ID= 1 (6381)	12.310	0.319	6.50	66.80

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.00
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.5655

ADD HYD (4381)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9381 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6381):	12.31	0.319	6.50	66.80
+ ID2= 2 (9381):	0.00	0.000	0.00	0.00
ID = 3 (4381):	12.31	0.319	6.50	66.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1699)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4214):	11.06	0.854	5.25	68.55
+ ID2= 2 (4381):	12.31	0.319	6.50	66.80
ID = 3 (1699):	23.37	0.868	5.25	67.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2699)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0699):	49.10	2.508	5.25	35.50
+ ID2= 2 (1699):	23.37	0.868	5.25	67.63
ID = 3 (2699):	72.47	3.376	5.25	45.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0535)	Area (ha)=	43.13	
ID= 1 DT=15.0 min	Total Imp(%)=	58.00	Dir. Conn.(%)= 49.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.02	18.11
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.60
Length (m)=	536.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	37.60
over (min)	15.00	15.00
Storage Coeff. (min)=	7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	2.18	1.25	3.324 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	79.82	53.87	66.58
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.67	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9282)	
Inlet Cap.=5.313	
#of Inlets= 1	

Total(cms)= 5.3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	43.13	3.32	5.25	66.58
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	43.13	3.32	5.25	66.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6282)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0900	0.5455
	0.0350	0.1299	0.6640	0.6004
	0.0540	0.2338	1.8780	0.6553
	0.0680	0.3377	3.4510	0.7101
	0.0800	0.4416	5.3130	0.7650

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9282)	43.130	3.324	5.25	66.58
OUTFLOW: ID= 1 (6282)	43.130	3.210	5.25	66.56

PEAK FLOW REDUCTION [Qout/Qin](%)= 96.59
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.7068

ADD HYD (4282)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6282):	43.13	3.210	5.25	66.56
+ ID2= 2 (9282):	0.00	0.000	0.00	0.00
ID = 3 (4282):	43.13	3.210	5.25	66.56

*** W A R N I N G : HYDROGRAPH 9282 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0541)	Area (ha)= 35.37		
ID= 1 DT=15.0 min	Total Imp(%)= 52.00	Dir. Conn.(%)= 41.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	18.39	16.98	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	11.30	
Length (m)=	485.59	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	40.37	
over (min)	15.00	15.00	
Storage Coeff. (min)=	5.40 (ii)	33.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	

Unit Hyd. peak (cms)=	0.11	0.03	
			TOTALS
PEAK FLOW (cms)=	1.50	1.46	2.956 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	58.35	67.15
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.72	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9281)				
Inlet Cap.=7.470				
#of Inlets= 1				
Total(cms)= 7.5	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	35.37	2.96	5.25	67.15
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	35.37	2.96	5.25	67.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6281)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2800	0.5448
	0.0200	0.8450	0.7000	0.6092
	0.0300	0.2238	2.1800	0.6713
	0.0400	0.3704	4.5300	0.7352
	0.0500	0.4902	7.4700	0.8009

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9281)	35.370	2.956	5.25	67.15
OUTFLOW: ID= 1 (6281)	35.370	5.796	5.50	66.79

PEAK FLOW REDUCTION [Qout/Qin](%)=196.08
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.6744

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.
**** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.

ADD HYD (4281)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 9281 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6281):	35.37	5.796	5.50	66.79
+ ID2= 2 (9281):	0.00	0.000	0.00	0.00
ID = 3 (4281):	35.37	5.796	5.50	66.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2535)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4281):	35.37	5.796	5.50	66.79
+ ID2= 2 (4282):	43.13	3.210	5.25	66.56
ID = 3 (2535):	78.50	8.424	5.50	66.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2541)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2535):	78.50	8.424	5.50	66.66
+ ID2= 2 (2699):	72.47	3.376	5.25	45.86
ID = 3 (2541):	150.97	11.162	5.50	56.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1130)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2541):	150.97	11.162	5.50	56.68
+ ID2= 2 (9001):	0.00	0.000	0.00	0.00
ID = 3 (1130):	150.97	11.162	5.50	56.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0532)	Area (ha)= 8.69		
ID= 1 DT=15.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 21.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.35	6.34	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.30	
Length (m)=	240.69	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	28.95	
over (min)	15.00	30.00	
Storage Coeff. (min)=	5.40 (ii)	31.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	

Unit Hyd. peak (cms)=	0.11	0.04	
			TOTALS
PEAK FLOW (cms)=	0.19	0.37	0.555 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	45.00	52.31
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.56	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2532)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0532):	8.69	0.555	5.25	52.31
+ ID2= 2 (1130):	150.97	11.162	5.50	56.68
ID = 3 (2532):	159.66	11.587	5.50	56.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9000)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	159.66	11.59	5.50	56.44
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	159.66	11.59	5.50	56.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6000)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.5300	11.9290
	0.6800	2.1800	1.8100	17.4390
	1.1800	6.8490	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9000)	159.660	11.587	5.50	56.44
OUTFLOW: ID= 1 (6000)	159.660	1.015	8.50	56.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.76
TIME SHIFT OF PEAK FLOW (min)=180.00
MAXIMUM STORAGE USED (ha.m.)= 5.3127

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--------------------
| ADD HYD   (4000) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 0000 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6000):   159.66   1.015     8.50    56.43
      + ID2= 2 (9000):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4000):   159.66   1.015     8.50    56.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0542) |   Area    (ha)=   5.19   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

     Unit Hyd Qpeak  (cms)=   1.153

     PEAK FLOW      (cms)=   0.273 (i)
     TIME TO PEAK   (hrs)=   5.250
     RUNOFF VOLUME   (mm)=  31.195
     TOTAL RAINFALL  (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.386

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2542) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0542):     5.19   0.273     5.25    31.20
      + ID2= 2 (4000):   159.66   1.015     8.50    56.43
        ================================================
        ID = 3 (2542):   164.85   1.044     8.25    55.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0130) |   Area    (ha)=  99.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  38.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     46.97        52.97
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.50
     Length            (m)=    816.25        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        36.61
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.20 (ii)   59.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
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                                                          *TOTALS*
     PEAK FLOW      (cms)=      3.91         2.98          6.217 (iii)
     TIME TO PEAK   (hrs)=      5.25         5.75          5.25
     RUNOFF VOLUME   (mm)=     79.82        54.54         64.15
     TOTAL RAINFALL  (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =     0.99         0.67          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2130) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0130):    99.94   6.217     5.25    64.15
      + ID2= 2 (2542):   164.85   1.044     8.25    55.64
        ================================================
        ID = 3 (2130):   264.79   7.071     5.25    58.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5550) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (5550.0) ------>
               Distance      Elevation       Manning
                   0.00         209.58        0.1000
                   3.56         209.62        0.1000
                  42.74         208.52        0.1000
                  77.30         208.87        0.1000
                 107.41         207.79        0.1000
                 124.03         207.40   0.1000 /0.0440  Main Channel
                 150.79         206.87        0.0440      Main Channel
                 152.45         206.85        0.0440      Main Channel
                 162.04         206.90        0.0440      Main Channel
                 164.71         206.92        0.0440      Main Channel
                 184.43         207.42        0.0440      Main Channel
                 186.09         207.46   0.0440 /0.1000  Main Channel
                 213.15         208.26        0.1000
                 241.57         209.72        0.1000
                 256.40         208.62        0.1000
                 290.72         210.48        0.1000
                 292.65         210.48        0.1000
                 306.25         210.74        0.1000
                 413.63         210.84        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.14   206.99    .251E+04       0.8          0.39      55.21
       0.28   207.13    .762E+04       3.6          0.61      35.24
       0.41   207.26    .149E+05       9.0          0.78      27.54
       0.55   207.40    .244E+05      17.6          0.93      23.15
       0.70   207.55    .368E+05      32.8          1.15      18.69
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       0.84   207.69    .512E+05      52.9          1.34      16.15
       0.99   207.84    .677E+05      77.2          1.48      14.61
       1.13   207.98    .860E+05     106.0          1.60      13.53
       1.28   208.13    .106E+06     139.0          1.70      12.71
       1.42   208.27    .128E+06     176.2          1.79      12.07
       1.57   208.42    .151E+06     218.0          1.87      11.52
       1.71   208.56    .175E+06     262.8          1.94      11.12
       1.86   208.71    .204E+06     310.0          1.97      10.97
       2.00   208.85    .239E+06     363.7          1.97      10.94
       2.15   209.00    .278E+06     426.8          1.99      10.85
       2.29   209.14    .319E+06     496.3          2.01      10.72
       2.44   209.29    .363E+06     571.9          2.04      10.58
       2.58   209.43    .409E+06     653.6          2.07      10.44
       2.73   209.58    .458E+06     741.6          2.10      10.29

                              <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2130)  264.79     7.07    5.25  58.85      0.36      0.71
     OUTFLOW: ID= 1 (5550)  264.79     5.73    5.50  58.85      0.33      0.67


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| CALIB            |
| STANDHYD  (0550) |   Area    (ha)=  48.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  34.00   Dir. Conn.(%)=  30.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.41        31.85
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.80
     Length            (m)=    567.22        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        30.23
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.80 (ii)   47.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.02

                                                          *TOTALS*
     PEAK FLOW      (cms)=      1.49         1.62          2.934 (iii)
     TIME TO PEAK   (hrs)=      5.25         5.50          5.25
     RUNOFF VOLUME   (mm)=     79.82        48.40         57.82
     TOTAL RAINFALL  (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =     0.99         0.60          0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  84.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2550) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0550):    48.26   2.934     5.25    57.82
      + ID2= 2 (5550):   264.79   5.732     5.50    58.85
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        ================================================
        ID = 3 (2550):   313.05   8.320     5.25    58.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5144) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION (5144.0) ------>
               Distance      Elevation       Manning
                   0.00         208.27        0.1000
                  28.32         207.87        0.1000
                  28.56         207.85        0.1000
                  31.58         206.89        0.1000
                  40.26         204.20   0.1000 /0.0440  Main Channel
                  43.45         203.21        0.0440      Main Channel
                  48.11         205.04   0.0440 /0.1000  Main Channel
                  55.33         207.89        0.1000
                  67.35         208.20        0.1000
                  92.04         207.79        0.1000
                 193.51         208.52        0.1000
                 218.35         209.53        0.1000
                 291.67         210.56        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.25   203.46    .100E+03       0.0          0.24      39.00
       0.50   203.71    .402E+03       0.3          0.39      24.57
       0.74   203.95    .904E+03       0.8          0.51      18.75
       0.99   204.20    .161E+04       1.7          0.61      15.48
       1.26   204.47    .261E+04       3.5          0.75      12.60
       1.53   204.74    .385E+04       5.8          0.85      11.12
       1.80   205.01    .534E+04       8.7          0.93      10.18
       2.08   205.29    .706E+04      12.9          1.04       9.13
       2.35   205.56    .903E+04      17.9          1.12       8.43
       2.62   205.83    .112E+05      23.6          1.19       7.94
       2.89   206.10    .137E+05      30.2          1.25       7.56
       3.16   206.37    .164E+05      37.5          1.30       7.27
       3.43   206.64    .193E+05      45.8          1.35       7.03
       3.70   206.91    .225E+05      54.8          1.39       6.83
       3.97   207.18    .259E+05      64.8          1.42       6.66
       4.25   207.46    .295E+05      75.7          1.46       6.51
       4.52   207.73    .334E+05      87.5          1.49       6.37
       4.79   208.00    .405E+05      93.1          1.31       7.25
       5.06   208.27    .594E+05     108.4          1.04       9.14

                              <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2550)  313.05     8.32    5.25  58.69      1.77      0.92
     OUTFLOW: ID= 1 (5144)  313.05     8.04    5.50  58.69      1.74      0.91


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--------------------
| CALIB            |
| STANDHYD  (0144) |   Area    (ha)=  57.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  78.00   Dir. Conn.(%)=  77.00
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                         IMPERVIOUS    PERVIOUS (i)
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Surface Area	(ha)=	44.58	12.57	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.70	
Length	(m)=	617.25	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	35.97	
over (min)		15.00	30.00	
Storage Coeff. (min)=		10.20 (ii)	58.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	60.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	4.54	0.73	5.125 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	62.22	75.77
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.77	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2144)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0144):	57.15	5.125	5.25	75.77
+ ID2= 2 (5144):	313.05	8.045	5.50	58.69
ID = 3 (2144):	370.20	12.624	5.25	61.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0133) ID= 1 DT=15.0 min
Area (ha)= 124.55
Total Imp(%)= 52.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.77	59.78
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	911.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	39.56
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	5.36	3.20 7.415 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	79.82	58.05 67.19
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.72 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0157) ID= 1 DT=15.0 min
Area (ha)= 123.16
Total Imp(%)= 55.00 Dir. Conn.(%)= 46.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.74	55.42
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	906.13	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	39.24
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	82.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	5.80	2.85 7.614 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	79.82	57.93 68.00
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.72 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2157)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0133):	124.55	7.415	5.25	67.19
+ ID2= 2 (0157):	123.16	7.614	5.25	68.00
ID = 3 (2157):	247.71	15.030	5.25	67.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0156) ID= 1 DT=15.0 min
Area (ha)= 110.69
Total Imp(%)= 64.00 Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.84	39.85

Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	1.80	
Length	(m)=	859.03	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	41.50	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.01	
				TOTALS
PEAK FLOW	(cms)=	6.35	2.24	7.807 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	61.30	71.67
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.76	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2156)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0156):	110.69	7.807	5.25	71.67
+ ID2= 2 (2157):	247.71	15.030	5.25	67.59
ID = 3 (2156):	358.40	22.837	5.25	68.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5166)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5166.0) ------>

Distance	Elevation	Manning	
0.00	217.55	0.1000	
11.14	217.28	0.1000	
32.85	217.25	0.1000	
39.83	217.02	0.1000	
53.80	215.11	0.1000	
167.72	214.15	0.1000	
197.58	214.84	0.1000	
250.68	213.38	0.1000 /0.0440	Main Channel
255.86	213.24	0.0440	Main Channel
258.84	213.31	0.0440	Main Channel
259.52	213.31	0.0440	Main Channel
265.88	213.29	0.0440	Main Channel
268.98	213.36	0.0440 /0.1000	Main Channel
364.18	213.80	0.1000	
385.22	213.65	0.1000	
407.72	214.38	0.1000	
418.33	214.17	0.1000	
471.33	215.45	0.1000	

543.86	215.79	0.1000
581.28	217.51	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	213.36	.284E+03	0.2	0.18	24.77
0.34	213.58	.297E+04	3.3	0.30	15.16
0.56	213.80	.944E+04	11.3	0.33	13.96
0.78	214.02	.190E+05	28.3	0.40	11.22
0.99	214.23	.297E+05	51.0	0.47	9.71
1.21	214.45	.438E+05	81.1	0.50	9.01
1.43	214.67	.613E+05	123.3	0.55	8.28
1.65	214.89	.818E+05	176.9	0.59	7.71
1.87	215.11	.105E+06	243.4	0.63	7.17
2.09	215.33	.129E+06	325.5	0.69	6.61
2.30	215.54	.154E+06	409.3	0.72	6.28
2.52	215.76	.182E+06	496.1	0.74	6.11
2.74	215.98	.211E+06	620.0	0.80	5.68
2.96	216.20	.241E+06	759.1	0.86	5.30
3.18	216.42	.272E+06	910.1	0.91	4.97
3.40	216.64	.302E+06	1072.7	0.97	4.70
3.61	216.85	.333E+06	1246.5	1.02	4.46
3.83	217.07	.365E+06	1429.4	1.07	4.25
4.05	217.29	.397E+06	1584.2	1.09	4.18

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2156)	358.40	22.84	5.25	68.85	0.71	0.38
OUTFLOW: ID= 1 (5166)	358.40	21.56	5.25	68.85	0.69	0.37

CALIB
STANDHYD (0166) ID= 1 DT=15.0 min
Area (ha)= 11.81
Total Imp(%)= 83.00 Dir. Conn.(%)= 83.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.80	2.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	280.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	34.21
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	1.01	0.14 1.140 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	79.82	61.51 76.71
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.76 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2166)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0166):	11.81	1.140	5.25	76.71
	+ ID2= 2 (5166):	358.40	21.564	5.25	68.85
	ID = 3 (2166):	370.21	22.704	5.25	69.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5160)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5160.0) ------>

Distance	Elevation	Manning	
0.00	220.97	0.1000	
17.68	215.64	0.1000	
29.90	215.85	0.1000	
34.23	215.87	0.1000	
296.26	212.66	0.1000	
299.34	211.63	0.1000 /0.0440	Main Channel
304.29	210.00	0.0440	Main Channel
306.02	209.43	0.0440	Main Channel
310.37	211.42	0.0440 /0.1000	Main Channel
313.87	213.06	0.1000	
653.61	215.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	209.71	.349E+02	0.1	0.37	7.47
0.57	210.00	.139E+03	0.5	0.59	4.70
0.85	210.28	.314E+03	1.5	0.77	3.59
1.14	210.57	.558E+03	3.1	0.93	2.96
1.42	210.85	.872E+03	5.7	1.08	2.55
1.71	211.14	.126E+04	9.3	1.22	2.26
1.99	211.42	.171E+04	14.0	1.35	2.04
2.30	211.73	.229E+04	21.6	1.56	1.77
2.62	212.05	.295E+04	31.5	1.76	1.56
2.93	212.36	.370E+04	43.1	1.92	1.43
3.24	212.67	.453E+04	56.3	2.05	1.34
3.56	212.99	.614E+04	71.7	1.93	1.43
3.87	213.30	.985E+04	92.0	1.54	1.79
4.18	213.61	.174E+05	125.0	1.19	2.32
4.50	213.93	.289E+05	175.6	1.00	2.75
4.81	214.24	.443E+05	248.2	0.93	2.98
5.12	214.55	.637E+05	346.9	0.90	3.06
5.44	214.87	.870E+05	475.7	0.90	3.05
5.75	215.18	.114E+06	638.0	0.92	2.98

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2166)	370.21	22.70	5.25	69.10	2.34	1.58
OUTFLOW: ID= 1 (5160)	370.21	22.51	5.25	69.10	2.34	1.58

CALIB	
STANDHYD (0160)	Area (ha)= 41.13
ID= 1 DT=15.0 min	Total Imp(%)= 62.00 Dir. Conn.(%)= 62.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	25.50	15.63
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.70
Length	(m)=	523.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	32.15
over (min)		15.00	30.00
Storage Coeff.	(min)=	7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.93	3.478 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	79.82	56.18	70.84
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.70	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2160)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0160):	41.13	3.478	5.25	70.84
	+ ID2= 2 (5160):	370.21	22.512	5.25	69.10
	ID = 3 (2160):	411.34	25.990	5.25	69.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5164)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5164.0) ------>

Distance	Elevation	Manning	
0.00	212.78	0.1000	
18.70	212.77	0.1000	
200.84	210.24	0.1000	
234.88	210.16	0.1000	
258.11	210.46	0.1000	
258.43	210.47	0.1000	
263.50	208.74	0.1000 /0.0440	Main Channel
269.32	206.81	0.0440	Main Channel

277.54	208.63	0.0440 /0.1000	Main Channel			
291.76	210.46	0.1000				
323.24	210.56	0.1000				
387.30	209.40	0.1000				
387.95	209.38	0.1000				
408.71	210.26	0.1000				
538.36	212.18	0.1000				

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	207.07	.240E+03	0.1	0.34	45.94
0.52	207.33	.959E+03	0.6	0.54	28.94
0.78	207.59	.216E+04	1.6	0.71	22.08
1.04	207.85	.384E+04	3.5	0.86	18.23
1.30	208.11	.600E+04	6.4	1.00	15.71
1.56	208.37	.863E+04	10.3	1.13	13.91
1.82	208.63	.118E+05	15.6	1.25	12.55
2.12	208.93	.160E+05	24.8	1.46	10.76
2.41	209.22	.212E+05	36.3	1.62	9.71
2.71	209.52	.278E+05	49.7	1.68	9.33
3.00	209.81	.409E+05	66.9	1.54	10.19
3.30	210.11	.613E+05	89.7	1.38	11.40
3.60	210.41	.993E+05	119.8	1.14	13.82
3.89	210.70	.165E+06	166.6	0.95	16.52
4.19	211.00	.246E+06	238.9	0.91	17.18
4.48	211.29	.339E+06	330.8	0.92	17.08
4.78	211.59	.443E+06	443.5	0.94	16.66
5.07	211.88	.559E+06	578.0	0.97	16.12
5.37	212.18	.686E+06	735.6	1.01	15.55

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2160)	411.34	25.99	5.25	69.28	2.15	1.47
OUTFLOW: ID= 1 (5164)	411.34	24.81	5.25	69.28	2.11	1.46

CALIB	
STANDHYD (0164)	Area (ha)= 45.17
ID= 1 DT=15.0 min	Total Imp(%)= 69.00 Dir. Conn.(%)= 69.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.17	14.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.20
Length	(m)=	548.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	33.54
over (min)		15.00	30.00
Storage Coeff.	(min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.84	3.986 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	79.82	59.67	73.57
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.74	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2164)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0164):	45.17	3.986	5.25	73.57
	+ ID2= 2 (5164):	411.34	24.809	5.25	69.28
	ID = 3 (2164):	456.51	28.795	5.25	69.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0154)	Area (ha)= 31.75
ID= 1 DT=15.0 min	Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.37	12.38
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.90
Length	(m)=	460.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	32.85
over (min)		15.00	30.00
Storage Coeff.	(min)=	7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.77	2.704 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	79.82	57.89	71.27
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.72	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1159)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0154):	31.75	2.704	5.25	71.27
	+ ID2= 2 (2164):	456.51	28.795	5.25	69.70

ID = 3 (1159): 488.26 31.498 5.25 69.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5159)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5159.0) ------>

Distance	Elevation	Manning	
0.00	214.26	0.1000	
15.15	209.75	0.1000	
214.62	207.44	0.1000	
237.60	208.06	0.1000	
238.63	207.69	0.1000 /0.0440	Main Channel
243.51	206.03	0.0440	Main Channel
248.17	207.75	0.0440 /0.1000	Main Channel
253.75	209.16	0.1000	
368.44	208.65	0.1000	
396.47	209.34	0.1000	
401.21	210.91	0.1000	
408.62	210.88	0.1000	
414.76	209.90	0.1000	
416.35	209.56	0.1000	
419.98	210.43	0.1000	
428.66	212.47	0.1000	
428.84	212.42	0.1000	
434.05	211.02	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	206.27	.421E+02	0.1	0.36	12.23
0.47	206.50	.169E+03	0.4	0.57	7.71
0.71	206.74	.379E+03	1.1	0.75	5.88
0.95	206.98	.674E+03	2.3	0.91	4.85
1.19	207.22	.105E+04	4.2	1.06	4.18
1.42	207.45	.152E+04	6.8	1.19	3.71
1.66	207.69	.309E+04	11.0	0.94	4.70
1.94	207.97	.738E+04	21.4	0.77	5.74
2.21	208.24	.141E+05	39.7	0.74	5.94
2.49	208.52	.228E+05	66.4	0.77	5.72
2.77	208.80	.341E+05	102.4	0.80	5.55
3.05	209.08	.521E+05	154.2	0.79	5.63
3.32	209.35	.762E+05	230.1	0.80	5.52
3.60	209.63	.103E+06	330.8	0.85	5.17
3.88	209.91	.131E+06	461.9	0.94	4.72
4.16	210.19	.159E+06	620.4	1.03	4.28
4.43	210.46	.188E+06	798.9	1.12	3.93
4.71	210.74	.218E+06	996.5	1.21	3.64
4.99	211.02	.248E+06	1205.6	1.29	3.42

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1159)	488.26	31.50	5.25	69.80	2.09	0.76
OUTFLOW: ID= 1 (5159)	488.26	29.78	5.25	69.80	2.07	0.76

CALIB

STANDHYD (0159)	Area (ha)= 10.94
ID= 1 DT=15.0 min	Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.42	2.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	270.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	34.84
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.87	0.19	1.059 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	63.43	76.05
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.78	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2159)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0159):		10.94	1.059	5.25	76.05
+ ID2= 2 (5159):		488.26	29.784	5.25	69.80
ID = 3 (2159):		499.20	30.843	5.25	69.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1151)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2144):		370.20	12.624	5.25	61.33
+ ID2= 2 (2159):		499.20	30.843	5.25	69.94
ID = 3 (1151):		869.40	43.467	5.25	66.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5151)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5151.0) ------>

Distance	Elevation	Manning

0.00	212.00	0.1000
50.00	204.31	0.1000
134.63	203.45	0.1000
205.73	202.20	0.1000
253.61	202.65	0.1000
253.97	202.65	0.1000
254.84	202.67	0.1000
258.44	201.10	0.1000 /0.0160 Main Channel
264.70	199.68	0.0160 Main Channel
267.15	200.66	0.0160 /0.1000 Main Channel
273.37	202.49	0.1000
291.37	202.23	0.1000
375.68	203.79	0.1000
411.05	210.16	0.1000
440.50	211.13	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	200.17	.139E+04	1.8	2.11	13.18
0.98	200.66	.554E+04	11.1	3.36	8.30
1.60	201.28	.149E+05	43.4	4.85	5.74
2.21	201.89	.283E+05	101.2	5.98	4.65
2.83	202.51	.660E+05	179.5	4.54	6.13
3.44	203.12	.221E+06	329.9	2.50	11.15
4.06	203.74	.451E+06	567.3	2.10	13.24
4.68	204.36	.760E+06	929.7	2.04	13.63
5.29	204.97	.110E+07	1451.7	2.20	12.66
5.91	205.59	.145E+07	2082.2	2.39	11.63
6.52	206.20	.181E+07	2813.7	2.60	10.73
7.14	206.82	.218E+07	3641.2	2.80	9.96
7.75	207.43	.255E+07	4561.1	2.99	9.32
8.37	208.05	.293E+07	5570.6	3.18	8.77
8.99	208.67	.332E+07	6667.7	3.36	8.29
9.60	209.28	.371E+07	7850.6	3.53	7.89
10.22	209.90	.412E+07	9118.1	3.70	7.53
10.83	210.51	.453E+07	10363.7	3.82	7.29
11.45	211.13	.497E+07	11638.8	3.91	7.11

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1151)	869.40	43.47	5.25	66.27	1.60	4.86
OUTFLOW: ID= 1 (5151)	869.40	42.89	5.50	66.27	1.59	4.82

CALIB
STANDHYD (0151)
ID= 1 DT=15.0 min

Area (ha)= 74.96
Total Imp(%)= 72.00 Dir. Conn.(%)= 72.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	53.97	20.99
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.60
Length	(m)=	706.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	33.54
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00

Unit Hyd. peak	(cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	5.56	1.07	6.399 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	59.67	74.18
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.74	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2151)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0151):		74.96	6.399	5.25	74.18
+ ID2= 2 (5151):		869.40	42.893	5.50	66.27
ID = 3 (2151):		944.36	48.575	5.25	66.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0093)
ID= 1 DT=15.0 min

Area (ha)= 175.48
Total Imp(%)= 51.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	89.49	85.99
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	1081.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	37.88
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	7.56	4.35	10.312 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	56.20	66.12
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.70	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (5549) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (5549.0) ------>
                Distance      Elevation       Manning
                   0.00         227.98        0.1000
                  41.86         226.96        0.1000
                  67.38         227.16        0.1000
                 115.79         225.66        0.1000
                 158.71         225.52        0.1000
                 214.74         223.93        0.1000
                 246.25         223.89        0.1000
                 247.96         223.81        0.1000
                 263.08         220.73    0.1000 /0.0160  Main Channel
                 265.84         219.85        0.0160      Main Channel
                 269.95         220.94    0.0160 /0.1000  Main Channel
                 278.51         223.27        0.1000
                 327.48         223.31        0.1000
                 332.73         223.20        0.1000
                 383.18         224.76        0.1000
                 395.33         224.82        0.1000
                 445.70         224.10        0.1000
                 465.54         224.23        0.1000
                 609.26         227.27        0.1000

      <---------------------- TRAVEL TIME TABLE ----------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.29   220.14    .215E+03        0.4         1.20      10.10
       0.59   220.44    .862E+03        2.3         1.90       6.36
       0.88   220.73    .194E+04        6.7         2.49       4.86
       1.29   221.14    .426E+04       19.9         3.38       3.57
       1.70   221.55    .763E+04       40.6         3.86       3.13
       2.11   221.96    .120E+05       67.6         4.07       2.97
       2.51   222.36    .175E+05      100.9         4.18       2.89
       2.92   222.77    .240E+05      140.3         4.24       2.85
       3.33   223.18    .315E+05      186.1         4.28       2.82
       3.74   223.59    .537E+05      239.9         3.24       3.73
       4.15   224.00    .867E+05      307.4         2.57       4.70
       4.56   224.41    .141E+06      403.2         2.08       5.81
       4.97   224.82    .218E+06      536.2         1.78       6.79
       5.38   225.23    .315E+06      732.9         1.69       7.17
       5.78   225.63    .423E+06      952.6         1.63       7.41
       6.19   226.04    .551E+06     1248.0         1.64       7.36
       6.60   226.45    .689E+06     1596.8         1.68       7.19
       7.01   226.86    .836E+06     1995.8         1.73       6.98
       7.42   227.27    .998E+06     2405.0         1.75       6.91

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0093)  175.48   10.31    5.25  66.12      0.99      2.68
     OUTFLOW: ID= 1 (5549)  175.48   10.09    5.25  66.12      0.99      2.67


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| CALIB             |
| STANDHYD  (0549)  |   Area    (ha)=  32.18
|ID= 1 DT=15.0 min  |   Total Imp(%)=  50.00   Dir. Conn.(%)=  40.00
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                           IMPERVIOUS    PERVIOUS (i)
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     Surface Area     (ha)=      16.09        16.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=     463.18        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        39.24
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.80 (ii)   45.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.33         1.15          2.375 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      79.82        57.93         66.68
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.72          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2549) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0549):    32.18   2.375     5.25     66.68
       + ID2= 2 (5549):   175.48  10.091     5.25     66.12
         ================================================
         ID = 3 (2549):   207.66  12.467     5.25     66.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0531)  |   Area    (ha)=  79.42
|ID= 1 DT=15.0 min  |   Total Imp(%)=  35.00   Dir. Conn.(%)=  29.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.80        51.62
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.20
     Length            (m)=     727.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        32.88
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   57.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.38         2.61          4.374 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      79.82        51.76         59.90
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.64          0.74
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1123) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0531):    79.42   4.374     5.25     59.90
       + ID2= 2 (2549):   207.66  12.467     5.25     66.21
         ================================================
         ID = 3 (1123):   287.08  16.841     5.25     64.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5123) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (5123.0) ------>
                Distance      Elevation       Manning
                   0.00         221.63        0.1000
                  49.32         221.56        0.1000
                 108.94         221.01        0.1000
                 120.64         220.69        0.1000
                 151.95         218.35        0.1000
                 162.10         216.92        0.1000
                 166.38         215.80    0.1000 /0.0160  Main Channel
                 169.01         215.15        0.0160      Main Channel
                 172.24         215.79    0.0160 /0.1000  Main Channel
                 191.35         219.36        0.1000
                 202.67         220.68        0.1000
                 243.44         220.80        0.1000
                 288.84         220.47        0.1000
                 300.34         220.10        0.1000
                 334.49         221.22        0.1000
                 348.80         221.25        0.1000

      <---------------------- TRAVEL TIME TABLE ----------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)       (cms)       (m/s)      (min)
       0.32   215.47    .344E+03        0.9         2.00       6.15
       0.64   215.79    .138E+04        5.9         3.18       3.87
       0.96   216.11    .311E+04       19.0         4.52       2.72
       1.28   216.43    .554E+04       38.2         5.09       2.42
       1.60   216.75    .867E+04       63.0         5.37       2.29
       1.92   217.07    .125E+05       93.3         5.51       2.24
       2.25   217.40    .173E+05      129.4         5.53       2.23
       2.57   217.72    .230E+05      171.5         5.50       2.24
       2.89   218.04    .297E+05      219.7         5.47       2.25
       3.21   218.36    .373E+05      274.3         5.43       2.27
       3.53   218.68    .461E+05      334.3         5.35       2.30
       3.85   219.00    .564E+05      402.0         5.27       2.34
       4.17   219.32    .681E+05      477.6         5.18       2.38
       4.49   219.64    .813E+05      560.0         5.09       2.42
```



```
       4.82   219.97    .961E+05      651.4         5.01       2.46
       5.14   220.29    .113E+06      734.6         4.78       2.57
       5.46   220.61    .138E+06      824.5         4.43       2.78
       5.78   220.93    .180E+06      935.3         3.84       3.20
       6.10   221.25    .235E+06     1080.9         3.40       3.62

                                 <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1123)  287.08   16.84    5.25  64.46      0.91      4.23
     OUTFLOW: ID= 1 (5123)  287.08   16.55    5.25  64.46      0.90      4.18


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0123)  |   Area    (ha)=  21.65
|ID= 1 DT=15.0 min  |   Total Imp(%)=  42.00   Dir. Conn.(%)=  33.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.09        12.56
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     379.91        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        36.04
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   40.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.74         0.84          1.504 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      79.82        54.30         62.72
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.67          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (2123) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0123):    21.65   1.504     5.25     62.72
       + ID2= 2 (5123):   287.08  16.552     5.25     64.46
         ================================================
         ID = 3 (2123):   308.73  18.056     5.25     64.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5445) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<-------- DATA FOR SECTION (5445.0) ------>

Distance	Elevation	Manning	
0.00	217.15	0.1000	
23.77	216.85	0.1000	
57.10	215.44	0.1000	
113.41	215.01	0.1000	
116.54	215.05	0.1000	
139.11	215.26	0.1000	
185.92	215.20	0.1000	
230.25	214.45	0.1000	
235.73	214.29	0.1000	
267.98	213.04	0.1000 /0.0160	Main Channel
269.89	212.75	0.0160	Main Channel
271.26	212.92	0.0160 /0.1000	Main Channel
292.87	215.83	0.1000	
310.23	215.75	0.1000	
315.65	215.41	0.1000	
331.32	215.86	0.1000	
358.01	217.44	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	212.92	.531E+02	0.3	1.32	3.16
0.39	213.14	.305E+03	2.6	2.17	1.93
0.62	213.37	.935E+03	7.7	2.06	2.03
0.84	213.59	.198E+04	15.6	1.97	2.12
1.06	213.81	.343E+04	26.6	1.94	2.15
1.28	214.03	.530E+04	41.0	1.94	2.16
1.51	214.26	.758E+04	59.2	1.96	2.14
1.73	214.48	.103E+05	80.7	1.96	2.13
1.95	214.70	.138E+05	105.6	1.93	2.17
2.17	214.92	.180E+05	136.9	1.90	2.20
2.40	215.15	.237E+05	164.7	1.75	2.39
2.62	215.37	.341E+05	206.2	1.52	2.75
2.84	215.59	.473E+05	280.9	1.49	2.81
3.06	215.81	.617E+05	372.5	1.51	2.76
3.29	216.04	.777E+05	494.0	1.60	2.62
3.51	216.26	.942E+05	634.4	1.69	2.48
3.73	216.48	.111E+06	791.6	1.79	2.34
3.95	216.70	.129E+06	965.2	1.88	2.22
4.18	216.93	.147E+06	1146.8	1.96	2.13

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2123)	308.73	18.06	5.25	64.34	0.89	1.97
OUTFLOW: ID= 1 (5445)	308.73	17.71	5.25	64.34	0.88	1.97

CALIB / STANDHYD (0445) / ID= 1 DT=15.0 min	Area (ha)= 47.14 / Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.98	22.16
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	560.59	40.00
Mannings n	=	0.013	0.250

		IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)	=	37.17	41.96
over (min)		15.00	30.00
Storage Coeff. (min)	=	9.00 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	45.00
Unit Hyd. peak (cms)	=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.549 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	69.17
TOTAL RAINFALL	(mm)=	80.82
RUNOFF COEFFICIENT	=	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2445) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0445):	47.14	3.549	5.25	69.17
+ ID2= 2 (5445):	308.73	17.715	5.25	64.34
ID = 3 (2445):	355.87	21.264	5.25	64.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5121) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5121.0) ------>

Distance	Elevation	Manning	
0.00	209.51	0.1000	
18.50	208.32	0.1000	
51.25	205.70	0.1000	
100.36	204.89	0.1000	
124.00	203.76	0.1000	
172.44	203.13	0.1000	
180.24	202.88	0.1000	
186.88	202.01	0.1000 /0.0440	Main Channel
194.59	201.00	0.0440	Main Channel
200.49	202.11	0.0440 /0.1000	Main Channel
208.49	203.60	0.1000	
211.23	203.87	0.1000	
250.29	205.16	0.1000	
290.65	205.13	0.1000	
356.36	205.76	0.1000	
385.25	205.85	0.1000	
434.54	206.45	0.1000	
484.26	205.90	0.1000	
505.84	206.94	0.1000	
561.50	207.35	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	201.25	.658E+03	0.2	0.57	46.37
0.50	201.50	.263E+04	1.5	0.91	29.21
0.76	201.76	.592E+04	4.4	1.19	22.29
1.01	202.01	.105E+05	9.5	1.44	18.40
1.37	202.37	.193E+05	23.3	1.93	13.76
1.72	202.72	.306E+05	43.1	2.25	11.83
2.08	203.08	.453E+05	68.5	2.41	11.03
2.43	203.43	.703E+05	101.3	2.30	11.58
2.79	203.79	.112E+06	147.5	2.10	12.65
3.15	204.15	.166E+06	211.7	2.04	13.05
3.50	204.50	.230E+06	293.6	2.04	13.04
3.86	204.86	.304E+06	394.5	2.07	12.85
4.21	205.21	.397E+06	489.6	1.97	13.52
4.57	205.57	.538E+06	637.4	1.89	14.06
4.93	205.93	.714E+06	835.4	1.87	14.24
5.28	206.28	.931E+06	1091.8	1.87	14.21
5.64	206.64	.118E+07	1428.0	1.92	13.83
5.99	206.99	.145E+07	1832.3	2.02	13.18
6.35	207.35	.174E+07	2254.3	2.07	12.83

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2445)	355.87	21.26	5.25	64.98	1.31	1.84
OUTFLOW: ID= 1 (5121)	355.87	20.22	5.50	64.98	1.28	1.79

CALIB / STANDHYD (0121) / ID= 1 DT=15.0 min	Area (ha)= 133.85 / Total Imp(%)= 55.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.62	60.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	944.63	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	37.35
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.60 (ii)	73.80 (ii)
Unit Hyd. Tpeak (min)	=	15.00	75.00
Unit Hyd. peak (cms)	=	0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	8.749 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	68.92
TOTAL RAINFALL	(mm)=	80.82
RUNOFF COEFFICIENT	=	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2121) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0121):	133.85	8.749	5.25	68.92
+ ID2= 2 (5121):	355.87	20.222	5.50	64.98
ID = 3 (2121):	489.72	28.545	5.25	66.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5136) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5136.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.816E+02	0.0	0.27	52.78
0.20	195.20	.326E+03	0.2	0.42	33.25
0.29	195.29	.734E+03	0.5	0.56	25.37
0.39	195.39	.130E+04	1.0	0.68	20.88
0.49	195.49	.203E+04	1.9	0.79	17.97
0.61	195.61	.310E+04	3.6	0.99	14.22
0.74	195.74	.428E+04	5.9	1.16	12.15
0.86	195.86	.557E+04	8.6	1.31	10.82
0.98	195.98	.698E+04	12.0	1.46	9.68
1.11	196.11	.865E+04	16.0	1.57	9.01
1.23	196.23	.108E+05	20.6	1.62	8.74
1.35	196.35	.134E+05	25.9	1.64	8.63
1.48	196.48	.166E+05	32.0	1.64	8.61
1.60	196.60	.202E+05	38.9	1.64	8.63
1.73	196.73	.245E+05	46.4	1.61	8.80
1.85	196.85	.299E+05	55.2	1.57	9.02
1.97	196.97	.362E+05	65.3	1.53	9.25
2.10	197.10	.436E+05	76.7	1.49	9.48
2.22	197.22	.521E+05	89.7	1.46	9.68

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2121)	489.72	28.54	5.25	66.06	1.41	1.64

OUTFLOW: ID= 1 (5136) 489.72 27.29 5.50 66.06 1.38 1.64

CALIB	
STANDHYD (0136)	Area (ha)= 79.16
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	41.16	38.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	726.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	39.46
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	3.50	2.17	4.925 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	59.27	68.10
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.73	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2136)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0136):	79.16	4.925	5.25	68.10
+	ID2= 2 (5136):	489.72	27.294	5.50	66.06
	ID = 3 (2136):	568.88	31.296	5.25	66.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1149)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2136):	568.88	31.296	5.25	66.34
+	ID2= 2 (2151):	944.36	48.575	5.25	66.90
	ID = 3 (1149):	1513.24	79.871	5.25	66.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5149)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5149.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.366E+02	0.0	0.27	23.37
0.20	195.20	.146E+03	0.2	0.43	14.72
0.29	195.29	.329E+03	0.5	0.56	11.24
0.39	195.39	.585E+03	1.1	0.68	9.25
0.49	195.49	.911E+03	1.9	0.80	7.96
0.61	195.61	.139E+04	3.7	1.01	6.30
0.74	195.74	.192E+04	5.9	1.18	5.38
0.86	195.86	.250E+04	8.7	1.32	4.79
0.98	195.98	.313E+04	12.2	1.48	4.29
1.11	196.11	.388E+04	16.2	1.59	3.99
1.23	196.23	.485E+04	20.9	1.64	3.87
1.35	196.35	.603E+04	26.3	1.66	3.82
1.48	196.48	.742E+04	32.4	1.66	3.81
1.60	196.60	.904E+04	39.4	1.66	3.82
1.73	196.73	.110E+05	47.0	1.63	3.90
1.85	196.85	.134E+05	55.9	1.59	3.99
1.97	196.97	.163E+05	66.1	1.55	4.10
2.10	197.10	.196E+05	77.7	1.51	4.20
2.22	197.22	.234E+05	90.9	1.48	4.29

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1149)	1513.24	79.87	5.25	66.69	2.12	1.50
OUTFLOW:	ID= 1 (5149)	1513.24	78.82	5.50	66.69	2.11	1.51

CALIB	
STANDHYD (0149)	Area (ha)= 3.06
ID= 1 DT=15.0 min	Total Imp(%)= 34.00 Dir. Conn.(%)= 29.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.04	2.02
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.80

Length	(m)=	142.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	31.52
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.09	0.16	0.255 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	50.05	58.68
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.62	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2149)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0149):	3.06	0.255	5.25	58.68
+	ID2= 2 (5149):	1513.24	78.817	5.50	66.69
	ID = 3 (2149):	1516.30	78.943	5.50	66.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1150)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2149):	1516.30	78.943	5.50	66.67
+	ID2= 2 (2721):	1772.50	24.826	8.25	48.08
	ID = 3 (1150):	3288.80	96.682	5.50	56.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5150)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5150.0) ------>

Distance	Elevation	Manning	
0.00	193.23	0.1000	
0.00	194.50	0.1000	
210.65	190.50	0.1000	
223.18	188.00	0.1000 /0.0440	Main Channel
226.63	187.00	0.0440	Main Channel
230.00	186.50	0.0440	Main Channel
233.00	186.50	0.0440	Main Channel

237.18	187.00	0.0440	Main Channel
241.05	188.00	0.0440 /0.1000	Main Channel
252.73	190.50	0.1000	
267.79	191.00	0.1000	
282.60	194.00	0.1000	
291.93	194.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	186.80	.773E+03	0.9	0.58	14.02
0.60	187.10	.219E+04	4.0	0.89	9.18
0.90	187.40	.401E+04	9.6	1.18	6.93
1.20	187.70	.615E+04	17.8	1.41	5.78
1.50	188.00	.862E+04	28.5	1.62	5.04
1.87	188.37	.122E+05	48.8	1.96	4.17
2.25	188.75	.165E+05	73.9	2.20	3.71
2.62	189.12	.214E+05	104.0	2.38	3.43
2.99	189.49	.270E+05	139.0	2.52	3.24
3.37	189.87	.332E+05	179.2	2.64	3.09
3.74	190.24	.401E+05	224.6	2.74	2.98
4.11	190.61	.479E+05	271.1	2.77	2.95
4.49	190.99	.602E+05	323.8	2.63	3.10
4.86	191.36	.773E+05	394.7	2.50	3.26
5.24	191.74	.984E+05	479.5	2.39	3.42
5.61	192.11	.123E+06	579.5	2.30	3.55
5.98	192.48	.152E+06	696.2	2.24	3.65
6.36	192.86	.185E+06	830.9	2.20	3.71
6.73	193.23	.222E+06	985.0	2.17	3.75

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1150)	3288.80	96.68	5.50	56.65	2.53	2.33
OUTFLOW:	ID= 1 (5150)	3288.80	97.20	5.50	56.65	2.54	2.34

CALIB	
STANDHYD (0150)	Area (ha)= 55.43
ID= 1 DT=15.0 min	Total Imp(%)= 73.00 Dir. Conn.(%)= 73.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.46	14.97
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	607.89	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	33.54
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	57.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.17	0.81	4.814 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	59.67	74.38
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.74	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2150)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0150):		55.43	4.814	5.25	74.38
+ ID2= 2 (5150):		3288.80	97.198	5.50	56.65
ID = 3 (2150):		3344.23	99.765	5.50	56.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5175)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5175.0) ------>

Distance	Elevation	Manning	
0.00	190.19	0.1000	
183.72	188.50	0.1000	
199.34	185.08	0.1000	
204.64	184.92	0.1000	
226.50	184.89	0.1000	
232.59	184.66	0.1000	
236.19	184.34	0.1000	
237.52	184.12	0.1000 /0.0440	Main Channel
237.54	182.90	0.0440	Main Channel
242.00	182.90	0.0440	Main Channel
242.55	184.03	0.0440 /0.1000	Main Channel
249.56	184.50	0.1000	
284.14	185.34	0.1000	
284.72	187.50	0.1000	
288.13	188.00	0.1000	
319.42	187.98	0.1000	
319.74	187.98	0.1000	
332.36	187.82	0.1000	
357.39	187.66	0.1000	
357.40	190.19	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	183.28	.193E+04	1.5	0.87	21.55
0.75	183.65	.393E+04	4.5	1.27	14.71
1.13	184.03	.602E+04	8.3	1.56	12.03
1.52	184.41	.975E+04	14.2	1.63	11.46
1.90	184.80	.190E+05	23.1	1.36	13.72
2.29	185.19	.457E+05	41.1	1.01	18.50
2.67	185.57	.824E+05	76.1	1.04	18.03
3.06	185.96	.120E+06	124.9	1.17	16.07
3.44	186.34	.159E+06	184.9	1.30	14.36
3.83	186.73	.199E+06	255.1	1.44	13.00
4.21	187.11	.239E+06	335.0	1.57	11.92
4.60	187.50	.281E+06	424.1	1.70	11.04

4.98	187.88	.328E+06	465.5	1.60	11.73
5.37	188.27	.397E+06	553.5	1.56	11.97
5.75	188.65	.474E+06	659.3	1.56	11.98
6.14	189.04	.565E+06	767.5	1.53	12.27
6.52	189.42	.674E+06	931.4	1.55	12.07
6.91	189.81	.802E+06	1138.5	1.60	11.74
7.29	190.19	.947E+06	1387.0	1.64	11.38

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2150)	3344.23	99.76	5.50	56.94	2.86	1.10
OUTFLOW: ID= 1 (5175)	3344.23	93.52	5.75	56.94	2.81	1.08

CALIB	
STANDHYD (0175)	Area (ha)= 60.91
ID= 1 DT=15.0 min	Total Imp(%)= 69.00 Dir. Conn.(%)= 69.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	42.03	18.88
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	637.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.15
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.33 0.97 5.091 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	79.82 56.18 72.49
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.70 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2175)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0175):		60.91	5.091	5.25	72.49
+ ID2= 2 (5175):		3344.23	93.523	5.75	56.94
ID = 3 (2175):		3405.14	95.852	5.75	57.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0128)	Area (ha)= 191.08
ID= 1 DT=15.0 min	Total Imp(%)= 56.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	107.00	84.08
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	1128.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	39.05
over (min)		15.00	30.00
Storage Coeff. (min)=		15.60 (ii)	93.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	9.54 4.05 11.746 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	79.82 60.44 69.94
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.75 0.87

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2128)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0128):		191.08	11.746	5.25	69.94
+ ID2= 2 (2175):		3405.14	95.852	5.75	57.22
ID = 3 (2128):		3596.22	103.013	5.75	57.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 24.12
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.85	13.27
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	8.60
Length	(m)=	401.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.73
over (min)		15.00	15.00
Storage Coeff. (min)=		5.40 (ii)	31.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	1.12 0.85 1.971 (iii)

TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	52.95 65.04
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.66 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9476)	
Inlet Cap.=0.030	
#of Inlets= 1	
Total(cms)= 0.0	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.12	1.97	5.25	65.04
MAJOR SYS.(ID= 2):	22.27	1.94	5.25	65.04
MINOR SYS.(ID= 3):	1.85	0.03	2.50	65.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6476)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1					
DT= 15.0 min		0.0000	0.0000	0.0300	0.1280

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9476)	1.848	0.030	2.50	65.04
OUTFLOW: ID= 1 (6476)	1.848	0.018	12.75	64.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.47
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.0763

ADD HYD (4476)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6476):		1.85	0.018	12.75	64.47
+ ID2= 2 (9476):		22.27	1.941	5.25	65.04
ID = 3 (4476):		24.12	1.948	5.25	65.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1171)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

```
  ID1= 1 (2128):  3596.22 103.013     5.75    57.90
+ ID2= 2 (4476):    24.12   1.948     5.25    65.00
  ================================================
  ID = 3 (1171):  3620.34 103.953     5.75    57.95

NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ROUTE CHN (5171) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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<------ DATA FOR SECTION (5171.0) ------>

Distance	Elevation	Manning		
0.00	182.62	0.1000		
70.19	179.50	0.1000		
139.11	179.00	0.1000 /0.0440	Main Channel	
140.08	178.61	0.0440	Main Channel	
140.35	177.50	0.0440	Main Channel	
146.00	177.50	0.0440	Main Channel	
146.96	178.83	0.0440	Main Channel	
148.70	178.92	0.0440	Main Channel	
148.90	179.00	0.0440 /0.1000	Main Channel	
169.23	179.25	0.1000		
181.85	182.00	0.1000		
283.06	182.00	0.1000		
330.41	180.56	0.1000		
373.02	181.50	0.1000		
398.28	181.61	0.1000		
428.84	182.54	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	177.75	.105E+04	0.9	0.61	19.95
0.50	178.00	.214E+04	2.7	0.92	13.14
0.75	178.25	.328E+04	5.2	1.16	10.44
1.00	178.50	.446E+04	8.3	1.36	8.93
1.25	178.75	.570E+04	11.7	1.50	8.08
1.50	179.00	.723E+04	14.6	1.46	8.27
1.77	179.27	.151E+05	23.2	1.12	10.82
2.04	179.54	.322E+05	39.5	0.89	13.61
2.32	179.82	.530E+05	65.3	0.90	13.52
2.59	180.09	.753E+05	98.9	0.95	12.69
2.86	180.36	.990E+05	139.6	1.03	11.81
3.13	180.63	.124E+06	184.2	1.08	11.25
3.41	180.91	.154E+06	232.9	1.10	11.03
3.68	181.18	.190E+06	294.7	1.13	10.73
3.95	181.45	.231E+06	368.9	1.16	10.44
4.22	181.72	.280E+06	452.1	1.17	10.33
4.50	182.00	.336E+06	559.3	1.21	10.02
4.77	182.27	.416E+06	668.9	1.17	10.36
5.04	182.54	.499E+06	833.8	1.21	9.97

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1171)	3620.34	103.95	5.75	57.95	2.62	0.96
OUTFLOW: ID= 1 (5171)	3620.34	101.26	6.00	57.95	2.60	0.96

```
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=   0.65
|ID= 1 DT=15.0 min  |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.12         0.53
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.50
     Length            (m)=     65.83        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        26.57
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.03         0.01          0.039 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=     79.82        44.51         50.84
     TOTAL RAINFALL   (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =      0.99         0.55          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=  11.04
|ID= 1 DT=15.0 min  |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.99         9.05
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.50
     Length            (m)=    271.29        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        26.57
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.21         0.46          0.664 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=     79.82        44.51         50.87
     TOTAL RAINFALL   (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =      0.99         0.55          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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```
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (0339) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    11.04   0.664     5.25    50.87
       + ID2= 2 (****):     0.65   0.039     5.25    50.84
         ================================================
         ID = 3 (0339):    11.69   0.703     5.25    50.86

NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=   5.40
|ID= 1 DT=15.0 min  |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
--------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.97         4.43
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         4.50
     Length            (m)=    189.74        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        26.57
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.10         0.23          0.325 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=     79.82        44.51         50.86
     TOTAL RAINFALL   (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =      0.99         0.55          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (0342) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0339):    11.69   0.703     5.25    50.86
       + ID2= 2 (****):     5.40   0.325     5.25    50.86
         ================================================
         ID = 3 (0342):    17.09   1.027     5.25    50.86
```



```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (2171) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0342):    17.09   1.027     5.25    50.86
       + ID2= 2 (5171):  3620.34 101.258     6.00    57.95
         ================================================
         ID = 3 (2171):  3637.43 101.831     6.00    57.91

NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB             |
| STANDHYD  (0659)  |   Area    (ha)=  24.81
|ID= 1 DT=15.0 min  |   Total Imp(%)=  47.00   Dir. Conn.(%)=  47.00
--------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     11.66        13.15
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         6.20
     Length            (m)=    406.69        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        31.45
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      6.00 (ii)   35.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.20         0.84          2.040 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     79.82        54.53         66.42
     TOTAL RAINFALL   (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =      0.99         0.67          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| DUHYD     (9475) |
| Inlet Cap.=0.060 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.81      2.04      5.25   66.42
     ================================================
     MAJOR SYS.(ID= 2):  21.41      1.98      5.25   66.42
     MINOR SYS.(ID= 3):   3.40      0.06      2.50   66.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

RESERVOIR (6475)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0600	0.2570	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9475)	3.403	0.060	2.50	66.42
OUTFLOW: ID= 1 (6475)	3.403	0.034	12.50	66.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 56.66
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.1460

ADD HYD (4475)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (6475):	3.40	0.034	12.50	66.10	
+ ID2= 2 (9475):	21.41	1.980	5.25	66.42	
ID = 3 (4475):	24.81	1.994	5.25	66.37	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.70		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.43	0.27
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	68.31	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	31.45
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	0.04	0.01	0.052 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	54.53	69.91
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.67	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.32		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.20	0.12
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	46.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	31.45
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	0.02	0.01	0.024 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	54.53	69.83
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.67	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 100.13		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	61.08	39.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	817.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	31.45
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	6.29	1.72	7.372 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	54.53	69.96
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.67	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0400)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (****):	100.13	7.372	5.25	69.96	
+ ID2= 2 (****):	0.32	0.024	5.25	69.83	
ID = 3 (0400):	100.45	7.395	5.25	69.96	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0401)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0400):	100.45	7.395	5.25	69.96	
+ ID2= 2 (****):	0.70	0.052	5.25	69.91	
ID = 3 (0401):	101.15	7.447	5.25	69.96	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2655)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0401):	101.15	7.447	5.25	69.96	
+ ID2= 2 (4475):	24.81	1.994	5.25	66.37	
ID = 3 (2655):	125.96	9.441	5.25	69.25	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1179)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2171):	3637.43	101.831	6.00	57.91	
+ ID2= 2 (2655):	125.96	9.441	5.25	69.25	
ID = 3 (1179):	3763.39	106.298	6.00	58.29	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5179)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5179.0) ------>

Distance	Elevation	Manning
0.00	180.00	0.1000

19.81	179.88	0.1000	
80.23	175.31	0.1000	
87.64	175.00	0.1000	
94.94	174.57	0.1000	
96.72	174.50	0.1000 /0.0440	Main Channel
98.15	174.00	0.0440	Main Channel
106.22	174.15	0.0440	Main Channel
107.82	174.50	0.0440 /0.1000	Main Channel
109.71	175.00	0.1000	
183.40	175.01	0.1000	
204.12	175.50	0.1000	
218.61	176.50	0.1000	
246.72	177.50	0.1000	
258.61	177.66	0.1000	
277.61	177.68	0.1000	
284.71	177.58	0.1000	
296.45	177.54	0.1000	
401.58	180.45	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	174.25	.162E+04	0.6	0.40	44.60
0.50	174.50	.432E+04	2.7	0.67	26.29
0.82	174.82	.947E+04	8.1	0.91	19.51
1.15	175.15	.285E+05	17.9	0.67	26.63
1.47	175.47	.682E+05	40.2	0.63	28.27
1.79	175.79	.113E+06	74.8	0.70	25.16
2.12	176.12	.161E+06	119.9	0.79	22.34
2.44	176.44	.212E+06	175.1	0.88	20.14
2.76	176.76	.266E+06	237.8	0.95	18.64
3.09	177.09	.325E+06	310.2	1.01	17.47
3.41	177.41	.389E+06	393.0	1.07	16.49
3.74	177.74	.463E+06	442.2	1.01	17.46
4.06	178.06	.554E+06	559.8	1.07	16.48
4.38	178.38	.650E+06	692.2	1.13	15.64
4.71	178.71	.751E+06	839.8	1.19	14.91
5.03	179.03	.858E+06	1002.8	1.24	14.26
5.35	179.35	.971E+06	1181.8	1.29	13.69
5.68	179.68	.109E+07	1377.0	1.34	13.18
6.00	180.00	.121E+07	1555.4	1.36	13.00

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1179)	3763.39	106.30	6.00	58.29	2.02	0.76
OUTFLOW: ID= 1 (5179)	3763.39	101.32	6.25	58.29	1.98	0.75

CALIB			
STANDHYD (****)	Area (ha)= 1.25		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.38	0.87
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	91.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.24

over (min)		15.00	30.00	
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.04	0.04	0.073 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	79.82	45.80	55.99
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.57	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area	(ha)= 0.98	
ID= 1 DT=15.0 min	Total Imp(%)=	30.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.29	0.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	80.83	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		37.17	27.24	
over (min)		15.00	30.00	
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.03	0.03	0.057 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	79.82	45.80	55.98
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.57	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0347)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):		1.25	0.073	5.25	55.99
+ ID2= 2 (****):		0.98	0.057	5.25	55.98
ID = 3 (0347):		2.23	0.131	5.25	55.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area	(ha)= 37.99	
ID= 1 DT=15.0 min	Total Imp(%)=	30.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.40	26.59
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	503.26	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		37.17	27.24	
over (min)		15.00	30.00	
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	1.18	1.19	2.228 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	79.82	45.80	56.01
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.57	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0345)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0347):		2.23	0.131	5.25	55.98
+ ID2= 2 (****):		37.99	2.228	5.25	56.01
ID = 3 (0345):		40.22	2.359	5.25	56.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2179)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0345):		40.22	2.359	5.25	56.01
+ ID2= 2 (5179):		3763.39	101.319	6.25	58.29
ID = 3 (2179):		3803.61	102.641	6.25	58.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5429)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5429.0) ------>

Distance	Elevation	Manning	
0.00	173.91	0.1110	
0.00	176.00	0.1110	
9.53	173.50	0.1110	
25.59	171.50	0.1110	
90.97	171.00	0.1110	
96.91	170.58	0.1110	
97.41	170.50	0.1110	
98.56	170.14	0.1110 /0.0490	Main Channel
99.04	169.50	0.0490	Main Channel
103.00	169.50	0.0490	Main Channel
103.89	170.28	0.0490 /0.1110	Main Channel
105.84	170.39	0.1110	
106.34	170.41	0.1110	
106.80	170.50	0.1110	
128.20	170.89	0.1110	
130.65	171.00	0.1110	
148.78	175.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	169.82	.693E+03	1.0	0.72	11.79
0.64	170.14	.148E+04	3.1	1.07	7.94
0.98	170.48	.268E+04	6.9	1.31	6.45
1.33	170.83	.614E+04	13.2	1.09	7.74
1.67	171.17	.138E+05	25.1	0.92	9.19
2.02	171.52	.289E+05	47.4	0.83	10.16
2.36	171.86	.480E+05	85.7	0.91	9.34
2.71	172.21	.678E+05	135.8	1.02	8.32
3.05	172.55	.884E+05	196.7	1.13	7.49
3.40	172.90	.110E+06	267.9	1.24	6.82
3.74	173.24	.132E+06	348.8	1.35	6.29
4.09	173.59	.154E+06	440.0	1.45	5.84
4.43	173.93	.177E+06	542.4	1.55	5.45
4.78	174.28	.201E+06	653.2	1.65	5.13
5.12	174.62	.225E+06	772.9	1.74	4.85
5.47	174.97	.250E+06	901.1	1.83	4.62
5.81	175.31	.275E+06	1037.8	1.92	4.41
6.16	175.66	.300E+06	1183.0	2.00	4.23
6.50	176.00	.326E+06	1339.1	2.09	4.06

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2179)	3803.61	102.64	6.25	58.27	2.48	0.94
OUTFLOW: ID= 1 (5429)	3803.61	101.81	6.25	58.27	2.47	0.94

CALIB			
STANDHYD (0429)	Area	(ha)= 13.90	
ID= 1 DT=15.0 min	Total Imp(%)=	54.00	Dir. Conn.(%)= 54.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.51	6.39
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.80

Length	(m)=	304.41	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	30.73	
over (min)		15.00	15.00	
Storage Coeff. (min)=		5.40 (ii)	32.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.11	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.77	0.41	1.182 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	52.95	67.46
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.66	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2429)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0429):		13.90	1.182	5.25	67.46
+ ID2= 2 (5429):		3803.61	101.808	6.25	58.27
ID = 3 (2429):		3817.51	102.247	6.25	58.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area	(ha)= 91.84	
ID= 1 DT=15.0 min	Total Imp(%)=	57.00	Dir. Conn.(%)= 57.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	52.35	39.49
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	782.47	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		37.17	32.15	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	71.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.02	
				TOTALS
PEAK FLOW	(cms)=	5.38	1.76	6.500 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	56.18	69.65
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.70	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (****)	Area (ha)=	1.44
ID= 1 DT=15.0 min	Total Imp(%)=	57.00 Dir. Conn.(%)= 57.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.82	0.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	97.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.15
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	0.08	0.03 0.102 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	79.82	56.18 69.63
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.70 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (****)	Area (ha)=	6.59
ID= 1 DT=15.0 min	Total Imp(%)=	57.00 Dir. Conn.(%)= 57.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.76	2.83
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	209.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.15
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	71.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	0.39	0.13 0.466 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	79.82	56.18 69.65
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.70 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0408)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	6.59	0.466	5.25	69.65
	+ ID2= 2 (****):	1.44	0.102	5.25	69.63
	ID = 3 (0408):	8.03	0.568	5.25	69.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0409)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0408):	8.03	0.568	5.25	69.64
	+ ID2= 2 (****):	91.84	6.500	5.25	69.65
	ID = 3 (0409):	99.87	7.068	5.25	69.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1443)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0409):	99.87	7.068	5.25	69.65
	+ ID2= 2 (2429):	3817.51	102.247	6.25	58.30
	ID = 3 (1443):	3917.38	105.831	6.25	58.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5443)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5443.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1110	
17.61	172.50	0.1110	
27.53	170.50	0.1110	
72.93	169.50	0.1110	
74.99	169.29	0.1110	
75.21	169.27	0.1110	
79.81	168.50	0.1110 /0.0490	Main Channel
79.88	168.48	0.0490	Main Channel

80.70	168.00	0.0490		Main Channel
82.05	167.90	0.0490		Main Channel
83.55	167.90	0.0490		Main Channel
85.02	168.50	0.0490 /0.1110		Main Channel
86.14	168.83	0.1110		
86.71	168.98	0.1110		
119.24	170.00	0.1110		
133.40	171.00	0.1110		
147.56	173.96	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	168.10	.106E+03	0.5	0.95	3.31
0.40	168.30	.254E+03	2.0	1.46	2.15
0.60	168.50	.434E+03	4.2	1.84	1.71
0.91	168.81	.828E+03	10.5	2.40	1.31
1.23	169.13	.145E+04	19.6	2.54	1.24
1.54	169.44	.271E+04	33.2	2.31	1.36
1.85	169.75	.495E+04	53.2	2.03	1.55
2.16	170.06	.859E+04	85.8	1.89	1.67
2.48	170.38	.134E+05	134.7	1.89	1.66
2.79	170.69	.192E+05	203.3	2.00	1.58
3.10	171.00	.255E+05	290.7	2.16	1.46
3.41	171.31	.319E+05	397.9	2.35	1.34
3.73	171.63	.386E+05	520.4	2.55	1.24
4.04	171.94	.455E+05	657.6	2.73	1.15
4.35	172.25	.525E+05	809.1	2.91	1.08
4.66	172.56	.597E+05	971.5	3.07	1.02
4.98	172.88	.672E+05	1136.3	3.19	0.99
5.29	173.19	.752E+05	1316.7	3.31	0.95
5.60	173.50	.836E+05	1513.2	3.42	0.92

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1443)	3917.38	105.83	6.25	58.59	2.29	1.89
OUTFLOW: ID= 1 (5443)	3917.38	105.50	6.25	58.59	2.29	1.89

CALIB		
STANDHYD (****)	Area (ha)=	58.41
ID= 1 DT=15.0 min	Total Imp(%)=	59.00 Dir. Conn.(%)= 59.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	34.46	23.95
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	624.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.15
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	3.55	1.14 4.422 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	79.82	56.18 70.13
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82

RUNOFF COEFFICIENT	=	0.99	0.70 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (****)	Area (ha)=	0.93
ID= 1 DT=15.0 min	Total Imp(%)=	59.00 Dir. Conn.(%)= 59.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.55	0.38
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	78.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.15
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	0.06	0.02 0.070 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	79.82	56.18 70.09
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.70 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (****)	Area (ha)=	11.27
ID= 1 DT=15.0 min	Total Imp(%)=	59.00 Dir. Conn.(%)= 59.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.65	4.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	274.10	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.15
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	0.68	0.22 0.853 (iii)

```
TIME TO PEAK    (hrs)=       5.25         5.75          5.25
RUNOFF VOLUME    (mm)=      79.82        56.18         70.12
TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
RUNOFF COEFFICIENT   =       0.99         0.70          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0386) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    11.27   0.853     5.25    70.12
      + ID2= 2 (****):     0.93   0.070     5.25    70.09
        ================================================
        ID = 3 (0386):    12.20   0.924     5.25    70.12

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0385) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0386):    12.20   0.924     5.25    70.12
      + ID2= 2 (****):    58.41   4.422     5.25    70.13
        ================================================
        ID = 3 (0385):    70.61   5.346     5.25    70.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2443) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0385):    70.61   5.346     5.25    70.13
      + ID2= 2 (5443):  3917.38 105.496     6.25    58.59
        ================================================
        ID = 3 (2443):  3987.99 107.967     6.25    58.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5181) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5181.0) ------>
             Distance      Elevation       Manning
                 0.00         171.99        0.1110
                16.11         168.50        0.1110
                29.63         167.81        0.1110
                33.91         167.00    0.1110 /0.0490  Main Channel
```



```
                34.47         166.92        0.0490      Main Channel
                35.37         166.79        0.0490      Main Channel
                35.56         166.82        0.0490      Main Channel
                36.36         167.00    0.0490 /0.1110  Main Channel
                41.32         168.00        0.1110
                66.08         168.05        0.1110
               107.13         169.00        0.1110
               117.25         169.50        0.1110
               126.27         171.00        0.1110
               127.87         171.44        0.1110
               128.10         171.50        0.1110
               132.70         172.29        0.1110
               134.72         172.50        0.1110
               136.24         172.85        0.1110
               136.87         173.00        0.1110
               136.98         173.00        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.21    167.00    .227E+03        0.1          0.31      46.72
      0.47    167.26    .109E+04        0.7          0.55      26.16
      0.74    167.53    .256E+04        1.9          0.65      22.33
      1.00    167.79    .465E+04        3.8          0.71      20.28
      1.26    168.05    .824E+04        5.8          0.61      23.67
      1.52    168.31    .195E+05       11.8          0.53      27.45
      1.79    168.58    .344E+05       21.9          0.55      26.25
      2.05    168.84    .524E+05       36.5          0.60      23.97
      2.31    169.10    .732E+05       56.1          0.66      21.75
      2.57    169.36    .957E+05       81.2          0.73      19.66
      2.84    169.63    .120E+06      111.6          0.81      17.87
      3.10    169.89    .144E+06      147.4          0.88      16.31
      3.36    170.15    .170E+06      187.6          0.96      15.06
      3.62    170.41    .196E+06      232.1          1.03      14.04
      3.89    170.68    .222E+06      280.8          1.09      13.18
      4.15    170.94    .249E+06      333.6          1.16      12.45
      4.41    171.20    .277E+06      391.3          1.22      11.80
      4.67    171.46    .305E+06      453.4          1.28      11.22
      4.94    171.73    .334E+06      518.3          1.34      10.75

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (2443) 3987.99   107.97    6.25  58.79      2.81      0.80
OUTFLOW: ID= 1 (5181) 3987.99   105.38    6.50  58.79      2.78      0.79

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| CALIB            |
| STANDHYD  (0181) |   Area    (ha)= 136.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------

                             IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=           97.14          39.68
Dep. Storage     (mm)=            1.00           4.00
Average Slope     (%)=            1.00           2.10
Length            (m)=          955.06          40.00
Mannings n           =           0.013          0.250

Max.Eff.Inten.(mm/hr)=           37.17          32.85
          over (min)             15.00          30.00
Storage Coeff.  (min)=          13.80 (ii)     82.80 (ii)
```



```
Unit Hyd. Tpeak (min)=      15.00         90.00
Unit Hyd. peak  (cms)=       0.08          0.01
                                                    *TOTALS*
PEAK FLOW       (cms)=       9.95          1.67         10.847 (iii)
TIME TO PEAK    (hrs)=       5.25          6.25          5.25
RUNOFF VOLUME    (mm)=      79.82         57.89         73.46
TOTAL RAINFALL   (mm)=      80.82         80.82         80.82
RUNOFF COEFFICIENT   =       0.99          0.72          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  91.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2181) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0181):   136.82  10.847     5.25    73.46
      + ID2= 2 (5181):  3987.99 105.376     6.50    58.79
        ================================================
        ID = 3 (2181):  4124.81 109.025     6.50    59.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5204) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5204.0) ------>
             Distance      Elevation       Manning
                 0.00         172.00        0.1110
                11.08         169.71        0.1110
                48.53         169.00        0.1110
                90.99         164.50        0.1110
               111.26         164.00        0.1110
               133.15         164.00        0.1110
               142.64         163.50        0.1110
               145.01         162.66        0.1110
               145.24         162.50    0.1110 /0.0490  Main Channel
               146.03         161.80        0.0490      Main Channel
               152.91         161.80        0.0490      Main Channel
               153.42         162.68    0.0490 /0.1110  Main Channel
               153.67         162.73        0.1110
               154.07         163.00        0.1110
               155.88         163.50        0.1110
               178.24         164.14        0.1110
               184.53         164.50        0.1110
               207.67         165.50        0.1110
               224.19         166.50        0.1110
               245.67         169.50        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.35    162.15    .121E+04        2.5          1.00       8.01
      0.70    162.50    .253E+04        8.0          1.52       5.29
```



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      1.11    162.91    .426E+04       18.0          2.03       3.96
      1.52    163.32    .641E+04       31.6          2.38       3.38
      1.94    163.74    .971E+04       48.9          2.43       3.31
      2.35    164.15    .187E+05       74.3          1.91       4.20
      2.76    164.56    .356E+05      120.7          1.64       4.92
      3.17    164.97    .559E+05      188.5          1.63       4.94
      3.58    165.38    .789E+05      276.4          1.69       4.76
      3.99    165.79    .104E+06      386.3          1.79       4.50
      4.41    166.21    .132E+06      517.4          1.89       4.25
      4.82    166.62    .162E+06      671.3          2.00       4.02
      5.23    167.03    .193E+06      850.6          2.13       3.78
      5.64    167.44    .226E+06     1051.0          2.25       3.58
      6.05    167.85    .260E+06     1272.3          2.36       3.40
      6.46    168.26    .295E+06     1514.8          2.48       3.25
      6.88    168.68    .332E+06     1778.5          2.59       3.11
      7.29    169.09    .370E+06     2042.5          2.66       3.02
      7.70    169.50    .412E+06     2268.8          2.66       3.03

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (2181) 4124.81   109.03    6.50  59.28      2.66      1.70
OUTFLOW: ID= 1 (5204) 4124.81   108.07    6.75  59.28      2.64      1.70

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0204) |   Area    (ha)=  12.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=  25.00
--------------------

                             IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=            3.15           9.45
Dep. Storage     (mm)=            1.00           4.00
Average Slope     (%)=            1.00           7.10
Length            (m)=          289.83          40.00
Mannings n           =           0.013          0.250

Max.Eff.Inten.(mm/hr)=           37.17          25.25
          over (min)             15.00          15.00
Storage Coeff.  (min)=           4.80 (ii)      28.20 (ii)
Unit Hyd. Tpeak (min)=          15.00          30.00
Unit Hyd. peak  (cms)=           0.11           0.04
                                                    *TOTALS*
PEAK FLOW       (cms)=           0.33           0.49          0.815 (iii)
TIME TO PEAK    (hrs)=           5.25           5.25          5.25
RUNOFF VOLUME    (mm)=          79.82          42.06         51.50
TOTAL RAINFALL   (mm)=          80.82          80.82         80.82
RUNOFF COEFFICIENT   =           0.99           0.52          0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  80.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2204) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
```

```
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0204):    12.60   0.815     5.25    51.50
        + ID2= 2 (5204):  4124.81 108.071     6.75    59.28
          ==================================================
          ID = 3 (2204):  4137.41 108.297     6.75    59.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0742) |   Area    (ha)=  13.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        5.97          7.29
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          3.60
     Length            (m)=      297.32         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       37.17         28.62
                over (min)        15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    34.80 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.03
                                                              *TOTALS*
     PEAK FLOW      (cms)=         0.62          0.41           1.026 (iii)
     TIME TO PEAK   (hrs)=         5.25          5.25            5.25
     RUNOFF VOLUME    (mm)=       79.82         48.51           62.60
     TOTAL RAINFALL   (mm)=       80.82         80.82           80.82
     RUNOFF COEFFICIENT   =        0.99          0.60            0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9607) |
| Inlet Cap.=0.144 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  13.26      1.03      5.25   62.60
     ====================================================
     MAJOR SYS.(ID= 2):   7.62      0.88      5.25   62.60
     MINOR SYS.(ID= 3):   5.64      0.14      3.50   62.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6607) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1440      0.6200
```



```
                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9607)      5.641      0.144      3.50      62.60
     OUTFLOW: ID= 1 (6607)      5.641      0.055      9.50      62.41

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.11
                  TIME SHIFT OF PEAK FLOW         (min)=360.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2366

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4607) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6607):     5.64   0.055     9.50    62.41
        + ID2= 2 (9607):     7.62   0.882     5.25    62.60
          ==================================================
          ID = 3 (4607):    13.26   0.909     5.25    62.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2742) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2204):  4137.41 108.297     6.75    59.26
        + ID2= 2 (4607):    13.26   0.909     5.25    62.52
          ==================================================
          ID = 3 (2742):  4150.67 108.454     6.75    59.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0636) |   Area    (ha)= 167.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       75.21         91.92
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          1.40
     Length            (m)=     1055.56         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       37.17         26.57
                over (min)        15.00         45.00
     Storage Coeff.  (min)=       16.80 (ii)    99.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00        105.00
     Unit Hyd. peak  (cms)=        0.07          0.01
                                                              *TOTALS*
     PEAK FLOW      (cms)=         7.63          2.61           8.689 (iii)
     TIME TO PEAK   (hrs)=         5.25          6.75            5.25
     RUNOFF VOLUME    (mm)=       79.82         44.51           60.40
     TOTAL RAINFALL   (mm)=       80.82         80.82           80.82
     RUNOFF COEFFICIENT   =        0.99          0.55            0.75


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9605) |
| Inlet Cap.=0.240 |
| #of Inlets=    1 |
| Total(cms)=  0.2 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 167.13      8.69      5.25   60.40
     ====================================================
     MAJOR SYS.(ID= 2): 148.31      8.45      5.25   60.40
     MINOR SYS.(ID= 3):  18.82      0.24      2.50   60.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6605) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2400      1.9400

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9605)     18.815      0.240      2.50      60.40
     OUTFLOW: ID= 1 (6605)     18.815      0.100     15.00      60.29

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.71
                  TIME SHIFT OF PEAK FLOW         (min)=750.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8094

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--------------------
| ADD HYD   (4605) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6605):    18.82   0.100    15.00    60.29
        + ID2= 2 (9605):   148.31   8.449     5.25    60.40
          ==================================================
          ID = 3 (4605):   167.13   8.482     5.25    60.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0641) |   Area    (ha)=   7.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        1.71          5.74
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          5.00
     Length            (m)=      222.86         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       37.17         25.25
                over (min)        15.00         15.00
```



```
     Storage Coeff.  (min)=        4.80 (ii)    26.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.11          0.04
                                                              *TOTALS*
     PEAK FLOW      (cms)=         0.18          0.30           0.481 (iii)
     TIME TO PEAK   (hrs)=         5.25          5.25            5.25
     RUNOFF VOLUME    (mm)=       79.82         42.06           50.74
     TOTAL RAINFALL   (mm)=       80.82         80.82           80.82
     RUNOFF COEFFICIENT   =        0.99          0.52            0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2641) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0641):     7.45   0.481     5.25    50.74
        + ID2= 2 (4605):   167.13   8.482     5.25    60.39
          ==================================================
          ID = 3 (2641):   174.58   8.963     5.25    59.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1206) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2641):   174.58   8.963     5.25    59.98
        + ID2= 2 (2742):  4150.67 108.454     6.75    59.27
          ==================================================
          ID = 3 (1206):  4325.25 112.384     6.75    59.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5206) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                 <------ DATA FOR SECTION (5206.0) ------>
                 Distance      Elevation       Manning
                     0.00         168.00         0.1110
                    93.40         167.00         0.1110
                   125.20         166.00         0.1110
                   131.90         165.50         0.1110
                   147.90         162.50         0.1110
                   154.70         162.00         0.1110
                   156.80         162.00         0.1110
                   159.70         162.50         0.1110
                   181.80         162.50         0.1110
                   197.10         161.50         0.1110
                   254.30         160.00         0.1110
                   256.80         159.00    0.1110 /0.0490  Main Channel
```

257.00	158.60	0.0490		Main Channel
266.00	158.60	0.0490		Main Channel
266.30	159.00	0.0490	/0.1110	Main Channel
270.90	160.00	0.1110		
308.40	162.00	0.1110		
338.30	168.50	0.1110		
351.00	169.00	0.1110		
400.10	169.50	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	159.00	.108E+04	3.3	0.88	5.51
0.87	159.47	.263E+04	12.5	1.39	3.49
1.35	159.95	.464E+04	26.9	1.70	2.87
1.82	160.42	.840E+04	46.9	1.63	2.98
2.29	160.89	.159E+05	79.2	1.46	3.34
2.77	161.37	.271E+05	128.0	1.38	3.53
3.24	161.84	.416E+05	199.3	1.40	3.48
3.72	162.32	.587E+05	291.2	1.45	3.36
4.19	162.79	.800E+05	403.7	1.47	3.30
4.66	163.26	.103E+06	565.2	1.60	3.04
5.14	163.74	.127E+06	752.2	1.73	2.82
5.61	164.21	.152E+06	963.8	1.86	2.62
6.08	164.68	.177E+06	1199.2	1.98	2.46
6.56	165.16	.203E+06	1457.9	2.10	2.32
7.03	165.63	.229E+06	1734.7	2.21	2.20
7.51	166.11	.257E+06	2012.4	2.29	2.13
7.98	166.58	.286E+06	2284.4	2.33	2.09
8.45	167.05	.318E+06	2571.2	2.36	2.06
8.93	167.53	.355E+06	2790.7	2.29	2.12

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1206)	4325.25	112.38	6.75	59.30	2.62	1.40
OUTFLOW: ID= 1 (5206)	4325.25	112.56	6.75	59.30	2.61	1.40

CALIB STANDHYD (0206) ID= 1 DT=15.0 min	Area (ha)= 4.99 Total Imp(%)= 14.00 Dir. Conn.(%)= 14.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.70	4.29
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.50
Length (m)=	182.39	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	24.61
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06

		TOTALS
PEAK FLOW (cms)=	0.07	0.26	0.330 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	40.89	46.33
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.51	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2206) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0206):	4.99	0.330	5.25	46.33
+ ID2= 2 (5206):	4325.25	112.558	6.75	59.30
ID = 3 (2206):	4330.24	112.631	6.75	59.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0638) ID= 1 DT=15.0 min	Area (ha)= 51.20 Total Imp(%)= 84.00 Dir. Conn.(%)= 84.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.01	8.19
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.80
Length (m)=	584.24	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	35.44
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	4.43	0.46	4.803 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	65.43	77.52
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.81	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1635) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0638):	51.20	4.803	5.25	77.52
+ ID2= 2 (2206):	4330.24	112.631	6.75	59.28
ID = 3 (1635):	4381.44	113.672	6.75	59.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0642) ID= 1 DT=15.0 min	Area (ha)= 81.09 Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	47.03	34.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.50
Length (m)=	735.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	31.45
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	4.84	1.55	6.022 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	54.53	69.20
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.67	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9609) Inlet Cap.=***** #of Inlets= 1 Total(cms)= 14.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	81.09	6.02	5.25	69.20
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	81.09	6.02	5.25	69.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6609) IN= 2---> OUT= 1 DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3680	1.3972
	0.1520	0.0433	2.7440	1.7980
	0.2370	0.2233	9.7830	2.5193

0.2980	0.5550	12.8700		3.3070
0.3490	1.1433	14.0910		3.8116

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9609)	81.090	6.022	5.25	69.20
OUTFLOW: ID= 1 (6609)	81.090	4.526	5.50	69.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 75.16
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 2.0164

ADD HYD (4609) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9609 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6609):	81.09	4.526	5.50	69.20
+ ID2= 2 (9609):	0.00	0.000	0.00	0.00
ID = 3 (4609):	81.09	4.526	5.50	69.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2642) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1635):	4381.44	113.672	6.75	59.49
+ ID2= 2 (4609):	81.09	4.526	5.50	69.20
ID = 3 (2642):	4462.53	116.129	6.75	59.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5635) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5635.0) ------>

Distance	Elevation	Manning		
0.00	162.99	0.1110		
23.31	157.07	0.1110		
32.56	156.00	0.1110		
59.26	155.00	0.1110		
62.94	154.00	0.1110		
63.09	153.97	0.1110		
63.13	153.97	0.1110		
63.76	153.82	0.1110	/0.0490	Main Channel
63.87	153.50	0.0490		Main Channel
66.42	153.50	0.0490		Main Channel
67.30	153.81	0.0490	/0.1110	Main Channel
68.02	153.82	0.1110		
68.09	153.82	0.1110		
71.13	155.00	0.1110		
91.29	155.00	0.1110		

108.35	155.11	0.1110
126.23	155.50	0.1110
133.49	156.00	0.1110
156.41	161.00	0.1110
158.20	161.50	0.1110

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	153.81	.112E+04	0.7	0.77	25.85
0.71	154.21	.384E+04	3.7	1.13	17.50
1.12	154.62	.780E+04	8.8	1.34	14.81
1.52	155.02	.136E+05	14.9	1.30	15.22
1.93	155.43	.423E+05	32.3	0.91	21.79
2.33	155.83	.835E+05	67.6	0.96	20.59
2.74	156.24	.132E+06	122.0	1.10	18.03
3.14	156.64	.183E+06	193.8	1.26	15.76
3.55	157.05	.237E+06	280.8	1.41	14.09
3.95	157.45	.294E+06	384.2	1.56	12.73
4.36	157.86	.351E+06	501.9	1.70	11.67
4.76	158.26	.411E+06	633.4	1.83	10.81
5.17	158.67	.472E+06	778.3	1.96	10.11
5.57	159.07	.535E+06	936.5	2.08	9.52
5.98	159.48	.599E+06	1107.8	2.20	9.02
6.38	159.88	.666E+06	1292.3	2.31	8.58
6.79	160.29	.733E+06	1489.8	2.42	8.20
7.19	160.69	.803E+06	1700.4	2.52	7.87
7.60	161.10	.874E+06	1924.8	2.62	7.57

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2642)	4462.53	116.13	6.75	59.67	2.70	1.08
OUTFLOW: ID= 1 (5635)	4462.53	114.19	7.00	59.67	2.68	1.08

CALIB	
STANDHYD (0635)	Area (ha)= 73.01
ID= 1 DT=15.0 min	Total Imp(%)= 39.00 Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	28.47	44.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	697.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	27.24
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	2.93	1.72	4.198 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	59.07
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2635)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0635):	73.01	4.198	5.25	59.07
+ ID2= 2 (5635):	4462.53	114.187	7.00	59.67
ID = 3 (2635):	4535.54	115.820	7.00	59.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0186)	Area (ha)= 388.73
ID= 1 DT=15.0 min	Total Imp(%)= 44.00 Dir. Conn.(%)= 44.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	171.04	217.69
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	1609.82	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	27.24
over (min)	15.00	45.00
Storage Coeff. (min)=	19.20 (ii)	112.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01

		TOTALS
PEAK FLOW (cms)=	17.16	6.00	19.576 (iii)
TIME TO PEAK (hrs)=	5.25	6.75	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	60.77
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.75

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9611)				
Inlet Cap.=1.944				
#of Inlets= 1				
Total(cms)= 1.9	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	388.73	19.58	5.25	60.77
MAJOR SYS.(ID= 2):	262.45	17.63	5.25	60.77
MINOR SYS.(ID= 3):	126.28	1.94	3.00	60.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6611)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.9440	8.4000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9611)	126.283	1.944	3.00	60.77
OUTFLOW: ID= 1 (6611)	126.283	1.069	12.50	60.76

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.98
TIME SHIFT OF PEAK FLOW (min)=570.00
MAXIMUM STORAGE USED (ha.m.)= 4.6204

ADD HYD (4611)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6611):	126.28	1.069	12.50	60.76
+ ID2= 2 (9611):	262.45	17.632	5.25	60.77
ID = 3 (4611):	388.73	18.050	5.25	60.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1637)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2635):	4535.54	115.820	7.00	59.66
+ ID2= 2 (4611):	388.73	18.050	5.25	60.77
ID = 3 (1637):	4924.27	123.232	7.00	59.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5637)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5637.0) ------>

Distance	Elevation	Manning	
0.00	159.54	0.1110	
26.71	153.00	0.1110	
28.32	152.50	0.1110	
28.88	152.18	0.1110	
29.32	152.00	0.1110	
29.68	151.83	0.1110	
31.21	151.87	0.1110 /0.0490	Main Channel
31.97	151.50	0.0490	Main Channel
36.66	151.50	0.0490	Main Channel
36.81	151.73	0.0490	Main Channel
37.62	151.95	0.0490 /0.1110	Main Channel

37.67	151.96	0.1110
37.83	152.00	0.1110
38.03	152.07	0.1110
39.32	152.50	0.1110
39.70	152.62	0.1110
40.47	152.84	0.1110
41.06	153.00	0.1110
66.35	154.00	0.1110
91.54	159.93	0.1110

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	151.87	.213E+04	1.2	0.59	30.61
0.77	152.27	.599E+04	4.8	0.87	20.60
1.18	152.68	.107E+05	10.8	1.08	16.65
1.58	153.08	.167E+05	18.7	1.20	14.91
1.98	153.48	.266E+05	29.4	1.19	15.07
2.39	153.89	.416E+05	44.4	1.15	15.58
2.79	154.29	.607E+05	65.7	1.16	15.41
3.20	154.70	.815E+05	92.5	1.22	14.69
3.60	155.10	.104E+06	124.2	1.29	13.93
4.00	155.50	.128E+06	160.9	1.36	13.21
4.41	155.91	.153E+06	202.4	1.43	12.57
4.81	156.31	.179E+06	249.0	1.49	12.00
5.21	156.71	.207E+06	300.6	1.56	11.50
5.62	157.12	.237E+06	357.3	1.62	11.05
6.02	157.52	.268E+06	419.3	1.68	10.65
6.43	157.93	.300E+06	486.5	1.74	10.29
6.83	158.33	.334E+06	559.2	1.80	9.97
7.23	158.73	.370E+06	637.5	1.86	9.67
7.64	159.14	.407E+06	721.3	1.91	9.40

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1637)	4924.27	123.23	7.00	59.75	3.59	1.29
OUTFLOW: ID= 1 (5637)	4924.27	121.81	7.00	59.75	3.57	1.28

CALIB	
STANDHYD (0637)	Area (ha)= 30.59
ID= 1 DT=15.0 min	Total Imp(%)= 16.00 Dir. Conn.(%)= 16.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.89	25.70
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.50
Length (m)=	451.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	24.61
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	36.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.51	1.19	1.680 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	79.82	40.89	47.11
TOTAL RAINFALL (mm)=	80.82	80.82	80.82

```
     RUNOFF COEFFICIENT   =       0.99         0.51          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2637) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0637):    30.59   1.680     5.25     47.11
       + ID2= 2 (5637):  4924.27 121.812     7.00     59.75
         ================================================
         ID = 3 (2637):  4954.86 122.331     7.00     59.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1717) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2237): 10472.56 121.725     7.25     48.20
       + ID2= 2 (2637):  4954.86 122.331     7.00     59.67
         ================================================
         ID = 3 (1717): 15427.42 243.914     7.00     51.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5717) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5717.0) ------>
               Distance      Elevation       Manning
                  0.00         159.92        0.1110
                 16.17         156.24        0.1110
                 31.63         155.13        0.1110
                 53.62         154.50        0.1110
                 65.20         152.50        0.1110
                 91.81         150.00        0.1110
                110.61         150.00        0.1110
                111.90         149.13    0.1110 /0.0490  Main Channel
                112.55         148.60        0.0490      Main Channel
                125.01         148.60        0.0490      Main Channel
                125.79         149.17    0.0490 /0.1110  Main Channel
                127.48         149.50        0.1110
                210.24         149.92        0.1110
                212.41         150.00        0.1110
                224.55         150.00        0.1110
                334.54         151.50        0.1110
                364.54         157.50        0.1110
                384.84         164.02        0.1110
```



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      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.53    149.13    .527E+04       4.4          0.63      19.84
       1.10    149.70    .148E+05      16.1          0.82      15.33
       1.67    150.27    .628E+05      47.3          0.57      22.13
       2.23    150.83    .140E+06     112.6          0.61      20.66
       2.80    151.40    .237E+06     212.9          0.68      18.54
       3.37    151.97    .349E+06     364.8          0.79      15.94
       3.94    152.54    .465E+06     556.7          0.90      13.92
       4.51    153.11    .584E+06     785.4          1.02      12.40
       5.07    153.67    .706E+06    1047.1          1.12      11.24
       5.64    154.24    .831E+06    1340.6          1.22      10.33
       6.21    154.81    .959E+06    1648.4          1.30       9.70
       6.78    155.38    .110E+07    1991.0          1.37       9.17
       7.34    155.94    .124E+07    2379.5          1.45       8.67
       7.91    156.51    .138E+07    2806.9          1.53       8.22
       8.48    157.08    .153E+07    3272.6          1.61       7.81
       9.05    157.65    .168E+07    3771.6          1.69       7.45
       9.62    158.22    .184E+07    4307.0          1.77       7.11
      10.18    158.78    .199E+07    4873.0          1.85       6.82
      10.75    159.35    .215E+07    5469.0          1.92       6.55

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1717) ******* 243.91    7.00  51.88      2.92      0.70
     OUTFLOW: ID= 1 (5717) ******* 240.71    7.25  51.88      2.91      0.70


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0717) |   Area    (ha)=  33.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  17.00   Dir. Conn.(%)=  17.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.71        27.89
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         7.70
     Length            (m)=     473.29        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        23.98
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       6.00 (ii)   36.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.59         1.25        1.816 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=      79.82        39.75        46.56
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.99         0.49         0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2717) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0717):    33.60   1.816     5.25     46.56
       + ID2= 2 (5717): 15427.42 240.707     7.25     51.88
         ================================================
         ID = 3 (2717): 15461.02 241.219     7.25     51.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0257) |   Area    (ha)=  75.57
|ID= 1 DT=15.0 min |   Total Imp(%)=  83.00   Dir. Conn.(%)=  83.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      62.72        12.85
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.50
     Length            (m)=     709.79        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        34.84
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.20 (ii)   76.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.43         0.63        6.853 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=      79.82        63.43        77.03
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.99         0.78         0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2257) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0257):    75.57   6.853     5.25     77.03
       + ID2= 2 (2717): 15461.02 241.219     7.25     51.87
         ================================================
         ID = 3 (2257): 15536.59 242.651     7.25     51.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5240) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5240.0) ------>
               Distance      Elevation       Manning
                  0.00         156.50        0.1110
                 20.51         149.00        0.1110
                 31.95         149.00        0.1110
                 39.82         148.00        0.1110
                 48.42         148.00        0.1110
                 51.87         147.50        0.1110
                 73.08         147.00        0.1110
                 76.22         146.00    0.1110 /0.0490  Main Channel
                 77.04         145.00        0.0490      Main Channel
                 87.93         145.00        0.0490      Main Channel
                 88.30         146.00    0.0490 /0.1110  Main Channel
                 89.26         146.52        0.1110
                 90.21         147.00        0.1110
                114.82         147.00        0.1110
                123.73         146.85        0.1110
                126.70         147.00        0.1110
                143.61         152.00        0.1110
                155.99         159.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50    145.50    .727E+04       5.6          1.01      21.49
       1.00    146.00    .149E+05      17.6          1.53      14.15
       1.62    146.62    .259E+05      40.8          2.05      10.57
       2.24    147.24    .531E+05      74.9          1.83      11.81
       2.85    147.85    .113E+06     140.3          1.61      13.45
       3.47    148.47    .186E+06     235.4          1.65      13.14
       4.09    149.09    .266E+06     354.8          1.73      12.51
       4.71    149.71    .359E+06     517.8          1.87      11.55
       5.32    150.32    .455E+06     710.3          2.03      10.67
       5.94    150.94    .553E+06     930.7          2.19       9.91
       6.56    151.56    .655E+06    1178.2          2.34       9.26
       7.18    152.18    .760E+06    1453.5          2.49       8.71
       7.79    152.79    .867E+06    1758.1          2.64       8.22
       8.41    153.41    .976E+06    2087.9          2.78       7.79
       9.03    154.03    .109E+07    2442.5          2.92       7.42
       9.65    154.65    .120E+07    2821.5          3.05       7.10
      10.26    155.26    .132E+07    3224.5          3.18       6.81
      10.88    155.88    .144E+07    3651.5          3.30       6.55
      11.50    156.50    .156E+07    4102.3          3.42       6.32

                                    <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                 (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2257) ******* 242.65    7.25  51.99      3.51      1.65
     OUTFLOW: ID= 1 (5240) ******* 241.05    7.50  51.99      3.50      1.65


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0240) |   Area    (ha)=  49.43
|ID= 1 DT=15.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  35.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.30        32.13
```

```
Dep. Storage     (mm)=       1.00         4.00
Average Slope     (%)=       1.00         8.70
Length            (m)=     574.05        40.00
Mannings n           =      0.013        0.250

Max.Eff.Inten.(mm/hr)=      37.17        25.90
          over (min)        15.00        15.00
Storage Coeff.  (min)=       6.60 (ii)   39.60 (ii)
Unit Hyd. Tpeak (min)=      15.00        45.00
Unit Hyd. peak  (cms)=       0.10         0.03
                                                 *TOTALS*
PEAK FLOW       (cms)=       1.79         1.47      3.093 (iii)
TIME TO PEAK    (hrs)=       5.25         5.50       5.25
RUNOFF VOLUME    (mm)=      79.82        43.26      56.06
TOTAL RAINFALL   (mm)=      80.82        80.82      80.82
RUNOFF COEFFICIENT   =       0.99         0.54       0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2240) |
|   1 +   2 =   3  |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0240):    49.43   3.093     5.25    56.06
       + ID2= 2 (5240): 15536.59 241.055     7.50    51.99
         ================================================
         ID = 3 (2240): 15586.02 241.729     7.50    52.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0634) |   Area    (ha)= 320.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     115.39       205.13
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.10
     Length            (m)=    1461.78        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        25.90
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      18.00 (ii)  106.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00       105.00
     Unit Hyd. peak  (cms)=       0.06         0.01
                                                 *TOTALS*
     PEAK FLOW       (cms)=      11.64         5.47       13.820 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.75        5.25
     RUNOFF VOLUME    (mm)=      79.82        43.26       56.42
     TOTAL RAINFALL   (mm)=      80.82        80.82       80.82
     RUNOFF COEFFICIENT   =       0.99         0.54        0.70
```



```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9604) |
| Inlet Cap.=1.303 |
| #of Inlets=    1 |
| Total(cms)=  1.3 |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 320.52     13.82      5.25   56.42
     ================================================
     MAJOR SYS.(ID= 2): 225.84     12.52      5.25   56.42
     MINOR SYS.(ID= 3):  94.68      1.30      2.75   56.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6604) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  1.3030      5.6300

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9604)     94.679     1.303     2.75      56.42
     OUTFLOW: ID= 1 (6604)     94.679     0.738    13.00      56.41

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 56.63
                TIME SHIFT OF PEAK FLOW         (min)=615.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.1901

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-------------------
| ADD HYD   (4604) |
|   1 +   2 =   3  |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6604):    94.68   0.738    13.00    56.41
       + ID2= 2 (9604):   225.84  12.517     5.25    56.42
         ================================================
         ID = 3 (4604):   320.52  12.799     5.25    56.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1264) |
|   1 +   2 =   3  |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2240): 15586.02 241.729     7.50    52.01
       + ID2= 2 (4604):   320.52  12.799     5.25    56.42
         ================================================
         ID = 3 (1264): 15906.54 247.053     7.50    52.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



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-------------------
| ROUTE CHN (5264) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (5264.0) ------>
              Distance      Elevation       Manning
                  0.00         159.01        0.1110
                 18.68         154.00        0.1110
                 32.14         153.50        0.1110
                 59.08         147.50        0.1110
                 71.63         147.50        0.1110
                 77.74         146.50        0.1110
                 81.24         145.00    0.1110 /0.0490  Main Channel
                 81.73         143.80       0.0490       Main Channel
                 88.41         143.80       0.0490       Main Channel
                 89.20         145.00    0.0490 /0.1110  Main Channel
                101.11         147.50        0.1110
                105.58         148.00        0.1110
                134.97         150.00        0.1110
                141.87         151.00        0.1110
                157.92         151.30        0.1110
                158.71         151.50        0.1110
                160.99         151.50        0.1110
                169.62         154.50        0.1110
                171.70         155.00        0.1110
                177.64         156.04        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.60   144.40    .305E+04       3.2          0.77      15.68
      1.20   145.00    .637E+04      10.0          1.14      10.64
      1.85   145.65    .112E+05      21.9          1.42       8.51
      2.50   146.30    .182E+05      38.8          1.55       7.83
      3.15   146.95    .277E+05      61.0          1.60       7.56
      3.80   147.60    .413E+05      88.5          1.55       7.78
      4.45   148.25    .630E+05     129.3          1.47       8.24
      5.10   148.90    .920E+05     183.3          1.44       8.37
      5.75   149.55    .126E+06     252.5          1.45       8.32
      6.40   150.20    .166E+06     339.8          1.49       8.13
      7.04   150.84    .210E+06     447.2          1.55       7.81
      7.69   151.49    .260E+06     556.6          1.55       7.80
      8.34   152.14    .318E+06     709.7          1.62       7.47
      8.99   152.79    .378E+06     886.6          1.70       7.10
      9.64   153.44    .440E+06    1083.6          1.79       6.77
     10.29   154.09    .507E+06    1263.9          1.81       6.69
     10.94   154.74    .579E+06    1512.2          1.90       6.38
     11.59   155.39    .653E+06    1776.3          1.97       6.13
     12.24   156.04    .730E+06    2060.1          2.05       5.91

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1264) *******   247.05    7.50  52.09      5.69      1.45
     OUTFLOW: ID= 1 (5264) *******   245.78    7.75  52.09      5.68      1.45


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| CALIB             |
| STANDHYD  (0264) |   Area    (ha)=  37.54
-------------------
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```
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.88        29.66
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.60
     Length            (m)=     500.27        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        23.37
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.60 (ii)   39.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                 *TOTALS*
     PEAK FLOW       (cms)=       0.81         1.20        1.868 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=      79.82        38.65        47.29
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.99         0.48         0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2264) |
|   1 +   2 =   3  |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0264):    37.54   1.868     5.25    47.29
       + ID2= 2 (5264): 15906.54 245.776     7.75    52.09
         ================================================
         ID = 3 (2264): 15944.08 246.221     7.75    52.08

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| STANDHYD  (0631) |   Area    (ha)=  49.79
|ID= 1 DT=15.0 min |   Total Imp(%)=  18.00   Dir. Conn.(%)=  18.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.96        40.83
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.70
     Length            (m)=     576.14        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        22.77
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.40 (ii)   48.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                 *TOTALS*
     PEAK FLOW       (cms)=       0.92         1.48        2.197 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75         5.25
```

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     RUNOFF VOLUME    (mm)=      79.82        37.58          45.18
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.46           0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9606) |
| Inlet Cap.=0.099 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  49.79      2.20      5.25   45.18
     ================================================
     MAJOR SYS.(ID= 2):  41.26      2.10      5.25   45.18
     MINOR SYS.(ID= 3):   8.53      0.10      2.50   45.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6606) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0990     0.4270

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9606)      8.528     0.099      2.50      45.18
     OUTFLOW: ID= 1 (6606)      8.528     0.057     12.75      45.06

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.10
                    TIME SHIFT OF PEAK FLOW          (min)=615.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2438

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--------------------
| ADD HYD   (4606) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6606):     8.53   0.057    12.75    45.06
       + ID2= 2 (9606):    41.26   2.098     5.25    45.18
         ================================================
         ID = 3 (4606):    49.79   2.120     5.25    45.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (3264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
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```
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2264): 15944.08 246.221     7.75    52.08
       + ID2= 2 (4606):    49.79   2.120     5.25    45.16
         ================================================
         ID = 3 (3264): 15993.87 246.787     7.75    52.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0276) |   Area    (ha)= 265.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  77.00   Dir. Conn.(%)=  77.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      204.53        61.09
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         2.30
     Length            (m)=     1330.71        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        33.54
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      16.80 (ii)   97.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00       105.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=      20.74         2.40        21.850 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.50         5.25
     RUNOFF VOLUME    (mm)=      79.82        59.67        75.18
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.99         0.74         0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0438) |   Area    (ha)=  65.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.79        16.26
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     658.58        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        32.85
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   67.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.02         0.79         5.632 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75         5.25
     RUNOFF VOLUME    (mm)=      79.82        57.89        74.34
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
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     RUNOFF COEFFICIENT   =       0.99         0.72           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1435) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0276):   265.62  21.850     5.25    75.18
       + ID2= 2 (0438):    65.06   5.632     5.25    74.34
         ================================================
         ID = 3 (1435):   330.68  27.482     5.25    75.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0435) |   Area    (ha)=  78.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  72.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      56.18        21.85
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.90
     Length            (m)=     721.25        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        32.15
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   72.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.78         0.97         6.392 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=      79.82        56.18        73.20
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.99         0.70         0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2435) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0435):    78.03   6.392     5.25    73.20
```



```
       + ID2= 2 (1435):   330.68  27.482     5.25    75.02
         ================================================
         ID = 3 (2435):   408.71  33.873     5.25    74.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1616) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2435):   408.71  33.873     5.25    74.67
       + ID2= 2 (3264): 15993.87 246.787     7.75    52.06
         ================================================
         ID = 3 (1616): 16402.58 252.926     7.50    52.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0632) |   Area    (ha)=  43.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.23        34.71
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.00
     Length            (m)=     541.23        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        25.25
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   52.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.95         1.32         1.931 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75         5.25
     RUNOFF VOLUME    (mm)=      79.82        42.06        49.99
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.99         0.52         0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9603) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.94      1.93      5.25   49.99
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.94      1.93      5.25   49.99
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6603)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.7000	2.4800	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9603)	43.940	1.931	5.25	49.99
OUTFLOW: ID= 1 (6603)	43.940	0.414	8.50	49.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.44
TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 1.4676

ADD HYD (4603)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9603 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6603):	43.94	0.414	8.50	49.97
+ ID2= 2 (9603):	0.00	0.000	0.00	0.00
ID = 3 (4603):	43.94	0.414	8.50	49.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0633)	Area (ha)= 19.38		
ID= 1 DT=15.0 min	Total Imp(%)= 20.00	Dir. Conn.(%)= 20.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	3.88	15.50	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.60	
Length (m)=	359.44	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	27.24	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	0.40	0.76	1.081 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	52.60
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%

YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9602)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	19.38	1.08	5.25	52.60	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	19.38	1.08	5.25	52.60	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6602)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.8000	0.4900	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9602)	19.380	1.081	5.25	52.60
OUTFLOW: ID= 1 (6602)	19.380	0.577	6.50	52.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 53.40
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.3557

ADD HYD (4602)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9602 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6602):	19.38	0.577	6.50	52.60
+ ID2= 2 (9602):	0.00	0.000	0.00	0.00
ID = 3 (4602):	19.38	0.577	6.50	52.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0630)	Area (ha)= 120.64		
ID= 1 DT=15.0 min	Total Imp(%)= 27.00	Dir. Conn.(%)= 27.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	32.57	88.07

Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.60	
Length (m)=	896.81	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	27.24	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.60 (ii)	74.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	3.34	3.09	5.168 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	54.99
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9601)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	120.64	5.17	5.25	54.99	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	120.64	5.17	5.25	54.99	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6601)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	2.0000	3.5700	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9601)	120.640	5.168	5.25	54.99
OUTFLOW: ID= 1 (6601)	120.640	1.894	8.00	54.98

PEAK FLOW REDUCTION [Qout/Qin](%)= 36.65
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 3.3843

ADD HYD (4601)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9601 <ID= 2> IS DRY.				

*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6601):	120.64	1.894	8.00	54.98
+ ID2= 2 (9601):	0.00	0.000	0.00	0.00
ID = 3 (4601):	120.64	1.894	8.00	54.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2601)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4601):	120.64	1.894	8.00	54.98
+ ID2= 2 (4602):	19.38	0.577	6.50	52.60
ID = 3 (2601):	140.02	2.361	7.50	54.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1602)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2601):	140.02	2.361	7.50	54.65
+ ID2= 2 (4603):	43.94	0.414	8.50	49.97
ID = 3 (1602):	183.96	2.757	7.50	53.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1603)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1602):	183.96	2.757	7.50	53.53
+ ID2= 2 (1616):	16402.58	252.926	7.50	52.62
ID = 3 (1603):	16586.54	255.683	7.50	52.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5616)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5616.0) ------>

Distance	Elevation	Manning	
0.00	155.00	0.1110	
50.69	148.87	0.1110	
67.28	145.00	0.1110	
75.68	144.20	0.1110	
78.03	143.38	0.1110	
78.57	143.00	0.1110 /0.0490	Main Channel
78.71	141.40	0.0490	Main Channel
91.20	141.40	0.0490	Main Channel

```
 92.33        143.00    0.0490 /0.1110  Main Channel
 93.98        143.50        0.1110
211.31        144.60        0.1110
232.18        145.00        0.1110
242.93        145.50        0.1110
278.58        153.02        0.1110
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	141.93	.821E+04	4.9	0.72	27.93
1.07	142.47	.167E+05	15.1	1.10	18.40
1.60	143.00	.254E+05	29.0	1.38	14.62
2.23	143.63	.380E+05	51.7	1.64	12.28
2.85	144.25	.869E+05	87.9	1.22	16.49
3.48	144.88	.187E+06	155.9	1.01	20.03
4.10	145.50	.316E+06	268.0	1.03	19.65
4.73	146.13	.453E+06	422.4	1.13	17.87
5.36	146.76	.594E+06	610.6	1.24	16.22
5.98	147.38	.740E+06	830.5	1.36	14.85
6.61	148.01	.890E+06	1080.9	1.47	13.72
7.24	148.64	.104E+07	1361.0	1.58	12.79
7.86	149.26	.120E+07	1667.3	1.68	12.02
8.49	149.89	.137E+07	2001.7	1.77	11.39
9.11	150.51	.154E+07	2366.3	1.86	10.84
9.74	151.14	.172E+07	2760.9	1.95	10.36
10.37	151.77	.190E+07	3185.8	2.03	9.94
10.99	152.39	.209E+07	3641.0	2.11	9.56
11.62	153.02	.229E+07	4127.0	2.19	9.23

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1603) *******	255.68	7.50	52.63	4.04	1.03	
OUTFLOW: ID= 1 (5616) *******	252.04	8.00	52.63	4.01	1.02	

CALIB
STANDHYD (0616)
ID= 1 DT=15.0 min

Area (ha)= 105.56
Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.95	49.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.00
Length	(m)=	838.89	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	29.32
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	5.77 2.23 7.466 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	79.82 49.94 65.78
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.62 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2616)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0616):	105.56	7.466	5.25	65.78
+ ID2= 2 (5616):	16586.54	252.039	8.00	52.63
ID = 3 (2616):	16692.10	253.388	8.00	52.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0293)
ID= 1 DT=15.0 min

Area (ha)= 152.56
Total Imp(%)= 79.00 Dir. Conn.(%)= 79.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	120.52	32.04
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	1008.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	33.54
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	12.34 1.43 13.257 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	79.82 59.67 75.59
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.74 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1300)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0293):	152.56	13.257	5.25	75.59
+ ID2= 2 (2616):	16692.10	253.388	8.00	52.72
ID = 3 (1300):	16844.66	255.268	8.00	52.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5300)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5300.0) ------>

Distance	Elevation	Manning	
0.00	144.96	0.1110	
34.18	134.00	0.1110	
50.16	133.00	0.1110	
68.52	132.51	0.1110	
90.08	132.00	0.1110	
110.50	131.00	0.1110	
111.48	131.00	0.1110 /0.0490	Main Channel
114.14	130.50	0.0490	Main Channel
123.12	130.50	0.0490	Main Channel
124.57	131.00	0.0490 /0.1110	Main Channel
124.89	131.00	0.1110	
133.94	145.00	0.1110	
152.13	145.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	131.00	.181E+05	4.0	0.73	75.07
1.23	131.73	.716E+05	23.7	1.09	50.39
1.97	132.47	.170E+06	60.5	1.17	46.89
2.70	133.20	.337E+06	124.6	1.21	45.12
3.44	133.94	.544E+06	220.9	1.33	41.04
4.17	134.67	.770E+06	352.8	1.51	36.40
4.91	135.41	.100E+07	512.5	1.68	32.64
5.64	136.14	.124E+07	697.6	1.84	29.71
6.38	136.88	.149E+07	907.0	2.00	27.38
7.11	137.61	.174E+07	1139.9	2.15	25.49
7.85	138.35	.200E+07	1395.8	2.29	23.92
8.58	139.08	.227E+07	1674.1	2.42	22.60
9.32	139.82	.254E+07	1974.6	2.55	21.47
10.05	140.55	.282E+07	2297.1	2.67	20.49
10.79	141.29	.311E+07	2641.3	2.79	19.63
11.52	142.02	.340E+07	3007.1	2.90	18.86
12.26	142.76	.370E+07	3394.4	3.01	18.18
12.99	143.49	.401E+07	3803.3	3.12	17.57
13.73	144.23	.432E+07	4233.6	3.22	17.02

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1300) *******	255.27	8.00	52.92	3.63	1.38	
OUTFLOW: ID= 1 (5300) *******	246.45	8.50	52.92	3.57	1.36	

CALIB
STANDHYD (0300)
ID= 1 DT=15.0 min

Area (ha)= 140.00
Total Imp(%)= 39.00 Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	54.60	85.40
Dep. Storage	(mm)=	1.00	4.00

Average Slope	(%)=	1.00	8.20
Length	(m)=	966.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.40
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	54.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	5.20 3.67 7.948 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	79.82 45.56 57.90
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.56 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2300)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0300):	140.00	7.948	5.25	57.90
+ ID2= 2 (5300):	16844.66	246.454	8.50	52.92
ID = 3 (2300):	16984.66	247.803	8.50	52.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0614)
ID= 1 DT=15.0 min

Area (ha)= 16.47
Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.00	2.47
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	331.36	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	34.84
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.45 0.17 1.600 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	79.82 63.43 77.36
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.78 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| DUHYD     (9614) |
| Inlet Cap.=4.124 |
| #of Inlets=    1 |
| Total(cms)=  4.1 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)      (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  16.47      1.60      5.25   77.36
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  16.47      1.60      5.25   77.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0728)  |   Area    (ha)=  12.10
|ID= 1 DT=15.0 min  |   Total Imp(%)=  68.00   Dir. Conn.(%)=  68.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.23         3.87
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.10
     Length            (m)=     284.02        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        32.85
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.40 (ii)   33.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.85         0.27         1.119 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      79.82        57.89         72.80
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.72          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  91.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (2728) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0728):    12.10   1.119     5.25    72.80
       + ID2= 2 (9614):    16.47   1.600     5.25    77.36
         ================================================
```



```
         ID = 3 (2728):    28.57   2.719     5.25    75.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| DUHYD     (9270) |
| Inlet Cap.=8.836 |
| #of Inlets=    1 |
| Total(cms)=  8.8 |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)      (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  28.57      2.72      5.25   75.43
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  28.57      2.72      5.25   75.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (6270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.5480      0.8200
                         0.0870     0.6030   |   4.3140      0.8520
                         0.2750     0.6330   |   5.1300      0.8840
                         0.6180     0.6640   |   5.9920      0.9160
                         1.0600     0.6950   |   6.8990      0.9480
                         1.5840     0.7260   |   7.8470      0.9800
                         2.1780     0.7570   |   8.8360      1.0120
                         2.8350     0.7890   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK        R.V.
                              (ha)     (cms)     (hrs)        (mm)
     INFLOW : ID= 2 (9270)     28.570      2.719      5.25      75.43
     OUTFLOW: ID= 1 (6270)     28.570      2.671      5.25      75.37

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.21
               TIME SHIFT OF PEAK FLOW         (min)=  0.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.7832

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (4270) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9270 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6270):    28.57   2.671     5.25    75.37
       + ID2= 2 (9270):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4270):    28.57   2.671     5.25    75.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1427) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```



```
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2300): 16984.66 247.803     8.50    52.97
       + ID2= 2 (4270):    28.57   2.671     5.25    75.37
         ================================================
         ID = 3 (1427): 17013.23 248.059     8.50    53.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0606)  |   Area    (ha)=  53.10
|ID= 1 DT=15.0 min  |   Total Imp(%)=  55.00   Dir. Conn.(%)=  55.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.20        23.89
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.80
     Length            (m)=     594.98        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        30.02
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   52.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.01         1.17         4.056 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      79.82        51.42         67.04
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.64          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| DUHYD     (9269) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)      (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  53.10      4.06      5.25   67.04
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  53.10      4.06      5.25   67.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (6269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.3230      1.1320
                         0.0860     0.3350   |   3.0230      1.4270
```



```
                         0.1240     0.6920   |   8.0750      1.7920
                         0.1530     1.0380   |   9.7660      1.9010

                              AREA     QPEAK     TPEAK        R.V.
                              (ha)     (cms)     (hrs)        (mm)
     INFLOW : ID= 2 (9269)     53.100      4.056      5.25      67.04
     OUTFLOW: ID= 1 (6269)     53.100      3.022      5.50      67.02

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 74.50
               TIME SHIFT OF PEAK FLOW         (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  1.4533

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-------------------
| ADD HYD   (4269) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9269 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6269):    53.10   3.022     5.50    67.02
       + ID2= 2 (9269):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4269):    53.10   3.022     5.50    67.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (2606) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1427): 17013.23 248.059     8.50    53.00
       + ID2= 2 (4269):    53.10   3.022     5.50    67.02
         ================================================
         ID = 3 (2606): 17066.33 248.632     8.50    53.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5427) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

             <------ DATA FOR SECTION (5427.0) ------>
             Distance      Elevation       Manning
                0.00         130.04         0.1110
               10.57         125.00         0.1110
               81.38         125.00         0.1110
              102.44         125.68         0.1110
              131.41         124.00         0.1110
              136.25         123.00         0.1110
              143.40         123.00    0.1110 /0.0490  Main Channel
              144.00         122.20         0.0490      Main Channel
              150.83         122.20         0.0490      Main Channel
              153.56         123.00    0.0490 /0.1110  Main Channel
              154.90         123.00         0.1110
              156.48         124.00         0.1110
              164.24         125.00         0.1110
              200.91         125.50         0.1110
              246.89         125.00         0.1110
```

283.84	125.00	0.1110
303.71	126.00	0.1110
334.11	130.00	0.1110

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	122.60	.199E+04	2.1	0.69	15.73
0.80	123.00	.441E+04	7.0	1.02	10.56
1.21	123.41	.975E+04	16.7	1.11	9.71
1.62	123.82	.158E+05	30.7	1.26	8.56
2.04	124.24	.229E+05	47.9	1.36	7.96
2.45	124.65	.325E+05	69.8	1.39	7.77
2.86	125.06	.493E+05	86.0	1.13	9.55
3.27	125.47	.108E+06	147.0	0.88	12.25
3.68	125.88	.184E+06	253.0	0.89	12.15
4.09	126.29	.263E+06	398.4	0.98	11.02
4.51	126.71	.344E+06	576.0	1.09	9.94
4.92	127.12	.425E+06	782.8	1.20	9.04
5.33	127.53	.507E+06	1017.2	1.30	8.31
5.74	127.94	.591E+06	1277.8	1.40	7.70
6.15	128.35	.675E+06	1563.6	1.50	7.19
6.56	128.76	.760E+06	1873.9	1.60	6.76
6.98	129.18	.847E+06	2207.9	1.69	6.39
7.39	129.59	.935E+06	2565.3	1.78	6.07
7.80	130.00	.102E+07	2945.4	1.87	5.79

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2606) ********	248.63	8.50	53.05	3.67	0.89	
OUTFLOW: ID= 1 (5427) ********	247.43	8.75	53.05	3.66	0.89	

CALIB	
STANDHYD (0427)	Area (ha)= 22.52
ID= 1 DT=15.0 min	Total Imp(%)= 17.00 Dir. Conn.(%)= 14.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.83	18.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.60
Length	(m)=	387.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	24.02
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	36.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.33	0.84	1.150 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	79.82	38.37	44.17
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.47	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2427)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0427):	22.52	1.150	5.25	44.17
	+ ID2= 2 (5427):	17066.33	247.430	8.75	53.05
	ID = 3 (2427):	17088.85	247.559	8.75	53.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0312)	Area (ha)= 233.87
ID= 1 DT=15.0 min	Total Imp(%)= 46.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	107.58	126.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	1248.65	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	35.04
over (min)		15.00	30.00
Storage Coeff. (min)=		15.00 (ii)	88.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	9.07	5.33	11.826 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	79.82	52.76	63.05
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.65	0.78

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1341)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0312):	233.87	11.826	5.25	63.05
	+ ID2= 2 (2427):	17088.85	247.559	8.75	53.04
	ID = 3 (1341):	17322.72	250.525	8.75	53.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5341)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5341.0) ------>

Distance	Elevation	Manning	
0.00	129.00	0.1110	
19.97	122.00	0.1110	
43.39	121.83	0.1110	
70.95	121.00	0.1110	
78.38	122.00	0.1110	
110.84	122.00	0.1110	
127.33	120.00	0.1110	
127.83	120.00	0.1110 /0.0490	Main Channel
128.71	118.60	0.0490	Main Channel
147.85	118.60	0.0490	Main Channel
147.86	120.00	0.0490 /0.1110	Main Channel
148.30	120.00	0.1110	
149.10	120.67	0.1110	
154.79	121.69	0.1110	
172.71	122.26	0.1110	
194.33	126.00	0.1110	
343.54	129.42	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	119.07	.628E+04	3.7	0.41	28.15
0.93	119.53	.127E+05	11.6	0.64	18.23
1.40	120.00	.191E+05	22.3	0.81	14.29
1.96	120.56	.284E+05	39.9	0.98	11.86
2.53	121.12	.403E+05	62.0	1.07	10.83
3.09	121.69	.615E+05	90.7	1.03	11.29
3.65	122.25	.106E+06	130.5	0.86	13.58
4.21	122.81	.167E+06	196.4	0.82	14.21
4.78	123.38	.231E+06	279.4	0.85	13.75
5.34	123.94	.296E+06	378.0	0.89	13.03
5.90	124.50	.362E+06	491.4	0.95	12.29
6.46	125.06	.431E+06	619.1	1.00	11.61
7.03	125.63	.502E+06	760.5	1.06	11.00
7.59	126.19	.575E+06	906.8	1.10	10.57
8.15	126.75	.656E+06	1059.7	1.13	10.32
8.71	127.31	.748E+06	1236.5	1.15	10.08
9.28	127.88	.850E+06	1435.7	1.18	9.87
9.84	128.44	.962E+06	1657.4	1.20	9.68
10.40	129.00	.108E+07	1902.7	1.22	9.50

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1341) ********	250.52	8.75	53.17	4.58	0.84	
OUTFLOW: ID= 1 (5341) ********	248.16	9.00	53.17	4.55	0.83	

CALIB	
STANDHYD (0341)	Area (ha)= 71.87
ID= 1 DT=15.0 min	Total Imp(%)= 39.00 Dir. Conn.(%)= 32.00

IMPERVIOUS PERVIOUS (i)

Surface Area	(ha)=	28.03	43.84
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.00
Length	(m)=	692.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.30
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.37	2.17	4.022 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	49.45	59.16
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.61	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2341)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0341):	71.87	4.022	5.25	59.16
	+ ID2= 2 (5341):	17322.72	248.158	9.00	53.17
	ID = 3 (2341):	17394.59	248.742	9.00	53.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5328)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5328.0) ------>

Distance	Elevation	Manning	
0.00	122.83	0.1110	
38.42	122.00	0.1110	
76.21	122.00	0.1110	
99.10	119.00	0.1110	
111.79	118.00	0.1110	
116.05	117.00	0.1110	
120.04	117.00	0.1110 /0.0490	Main Channel
121.01	116.40	0.0490	Main Channel
129.65	116.40	0.0490	Main Channel
129.67	117.00	0.0490 /0.1110	Main Channel
130.14	117.00	0.1110	
130.87	118.00	0.1110	
139.94	119.00	0.1110	
157.92	118.89	0.1110	
175.26	119.00	0.1110	
192.73	119.00	0.1110	
216.81	119.91	0.1110	

239.98	121.57	0.1110
256.21	122.00	0.1110
324.25	122.00	0.1110

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	116.60	.235E+04	1.2	0.66	33.87
0.40	116.80	.478E+04	3.6	1.01	21.95
0.60	117.00	.731E+04	7.1	1.29	17.19
0.91	117.31	.135E+05	15.3	1.51	14.73
1.22	117.62	.204E+05	26.4	1.73	12.86
1.54	117.94	.278E+05	40.1	1.92	11.57
1.85	118.25	.367E+05	55.9	2.03	10.94
2.16	118.56	.483E+05	75.3	2.08	10.70
2.47	118.87	.628E+05	98.7	2.10	10.60
2.79	119.19	.962E+05	129.5	1.80	12.38
3.10	119.50	.140E+06	176.6	1.68	13.22
3.41	119.81	.188E+06	235.3	1.67	13.34
3.72	120.12	.241E+06	306.8	1.70	13.08
4.04	120.44	.296E+06	390.4	1.76	12.64
4.35	120.75	.354E+06	485.2	1.83	12.17
4.66	121.06	.415E+06	591.3	1.90	11.70
4.97	121.37	.479E+06	708.7	1.97	11.26
5.29	121.69	.546E+06	831.7	2.03	10.93
5.60	122.00	.618E+06	958.2	2.07	10.74

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2341) ********	248.74	9.00	53.20	3.47	1.67	
OUTFLOW: ID= 1 (5328) *******	247.52	9.00	53.20	3.47	1.67	

CALIB	STANDHYD (0328)	ID= 1 DT=15.0 min	Area (ha)= 240.00	Total Imp(%)= 56.00	Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	134.40	105.60
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	1264.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	36.92
over (min)		15.00	30.00
Storage Coeff. (min)=		15.00 (ii)	88.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	12.00	4.77	14.523 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	79.82	55.81	67.58
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.69	0.84

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2328)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0328):		240.00	14.523	5.25	67.58
+	ID2= 2 (5328):		17394.59	247.524	9.00	53.20
	ID = 3 (2328):		17634.59	250.078	9.00	53.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0274)	ID= 1 DT=15.0 min	Area (ha)= 98.82	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.32	41.50
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	811.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.73
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	70.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	5.89	1.74	6.976 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	52.95	68.53
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.66	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0287)	ID= 1 DT=15.0 min	Area (ha)= 145.43	Total Imp(%)= 51.00	Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	74.17	71.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	984.65	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.92

over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	80.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	7.60	2.49	9.056 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	79.82	47.13	63.80
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.58	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1301)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0274):		98.82	6.976	5.25	68.53
+	ID2= 2 (0287):		145.43	9.056	5.25	63.80
	ID = 3 (1301):		244.25	16.033	5.25	65.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0301)	ID= 1 DT=15.0 min	Area (ha)= 32.30	Total Imp(%)= 21.00	Dir. Conn.(%)= 17.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.78	25.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	464.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.10
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.57	1.16	1.594 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	79.82	43.15	49.38
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.53	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2301)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0301):		32.30	1.594	5.25	49.38
+	ID2= 2 (1301):		244.25	16.033	5.25	65.72
	ID = 3 (2301):		276.55	17.627	5.25	63.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0683)	ID= 1 DT=15.0 min	Area (ha)= 98.00	Total Imp(%)= 57.00	Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.86	42.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	808.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.35
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	5.65	1.98	7.162 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	54.98	68.89
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.68	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0263)	ID= 1 DT=15.0 min	Area (ha)= 112.72	Total Imp(%)= 20.00	Dir. Conn.(%)= 16.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.54	90.18
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.20
Length	(m)=	866.87	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	26.42	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.20 (ii)	59.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	1.86	3.41	4.350 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	79.82	41.97	48.02
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.52	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2263)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0263):	112.72	4.350	5.25	48.02
+ ID2= 2 (0683):	98.00	7.162	5.25	68.89
ID = 3 (2263):	210.72	11.512	5.25	57.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1428)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2263):	210.72	11.512	5.25	57.73
+ ID2= 2 (2301):	276.55	17.627	5.25	63.81
ID = 3 (1428):	487.27	29.138	5.25	61.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5428)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5428.0) ------>

Distance	Elevation	Manning	
0.00	138.98	0.1110	
32.39	138.00	0.1110	
48.96	135.08	0.1110	
48.99	135.08	0.1110	
49.39	135.00	0.1110	
58.21	134.38	0.1110	
80.35	133.30	0.1110 /0.0490	Main Channel
85.70	132.80	0.0490	Main Channel

88.03	132.80	0.0490	Main Channel
90.50	133.26	0.0490 /0.1110	Main Channel
97.60	134.00	0.1110	
112.23	135.00	0.1110	
113.23	135.00	0.1110	
127.46	137.03	0.1110	
133.90	137.78	0.1110	
136.01	138.00	0.1110	
139.38	138.17	0.1110	
153.22	139.00	0.1110	
157.75	139.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	133.03	.593E+03	0.3	0.31	33.11
0.46	133.26	.171E+04	1.3	0.46	22.49
0.80	133.60	.470E+04	4.9	0.64	16.06
1.13	133.93	.980E+04	11.1	0.70	14.66
1.47	134.27	.171E+05	20.4	0.74	13.98
1.81	134.61	.268E+05	33.4	0.77	13.36
2.14	134.94	.385E+05	50.4	0.81	12.73
2.48	135.28	.520E+05	72.5	0.86	11.95
2.82	135.62	.664E+05	99.1	0.92	11.16
3.15	135.95	.817E+05	129.9	0.98	10.48
3.49	136.29	.979E+05	164.7	1.04	9.91
3.82	136.62	.115E+06	203.6	1.09	9.41
4.16	136.96	.133E+06	246.6	1.14	8.99
4.50	137.30	.152E+06	293.4	1.19	8.63
4.83	137.63	.172E+06	344.5	1.24	8.31
5.17	137.97	.193E+06	399.7	1.28	8.03
5.51	138.31	.216E+06	441.5	1.26	8.14
5.84	138.64	.242E+06	492.5	1.25	8.20
6.18	138.98	.272E+06	553.1	1.25	8.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1428)	487.27	29.14	5.25	61.18	1.70	0.76
OUTFLOW: ID= 1 (5428)	487.27	26.67	5.25	61.18	1.64	0.75

CALIB
STANDHYD (0428)
ID= 1 DT=15.0 min

Area (ha)= 43.25
Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.92	20.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.20
Length	(m)=	536.97	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	41.27	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.00 (ii)	51.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	1.87	1.46	3.205 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25

RUNOFF VOLUME (mm)=	79.82	59.92	68.27
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.74	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2428)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0428):	43.25	3.205	5.25	68.27
+ ID2= 2 (5428):	487.27	26.670	5.25	61.18
ID = 3 (2428):	530.52	29.875	5.25	61.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5309)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5309.0) ------>

Distance	Elevation	Manning	
0.00	135.01	0.1110	
88.30	132.00	0.1110	
91.73	132.10	0.1110	
100.02	131.00	0.1110	
103.43	130.00	0.1110 /0.0490	Main Channel
105.04	128.50	0.0490	Main Channel
106.10	128.50	0.0490	Main Channel
107.39	130.00	0.0490 /0.1110	Main Channel
107.67	130.05	0.1110	
111.76	131.00	0.1110	
120.80	132.00	0.1110	
120.87	132.00	0.1110	
133.03	133.00	0.1110	
148.52	134.00	0.1110	
172.34	134.99	0.1110	
172.97	134.99	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	128.80	.529E+03	0.2	0.59	37.05
0.60	129.10	.129E+04	0.8	0.83	26.15
0.90	129.40	.227E+04	1.8	1.02	21.39
1.20	129.70	.348E+04	3.1	1.18	18.51
1.50	130.00	.492E+04	5.0	1.32	16.50
1.86	130.36	.743E+04	8.6	1.51	14.46
2.21	130.71	.112E+05	13.4	1.55	14.02
2.57	131.07	.163E+05	19.5	1.56	13.97
2.93	131.43	.237E+05	27.3	1.50	14.49
3.28	131.78	.339E+05	37.6	1.45	14.99
3.64	132.14	.475E+05	49.5	1.36	16.01

4.00	132.50	.688E+05	67.2	1.28	17.08
4.35	132.85	.970E+05	91.4	1.23	17.70
4.71	133.21	.132E+06	122.7	1.21	17.95
5.06	133.56	.175E+06	162.7	1.22	17.90
5.42	133.92	.225E+06	212.7	1.24	17.62
5.78	134.28	.283E+06	271.6	1.26	17.34
6.13	134.63	.349E+06	343.0	1.28	16.98
6.49	134.99	.425E+06	427.8	1.32	16.56

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2428)	530.52	29.88	5.25	61.76	3.02	1.49
OUTFLOW: ID= 1 (5309)	530.52	27.37	5.50	61.76	2.93	1.50

CALIB
STANDHYD (0309)
ID= 1 DT=15.0 min

Area (ha)= 68.51
Total Imp(%)= 45.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.83	37.68
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	675.82	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	37.08	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.60 (ii)	55.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	2.47	2.21	4.196 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	54.74	63.51
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.68	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2309)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0309):	68.51	4.196	5.25	63.51
+ ID2= 2 (5309):	530.52	27.371	5.50	61.76
ID = 3 (2309):	599.03	30.505	5.50	61.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5615)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5615.0) ------>

Distance	Elevation	Manning	
0.00	126.00	0.1110	
5.19	124.23	0.1110	
5.94	124.00	0.1110	
8.92	123.00	0.1110	
9.88	122.62	0.1110	
11.32	122.00	0.1110	
12.54	122.00	0.1110 /0.0490	Main Channel
13.18	121.10	0.0490	Main Channel
14.84	121.10	0.0490	Main Channel
15.91	122.00	0.0490 /0.1110	Main Channel
20.85	123.00	0.1110	
21.91	123.56	0.1110	
25.11	125.00	0.1110	
26.34	125.69	0.1110	
28.50	126.85	0.1110	
28.61	126.92	0.1110	
30.55	128.00	0.1110	
32.32	128.23	0.1110	
34.17	128.53	0.1110	
36.76	129.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	121.33	.431E+03	0.3	0.79	21.69
0.45	121.55	.960E+03	1.1	1.14	14.94
0.67	121.77	.159E+04	2.2	1.40	12.17
0.90	122.00	.231E+04	3.7	1.61	10.55
1.17	122.27	.383E+04	6.6	1.76	9.69
1.43	122.53	.587E+04	10.5	1.83	9.28
1.70	122.80	.845E+04	15.6	1.89	9.01
1.97	123.07	.116E+05	22.0	1.94	8.77
2.23	123.33	.151E+05	29.7	2.01	8.46
2.50	123.60	.189E+05	38.7	2.09	8.15
2.77	123.87	.232E+05	49.1	2.16	7.87
3.03	124.13	.278E+05	60.8	2.23	7.62
3.30	124.40	.328E+05	74.0	2.30	7.39
3.57	124.67	.382E+05	88.7	2.37	7.18
3.83	124.93	.440E+05	105.0	2.44	6.98
4.10	125.20	.501E+05	123.0	2.51	6.79
4.37	125.47	.566E+05	142.7	2.58	6.61
4.63	125.73	.634E+05	164.1	2.65	6.44
4.90	126.00	.706E+05	187.1	2.71	6.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2309)	599.03	30.51	5.50	61.96	2.26	2.02
OUTFLOW: ID= 1 (5615)	599.03	30.36	5.50	61.96	2.25	2.02

CALIB
STANDHYD (0615)
ID= 1 DT=15.0 min

Area (ha)= 31.22
Total Imp(%)= 34.00 Dir. Conn.(%)= 27.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.61	20.61
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.40
Length (m)=	456.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	31.97
over (min)	15.00	15.00
Storage Coeff. (min)=	6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.87	1.22	1.978 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	79.82	49.28	57.53
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.61	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2615)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0615):	31.22	1.978	5.25	57.53
+ ID2= 2 (5615):	599.03	30.357	5.50	61.96
ID = 3 (2615):	630.25	31.888	5.50	61.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1335)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2328):	17634.59	250.078	9.00	53.39
+ ID2= 2 (2615):	630.25	31.888	5.50	61.74
ID = 3 (1335):	18264.84	256.773	9.00	53.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5335)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5335.0) ------>

Distance	Elevation	Manning
0.00	125.00	0.1110
40.36	116.00	0.1110
71.40	114.00	0.1110

88.94	113.71	0.1110	
106.14	114.00	0.1110	
116.89	114.00	0.1110	
122.13	112.00	0.1110	
122.45	112.00	0.1110	
122.47	112.00	0.1110 /0.0490	Main Channel
122.55	111.50	0.0490	Main Channel
131.77	111.50	0.0490	Main Channel
131.80	112.00	0.0490 /0.1110	Main Channel
132.16	112.00	0.1110	
134.04	113.00	0.1110	
155.71	114.00	0.1110	
250.45	117.00	0.1110	
599.03	117.00	0.1110	
740.01	120.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	111.75	.868E+03	1.2	0.54	11.65
0.50	112.00	.174E+04	3.8	0.83	7.57
0.97	112.47	.370E+04	11.8	1.20	5.21
1.44	112.94	.603E+04	23.5	1.46	4.27
1.91	113.41	.937E+04	38.9	1.56	4.02
2.38	113.88	.154E+05	58.7	1.43	4.37
2.85	114.35	.305E+05	94.5	1.16	5.38
3.32	114.82	.503E+05	150.1	1.12	5.59
3.79	115.29	.740E+05	225.3	1.14	5.47
4.26	115.76	.102E+06	321.5	1.19	5.27
4.74	116.24	.133E+06	443.1	1.25	5.00
5.21	116.71	.168E+06	591.2	1.32	4.72
5.68	117.18	.228E+06	663.8	1.09	5.73
6.15	117.65	.331E+06	985.9	1.12	5.60
6.62	118.12	.439E+06	1389.2	1.19	5.27
7.09	118.59	.551E+06	1868.4	1.27	4.91
7.56	119.06	.667E+06	2420.4	1.36	4.59
8.03	119.53	.787E+06	3043.6	1.45	4.31
8.50	120.00	.912E+06	3736.8	1.54	4.07

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1335)	*******	256.77	9.00	53.68	3.95	1.16
OUTFLOW: ID= 1 (5335)	*******	256.55	9.00	53.68	3.94	1.16

CALIB
STANDHYD (0335)
ID= 1 DT=15.0 min

Area (ha)= 17.42
Total Imp(%)= 43.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	7.49	9.93
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.90
Length (m)=	340.78	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	33.33
over (min)	15.00	15.00
Storage Coeff. (min)=	5.40 (ii)	32.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00

Unit Hyd. peak (cms)=	0.11	0.04	

			TOTALS
PEAK FLOW (cms)=	0.65	0.68	1.326 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	50.94	61.33
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.63	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2335)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0335):	17.42	1.326	5.25	61.33
+ ID2= 2 (5335):	18264.84	256.548	9.00	53.68
ID = 3 (2335):	18282.26	256.640	9.00	53.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0672)
ID= 1 DT=15.0 min

Area (ha)= 420.75
Total Imp(%)= 60.00 Dir. Conn.(%)= 52.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	252.45	168.30
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	1674.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	39.95
over (min)	15.00	30.00
Storage Coeff. (min)=	18.00 (ii)	106.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01

		TOTALS
PEAK FLOW (cms)=	22.08	7.52	25.552 (iii)
TIME TO PEAK (hrs)=	5.25	6.50	5.25
RUNOFF VOLUME (mm)=	79.82	59.44	70.04
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.74	0.87

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| DUHYD    (9672) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |        AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 420.75     25.55      5.25   70.04
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 420.75     25.55      5.25   70.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6672) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   3.0660     11.8000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9672)    420.750    25.552      5.25      70.04
     OUTFLOW: ID= 1 (6672)    420.750     4.907      9.00      70.04

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.20
                   TIME SHIFT OF PEAK FLOW         (min)=225.00
                   MAXIMUM  STORAGE   USED       (ha.m.)= 18.8887

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (4672) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9672 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6672):   420.75   4.907     9.00    70.04
       + ID2= 2 (9672):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4672):   420.75   4.907     9.00    70.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0322) |   Area    (ha)= 139.97
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  46.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      78.38         61.59
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.50
     Length            (m)=     965.99         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     37.17         41.01
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     13.20 (ii)    79.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00         75.00
```



```
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.60          3.42          8.816 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=      79.82         59.82          69.02
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.74           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2322) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0322):   139.97   8.816     5.25    69.02
       + ID2= 2 (4672):   420.75   4.907     9.00    70.04
         ================================================
         ID = 3 (2322):   560.72  11.344     5.25    69.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2322):   560.72  11.344     5.25    69.78
       + ID2= 2 (2335): 18282.26 256.640     9.00    53.69
         ================================================
         ID = 3 (1346): 18842.98 262.987     9.00    54.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5346) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

              <------ DATA FOR SECTION (5346.0) ------>
              Distance      Elevation       Manning
                  0.00         119.00        0.1110
                  0.00         117.00        0.1110
                 13.24         112.00        0.1110
                 20.29         111.00        0.1110
                 39.56         110.00        0.1110
                 39.81         110.00        0.1110
                 44.05         109.55        0.1110
                 47.94         109.01        0.1110
                 47.99         109.00        0.1110
                 48.77         109.00    0.1110 /0.0490  Main Channel
                 50.01         108.50        0.0490      Main Channel
                 66.15         108.50        0.0490      Main Channel
                 68.59         109.00    0.0490 /0.1110  Main Channel
                 68.90         109.00        0.1110
```



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                 70.88         110.00        0.1110
                 80.34         116.00        0.1110
                 82.24         117.02        0.1110
                 82.27         117.04        0.1110
                 86.00         118.64        0.1110
                 86.92         119.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   109.00    .644E+04      12.3          1.37       8.73
       1.03   109.53    .152E+05      45.2          2.13       5.61
       1.55   110.05    .261E+05      95.1          2.61       4.57
       2.08   110.58    .403E+05     162.3          2.88       4.14
       2.61   111.11    .587E+05     250.2          3.05       3.91
       3.13   111.63    .796E+05     361.0          3.25       3.68
       3.66   112.16    .102E+06     492.6          3.46       3.46
       4.18   112.68    .126E+06     645.9          3.68       3.24
       4.71   113.21    .150E+06     817.9          3.90       3.06
       5.24   113.74    .175E+06    1008.2          4.12       2.90
       5.76   114.26    .202E+06    1216.4          4.32       2.76
       6.29   114.79    .228E+06    1442.2          4.52       2.64
       6.82   115.32    .256E+06    1685.5          4.71       2.53
       7.34   115.84    .285E+06    1946.1          4.89       2.44
       7.87   116.37    .314E+06    2223.6          5.07       2.36
       8.39   116.89    .345E+06    2518.3          5.23       2.28
       8.92   117.42    .376E+06    2837.9          5.41       2.21
       9.45   117.95    .407E+06    3175.6          5.58       2.14
       9.97   118.47    .439E+06    3529.2          5.75       2.08

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1346) *******   262.99    9.00  54.17      2.67      3.07
     OUTFLOW: ID= 1 (5346) *******   262.69    9.00  54.17      2.65      3.07


-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0346) |   Area    (ha)=  29.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  68.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.98          9.40
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.40
     Length            (m)=     442.57         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     37.17         30.73
               over (min)       15.00         15.00
     Storage Coeff.  (min)=      6.60 (ii)    39.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.10          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.06          0.54          2.555 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      79.82         52.95          71.22
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.66           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```



```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0346):    29.38   2.555     5.25    71.22
       + ID2= 2 (5346): 18842.98 262.689     9.00    54.17
         ================================================
         ID = 3 (2346): 18872.36 262.847     9.00    54.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0356) |   Area    (ha)=  67.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.34         16.78
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.40
     Length            (m)=     668.93         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     37.17         33.54
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      9.60 (ii)    57.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00         60.00
     Unit Hyd. peak  (cms)=      0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.19          0.90          5.910 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME    (mm)=      79.82         59.67          74.78
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.74           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (1355) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):    67.12   5.910     5.25    74.78
       + ID2= 2 (2346): 18872.36 262.847     9.00    54.19
         ================================================
         ID = 3 (1355): 18939.48 263.265     9.00    54.26
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5355)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5355.0) ------>

Distance	Elevation	Manning	
0.00	113.00	0.1110	
27.22	105.00	0.1110	
79.42	103.00	0.1110	
81.02	102.67	0.1110 /0.0490	Main Channel
84.17	102.00	0.0490	Main Channel
84.81	102.00	0.0490	Main Channel
87.18	101.40	0.0490	Main Channel
94.91	101.40	0.0490	Main Channel
97.82	102.00	0.0490	Main Channel
98.24	102.00	0.0490	Main Channel
98.77	103.00	0.0490 /0.1110	Main Channel
100.12	106.88	0.1110	
100.16	107.00	0.1110	
108.13	108.00	0.1110	
111.00	109.00	0.1110	
115.64	112.00	0.1110	
133.82	113.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	101.82	.720E+04	3.0	0.73	40.33
0.85	102.25	.175E+05	10.6	1.08	27.37
1.27	102.67	.298E+05	23.5	1.40	21.16
1.92	103.32	.538E+05	55.5	1.83	16.16
2.56	103.96	.953E+05	102.9	1.92	15.44
3.21	104.61	.156E+06	169.3	1.92	15.39
3.85	105.25	.236E+06	260.4	1.96	15.08
4.50	105.90	.321E+06	378.0	2.09	14.15
5.14	106.54	.409E+06	516.3	2.24	13.20
5.79	107.19	.500E+06	674.0	2.39	12.36
6.44	107.84	.598E+06	851.6	2.53	11.70
7.08	108.48	.703E+06	1050.5	2.65	11.16
7.73	109.13	.813E+06	1270.1	2.77	10.67
8.37	109.77	.927E+06	1510.1	2.89	10.24
9.02	110.42	.105E+07	1769.8	3.00	9.84
9.66	111.06	.117E+07	2049.2	3.12	9.49
10.31	111.71	.129E+07	2348.2	3.22	9.17
10.95	112.35	.142E+07	2654.6	3.31	8.93
11.60	113.00	.157E+07	2983.1	3.38	8.76

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1355) *******	262.08	263.27	9.00	54.26	3.87	1.96
OUTFLOW: ID= 1 (5355) *******	262.08	262.08	9.25	54.26	3.85	1.96

CALIB	
STANDHYD (0355)	Area (ha)= 83.93
ID= 1 DT=15.0 min	Total Imp(%)= 56.00 Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	47.00	36.93
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.50
Length	(m)=	748.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.62
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	4.85	1.72 6.369 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	79.82	48.51 66.04
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.60 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2355)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0355):	83.93	6.369	5.25	66.04
+ ID2= 2 (5355):	18939.48	262.084	9.25	54.26
ID = 3 (2355):	19023.41	262.558	9.25	54.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0314)	Area (ha)= 515.06
ID= 1 DT=15.0 min	Total Imp(%)= 62.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	319.34	195.72
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	1853.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	33.50
over (min)		15.00	30.00
Storage Coeff. (min)=		18.00 (ii)	104.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.06	0.01
			TOTALS
PEAK FLOW	(cms)=	31.18	7.22 34.383 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50 5.25
RUNOFF VOLUME	(mm)=	79.82	55.52 70.10

TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.69	0.87

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2314)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9614 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (0314):	515.06	34.383	5.25	70.10
+ ID2= 2 (9614):	0.00	0.000	0.00	0.00
ID = 3 (2314):	515.06	34.383	5.25	70.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0675)	Area (ha)= 71.22
ID= 1 DT=15.0 min	Total Imp(%)= 34.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.21	47.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	689.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	29.15
over (min)		15.00	30.00
Storage Coeff. (min)=		16.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.07	0.02
			TOTALS
PEAK FLOW	(cms)=	1.95	1.98 3.421 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	79.82	44.28 53.87
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.55 0.67

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9153)
Inlet Cap.=*****
#of Inlets= 1

Total(cms)= *****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	71.22	3.42	5.25	53.87
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	71.22	3.42	5.25	53.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6153)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	7.2100	0.1500
3.5200	0.0800	9.2000	0.2500
5.8400	0.1100	12.9500	0.3500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9153)	71.220	3.421	5.25	53.87
OUTFLOW: ID= 1 (6153)	71.220	3.289	5.25	53.87

PEAK FLOW REDUCTION [Qout/Qin](%)= 96.14
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0807

ADD HYD (4153)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9153 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6153):	71.22	3.289	5.25	53.87
+ ID2= 2 (9153):	0.00	0.000	0.00	0.00
ID = 3 (4153):	71.22	3.289	5.25	53.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9152)
Inlet Cap.=*****
#of Inlets= 1

Total(cms)= *****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	71.22	3.29	5.25	53.87
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	71.22	3.29	5.25	53.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6152)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW	STORAGE	OUTFLOW	STORAGE

```
--------------------     (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   1.0000     1.1800
                        0.8000     0.3000    |   1.9000     1.4000
                        0.9000     0.7000    |   3.5000     1.9100

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9152)     71.220     3.289     5.25      53.87
     OUTFLOW: ID= 1 (6152)     71.220     1.879     6.75      53.87

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.14
                   TIME SHIFT OF PEAK FLOW          (min)= 90.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3954

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| ADD HYD   (4152) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9152 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6152):    71.22   1.879     6.75    53.87
       + ID2= 2 (9152):     0.00   0.000     0.00     0.00
         ==============================================
         ID = 3 (4152):    71.22   1.879     6.75    53.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1314) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2314):   515.06  34.383     5.25    70.10
       + ID2= 2 (4152):    71.22   1.879     6.75    53.87
         ==============================================
         ID = 3 (1314):   586.28  35.281     5.25    68.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0670) |   Area    (ha)=  43.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  70.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.56        13.10
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.40
     Length            (m)=     539.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        33.54
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   56.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.15         0.71         3.719 (iii)
```



```
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      79.82        59.67         73.77
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.74          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (8607) |
| Inlet Cap.=5.000 |
| #of Inlets=    1 |
| Total(cms)=  5.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.66      3.72      5.25   73.77
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.66      3.72      5.25   73.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  68.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.63        35.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     676.46        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        31.45
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.45         1.47         4.375 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      79.82        54.53         66.92
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.67          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD  (****) |   Area    (ha)=  15.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.43         2.37
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     324.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        31.45
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.38         0.10         1.442 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      79.82        54.53         76.02
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.67          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.80      1.44      5.25   76.02
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.80      1.44      5.25   76.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000    |   0.6600     1.5800

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     15.800     1.442     5.25      76.02
     OUTFLOW: ID= 1 (****)     15.800     0.310     6.75      75.99

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.53
                   TIME SHIFT OF PEAK FLOW          (min)= 90.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7432

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (****):    15.80   0.310     6.75    75.99
       + ID2= 2 (****):     0.00   0.000     0.00     0.00
         ==============================================
         ID = 3 (****):    15.80   0.310     6.75    75.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  44.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.99         6.70
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     545.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        31.45
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.90         0.28         4.077 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      79.82        54.53         76.03
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.67          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  44.69      4.08      5.25   76.03
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  44.69      4.08      5.25   76.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.8800      4.4690

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     44.690     4.077     5.25      76.03
     OUTFLOW: ID= 1 (****)     44.690     0.883     6.75      76.01

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.65
                    TIME SHIFT OF PEAK FLOW         (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  2.0981
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```
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (****):    44.69   0.883     6.75    76.01
       + ID2= 2 (****):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (****):    44.69   0.883     6.75    76.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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```
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    15.80   0.310     6.75    75.99
       + ID2= 2 (****):    44.69   0.883     6.75    76.01
         ================================================
         ID = 3 (****):    60.49   1.193     6.75    76.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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```
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    68.64   4.375     5.25    66.92
       + ID2= 2 (****):    60.49   1.193     6.75    76.01
         ================================================
         ID = 3 (****):   129.13   5.300     5.25    71.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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```
| ADD HYD   (2599) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
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         ID1= 1 (8607):    43.66   3.719     5.25    73.77
       + ID2= 2 (****):   129.13   5.300     5.25    71.18
         ================================================
         ID = 3 (2599):   172.79   9.019     5.25    71.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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```
| DUHYD     (9964) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 172.79      9.02      5.25   71.83
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 172.79      9.02      5.25   71.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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```
| RESERVOIR (6964) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.3000      2.2107
                         0.0400     0.1758   |   0.3200      2.4327
                         0.0700     0.3516   |   0.3400      2.6546
                         0.1100     0.5274   |   0.3500      2.8766
                         0.1500     0.7032   |   0.3700      3.0985
                         0.1800     0.8790   |   0.3800      3.3711
                         0.2000     1.1010   |   0.3900      3.6437
                         0.2300     1.3229   |   0.7400      3.9163
                         0.2500     1.5449   |   0.7600      4.1889
                         0.2700     1.7668   |   0.0000      0.0000
                         0.2900     1.9888   |   0.0000      0.0000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9964)    172.790     9.019     5.25      71.83
     OUTFLOW: ID= 1 (6964)    172.790     1.360    10.25      71.83

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.07
                    TIME SHIFT OF PEAK FLOW         (min)=300.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  7.4943
```

```
| ADD HYD   (4964) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9964 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6964):   172.79   1.360    10.25    71.83
       + ID2= 2 (9964):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4964):   172.79   1.360    10.25    71.83
```



```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  72.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     32.44         39.65
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          3.40
     Length            (m)=    693.25         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     37.17         30.73
               over (min)      15.00         30.00
     Storage Coeff.  (min)=    10.80 (ii)    64.80 (ii)
     Unit Hyd. Tpeak (min)=    15.00         60.00
     Unit Hyd. peak  (cms)=     0.09          0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=     3.34          1.77        4.685 (iii)
     TIME TO PEAK    (hrs)=     5.25          5.75         5.25
     RUNOFF VOLUME    (mm)=    79.82         52.95        65.04
     TOTAL RAINFALL   (mm)=    80.82         80.82        80.82
     RUNOFF COEFFICIENT   =     0.99          0.66         0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  26.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     22.82          4.03
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          3.40
     Length            (m)=    423.08         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     37.17         30.73
               over (min)      15.00         30.00
     Storage Coeff.  (min)=    10.80 (ii)    64.80 (ii)
     Unit Hyd. Tpeak (min)=    15.00         60.00
     Unit Hyd. peak  (cms)=     0.09          0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=     2.35          0.18        2.487 (iii)
     TIME TO PEAK    (hrs)=     5.25          5.75         5.25
     RUNOFF VOLUME    (mm)=    79.82         52.95        75.79
     TOTAL RAINFALL   (mm)=    80.82         80.82        80.82
     RUNOFF COEFFICIENT   =     0.99          0.66         0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```



```
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  26.85      2.49      5.25   75.79
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  26.85      2.49      5.25   75.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.1300      2.6850

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     26.850     2.487     5.25      75.79
     OUTFLOW: ID= 1 (****)     26.850     0.534     6.75      75.77

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.47
                    TIME SHIFT OF PEAK FLOW         (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.2696
```

```
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (****):    26.85   0.534     6.75    75.77
       + ID2= 2 (****):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (****):    26.85   0.534     6.75    75.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    72.09   4.685     5.25    65.04
       + ID2= 2 (****):    26.85   0.534     6.75    75.77
         ================================================
         ID = 3 (****):    98.94   5.106     5.25    67.95
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9963)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	98.94	5.11	5.25	67.95
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	98.94	5.11	5.25	67.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6963)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1600	1.2340
	0.0200	0.0978	0.1700	1.3620
	0.0400	0.1956	0.1800	1.6181
	0.0600	0.2934	0.1900	1.7409
	0.0800	0.3911	0.2000	1.9865
	0.0900	0.4889	0.4400	2.1093
	0.1100	0.5867	0.4600	2.3550
	0.1200	0.6845	0.4700	2.5275
	0.1300	0.7823	0.4800	2.7000
	0.1400	0.8801	0.0000	0.0000
	0.1500	1.1059	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9963)	98.940	5.106	5.25	67.95
OUTFLOW: ID= 1 (6963)	98.940	0.755	10.00	67.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.78
TIME SHIFT OF PEAK FLOW (min)=285.00
MAXIMUM STORAGE USED (ha.m.)= 4.2468

ADD HYD (4963)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9963 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6963):	98.94	0.755	10.00	67.94
+ ID2= 2 (9963):	0.00	0.000	0.00	0.00
ID = 3 (4963):	98.94	0.755	10.00	67.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1598)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4963):	98.94	0.755	10.00	67.94
+ ID2= 2 (4964):	172.79	1.360	10.25	71.83
ID = 3 (1598):	271.73	2.114	10.25	70.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5598)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5598.0) ------>

Distance	Elevation	Manning	
0.00	178.57	0.1110	
19.93	178.35	0.1110	
22.69	178.35	0.1110	
34.83	178.58	0.1110	
49.82	178.60	0.1110	
87.96	179.03	0.1110	
96.42	177.27	0.1110 /0.0490	Main Channel
97.49	177.31	0.0490	Main Channel
109.98	177.60	0.0490 /0.1110	Main Channel
112.52	177.61	0.1110	
121.23	177.69	0.1110	
124.63	177.56	0.1110	
134.04	178.00	0.1110	
155.00	178.79	0.1110	
163.70	178.63	0.1110	
200.02	178.57	0.1110	
211.27	178.56	0.1110	
222.53	178.69	0.1110	
241.93	178.51	0.1110	
275.14	178.54	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	177.36	.149E+03	0.0	0.20	80.33
0.19	177.46	.675E+03	0.2	0.32	48.76
0.28	177.55	.159E+04	0.7	0.43	36.60
0.37	177.64	.314E+04	1.7	0.52	30.31
0.46	177.73	.586E+04	3.5	0.56	27.95
0.56	177.83	.896E+04	6.0	0.63	25.06
0.65	177.92	.123E+05	9.0	0.70	22.66
0.74	178.01	.158E+05	12.7	0.76	20.79
0.83	178.10	.195E+05	16.8	0.81	19.37
0.93	178.20	.236E+05	21.6	0.86	18.22
1.02	178.29	.278E+05	26.9	0.91	17.27
1.11	178.38	.325E+05	32.1	0.94	16.85
1.20	178.47	.385E+05	38.5	0.95	16.65
1.30	178.57	.474E+05	40.9	0.82	19.32
1.39	178.66	.642E+05	49.0	0.72	21.84
1.48	178.75	.849E+05	63.4	0.71	22.32
1.57	178.84	.107E+06	81.3	0.72	21.95
1.67	178.94	.130E+06	102.1	0.74	21.22
1.76	179.03	.154E+06	125.6	0.77	20.41

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	(m)	(m/s)
INFLOW : ID= 2 (1598)	271.73	2.11	10.25	70.41	0.39	0.53
OUTFLOW: ID= 1 (5598)	271.73	2.11	10.75	70.41	0.39	0.53

CALIB			
STANDHYD (0598)	Area (ha)= 75.95		
ID= 1 DT=15.0 min	Total Imp(%)= 52.00	Dir. Conn.(%)= 52.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	39.49	36.46	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.90	
Length (m)=	711.57	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	29.32	
over (min)	15.00	30.00	
Storage Coeff. (min)=	8.40 (ii)	51.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.09	0.02	
		TOTALS	
PEAK FLOW (cms)=	4.08	1.75	5.629 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	79.82	49.94	65.48
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.62	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2598)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0598):	75.95	5.629	5.25	65.48
+ ID2= 2 (5598):	271.73	2.109	10.75	70.41
ID = 3 (2598):	347.68	6.057	5.25	69.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5299)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5299.0) ------>

Distance	Elevation	Manning
0.00	161.64	0.1110
34.74	161.51	0.1110
56.59	160.87	0.1110
67.95	160.99	0.1110
90.67	160.84	0.1110

101.14	160.42	0.1110	
118.03	158.89	0.1110	
128.87	156.59	0.1110 /0.0490	Main Channel
130.10	156.35	0.0490	Main Channel
133.94	156.82	0.0490 /0.1110	Main Channel
146.85	159.32	0.1110	
163.58	161.17	0.1110	
166.21	161.74	0.1110	
176.37	161.83	0.1110	
182.39	161.67	0.1110	
190.74	162.12	0.1110	
232.24	162.94	0.1110	
274.39	164.95	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	156.59	.282E+03	0.2	0.58	21.17
0.51	156.86	.124E+04	1.7	0.99	12.45
0.77	157.12	.278E+04	5.0	1.34	9.20
1.04	157.39	.482E+04	10.1	1.55	7.95
1.30	157.65	.739E+04	17.0	1.70	7.24
1.57	157.92	.105E+05	25.8	1.82	6.76
1.83	158.18	.141E+05	36.6	1.92	6.40
2.10	158.45	.182E+05	49.5	2.01	6.11
2.37	158.72	.228E+05	64.7	2.10	5.87
2.63	158.98	.279E+05	81.8	2.16	5.69
2.90	159.25	.339E+05	100.9	2.20	5.59
3.16	159.51	.407E+05	122.6	2.22	5.53
3.43	159.78	.486E+05	147.6	2.24	5.48
3.70	160.05	.575E+05	176.6	2.27	5.43
3.96	160.31	.674E+05	209.6	2.29	5.36
4.23	160.58	.786E+05	244.4	2.29	5.36
4.49	160.84	.914E+05	283.0	2.28	5.38
4.76	161.11	.111E+06	309.9	2.06	5.96
5.02	161.37	.134E+06	376.8	2.07	5.94

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2598)	347.68	6.06	5.25	69.33	0.83	1.37
OUTFLOW: ID= 1 (5299)	347.68	5.85	5.25	69.33	0.81	1.37

CALIB			
STANDHYD (0299)	Area (ha)= 97.19		
ID= 1 DT=15.0 min	Total Imp(%)= 76.00	Dir. Conn.(%)= 76.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	73.86	23.33	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.50	
Length (m)=	804.94	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	34.21	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	70.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
		TOTALS	

PEAK FLOW	(cms)=	7.59	1.16	8.359 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	61.51	75.43
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.76	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2299) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0299):	97.19	8.359	5.25	75.43
+ ID2= 2 (5299):	347.68	5.849	5.25	69.33
ID = 3 (2299):	444.87	14.208	5.25	70.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5303) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5303.0) ------>

Distance	Elevation	Manning	
0.00	153.79	0.1110	
19.01	151.85	0.1110	
37.34	151.82	0.1110	
41.85	151.52	0.1110	
47.90	151.66	0.1110	
87.41	151.69	0.1110	
105.06	149.50	0.1110	
125.35	148.50	0.1110	
125.85	148.42	0.1110 /0.0490	Main Channel
127.68	148.13	0.0490	Main Channel
128.23	147.30	0.0490	Main Channel
130.21	147.30	0.0490	Main Channel
131.55	148.23	0.0490	Main Channel
132.42	148.32	0.0490 /0.1110	Main Channel
137.58	148.90	0.1110	
138.78	149.00	0.1110	
150.21	149.50	0.1110	
156.60	150.50	0.1110	
175.54	151.00	0.1110	
263.18	153.41	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	147.56	.857E+03	0.5	0.81	30.68
0.51	147.81	.192E+04	1.5	1.18	21.08
0.77	148.07	.318E+04	3.1	1.45	17.13
1.02	148.32	.486E+04	4.6	1.42	17.54
1.36	148.66	.944E+04	10.5	1.66	14.97

1.70	149.00	.187E+05	20.4	1.62	15.34
2.04	149.34	.344E+05	35.2	1.53	16.26
2.38	149.68	.568E+05	58.3	1.53	16.23
2.72	150.02	.822E+05	89.6	1.63	15.29
3.06	150.36	.110E+06	128.2	1.74	14.32
3.40	150.70	.141E+06	169.5	1.79	13.91
3.73	151.03	.180E+06	219.3	1.82	13.69
4.07	151.37	.227E+06	281.8	1.86	13.40
4.41	151.71	.285E+06	310.6	1.63	15.27
4.75	152.05	.377E+06	412.0	1.63	15.26
5.09	152.39	.481E+06	550.2	1.71	14.57
5.43	152.73	.593E+06	713.3	1.80	13.85
5.77	153.07	.712E+06	901.5	1.89	13.17
6.11	153.41	.840E+06	1115.6	1.99	12.55

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2299)	444.87	14.21	5.25	70.66	1.49	1.65
OUTFLOW: ID= 1 (5303)	444.87	13.25	5.25	70.66	1.45	1.65

CALIB | STANDHYD (0303) | Area (ha)= 227.30 | ID= 1 DT=15.0 min | Total Imp(%)= 65.00 Dir. Conn.(%)= 65.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	147.75	79.56	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	5.00	
Length	(m)=	1230.99	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	32.15	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.60 (ii)	73.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.02	
				TOTALS
PEAK FLOW	(cms)=	15.17	3.49	17.380 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	79.82	56.18	71.55
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.70	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2303) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0303):	227.30	17.380	5.25	71.55
+ ID2= 2 (5303):	444.87	13.246	5.25	70.66

ID = 3 (2303): 672.17 30.626 5.25 70.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5306) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5306.0) ------>

Distance	Elevation	Manning	
0.00	145.38	0.1110	
57.12	144.00	0.1110	
73.05	143.00	0.1110	
79.09	141.50	0.1110	
80.80	140.20	0.1110 /0.0490	Main Channel
81.66	139.77	0.0490	Main Channel
83.06	139.50	0.0490	Main Channel
84.74	139.32	0.0490	Main Channel
85.03	139.00	0.0490	Main Channel
85.78	139.00	0.0490	Main Channel
87.80	139.39	0.0490	Main Channel
89.94	139.50	0.0490	Main Channel
94.17	140.00	0.0490 /0.1110	Main Channel
97.58	140.50	0.1110	
127.69	142.00	0.1110	
132.10	144.00	0.1110	
141.18	144.50	0.1110	
164.76	144.55	0.1110	
191.51	145.00	0.1110	
226.92	145.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	139.25	.425E+03	0.2	0.50	37.48
0.50	139.50	.153E+04	0.8	0.57	32.75
0.75	139.75	.394E+04	2.9	0.83	22.69
1.00	140.00	.722E+04	6.8	1.06	17.70
1.33	140.33	.126E+05	16.0	1.43	13.15
1.67	140.67	.193E+05	28.8	1.68	11.15
2.00	141.00	.284E+05	45.5	1.80	10.41
2.33	141.33	.402E+05	66.5	1.86	10.08
2.67	141.67	.547E+05	92.2	1.90	9.89
3.00	142.00	.722E+05	123.3	1.92	9.76
3.33	142.33	.915E+05	162.2	1.99	9.40
3.67	142.67	.112E+06	206.6	2.08	9.01
4.00	143.00	.133E+06	256.3	2.17	8.62
4.33	143.33	.155E+06	310.0	2.25	8.34
4.67	143.67	.180E+06	370.0	2.32	8.10
5.00	144.00	.207E+06	436.4	2.37	7.90
5.33	144.33	.239E+06	495.1	2.33	8.03
5.67	144.67	.282E+06	525.8	2.10	8.93
6.00	145.00	.341E+06	609.9	2.01	9.33

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2303)	672.17	30.63	5.25	70.96	1.70	1.69
OUTFLOW: ID= 1 (5306)	672.17	29.62	5.25	70.96	1.68	1.69

CALIB | STANDHYD (0306) | Area (ha)= 195.25 | ID= 1 DT=15.0 min | Total Imp(%)= 79.00 Dir. Conn.(%)= 79.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	154.25	41.00	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.80	
Length	(m)=	1140.91	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	34.21	
over (min)		15.00	30.00	
Storage Coeff. (min)=		14.40 (ii)	84.60 (ii)	
Unit Hyd. Tpeak (min)=		15.00	90.00	
Unit Hyd. peak (cms)=		0.07	0.01	
				TOTALS
PEAK FLOW	(cms)=	15.77	1.82	16.781 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	79.82	61.51	75.97
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.76	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2306) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0306):	195.25	16.781	5.25	75.97
+ ID2= 2 (5306):	672.17	29.619	5.25	70.96
ID = 3 (2306):	867.42	46.400	5.25	72.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5314) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5314.0) ------>

Distance	Elevation	Manning	
0.00	140.46	0.1110	
17.34	140.00	0.1110	
23.79	140.00	0.1110	
36.31	139.52	0.1110	
67.27	139.06	0.1110	
99.03	138.86	0.1110	
131.93	136.23	0.1110 /0.0490	Main Channel
135.37	135.79	0.0490	Main Channel
137.27	135.30	0.0490	Main Channel
139.14	135.30	0.0490	Main Channel

143.23	135.76	0.0490	Main Channel
147.44	136.00	0.0490 /0.1110	Main Channel
161.11	136.74	0.1110	
190.39	137.50	0.1110	
204.58	137.50	0.1110	
211.94	139.50	0.1110	
219.37	139.79	0.1110	
272.20	138.00	0.1110	
297.42	138.00	0.1110	
390.77	140.46	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	135.53	.686E+03	0.4	0.52	28.15
0.47	135.77	.198E+04	1.7	0.76	19.22
0.70	136.00	.418E+04	4.1	0.86	16.87
0.98	136.28	.842E+04	10.9	1.13	12.91
1.26	136.56	.147E+05	21.8	1.30	11.18
1.54	136.84	.231E+05	36.7	1.39	10.49
1.81	137.11	.347E+05	56.1	1.42	10.30
2.09	137.39	.498E+05	81.3	1.43	10.21
2.37	137.67	.700E+05	112.5	1.41	10.37
2.65	137.95	.928E+05	155.2	1.46	9.96
2.93	138.23	.123E+06	195.9	1.39	10.50
3.21	138.51	.161E+06	255.7	1.39	10.47
3.49	138.79	.204E+06	327.5	1.41	10.36
3.77	139.07	.255E+06	399.4	1.37	10.64
4.04	139.34	.318E+06	500.8	1.38	10.59
4.32	139.62	.391E+06	621.2	1.39	10.49
4.60	139.90	.472E+06	768.9	1.43	10.23
4.88	140.18	.559E+06	940.3	1.47	9.91
5.16	140.46	.652E+06	1136.8	1.53	9.55

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2306)	867.42	46.40	5.25	72.09	1.68	1.40
OUTFLOW: ID= 1 (5314)	867.42	43.85	5.25	72.09	1.64	1.40

ADD HYD (3314)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (1314):	586.28	35.281	5.25	68.13	
+ ID2= 2 (5314):	867.42	43.847	5.25	72.09	
ID = 3 (3314):	1453.70	79.128	5.25	70.49	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5349)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5349.0) ------>

Distance	Elevation	Manning	
0.00	136.55	0.1110	
0.00	135.00	0.1110	

31.90	134.50	0.1110	
37.07	134.28	0.1110	
50.37	134.19	0.1110	
65.47	134.50	0.1110	
85.81	134.00	0.1110	
128.41	131.00	0.1110	
135.25	130.00	0.1110	
136.03	129.98	0.1110 /0.0490	Main Channel
139.71	129.30	0.0490	Main Channel
144.95	129.30	0.0490	Main Channel
145.11	129.76	0.0490 /0.1110	Main Channel
150.30	130.50	0.1110	
165.12	134.00	0.1110	
169.18	134.50	0.1110	
187.64	135.50	0.1110	
226.77	135.49	0.1110	
233.13	135.35	0.1110	
285.67	136.55	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	129.53	.178E+04	0.6	0.41	52.79
0.46	129.76	.396E+04	1.9	0.62	35.44
0.86	130.16	.958E+04	6.3	0.86	25.49
1.26	130.56	.182E+05	13.9	1.00	21.93
1.66	130.96	.294E+05	24.6	1.10	19.93
2.06	131.36	.435E+05	38.4	1.16	18.89
2.46	131.76	.615E+05	56.1	1.20	18.27
2.86	132.16	.834E+05	78.2	1.23	17.77
3.26	132.56	.109E+06	105.0	1.26	17.31
3.66	132.96	.139E+06	137.0	1.30	16.87
4.05	133.35	.172E+06	174.4	1.33	16.44
4.45	133.75	.209E+06	217.8	1.37	16.02
4.85	134.15	.251E+06	263.1	1.38	15.89
5.25	134.55	.312E+06	297.4	1.25	17.51
5.65	134.95	.395E+06	363.3	1.21	18.13
6.05	135.35	.490E+06	459.6	1.23	17.78
6.45	135.75	.609E+06	550.5	1.19	18.43
6.85	136.15	.745E+06	696.6	1.23	17.82
7.25	136.55	.890E+06	863.1	1.27	17.19

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3314)	1453.70	79.13	5.25	70.49	2.87	1.23
OUTFLOW: ID= 1 (5349)	1453.70	70.18	5.50	70.49	2.71	1.22

CALIB			
STANDHYD (0349)	Area (ha)= 324.03		
ID= 1 DT=15.0 min	Total Imp(%)= 44.00	Dir. Conn.(%)= 37.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	142.57	181.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	1469.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	33.42

	over (min)	15.00	30.00	
Storage Coeff.	(min)=	16.20 (ii)	63.60 (ii)	
Unit Hyd. Tpeak	(min)=	15.00	90.00	
Unit Hyd. peak	(cms)=	0.07	0.01	
				TOTALS
PEAK FLOW	(cms)=	12.18	7.03	15.734 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	79.82	50.98	61.65
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.63	0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2349)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0349):	324.03	15.734	5.25	61.65	
+ ID2= 2 (5349):	1453.70	70.178	5.50	70.49	
ID = 3 (2349):	1777.73	84.641	5.25	68.88	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5364)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5364.0) ------>

Distance	Elevation	Manning	
0.00	131.00	0.1110	
136.00	129.99	0.1110	
155.89	129.00	0.1110	
172.09	127.83	0.1110	
181.41	127.29	0.1110	
190.94	127.00	0.1110	
195.38	127.00	0.1110	
195.81	126.76	0.1110	
198.20	126.00	0.1110 /0.0490	Main Channel
200.00	125.00	0.0490	Main Channel
207.00	125.00	0.0490	Main Channel
207.99	126.00	0.0490 /0.1110	Main Channel
210.39	126.42	0.1110	
214.18	126.91	0.1110	
215.71	127.00	0.1110	
249.46	127.00	0.1110	
263.00	128.00	0.1110	
269.13	129.00	0.1110	
275.81	129.51	0.1110	
283.52	130.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	125.25	.202E+04	1.0	0.57	32.17

0.50	125.50	.422E+04	3.3	0.87	21.07
0.75	125.75	.662E+04	6.6	1.10	16.62
1.00	126.00	.922E+04	10.9	1.29	14.13
1.27	126.27	.124E+05	17.1	1.51	12.10
1.53	126.53	.163E+05	24.7	1.66	11.04
1.80	126.80	.211E+05	33.6	1.75	10.45
2.07	127.07	.296E+05	43.4	1.61	11.37
2.33	127.33	.494E+05	60.0	1.33	13.74
2.60	127.60	.721E+05	82.1	1.25	14.64
2.87	127.87	.971E+05	109.3	1.23	14.82
3.13	128.13	.124E+06	142.1	1.25	14.58
3.40	128.40	.153E+06	180.5	1.29	14.15
3.67	128.67	.184E+06	223.9	1.34	13.67
3.93	128.93	.216E+06	272.5	1.39	13.19
4.20	129.20	.249E+06	323.7	1.42	12.85
4.47	129.47	.286E+06	379.6	1.46	12.55
4.73	129.73	.325E+06	440.5	1.49	12.29
5.00	130.00	.367E+06	506.2	1.52	12.08

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2349)	1777.73	84.64	5.25	68.88	2.63	1.25
OUTFLOW: ID= 1 (5364)	1777.73	77.34	5.50	68.88	2.55	1.26

CALIB			
STANDHYD (0364)	Area (ha)= 187.80		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 41.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	93.90	93.90
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	1118.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	37.01
	over (min)	15.00	30.00
Storage Coeff.	(min)=	13.80 (ii)	82.80 (ii)
Unit Hyd. Tpeak	(min)=	15.00	90.00
Unit Hyd. peak	(cms)=	0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	7.88	4.37 10.200 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	79.82	54.71 65.00
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.68 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2364)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0364):	187.80	10.200	5.25	65.00
+ ID2= 2 (5364):	1777.73	77.342	5.50	68.88
ID = 3 (2364):	1965.53	84.497	5.50	68.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5361) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5361.0) ------>

Distance	Elevation	Manning	
0.00	129.00	0.1110	
0.38	129.00	0.1110	
13.51	128.00	0.1110	
18.25	127.00	0.1110	
41.14	126.00	0.1110	
49.43	125.20	0.1110	
51.30	125.00	0.1110	
54.61	124.00	0.1110	
56.73	124.00	0.1110 /0.0490	Main Channel
61.39	123.80	0.0490	Main Channel
63.13	123.80	0.0490	Main Channel
64.17	124.00	0.0490 /0.1110	Main Channel
65.93	124.00	0.1110	
70.09	124.99	0.1110	
70.11	124.99	0.1110	
70.14	125.00	0.1110	
73.16	125.00	0.1110	
79.53	125.23	0.1110	
104.69	126.00	0.1110	
114.76	128.97	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	124.00	.961E+03	0.4	0.42	41.30
0.46	124.26	.433E+04	2.9	0.71	24.65
0.72	124.52	.823E+04	7.3	0.93	18.67
0.98	124.78	.127E+05	13.5	1.11	15.69
1.25	125.05	.178E+05	20.6	1.21	14.43
1.51	125.31	.256E+05	30.0	1.22	14.25
1.77	125.57	.364E+05	42.4	1.22	14.31
2.03	125.83	.503E+05	58.5	1.22	14.32
2.29	126.09	.672E+05	79.0	1.23	14.16
2.55	126.35	.862E+05	104.9	1.27	13.69
2.82	126.62	.107E+06	135.5	1.32	13.16
3.08	126.88	.130E+06	171.1	1.38	12.65
3.34	127.14	.154E+06	212.9	1.44	12.08
3.60	127.40	.179E+06	260.6	1.52	11.48
3.86	127.66	.205E+06	312.9	1.60	10.93
4.12	127.92	.232E+06	369.6	1.67	10.45
4.39	128.19	.259E+06	428.4	1.73	10.06
4.65	128.45	.287E+06	490.9	1.79	9.74
4.91	128.71	.316E+06	558.1	1.85	9.45

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

INFLOW : ID= 2 (2364)	1965.53	84.50	5.50	68.51	2.35	1.24
OUTFLOW: ID= 1 (5361)	1965.53	82.06	5.75	68.51	2.32	1.24

CALIB | STANDHYD (0361) | ID= 1 DT=15.0 min | Area (ha)= 35.90 | Total Imp(%)= 46.00 | Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.51	19.39
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	489.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	26.66
over (min)		15.00	30.00
Storage Coeff.	(min)=	8.40 (ii)	47.40 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.09	0.02

			TOTALS
PEAK FLOW	(cms)=	1.37	0.83	2.089 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	79.82	37.93	53.43
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.47	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2361) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0361):	35.90	2.089	5.25	53.43
+ ID2= 2 (5361):	1965.53	82.061	5.75	68.51
ID = 3 (2361):	2001.43	83.305	5.75	68.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5357) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5357.0) ------>

Distance	Elevation	Manning
0.00	123.98	0.1110
7.26	122.14	0.1110
10.93	121.00	0.1110
13.86	120.00	0.1110
18.79	119.00	0.1110
24.81	118.00	0.1110

26.76	117.00	0.1110	
28.16	117.00	0.1110 /0.0490	Main Channel
29.00	116.20	0.0490	Main Channel
34.00	116.20	0.0490	Main Channel
34.48	117.00	0.0490 /0.1110	Main Channel
36.38	117.00	0.1110	
39.42	118.00	0.1110	
44.78	119.00	0.1110	
47.65	120.00	0.1110	
50.41	121.00	0.1110	
57.87	121.95	0.1110	
58.40	122.00	0.1110	
58.65	122.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	116.47	.174E+04	0.9	0.64	32.42
0.53	116.73	.363E+04	2.8	0.97	21.46
0.80	117.00	.566E+04	5.5	1.22	17.09
1.11	117.31	.973E+04	10.5	1.35	15.49
1.42	117.62	.144E+05	17.0	1.48	14.11
1.74	117.94	.197E+05	25.1	1.59	13.07
2.05	118.25	.258E+05	34.5	1.67	12.49
2.36	118.56	.334E+05	45.7	1.72	12.15
2.67	118.87	.423E+05	59.1	1.75	11.91
2.99	119.19	.525E+05	75.1	1.79	11.65
3.30	119.50	.637E+05	93.5	1.84	11.35
3.61	119.81	.759E+05	114.3	1.88	11.06
3.92	120.12	.889E+05	137.6	1.94	10.77
4.24	120.44	.103E+06	163.7	1.99	10.46
4.55	120.75	.117E+06	192.3	2.05	10.17
4.86	121.06	.133E+06	222.6	2.10	9.92
5.17	121.37	.149E+06	253.5	2.13	9.79
5.49	121.69	.167E+06	287.6	2.16	9.66
5.80	122.00	.186E+06	324.8	2.19	9.53

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2361)	2001.43	83.30	5.75	68.24	3.13	1.81
OUTFLOW: ID= 1 (5357)	2001.43	82.13	6.00	68.24	3.11	1.81

CALIB | STANDHYD (0357) | ID= 1 DT=15.0 min | Area (ha)= 135.25 | Total Imp(%)= 57.00 | Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	77.09	58.16
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	949.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	33.41
over (min)		15.00	30.00
Storage Coeff.	(min)=	12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak	(min)=	15.00	75.00
Unit Hyd. peak	(cms)=	0.08	0.02

TOTALS

PEAK FLOW	(cms)=	6.94	2.56	8.504 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	79.82	49.03	64.43
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.61	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2357) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0357):	135.25	8.504	5.25	64.43
+ ID2= 2 (5357):	2001.43	82.126	6.00	68.24
ID = 3 (2357):	2136.68	86.795	6.00	68.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5363) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5363.0) ------>

Distance	Elevation	Manning	
0.00	116.00	0.1110	
3.24	115.00	0.1110	
7.85	114.00	0.1110	
11.35	113.00	0.1110	
15.57	112.00	0.1110	
15.63	111.99	0.1110	
15.65	111.98	0.1110	
20.70	111.00	0.1110	
22.85	111.00	0.1110 /0.0490	Main Channel
26.11	110.00	0.0490	Main Channel
29.00	110.00	0.0490	Main Channel
29.19	111.00	0.0490 /0.1110	Main Channel
32.26	111.00	0.1110	
35.40	112.00	0.1110	
37.70	112.15	0.1110	
53.24	113.00	0.1110	
53.72	113.00	0.1110	
79.32	114.00	0.1110	
92.95	115.00	0.1110	
115.26	115.98	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	110.25	.368E+03	0.8	0.92	8.07
0.50	110.50	.833E+03	2.5	1.34	5.51
0.75	110.75	.139E+04	5.2	1.66	4.46
1.00	111.00	.205E+04	8.9	1.92	3.85
1.33	111.33	.395E+04	17.7	1.98	3.73

1.66	111.66	.627E+04	29.9	2.12	3.49
2.00	112.00	.898E+04	45.6	2.26	3.28
2.33	112.33	.124E+05	64.0	2.29	3.23
2.66	112.66	.169E+05	87.7	2.31	3.21
2.99	112.99	.225E+05	117.5	2.32	3.19
3.32	113.32	.294E+05	153.2	2.31	3.20
3.66	113.66	.377E+05	197.3	2.32	3.19
3.99	113.99	.475E+05	250.6	2.34	3.16
4.32	114.32	.584E+05	316.2	2.40	3.08
4.65	114.65	.703E+05	391.6	2.47	2.99
4.98	114.98	.830E+05	476.9	2.55	2.90
5.32	115.32	.968E+05	568.4	2.61	2.84
5.65	115.65	.112E+06	671.3	2.66	2.78
5.98	115.98	.128E+06	786.6	2.72	2.72

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2357)	2136.68	86.79	6.00	68.00	2.65	2.30
OUTFLOW: ID= 1 (5363)	2136.68	86.69	6.00	68.00	2.65	2.30

CALIB	
STANDHYD (0363)	Area (ha)= 99.54
ID= 1 DT=15.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 68.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	70.67	28.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	814.62	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	35.48
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	74.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	6.95	1.40 7.838 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	79.82	56.41 72.33
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.70 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2363)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0363):	99.54	7.838	5.25	72.33	
+ ID2= 2 (5363):	2136.68	86.692	6.00	68.00	

ID = 3 (2363): 2236.22 90.203 6.00 68.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5368)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5368.0) ------>

Distance	Elevation	Manning	
0.00	109.72	0.1110	
5.88	105.92	0.1110	
7.79	105.00	0.1110	
12.32	103.17	0.1110	
12.72	103.00	0.1110	
26.16	103.00	0.1110	
40.07	102.16	0.1110	
41.21	102.13	0.1110	
42.95	102.00	0.1110	
44.48	102.00	0.1110 /0.0490	Main Channel
46.98	101.70	0.0490	Main Channel
51.64	101.70	0.0490	Main Channel
52.36	102.00	0.0490 /0.1110	Main Channel
52.69	102.00	0.1110	
54.36	102.70	0.1110	
55.02	103.00	0.1110	
55.44	103.16	0.1110	
57.25	104.00	0.1110	
67.26	109.40	0.1110	
68.34	109.93	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	102.00	.139E+04	1.7	0.91	13.57
0.71	102.41	.548E+04	9.9	1.33	9.25
1.11	102.81	.119E+05	25.0	1.55	7.96
1.52	103.22	.226E+05	48.0	1.57	7.85
1.93	103.63	.359E+05	85.5	1.76	7.00
2.33	104.03	.498E+05	132.8	1.97	6.24
2.74	104.44	.641E+05	189.4	2.18	5.64
3.14	104.84	.791E+05	254.7	2.38	5.17
3.55	105.25	.945E+05	328.7	2.57	4.79
3.96	105.66	.110E+06	411.1	2.75	4.48
4.36	106.06	.127E+06	501.8	2.92	4.21
4.77	106.47	.144E+06	600.9	3.09	3.98
5.18	106.88	.161E+06	707.8	3.25	3.79
5.58	107.28	.179E+06	822.5	3.40	3.62
5.99	107.69	.197E+06	944.7	3.55	3.47
6.39	108.09	.215E+06	1074.5	3.69	3.34
6.80	108.50	.234E+06	1211.9	3.82	3.22
7.21	108.91	.253E+06	1356.7	3.95	3.11
7.61	109.31	.273E+06	1509.1	4.08	3.02

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2363)	2236.22	90.20	6.00	68.19	1.97	1.78
OUTFLOW: ID= 1 (5368)	2236.22	89.70	6.25	68.19	1.96	1.77

CALIB	
STANDHYD (0368)	Area (ha)= 23.76
ID= 1 DT=15.0 min	Total Imp(%)= 64.00 Dir. Conn.(%)= 64.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	15.21	8.55
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.50
Length (m)=	397.99	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	29.32
over (min)	15.00	15.00
Storage Coeff. (min)=	5.40 (ii)	31.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04
		TOTALS
PEAK FLOW (cms)=	1.57	0.51 2.084 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	49.94 69.06
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.62 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2368)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0368):	23.76	2.084	5.25	69.06	
+ ID2= 2 (5368):	2236.22	89.705	6.25	68.19	
ID = 3 (2368):	2259.98	90.428	6.25	68.20	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1365)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2355):	19023.41	262.558	9.25	54.32	
+ ID2= 2 (2368):	2259.98	90.428	6.25	68.20	
ID = 3 (1365):	21283.39	292.565	9.00	55.79	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5365)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5365.0) ------>

Distance	Elevation	Manning	
0.00	110.00	0.1110	
7.40	110.00	0.1110	
15.33	109.51	0.1110	
47.93	98.00	0.1110	
65.73	98.00	0.1110	
114.24	97.34	0.1110	
131.22	97.00	0.1110	
141.72	95.00	0.1110 /0.0490	Main Channel
142.05	94.60	0.0490	Main Channel
155.43	94.60	0.0490	Main Channel
155.44	95.00	0.0490 /0.1110	Main Channel
161.18	95.00	0.1110	
168.95	96.00	0.1110	
203.06	97.00	0.1110	
211.77	97.00	0.1110	
222.30	108.79	0.1110	
223.07	109.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	95.00	.538E+04	4.5	0.83	19.81
1.14	95.74	.231E+05	29.7	1.27	12.99
1.87	96.47	.508E+05	74.2	1.45	11.41
2.61	97.21	.101E+06	146.9	1.45	11.44
3.35	97.95	.186E+06	275.5	1.47	11.23
4.08	98.68	.306E+06	482.4	1.56	10.57
4.82	99.42	.429E+06	757.2	1.75	9.45
5.56	100.16	.555E+06	1088.0	1.95	8.50
6.29	100.89	.682E+06	1470.4	2.14	7.73
7.03	101.63	.811E+06	1901.3	2.33	7.11
7.77	102.37	.943E+06	2378.5	2.50	6.61
8.51	103.11	.108E+07	2900.2	2.68	6.18
9.24	103.84	.121E+07	3465.1	2.84	5.83
9.98	104.58	.135E+07	4071.9	3.00	5.52
10.72	105.32	.149E+07	4719.8	3.15	5.26
11.45	106.05	.163E+07	5407.9	3.29	5.02
12.19	106.79	.177E+07	6135.7	3.43	4.82
12.93	107.53	.192E+07	6902.4	3.57	4.63
13.66	108.26	.207E+07	7707.8	3.70	4.47

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1365)	*******	292.57	9.00	55.79	3.41	1.48
OUTFLOW: ID= 1 (5365)	*******	291.95	9.25	55.79	3.40	1.48

CALIB	
STANDHYD (0365)	Area (ha)= 165.69
ID= 1 DT=15.0 min	Total Imp(%)= 59.00 Dir. Conn.(%)= 56.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.76	67.93
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	1051.00	40.00
Mannings n =	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      37.17        30.00
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       9.54         2.69        11.162 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=      79.82        47.33        65.52
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.99         0.59         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2365) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0365):   165.69  11.162     5.25    65.52
       + ID2= 2 (5365): 21283.39 291.952     9.25    55.79
         ==========================================================
         ID = 3 (2365): 21449.08 293.151     9.25    55.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0671) |   Area    (ha)= 266.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     213.02        53.25
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.70
     Length            (m)=    1332.34        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        32.15
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      14.40 (ii)   84.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        90.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=      21.78         2.15        22.915 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=      79.82        56.18        75.09
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.99         0.70         0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
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```
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9671) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 266.27     22.91      5.25   75.09
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 266.27     22.91      5.25   75.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR (6671) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   3.4020     9.4300
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9671)    266.270     22.915      5.25      75.09
     OUTFLOW: ID= 1 (6671)    266.270      4.549      7.50      75.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.85
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 12.6324

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--------------------
| ADD HYD   (4671) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9671 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6671):   266.27   4.549     7.50    75.09
       + ID2= 2 (9671):     0.00   0.000     0.00     0.00
         ==========================================================
         ID = 3 (4671):   266.27   4.549     7.50    75.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1372) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2365): 21449.08 293.151     9.25    55.87
       + ID2= 2 (4671):   266.27   4.549     7.50    75.09
         ==========================================================
         ID = 3 (1372): 21715.35 297.319     9.25    56.10
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5372) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5372.0) ------>
              Distance      Elevation       Manning
                  0.00         105.00        0.1110
                 20.51          95.49        0.1110
                 91.87          93.94        0.1110
                 96.84          93.74        0.1110
                105.67          92.57        0.1110
                106.66          92.00    0.1110 /0.0490  Main Channel
                109.09          90.50       0.0490       Main Channel
                122.15          90.50       0.0490       Main Channel
                123.13          92.00    0.0490 /0.1110  Main Channel
                127.73          92.00        0.1110
                158.37          93.00        0.1110
                213.54          94.00        0.1110
                217.83          95.00        0.1110
                233.02         105.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.75    91.25    .531E+04      25.0         2.40        3.53
       1.50    92.00    .113E+05      79.9         3.61        2.35
       2.26    92.76    .243E+05     179.6         3.75        2.26
       3.03    93.53    .500E+05     338.8         3.44        2.46
       3.79    94.29    .949E+05     604.9         3.24        2.62
       4.56    95.06    .157E+06    1023.9         3.33        2.55
       5.32    95.82    .231E+06    1611.1         3.54        2.39
       6.09    96.59    .310E+06    2362.5         3.88        2.18
       6.85    97.35    .389E+06    3246.6         4.25        2.00
       7.62    98.12    .469E+06    4254.1         4.61        1.84
       8.38    98.88    .550E+06    5378.1         4.97        1.71
       9.15    99.65    .633E+06    6613.7         5.32        1.59
       9.91   100.41    .716E+06    7956.7         5.65        1.50
      10.68   101.18    .801E+06    9403.9         5.97        1.42
      11.44   101.94    .887E+06   10952.7         6.28        1.35
      12.21   102.71    .974E+06   12600.7         6.58        1.29
      12.97   103.47    .106E+07   14346.0         6.88        1.23
      13.74   104.24    .115E+07   16186.9         7.16        1.18
      14.50   105.00    .124E+07   18122.2         7.43        1.14

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA     QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)     (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1372) *******   297.32    9.25  56.10      2.83      3.52
     OUTFLOW: ID= 1 (5372) *******   297.42    9.25  56.10      2.82      3.53

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--------------------
| CALIB            |
| STANDHYD  (0372) |   Area    (ha)=  47.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  41.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.47        24.43
     Dep. Storage     (mm)=       1.00         4.00
```



```
     Average Slope     (%)=       1.00         5.50
     Length            (m)=     565.10        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        30.34
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   43.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.03         1.26         3.147 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=      79.82        44.10        58.74
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.99         0.55         0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2372) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0372):    47.90   3.147     5.25    58.74
       + ID2= 2 (5372): 21715.35 297.422     9.25    56.10
         ==========================================================
         ID = 3 (2372): 21763.25 297.679     9.25    56.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5373) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5373.0) ------>
              Distance      Elevation       Manning
                  0.00         101.00        0.1110
                 12.77          94.00        0.1110
                 32.99          89.39        0.1110
                 76.52          87.19        0.1110
                 79.48          87.00        0.1110
                 80.86          86.13        0.1110
                 81.09          86.00        0.1110
                 81.97          86.00    0.1110 /0.0490  Main Channel
                 82.61          85.50       0.0490       Main Channel
                 88.00          85.50       0.0490       Main Channel
                 89.14          86.00    0.0490 /0.1110  Main Channel
                 95.90          86.00        0.1110
                106.27          87.00        0.1110
                106.34          87.01        0.1110
                117.67          87.86        0.1110
                158.30          88.14        0.1110
                158.41          88.15        0.1110
                185.29         101.86        0.1110
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	86.00	.231E+04	2.5	0.81	15.12
1.29	86.79	.137E+05	18.4	0.99	12.36
2.08	87.58	.328E+05	49.8	1.12	11.00
2.87	88.37	.764E+05	104.1	1.00	12.24
3.66	89.16	.143E+06	224.2	1.16	10.62
4.45	89.95	.217E+06	398.3	1.35	9.10
5.24	90.74	.295E+06	619.7	1.55	7.94
6.03	91.53	.376E+06	883.1	1.73	7.10
6.82	92.32	.460E+06	1187.0	1.90	6.45
7.61	93.11	.546E+06	1530.0	2.06	5.95
8.39	93.89	.636E+06	1911.6	2.21	5.54
9.18	94.68	.728E+06	2340.7	2.37	5.18
9.97	95.47	.821E+06	2808.2	2.52	4.87
10.76	96.26	.917E+06	3312.0	2.66	4.61
11.55	97.05	.101E+07	3851.3	2.80	4.39
12.34	97.84	.111E+07	4425.6	2.93	4.19
13.13	98.63	.121E+07	5034.5	3.05	4.02
13.92	99.42	.132E+07	5677.8	3.18	3.86
14.71	100.21	.142E+07	6355.0	3.30	3.72

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2372) *******	297.68	9.25	56.11	3.99	1.23
OUTFLOW: ID= 1 (5373) *******	297.51	9.25	56.11	3.98	1.23

CALIB
STANDHYD (0373)
ID= 1 DT=15.0 min

Area (ha)= 86.20
Total Imp(%)= 35.00 Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.17	56.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.10
Length	(m)=	758.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	23.44
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	58.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.49	1.85 3.803 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	79.82	34.89 47.47
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.43 0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2373)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0373):	86.20	3.803	5.25	47.47
+ ID2= 2 (5373):	21763.25	297.514	9.25	56.11
ID = 3 (2373):	21849.45	298.039	9.25	56.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5374)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5374.0) ------>

Distance	Elevation	Manning	
0.00	98.97	0.1110	
36.91	86.49	0.1110	
134.42	84.00	0.1110 /0.0490	Main Channel
141.69	83.20	0.0490	Main Channel
152.50	83.20	0.0490	Main Channel
159.42	84.00	0.0490 /0.1110	Main Channel
175.53	98.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	83.60	.239E+04	4.2	0.73	9.54
0.80	84.00	.596E+04	15.3	1.07	6.49
1.62	84.82	.202E+05	72.8	1.50	4.63
2.45	85.65	.459E+05	179.3	1.63	4.26
3.27	86.47	.829E+05	344.5	1.73	4.01
4.09	87.29	.126E+06	593.4	1.95	3.55
4.92	88.12	.171E+06	902.7	2.20	3.16
5.74	88.94	.217E+06	1267.1	2.43	2.85
6.56	89.76	.264E+06	1683.7	2.66	2.61
7.39	90.59	.312E+06	2150.3	2.87	2.42
8.21	91.41	.362E+06	2665.3	3.07	2.26
9.04	92.24	.412E+06	3227.6	3.26	2.13
9.86	93.06	.464E+06	3836.1	3.44	2.01
10.68	93.88	.516E+06	4490.2	3.62	1.92
11.51	94.71	.570E+06	5189.2	3.79	1.83
12.33	95.53	.626E+06	5932.8	3.95	1.76
13.15	96.35	.682E+06	6720.5	4.10	1.69
13.98	97.18	.739E+06	7552.1	4.25	1.63
14.80	98.00	.798E+06	8427.5	4.40	1.58

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2373) *******	298.04	9.25	56.07	3.04	1.70
OUTFLOW: ID= 1 (5374) *******	297.91	9.25	56.07	3.03	1.70

CALIB
STANDHYD (0673)
ID= 1 DT=15.0 min

Area (ha)= 211.75
Total Imp(%)= 65.00 Dir. Conn.(%)= 58.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	137.64	74.11
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.60
Length (m)=	1188.14	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	37.05
over (min)	15.00	30.00
Storage Coeff. (min)=	17.40 (ii)	103.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.07	0.01
		TOTALS
PEAK FLOW (cms)=	12.42	3.01 13.753 (iii)
TIME TO PEAK (hrs)=	5.25	6.50 5.25
RUNOFF VOLUME (mm)=	79.82	53.64 68.82
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.66 0.85

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9673)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	211.75	13.75	5.25	68.82
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	211.75	13.75	5.25	68.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6673)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.7310	6.2000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9673)	211.750	13.753	5.25	68.82
OUTFLOW: ID= 1 (6673)	211.750	2.587	8.50	68.82

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.81
TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 9.2694

ADD HYD (4673)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9673 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6673):	211.75	2.587	8.50	68.82
+ ID2= 2 (9673):	0.00	0.000	0.00	0.00
ID = 3 (4673):	211.75	2.587	8.50	68.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1374)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4673):	211.75	2.587	8.50	68.82
+ ID2= 2 (5374):	21849.45	297.912	9.25	56.07
ID = 3 (1374):	22061.20	300.478	9.25	56.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0374)
ID= 1 DT=15.0 min

Area (ha)= 32.64
Total Imp(%)= 45.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.69	17.95
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.80
Length	(m)=	466.48	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	31.26
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	42.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	1.18	0.98 2.048 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	79.82	44.56 56.90
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.55 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2374)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.

```
                              (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0374):    32.64   2.048     5.25    56.90
       + ID2= 2 (1374): 22061.20 300.478     9.25    56.20
         ================================================
         ID = 3 (2374): 22093.84 300.653     9.25    56.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5396.0) ------>
              Distance      Elevation       Manning
                  0.00         97.95        0.1110
                 17.75         83.00        0.1110
                 23.72         82.08        0.1110
                 24.22         82.00        0.1110
                 25.33         82.00    0.1110 /0.0490  Main Channel
                 26.00         81.40        0.0490      Main Channel
                 33.68         81.40        0.0490      Main Channel
                 35.87         82.00    0.0490 /0.1110  Main Channel
                 43.42         82.00        0.1110
                 69.25         82.98        0.1110
                140.88         83.00        0.1110
                166.30         97.94        0.1110

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.60    82.00    .162E+04       6.3          1.16       4.27
       1.44    82.84    .981E+04      41.2          1.24       3.97
       2.28    83.68    .373E+05     147.1          1.17       4.23
       3.12    84.52    .687E+05     348.9          1.50       3.28
       3.96    85.36    .101E+06     621.1          1.83       2.70
       4.79    86.19    .133E+06     955.6          2.12       2.32
       5.63    87.03    .167E+06    1347.8          2.40       2.06
       6.47    87.87    .200E+06    1794.3          2.65       1.86
       7.31    88.71    .235E+06    2292.7          2.89       1.71
       8.15    89.55    .270E+06    2841.1          3.12       1.58
       8.99    90.39    .305E+06    3438.0          3.34       1.48
       9.83    91.23    .342E+06    4082.2          3.54       1.39
      10.67    92.07    .378E+06    4772.8          3.74       1.32
      11.51    92.91    .416E+06    5508.8          3.93       1.26
      12.35    93.75    .454E+06    6289.6          4.11       1.20
      13.18    94.58    .492E+06    7114.7          4.28       1.15
      14.02    95.42    .532E+06    7983.6          4.45       1.11
      14.86    96.26    .571E+06    8895.9          4.61       1.07
      15.70    97.10    .612E+06    9851.2          4.77       1.04

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)  (hrs)   (mm)      (m)       (m/s)
    INFLOW : ID= 2 (2374) *******   300.65   9.25  56.20     2.92      1.41
    OUTFLOW: ID= 1 (5396) *******   300.57   9.25  56.20     2.91      1.40


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0396) |   Area    (ha)=   4.65
|ID= 1 DT=15.0 min |   Total Imp(%)=  17.00   Dir. Conn.(%)=  15.00
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-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.79         3.86
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        16.10
     Length            (m)=     176.07        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        20.72
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.20          0.274 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        33.19          40.19
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.41           0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (2396) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0396):     4.65   0.274     5.25    40.19
       + ID2= 2 (5396): 22093.84 300.573     9.25    56.20
         ================================================
         ID = 3 (2396): 22098.49 300.588     9.25    56.19

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0375) |   Area    (ha)=  52.21
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  16.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      10.44        41.77
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.30
     Length            (m)=     589.97        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        16.95
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.80 (ii)   46.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.86         1.10          1.781 (iii)
```



```
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      79.82        26.33         34.88
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.33          0.43

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  62.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (1376) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0375):    52.21   1.781     5.25    34.88
       + ID2= 2 (2396): 22098.49 300.588     9.25    56.19
         ================================================
         ID = 3 (1376): 22150.70 300.810     9.25    56.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5376) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5376.0) ------>
              Distance      Elevation       Manning
                  0.00         85.02        0.1110
                  7.10         80.04        0.1110
                 61.55         79.68        0.1110
                116.38         79.93        0.1110
                143.52         79.00        0.1110
                158.92         78.00        0.1110
                166.66         76.00        0.1110
                167.10         75.50        0.0490      Main Channel
                200.00         75.50        0.0490      Main Channel
                202.57         76.00    0.0490 /0.1110  Main Channel
                207.88         78.85        0.1110
                214.22         80.17        0.1110
                238.13         81.00        0.1110
                277.55         82.00        0.1110
                278.31         83.03        0.1110
                282.09         84.00        0.1110
                288.47         83.19        0.1110
                296.01         84.00        0.1110
                384.91         84.00        0.1110

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.45    75.95    .696E+04      12.6          0.82       9.22
       0.89    76.39    .145E+05      41.2          1.30       5.84
       1.34    76.84    .225E+05      82.6          1.67       4.54
       1.79    77.29    .310E+05     135.2          1.98       3.83
       2.24    77.74    .401E+05     198.5          2.25       3.37
```



```
       2.68    78.18    .498E+05     271.2          2.48       3.06
       3.13    78.63    .608E+05     354.3          2.65       2.86
       3.58    79.08    .735E+05     448.2          2.77       2.73
       4.03    79.53    .888E+05     553.5          2.83       2.68
       4.47    79.97    .114E+06     661.9          2.63       2.88
       4.92    80.42    .157E+06     829.0          2.40       3.15
       5.37    80.87    .202E+06    1031.7          2.32       3.26
       5.82    81.32    .250E+06    1266.7          2.30       3.29
       6.26    81.76    .302E+06    1534.7          2.31       3.28
       6.71    82.21    .357E+06    1840.9          2.35       3.23
       7.16    82.66    .412E+06    2183.9          2.41       3.15
       7.61    83.11    .468E+06    2556.2          2.48       3.05
       8.05    83.55    .525E+06    2944.5          2.55       2.97
       8.50    84.00    .584E+06    3359.5          2.61       2.90

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)  (hrs)   (mm)      (m)       (m/s)
    INFLOW : ID= 2 (1376) *******   300.81   9.25  56.14     2.84      2.53
    OUTFLOW: ID= 1 (5376) *******   300.86   9.50  56.14     2.83      2.53


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0376) |   Area    (ha)=  61.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  33.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.05        37.62
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.30
     Length            (m)=     641.20        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        27.51
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.80 (ii)   46.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.10         1.69          3.585 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      79.82        41.83          54.36
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.52           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  78.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (2376) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0376):    61.67   3.585     5.25    54.36
       + ID2= 2 (5376): 22150.70 300.865     9.50    56.14
```

ID = 3 (2376): 22212.37 301.133 9.50 56.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5395)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5395.0) ------>

Distance	Elevation	Manning	
0.00	80.00	0.0700	
23.38	80.00	0.0700	
28.10	79.57	0.0700	
49.96	79.59	0.0700	
59.82	79.36	0.0700	
73.05	78.62	0.0700	
86.41	78.00	0.0700	
92.93	77.00	0.0700	
131.54	76.00	0.0700	
223.71	75.98	0.0700 /0.0490	Main Channel
232.74	74.00	0.0490	Main Channel
260.75	74.00	0.0490	Main Channel
263.06	76.00	0.0490 /0.0700	Main Channel
265.52	76.00	0.0700	
297.15	77.04	0.0700	
323.06	78.00	0.0700	
327.20	79.00	0.0700	
341.44	79.37	0.0700	
370.62	80.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	74.28	.496E+04	7.0	0.86	11.77
0.57	74.57	.102E+05	22.5	1.34	7.56
0.85	74.85	.157E+05	44.5	1.72	5.88
1.13	75.13	.215E+05	72.6	2.05	4.93
1.41	75.41	.276E+05	106.4	2.35	4.32
1.70	75.70	.339E+05	145.6	2.61	3.88
1.98	75.98	.405E+05	190.4	2.86	3.55
2.31	76.31	.693E+05	278.8	2.45	4.14
2.65	76.65	.103E+06	406.6	2.39	4.24
2.98	76.98	.142E+06	571.0	2.44	4.15
3.32	77.32	.185E+06	780.5	2.57	3.94
3.65	77.65	.229E+06	1027.4	2.72	3.72
3.99	77.99	.276E+06	1310.5	2.88	3.51
4.32	78.32	.325E+06	1625.0	3.04	3.34
4.66	78.66	.376E+06	1974.5	3.19	3.17
4.99	78.99	.428E+06	2362.2	3.35	3.02
5.33	79.33	.483E+06	2754.4	3.46	2.93
5.66	79.66	.544E+06	3054.6	3.41	2.97
6.00	80.00	.613E+06	3561.5	3.53	2.87

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2376) *******		301.13	9.50	56.14	2.37	2.44
OUTFLOW: ID= 1 (5395) *******		301.21	9.50	56.14	2.37	2.44

CALIB	STANDHYD (0395)	ID= 1 DT=15.0 min	Area (ha)= 36.20	Total Imp(%)= 35.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.67	23.53
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	491.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	30.15
over	(min)	15.00	30.00
Storage Coeff.	(min)=	7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	2.217 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	57.13
TOTAL RAINFALL	(mm)=	80.82
RUNOFF COEFFICIENT	=	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2395)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0395):	36.20	2.217	5.25	57.13
	+	ID2= 2 (5395):	22212.37	301.215	9.50	56.14
		ID = 3 (2395):	22248.57	301.379	9.50	56.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

** SIMULATION NUMBER: 6 **

READ STORM	Ptotal= 88.54 mm	Filename: C:\Users\P006437C\AppData\Local\Temp\9f309ab1-fec3-4607-958c-354f894587d2\6f1d520c	Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89

1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

CALIB	NASHYD (0176)	ID= 1 DT=15.0 min	Area (ha)= 121.04	Ia (mm)= 9.60	Curve Number (CN)= 73.0	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 1.37

Unit Hyd Qpeak (cms)= 3.387

PEAK FLOW	(cms)=	3.014 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	36.042
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.407

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0168)	ID= 1 DT=15.0 min	Area (ha)= 103.55	Ia (mm)= 9.80	Curve Number (CN)= 72.0	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 1.38

Unit Hyd Qpeak (cms)= 2.868

PEAK FLOW	(cms)=	2.475 (i)
TIME TO PEAK	(hrs)=	6.500
RUNOFF VOLUME	(mm)=	34.923
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.394

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0170)	ID= 1 DT=15.0 min	Area (ha)= 31.80	Ia (mm)= 9.70	Curve Number (CN)= 72.0	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 1.10

Unit Hyd Qpeak (cms)= 1.100

PEAK FLOW	(cms)=	0.870 (i)
TIME TO PEAK	(hrs)=	6.250
RUNOFF VOLUME	(mm)=	34.989
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.395

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2176)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0168):	103.55	2.475	6.50	34.92
	+	ID2= 2 (0170):	31.80	0.870	6.25	34.99
		ID = 3 (2176):	135.35	3.323	6.50	34.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1167)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0176):	121.04	3.014	6.50	36.04
	+	ID2= 2 (2176):	135.35	3.323	6.50	34.94
		ID = 3 (1167):	256.39	6.337	6.50	35.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5167)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5167.0) ------>

Distance	Elevation	Manning	
0.00	262.16	0.0930	
17.98	262.04	0.0930	
21.42	262.78	0.0930	
45.50	262.15	0.0930	
50.47	262.37	0.0930	
76.45	262.32	0.0930	
82.50	261.71	0.0930	
84.15	261.00	0.0930 /0.0410	Main Channel
85.06	260.58	0.0410	Main Channel
85.95	260.18	0.0410	Main Channel
87.25	260.94	0.0410 /0.0930	Main Channel
88.72	261.80	0.0930	
126.19	262.11	0.0930	
151.18	262.60	0.0930	
158.48	262.60	0.0930	
162.67	262.66	0.0930	
162.97	262.66	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	260.31	.213E+02	0.0	0.09	118.24
0.25	260.43	.850E+02	0.0	0.15	74.49
0.38	260.56	.191E+03	0.1	0.20	56.84
0.51	260.69	.340E+03	0.1	0.24	46.86
0.63	260.81	.530E+03	0.2	0.28	40.37
0.76	260.94	.763E+03	0.4	0.31	35.75
0.90	261.08	.107E+04	0.6	0.37	30.02
1.04	261.22	.144E+04	0.9	0.42	26.45
1.18	261.36	.185E+04	1.3	0.46	24.26
1.33	261.51	.233E+04	1.7	0.49	22.76

1.47	261.65	.285E+04	2.2	0.52	21.67
1.61	261.79	.345E+04	2.7	0.53	21.01
1.75	261.93	.488E+04	3.3	0.46	24.35
1.89	262.07	.813E+04	4.3	0.35	31.78
2.03	262.21	.143E+05	5.9	0.28	40.27
2.18	262.36	.227E+05	8.3	0.25	45.66
2.32	262.50	.347E+05	12.1	0.23	47.80
2.46	262.64	.483E+05	16.8	0.23	47.89
2.60	262.78	.635E+05	23.6	0.25	44.82

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1167)	256.39	6.34	6.50	35.46	2.06	0.27
OUTFLOW: ID= 1 (5167)	256.39	5.38	7.25	35.46	1.99	0.30

CALIB			
NASHYD (0167)	Area (ha)=	45.12	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	9.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.67	

Unit Hyd Qpeak (cms)= 2.588

PEAK FLOW (cms)= 1.780 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 37.364
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.422

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2167)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0167):	45.12	1.780	5.50	37.36
+ ID2= 2 (5167):	256.39	5.382	7.25	35.46
ID = 3 (2167):	301.51	6.182	7.00	35.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0147)	Area (ha)=	71.89	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.30	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.38	

Unit Hyd Qpeak (cms)= 1.996

PEAK FLOW (cms)= 1.739 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 35.269
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.398

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1153)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0147):	71.89	1.739	6.50	35.27
+ ID2= 2 (2167):	301.51	6.182	7.00	35.74
ID = 3 (1153):	373.40	7.900	6.75	35.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5153)

IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5153.0) ------>

Distance	Elevation	Manning	
0.00	265.12	0.0930	
61.22	264.43	0.0930	
92.80	264.46	0.0930	
229.62	263.26	0.0930	
264.40	263.29	0.0930	
313.73	261.28	0.0930	
323.84	261.53	0.0930	
325.29	261.12	0.0930 /0.0410	Main Channel
327.44	260.56	0.0410	Main Channel
330.20	261.79	0.0410 /0.0930	Main Channel
418.41	263.95	0.0930	
464.80	264.28	0.0930	
495.72	265.14	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	260.75	.661E+02	0.1	0.53	19.62
0.37	260.93	.265E+03	0.4	0.84	12.36
0.56	261.12	.595E+03	1.1	1.10	9.43
0.81	261.37	.140E+04	3.0	1.33	7.83
1.06	261.62	.434E+04	7.3	1.04	9.96
1.31	261.87	.875E+04	15.4	1.10	9.47
1.56	262.12	.154E+05	28.4	1.15	9.00
1.81	262.37	.245E+05	47.4	1.21	8.62
2.06	262.62	.362E+05	73.6	1.27	8.21
2.31	262.87	.505E+05	108.0	1.33	7.79
2.56	263.12	.673E+05	151.7	1.41	7.39
2.81	263.37	.891E+05	180.7	1.27	8.22
3.06	263.62	.120E+06	251.0	1.31	7.96
3.31	263.87	.157E+06	341.6	1.36	7.64
3.56	264.12	.200E+06	442.6	1.38	7.54
3.81	264.37	.254E+06	578.1	1.42	7.31
4.06	264.62	.317E+06	738.9	1.45	7.15
4.31	264.87	.387E+06	966.8	1.56	6.67
4.56	265.12	.462E+06	1227.8	1.66	6.27

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1153)	373.40	7.90	6.75	35.65	1.08	1.05
OUTFLOW: ID= 1 (5153)	373.40	7.87	7.00	35.65	1.08	1.05

CALIB			
NASHYD (0153)	Area (ha)=	34.14	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.72	

Unit Hyd Qpeak (cms)= 1.809

PEAK FLOW (cms)= 1.183 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 34.894
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.394

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2153)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0153):	34.14	1.183	5.75	34.89
+ ID2= 2 (5153):	373.40	7.865	7.00	35.65
ID = 3 (2153):	407.54	8.542	6.75	35.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0140)	Area (ha)=	157.95	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.60	

Unit Hyd Qpeak (cms)= 3.782

PEAK FLOW (cms)= 3.549 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 35.972
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.406

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1132)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0140):	157.95	3.549	6.75	35.97
+ ID2= 2 (2153):	407.54	8.542	6.75	35.59
ID = 3 (1132):	565.49	12.091	6.75	35.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5132)

IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5132.0) ------>

Distance	Elevation	Manning	
0.00	265.71	0.0930	
157.54	260.12	0.0930 /0.0410	Main Channel
162.96	260.04	0.0410	Main Channel
165.46	260.06	0.0410 /0.0930	Main Channel
230.27	261.15	0.0930	
271.12	261.23	0.0930	
301.57	261.74	0.0930	
340.02	262.22	0.0930	
355.40	262.69	0.0930	
390.99	263.30	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.02	260.06	.461E+02	0.0	0.04	507.91
0.19	260.23	.275E+04	0.4	0.17	118.51
0.36	260.40	.859E+04	1.6	0.22	91.47
0.53	260.57	.175E+05	3.7	0.25	79.15
0.70	260.74	.294E+05	6.9	0.28	71.09
0.87	260.91	.444E+05	11.4	0.31	65.09
1.04	261.08	.624E+05	17.2	0.33	60.33
1.21	261.25	.862E+05	22.8	0.32	63.13
1.38	261.42	.118E+06	33.6	0.34	58.33
1.55	261.59	.152E+06	46.8	0.37	54.18
1.73	261.77	.190E+06	62.3	0.39	50.75
1.90	261.94	.231E+06	79.9	0.41	48.16
2.07	262.11	.276E+06	100.2	0.43	45.88
2.24	262.28	.324E+06	124.0	0.46	43.60
2.41	262.45	.375E+06	152.0	0.48	41.16
2.58	262.62	.428E+06	182.8	0.51	39.06
2.75	262.79	.484E+06	215.5	0.53	37.42
2.92	262.96	.542E+06	250.3	0.55	36.09
3.09	263.13	.603E+06	288.3	0.57	34.89

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1132)	565.49	12.09	6.75	35.70	0.89	0.31
OUTFLOW: ID= 1 (5132)	565.49	10.31	7.75	35.69	0.83	0.30

CALIB			
NASHYD (0132)	Area (ha)=	78.02	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.87	

Unit Hyd Qpeak (cms)= 3.421

PEAK FLOW (cms)= 2.445 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 35.049
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (2132) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0132):    78.02   2.445     5.75     35.05
      + ID2= 2 (5132):   565.49  10.308     7.75     35.69
        ================================================
        ID = 3 (2132):   643.51  11.457     7.50     35.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| NASHYD    (0108) |   Area    (ha)=  82.89   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.34

    Unit Hyd Qpeak  (cms)=   2.368

    PEAK FLOW       (cms)=   1.983 (i)
    TIME TO PEAK    (hrs)=   6.500
    RUNOFF VOLUME    (mm)=  34.303
    TOTAL RAINFALL   (mm)=  88.540
    RUNOFF COEFFICIENT   =   0.387

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ROUTE CHN (5118) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5118.0) ------>
              Distance      Elevation       Manning
                  0.00         264.29        0.0930
                 54.59         264.08        0.0930
                195.91         262.32        0.0930
                198.76         262.30        0.0930
                198.83         261.60    0.0930 /0.0410  Main Channel
                200.27         261.11        0.0410      Main Channel
                204.45         262.14    0.0410 /0.0930  Main Channel
                207.10         262.78        0.0930
                228.84         263.27        0.0930
                329.55         263.73        0.0930
                365.52         264.37        0.0930
                372.71         264.35        0.0930
                402.90         265.06        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.16   261.27    .156E+03       0.0          0.29      97.17
      0.33   261.44    .623E+03       0.2          0.45      61.21
      0.49   261.60    .140E+04       0.5          0.60      46.71
      0.66   261.77    .253E+04       1.1          0.75      37.05
      0.83   261.94    .399E+04       2.1          0.86      32.23
      0.99   262.10    .578E+04       3.3          0.96      29.09
      1.16   262.27    .790E+04       5.1          1.09      25.62
      1.33   262.44    .115E+05       7.3          1.07      26.06
```



```
      1.50   262.61    .189E+05      10.6          0.93      29.79
      1.67   262.78    .304E+05      15.2          0.84      33.30
      1.83   262.94    .467E+05      21.4          0.77      36.32
      2.00   263.11    .689E+05      30.1          0.73      38.19
      2.17   263.28    .970E+05      41.4          0.71      39.04
      2.34   263.45    .136E+06      55.7          0.69      40.59
      2.51   263.62    .188E+06      75.6          0.67      41.55
      2.68   263.79    .255E+06     102.5          0.67      41.44
      2.84   263.95    .329E+06     137.5          0.70      39.94
      3.01   264.12    .411E+06     176.5          0.72      38.78
      3.18   264.29    .505E+06     217.3          0.72      38.70

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0108)   82.89     1.98    6.50  34.30      0.81      0.85
     OUTFLOW: ID= 1 (5118)   82.89     1.86    7.00  34.30      0.79      0.84

--------------------
| CALIB            |
| NASHYD    (0118) |   Area    (ha)= 127.26   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.42

    Unit Hyd Qpeak  (cms)=   3.416

    PEAK FLOW       (cms)=   2.896 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  34.041
    TOTAL RAINFALL   (mm)=  88.540
    RUNOFF COEFFICIENT   =   0.384

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (2118) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0118):   127.26   2.896     6.75     34.04
      + ID2= 2 (5118):    82.89   1.864     7.00     34.30
        ================================================
        ID = 3 (2118):   210.15   4.724     6.75     34.14

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (1125) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2118):   210.15   4.724     6.75     34.14
      + ID2= 2 (2132):   643.51  11.457     7.50     35.61
        ================================================
        ID = 3 (1125):   853.66  15.876     7.25     35.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



```
--------------------
| ROUTE CHN (5125) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5125.0) ------>
              Distance      Elevation       Manning
                  0.00         261.06        0.0930
                112.10         260.66        0.0930
                128.23         260.37        0.0930
                184.04         259.72        0.0930
                217.53         259.61        0.0930
                253.86         259.67        0.0930
                268.78         259.50        0.0930
                310.66         258.59        0.0930
                323.55         258.45    0.0930 /0.0410  Main Channel
                324.18         258.37        0.0410      Main Channel
                328.71         257.57        0.0410      Main Channel
                330.84         258.63    0.0410 /0.0930  Main Channel
                332.23         258.70        0.0930
                402.29         261.32        0.0930
                415.98         261.42        0.0930
                435.71         261.26        0.0930
                609.12         263.01        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.18   257.75    .817E+02       0.0          0.15      77.13
      0.35   257.92    .327E+03       0.1          0.24      48.59
      0.53   258.10    .735E+03       0.3          0.31      37.08
      0.70   258.27    .131E+04       0.7          0.37      30.61
      0.88   258.45    .205E+04       1.3          0.43      26.77
      1.07   258.64    .402E+04       2.4          0.41      28.11
      1.25   258.82    .772E+04       4.3          0.38      30.28
      1.44   259.01    .131E+05       7.0          0.36      31.41
      1.63   259.20    .203E+05      10.7          0.36      31.50
      1.81   259.38    .292E+05      15.7          0.37      30.98
      2.00   259.57    .399E+05      21.8          0.38      30.52
      2.19   259.76    .579E+05      27.1          0.32      35.56
      2.37   259.94    .822E+05      40.1          0.33      34.21
      2.56   260.13    .109E+06      56.1          0.35      32.46
      2.74   260.31    .139E+06      75.4          0.37      30.73
      2.93   260.50    .171E+06      98.6          0.40      28.93
      3.12   260.69    .205E+06     124.1          0.42      27.59
      3.30   260.87    .245E+06     146.5          0.41      27.88
      3.49   261.06    .292E+06     175.3          0.41      27.76

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1125)  853.66   15.88    7.25  35.25      1.82      0.37
     OUTFLOW: ID= 1 (5125)  853.66   15.00    7.75  35.25      1.79      0.37

--------------------
| CALIB            |
| NASHYD    (0125) |   Area    (ha)=  52.22   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.95

    Unit Hyd Qpeak  (cms)=   2.093
```



```
    PEAK FLOW       (cms)=   1.525 (i)
    TIME TO PEAK    (hrs)=   6.000
    RUNOFF VOLUME    (mm)=  34.364
    TOTAL RAINFALL   (mm)=  88.540
    RUNOFF COEFFICIENT   =   0.388

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (2125) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0125):    52.22   1.525     6.00     34.36
      + ID2= 2 (5125):   853.66  14.998     7.75     35.25
        ================================================
        ID = 3 (2125):   905.88  15.789     7.75     35.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5107) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5107.0) ------>
              Distance      Elevation       Manning
                  0.00         259.47        0.0930
                  7.84         259.44        0.0930
                 11.25         259.57        0.0930
                 21.80         259.34        0.0930
                 32.98         259.22        0.0930
                 41.05         258.44        0.0930
                 73.72         258.37        0.0930
                 80.66         257.81        0.0930
                 83.82         256.91    0.0930 /0.0410  Main Channel
                 85.86         256.34        0.0410      Main Channel
                 86.32         256.46        0.0410      Main Channel
                 88.86         257.10    0.0410 /0.0930  Main Channel
                114.39         257.69        0.0930
                138.64         257.87        0.0930
                178.64         259.30        0.0930
                197.11         259.23        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.14   256.48    .737E+02       0.0          0.20      79.74
      0.29   256.62    .296E+03       0.1          0.32      50.29
      0.43   256.77    .669E+03       0.3          0.43      38.35
      0.57   256.91    .119E+04       0.6          0.52      31.64
      0.75   257.09    .205E+04       1.3          0.64      25.38
      0.92   257.26    .366E+04       2.5          0.68      24.06
      1.10   257.44    .671E+04       4.3          0.63      25.84
      1.28   257.62    .112E+05       6.9          0.60      27.04
      1.46   257.80    .176E+05      10.1          0.56      29.00
      1.63   257.97    .276E+05      15.3          0.54      30.14
      1.81   258.15    .392E+05      22.5          0.56      29.03
      1.99   258.33    .520E+05      31.4          0.59      27.60
      2.17   258.51    .691E+05      41.5          0.59      27.75
      2.34   258.68    .898E+05      55.9          0.61      26.80
      2.52   258.86    .112E+06      72.8          0.64      25.56
```

2.70	259.04	.135E+06	92.4	0.67	24.32
2.88	259.22	.159E+06	114.5	0.70	23.15
3.05	259.39	.188E+06	130.8	0.68	23.93
3.23	259.57	.220E+06	159.7	0.71	23.02

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2125)	905.88	15.79	7.75	35.20	1.65	0.54
OUTFLOW: ID= 1 (5107)	905.88	15.17	8.25	35.20	1.63	0.54

CALIB			
NASHYD (0107)	Area (ha)=	121.76	Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)=	9.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.34	

Unit Hyd Qpeak (cms)= 3.460

PEAK FLOW (cms)= 2.796 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 33.113
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.374

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2107)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0107):	121.76	2.796	6.50	33.11
+ ID2= 2 (5107):	905.88	15.169	8.25	35.20
ID = 3 (2107):	1027.64	17.014	8.00	34.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0090)	Area (ha)=	67.74	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.85	

Unit Hyd Qpeak (cms)= 3.040

PEAK FLOW (cms)= 2.234 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 36.168
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.408

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5089)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<---------- DATA FOR SECTION (5089.0) ------>

Distance	Elevation	Manning	
0.00	283.61	0.0930	
12.80	283.54	0.0930	
26.10	283.37	0.0930	
32.61	283.02	0.0930	
52.71	281.44	0.0930	
67.48	281.01	0.0930	
83.85	280.06	0.0930	
102.23	279.31	0.0930	
113.08	279.11	0.0930	
117.61	279.05	0.0930 /0.0410	Main Channel
120.37	279.02	0.0410	Main Channel
123.67	277.63	0.0410	Main Channel
124.68	277.19	0.0410	Main Channel
129.65	278.99	0.0410 /0.0930	Main Channel
171.25	280.63	0.0930	
243.68	281.45	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	277.39	.318E+03	0.0	0.35	149.46
0.40	277.59	.127E+04	0.2	0.56	94.15
0.60	277.79	.286E+04	0.7	0.73	71.97
0.80	277.99	.510E+04	1.4	0.88	59.43
1.00	278.19	.798E+04	2.6	1.02	51.20
1.20	278.39	.115E+05	4.2	1.16	45.33
1.40	278.59	.157E+05	6.4	1.28	40.89
1.60	278.79	.205E+05	9.1	1.40	37.40
1.80	278.99	.260E+05	12.5	1.51	34.57
2.00	279.19	.368E+05	16.1	1.37	38.23
2.25	279.44	.637E+05	25.9	1.28	41.02
2.49	279.68	.101E+06	39.5	1.23	42.56
2.74	279.93	.147E+06	57.1	1.22	42.98
2.98	280.17	.203E+06	79.5	1.23	42.60
3.23	280.42	.267E+06	106.9	1.26	41.68
3.48	280.67	.340E+06	138.7	1.28	40.84
3.72	280.91	.428E+06	173.5	1.27	41.10
3.97	281.16	.537E+06	215.6	1.26	41.49
4.21	281.40	.668E+06	266.4	1.25	41.82

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0090)	67.74	2.23	5.75	36.17	0.94	0.97
OUTFLOW: ID= 1 (5089)	67.74	1.73	6.50	36.16	0.85	0.91

CALIB			
NASHYD (0089)	Area (ha)=	167.93	Curve Number (CN)= 67.0
ID= 1 DT=15.0 min	Ia (mm)=	8.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.40	

Unit Hyd Qpeak (cms)= 4.572

PEAK FLOW (cms)= 3.512 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 31.164
TOTAL RAINFALL (mm)= 88.540

RUNOFF COEFFICIENT = 0.352

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2089)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0089):	167.93	3.512	6.50	31.16
+ ID2= 2 (5089):	67.74	1.727	6.50	36.16
ID = 3 (2089):	235.67	5.239	6.50	32.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5097)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<---------- DATA FOR SECTION (5097.0) ------>

Distance	Elevation	Manning	
0.00	264.00	0.0930	
43.72	263.34	0.0930	
75.36	263.31	0.0930	
120.67	262.08	0.0930	
120.80	262.07	0.0930	
122.58	262.15	0.0930 /0.0410	Main Channel
122.81	262.14	0.0410	Main Channel
125.62	261.93	0.0410	Main Channel
127.06	261.90	0.0410	Main Channel
128.23	262.19	0.0410 /0.0930	Main Channel
129.33	262.51	0.0930	
202.64	264.26	0.0930	
234.87	264.54	0.0930	
274.19	274.72	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	261.98	.109E+03	0.0	0.27	51.95
0.17	262.07	.333E+03	0.2	0.41	33.66
0.25	262.15	.799E+03	0.4	0.44	31.23
0.37	262.27	.199E+04	1.3	0.53	25.99
0.48	262.38	.362E+04	2.6	0.60	23.06
0.60	262.50	.570E+04	4.5	0.66	21.17
0.71	262.61	.840E+04	6.9	0.69	20.19
0.83	262.73	.120E+05	10.2	0.71	19.65
0.94	262.84	.164E+05	14.3	0.72	19.19
1.06	262.96	.218E+05	19.4	0.74	18.70
1.17	263.07	.280E+05	25.6	0.76	18.19
1.29	263.19	.350E+05	33.1	0.79	17.66
1.41	263.31	.430E+05	41.8	0.81	17.14
1.52	263.42	.544E+05	47.8	0.73	18.94
1.64	263.54	.674E+05	61.5	0.76	18.26
1.75	263.65	.817E+05	77.4	0.79	17.59
1.87	263.77	.971E+05	95.5	0.82	16.95
1.98	263.88	.114E+06	116.0	0.85	16.35
2.10	264.00	.132E+06	139.0	0.88	15.78

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2089)	235.67	5.24	6.50	32.60	0.63	0.66
OUTFLOW: ID= 1 (5097)	235.67	5.10	7.00	32.60	0.63	0.66

CALIB			
NASHYD (0097)	Area (ha)=	49.25	Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.39	

Unit Hyd Qpeak (cms)= 1.350

PEAK FLOW (cms)= 1.363 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 40.250
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.455

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2097)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0097):	49.25	1.363	6.50	40.25
+ ID2= 2 (5097):	235.67	5.100	7.00	32.60
ID = 3 (2097):	284.92	6.407	7.00	33.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0104)	Area (ha)=	41.86	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.07	

Unit Hyd Qpeak (cms)= 1.491

PEAK FLOW (cms)= 1.117 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 33.698
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.381

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1102)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0104):	41.86	1.117	6.25	33.70
+ ID2= 2 (2097):	284.92	6.407	7.00	33.92
ID = 3 (1102):	326.78	7.414	6.75	33.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5102)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5102.0) ------>

Distance	Elevation	Manning	
0.00	261.12	0.0930	
11.14	260.51	0.0930	
18.45	260.84	0.0930	
41.57	260.07	0.0930	
52.25	260.01	0.0930	
73.74	260.12	0.0930	
117.88	258.92	0.0930	
139.95	258.90	0.0930	
184.09	258.61	0.0930	
194.98	258.41	0.0930	
203.59	258.36	0.0930	
209.59	258.28	0.0930 /0.0410	Main Channel
214.07	258.22	0.0410	Main Channel
217.86	258.29	0.0410 /0.0930	Main Channel
325.90	260.68	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	258.28	.441E+02	0.0	0.10	31.73
0.19	258.41	.434E+03	0.4	0.19	16.32
0.31	258.53	.126E+04	1.5	0.23	13.61
0.44	258.66	.240E+04	3.3	0.26	12.17
0.57	258.79	.409E+04	5.9	0.28	11.51
0.69	258.91	.640E+04	9.5	0.28	11.24
0.82	259.04	.958E+04	15.5	0.31	10.33
0.94	259.16	.130E+05	23.3	0.34	9.32
1.07	259.29	.167E+05	32.7	0.37	8.52
1.20	259.42	.207E+05	43.8	0.40	7.87
1.32	259.54	.248E+05	56.4	0.43	7.34
1.45	259.67	.293E+05	70.7	0.46	6.91
1.58	259.80	.340E+05	86.6	0.48	6.54
1.70	259.92	.389E+05	104.3	0.51	6.22
1.83	260.05	.441E+05	119.1	0.51	6.18
1.95	260.17	.503E+05	136.4	0.52	6.14
2.08	260.30	.567E+05	161.7	0.54	5.85
2.21	260.43	.634E+05	189.1	0.57	5.59
2.33	260.55	.704E+05	217.9	0.59	5.38

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1102)	326.78	7.41	6.75	33.89	0.62	0.28
OUTFLOW: ID= 1 (5102)	326.78	7.31	7.00	33.89	0.61	0.28

CALIB	
NASHYD (0102)	Area (ha)= 2.11 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 7.80 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.29

Unit Hyd Qpeak (cms)= 0.279

PEAK FLOW (cms)= 0.115 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 35.235
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.398

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2102)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0102):	2.11	0.115	5.25	35.24
	+ ID2= 2 (5102):	326.78	7.307	7.00	33.89
	ID = 3 (2102):	328.89	7.331	7.00	33.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
NASHYD (0085)	Area (ha)= 100.60	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.58	

Unit Hyd Qpeak (cms)= 2.433

PEAK FLOW (cms)= 2.220 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 35.132
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.397

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1103)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0085):	100.60	2.220	6.75	35.13
	+ ID2= 2 (2102):	328.89	7.331	7.00	33.90
	ID = 3 (1103):	429.49	9.542	7.00	34.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5103)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5103.0) ------>

Distance	Elevation	Manning
0.00	260.43	0.0930
64.92	259.80	0.0930
159.89	259.49	0.0930

194.21	259.11	0.0930		
200.68	257.93	0.0930		
217.06	258.25	0.0930		
225.28	257.72	0.0930 /0.0410	Main Channel	
227.17	257.59	0.0410	Main Channel	
228.54	257.71	0.0410 /0.0930	Main Channel	
244.04	258.74	0.0930		
267.54	258.84	0.0930		
274.63	259.13	0.0930		
295.89	259.48	0.0930		
310.06	259.61	0.0930		
344.18	260.28	0.0930		
358.34	260.35	0.0930		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	257.71	.574E+02	0.1	0.27	18.86
0.26	257.85	.281E+03	0.4	0.46	11.20
0.40	257.99	.715E+03	1.2	0.50	10.30
0.54	258.13	.161E+04	2.5	0.48	10.65
0.68	258.27	.302E+04	4.8	0.49	10.40
0.81	258.40	.471E+04	8.5	0.56	9.23
0.95	258.54	.651E+04	13.2	0.62	8.23
1.09	258.68	.844E+04	18.9	0.69	7.46
1.23	258.82	.107E+05	24.0	0.69	7.43
1.37	258.96	.138E+05	32.7	0.73	7.05
1.51	259.10	.172E+05	43.2	0.77	6.61
1.65	259.24	.209E+05	50.6	0.74	6.90
1.79	259.38	.256E+05	61.0	0.73	6.99
1.93	259.52	.312E+05	72.8	0.72	7.14
2.07	259.66	.387E+05	85.1	0.68	7.58
2.20	259.79	.485E+05	106.4	0.67	7.59
2.34	259.93	.598E+05	138.3	0.71	7.20
2.48	260.07	.720E+05	175.6	0.75	6.83
2.62	260.21	.851E+05	218.1	0.79	6.50

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1103)	429.49	9.54	7.00	34.19	0.85	0.57
OUTFLOW: ID= 1 (5103)	429.49	9.50	7.00	34.19	0.84	0.57

CALIB		
NASHYD (0103)	Area (ha)= 13.80	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 9.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.83	

Unit Hyd Qpeak (cms)= 0.638

PEAK FLOW (cms)= 0.432 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 33.889
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.383

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2103)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0103):	13.80	0.432	5.75	33.89
	+ ID2= 2 (5103):	429.49	9.505	7.00	34.19
	ID = 3 (2103):	443.29	9.781	7.00	34.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1105)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2103):	443.29	9.781	7.00	34.18
	+ ID2= 2 (2107):	1027.64	17.014	8.00	34.95
	ID = 3 (1105):	1470.93	25.850	7.50	34.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5105)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5105.0) ------>

Distance	Elevation	Manning	
0.00	259.38	0.0930	
16.48	258.87	0.0930	
29.77	258.00	0.0930	
35.97	256.26	0.0930	
47.95	256.26	0.0930	
63.19	256.50	0.0930	
68.45	254.59	0.0930 /0.0410	Main Channel
69.33	254.24	0.0410	Main Channel
70.76	254.71	0.0410 /0.0930	Main Channel
75.24	256.29	0.0930	
93.49	256.07	0.0930	
111.29	256.77	0.0930	
123.23	257.87	0.0930	
136.75	258.67	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	254.42	.100E+03	0.0	0.17	113.66
0.35	254.59	.401E+03	0.1	0.27	71.60
0.59	254.83	.115E+04	0.4	0.42	46.70
0.83	255.07	.227E+04	1.0	0.51	38.69
1.07	255.31	.378E+04	1.8	0.56	35.01
1.31	255.55	.566E+04	2.9	0.60	32.70
1.55	255.79	.792E+04	4.3	0.63	30.99
1.79	256.03	.106E+05	5.9	0.66	29.62
2.03	256.27	.163E+05	6.9	0.50	39.36
2.27	256.51	.329E+05	11.3	0.41	48.37
2.51	256.75	.535E+05	18.8	0.41	47.54
2.75	256.99	.757E+05	28.9	0.45	43.75
2.99	257.23	.989E+05	41.2	0.49	40.05
3.23	257.47	.123E+06	55.6	0.53	36.92

3.47	257.71	.148E+06	72.0	0.57	34.30
3.71	257.95	.174E+06	90.3	0.61	32.19
3.95	258.19	.202E+06	108.9	0.63	30.93
4.19	258.43	.232E+06	129.4	0.66	29.87
4.43	258.67	.264E+06	152.4	0.68	28.87

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1105)	1470.93	25.85	7.50	34.72	2.68	0.44
OUTFLOW: ID= 1 (5105)	1470.93	23.75	8.25	34.72	2.63	0.43

CALIB			
NASHYD (0105)	Area (ha)=	54.33	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	10.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.72	

Unit Hyd Qpeak (cms)= 2.866

PEAK FLOW (cms)= 1.849 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 34.343
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.388

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2105)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0105):	54.33	1.849	5.75	34.34
	+ ID2= 2 (5105):	1470.93	23.749	8.25	34.72
	ID = 3 (2105):	1525.26	24.247	8.25	34.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0072)	Area (ha)=	66.00	Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)=	9.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.00	

Unit Hyd Qpeak (cms)= 2.508

PEAK FLOW (cms)= 1.792 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 33.107
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.374

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

NASHYD (0062)	Area (ha)= 194.37	Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 8.30	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.33	

Unit Hyd Qpeak (cms)= 5.578

PEAK FLOW (cms)= 4.626 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 34.046
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.385

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1086)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0062):	194.37	4.626	6.50	34.05
	+ ID2= 2 (0072):	66.00	1.792	6.00	33.11
	ID = 3 (1086):	260.37	6.320	6.50	33.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5086)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5086.0) ------>

Distance	Elevation	Manning	
0.00	261.31	0.0930	
3.21	261.36	0.0930	
28.01	261.03	0.0930	
42.51	261.07	0.0930	
53.44	260.90	0.0930	
62.26	260.66	0.0930	
107.79	260.30	0.0930	
123.86	260.33	0.0930	
139.15	260.06	0.0930	
156.49	259.39	0.0930	
173.83	258.81	0.0930 /0.0410	Main Channel
179.12	258.67	0.0410	Main Channel
180.66	258.74	0.0410 /0.0930	Main Channel
197.95	259.63	0.0930	
205.72	259.81	0.0930	
209.98	259.78	0.0930	
318.53	261.21	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.07	258.74	.375E+03	0.0	0.20	216.58
0.21	258.88	.320E+04	0.5	0.43	98.91
0.35	259.02	.847E+04	1.8	0.55	77.87
0.48	259.15	.161E+05	3.9	0.62	69.08
0.62	259.29	.262E+05	6.9	0.67	63.50
0.76	259.43	.387E+05	10.9	0.72	59.26
0.90	259.57	.534E+05	16.0	0.77	55.68
1.04	259.71	.705E+05	22.0	0.80	53.32

1.17	259.84	.917E+05	28.6	0.80	53.38
1.31	259.98	.119E+06	37.8	0.81	52.42
1.45	260.12	.151E+06	48.6	0.82	51.84
1.59	260.26	.190E+06	61.3	0.83	51.51
1.72	260.39	.239E+06	73.2	0.78	54.43
1.86	260.53	.301E+06	93.0	0.79	53.89
2.00	260.67	.372E+06	117.3	0.81	52.88
2.14	260.81	.451E+06	148.5	0.84	50.63
2.28	260.95	.535E+06	183.6	0.88	48.60
2.41	261.08	.628E+06	216.3	0.88	48.38
2.55	261.22	.732E+06	261.9	0.92	46.60

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1086)	260.37	6.32	6.50	33.81	0.60	0.66
OUTFLOW: ID= 1 (5086)	260.37	5.10	7.25	33.80	0.54	0.64

CALIB			
NASHYD (0086)	Area (ha)=	85.32	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.35	

Unit Hyd Qpeak (cms)= 2.416

PEAK FLOW (cms)= 2.061 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 34.785
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.393

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2086)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0086):	85.32	2.061	6.50	34.79
	+ ID2= 2 (5086):	260.37	5.097	7.25	33.80
	ID = 3 (2086):	345.69	6.959	7.25	34.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0082)	Area (ha)=	127.96	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.59	

Unit Hyd Qpeak (cms)= 3.070

PEAK FLOW (cms)= 2.801 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 35.063
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0070)	Area (ha)=	60.11	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.23	

Unit Hyd Qpeak (cms)= 1.871

PEAK FLOW (cms)= 1.484 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 33.768
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.381

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1080)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0070):	60.11	1.484	6.50	33.77
	+ ID2= 2 (0082):	127.96	2.801	6.75	35.06
	ID = 3 (1080):	188.07	4.239	6.75	34.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5080)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5080.0) ------>

Distance	Elevation	Manning	
0.00	265.31	0.0930	
3.12	265.35	0.0930	
51.72	263.31	0.0930	
63.25	263.22	0.0930	
83.29	262.44	0.0930	
98.72	261.99	0.0930 /0.0410	Main Channel
107.79	261.84	0.0410	Main Channel
112.42	261.99	0.0410 /0.0930	Main Channel
182.31	264.06	0.0930	
207.12	264.23	0.0930	
208.20	264.24	0.0930	
230.04	264.24	0.0930	
257.09	264.08	0.0930	
287.23	264.25	0.0930	
339.24	265.08	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	261.99	.747E+03	0.3	0.32	38.02
0.33	262.17	.328E+04	2.6	0.58	20.78
0.50	262.34	.737E+04	7.0	0.70	17.43
0.68	262.52	.130E+05	13.8	0.77	15.68

0.86	262.70	.200E+05	23.1	0.84	14.43
1.03	262.87	.283E+05	35.0	0.90	13.48
1.21	263.05	.380E+05	49.8	0.95	12.72
1.39	263.23	.491E+05	67.4	1.00	12.12
1.56	263.40	.624E+05	87.5	1.02	11.89
1.74	263.58	.773E+05	113.3	1.07	11.37
1.92	263.76	.935E+05	143.0	1.11	10.90
2.10	263.94	.111E+06	176.6	1.16	10.47
2.27	264.11	.130E+06	206.5	1.15	10.49
2.45	264.29	.158E+06	233.3	1.07	11.29
2.63	264.47	.193E+06	291.6	1.10	11.01
2.80	264.64	.229E+06	357.8	1.14	10.67
2.98	264.82	.268E+06	431.9	1.17	10.33
3.16	265.00	.308E+06	514.1	1.21	9.99
3.33	265.17	.350E+06	608.3	1.26	9.60

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1080)	188.07	4.24	6.75	34.65	0.39	0.62
OUTFLOW: ID= 1 (5080)	188.07	4.17	7.00	34.65	0.39	0.62

CALIB			
NASHYD (0080)	Area (ha)=	26.18	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	8.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.78	

Unit Hyd Qpeak (cms)= 1.287

PEAK FLOW (cms)= 0.927 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 36.796
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.416

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2080)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0080):	26.18	0.927	5.75	36.80
+ ID2= 2 (5080):	188.07	4.165	7.00	34.65
ID = 3 (2080):	214.25	4.748	6.75	34.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1087)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2080):	214.25	4.748	6.75	34.91
+ ID2= 2 (2086):	345.69	6.959	7.25	34.05
ID = 3 (1087):	559.94	11.658	7.00	34.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5087)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5087.0) ------>

Distance	Elevation	Manning	
0.00	258.88	0.0930	
8.99	258.76	0.0930	
19.29	256.36	0.0930	
40.77	256.43	0.0930	
45.90	256.36	0.0930	
56.95	256.44	0.0930	
62.65	256.35	0.0930	
72.79	255.95	0.0930 /0.0410	Main Channel
73.78	255.91	0.0410	Main Channel
74.08	256.02	0.0410 /0.0930	Main Channel
84.33	259.59	0.0930	
121.64	260.15	0.0930	
126.24	260.09	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.04	255.95	.134E+02	0.0	0.13	77.23
0.26	256.17	.580E+03	0.3	0.33	30.32
0.48	256.39	.217E+04	1.1	0.31	32.40
0.70	256.61	.951E+04	6.0	0.38	26.63
0.92	256.83	.174E+05	15.0	0.53	19.29
1.15	257.06	.254E+05	27.3	0.65	15.51
1.37	257.28	.337E+05	42.6	0.77	13.18
1.59	257.50	.422E+05	60.7	0.88	11.60
1.81	257.72	.509E+05	81.4	0.97	10.43
2.03	257.94	.599E+05	104.6	1.06	9.54
2.25	258.16	.690E+05	130.3	1.15	8.82
2.47	258.38	.783E+05	158.5	1.23	8.24
2.69	258.60	.879E+05	189.0	1.31	7.75
2.91	258.82	.978E+05	213.5	1.33	7.63
3.13	259.04	.109E+06	244.8	1.37	7.41
3.36	259.27	.120E+06	286.5	1.45	6.98
3.58	259.49	.131E+06	330.9	1.54	6.61
3.80	259.71	.143E+06	372.2	1.59	6.40
4.02	259.93	.156E+06	418.6	1.63	6.22

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1087)	559.94	11.66	7.00	34.38	0.84	0.46
OUTFLOW: ID= 1 (5087)	559.94	11.50	7.25	34.38	0.84	0.46

CALIB			
NASHYD (0087)	Area (ha)=	11.14	Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.56	

Unit Hyd Qpeak (cms)= 0.761

PEAK FLOW (cms)= 0.408 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 31.938
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.361

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2087)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0087):	11.14	0.408	5.50	31.94
+ ID2= 2 (5087):	559.94	11.502	7.25	34.38
ID = 3 (2087):	571.08	11.644	7.25	34.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2087):	571.08	11.644	7.25	34.33
+ ID2= 2 (2105):	1525.26	24.247	8.25	34.70
ID = 3 (1084):	2096.34	34.702	8.00	34.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5084)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5084.0) ------>

Distance	Elevation	Manning	
0.00	259.35	0.0930	
3.22	259.33	0.0930	
19.62	255.67	0.0930	
53.75	255.23	0.0930	
140.86	255.25	0.0930	
146.73	253.99	0.0930 /0.0410	Main Channel
148.19	253.66	0.0410	Main Channel
148.47	253.71	0.0410	Main Channel
151.58	254.18	0.0410 /0.0930	Main Channel
159.61	255.34	0.0930	
161.63	255.50	0.0930	
175.11	259.05	0.0930	
185.75	258.95	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	253.83	.358E+02	0.0	0.30	13.95
0.33	253.99	.147E+03	0.3	0.48	8.74
0.62	254.28	.530E+03	1.6	0.78	5.37
0.91	254.57	.116E+04	4.5	0.96	4.33
1.21	254.87	.203E+04	8.7	1.07	3.90

1.50	255.16	.315E+04	14.5	1.15	3.63
1.79	255.45	.953E+04	25.6	0.67	6.20
2.08	255.74	.194E+05	52.8	0.68	6.14
2.37	256.03	.300E+05	93.7	0.78	5.33
2.66	256.32	.407E+05	145.5	0.89	4.67
2.96	256.62	.516E+05	207.0	1.00	4.16
3.25	256.91	.627E+05	277.8	1.11	3.76
3.54	257.20	.740E+05	357.4	1.21	3.45
3.83	257.49	.854E+05	445.5	1.31	3.19
4.12	257.78	.970E+05	541.8	1.40	2.98
4.41	258.07	.109E+06	646.1	1.49	2.81
4.71	258.37	.121E+06	758.3	1.57	2.65
5.00	258.66	.133E+06	878.1	1.65	2.52
5.29	258.95	.145E+06	1005.6	1.73	2.41

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1084)	2096.34	34.70	8.00	34.60	1.89	0.68
OUTFLOW: ID= 1 (5084)	2096.34	34.64	8.00	34.60	1.89	0.68

CALIB			
NASHYD (0084)	Area (ha)=	19.87	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	8.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.53	

Unit Hyd Qpeak (cms)= 1.435

PEAK FLOW (cms)= 0.862 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 36.778
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.415

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2084)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0084):	19.87	0.862	5.50	36.78
+ ID2= 2 (5084):	2096.34	34.638	8.00	34.60
ID = 3 (2084):	2116.21	34.811	8.00	34.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0083)	Area (ha)=	50.78	Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)=	9.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.05	

Unit Hyd Qpeak (cms)= 1.852

PEAK FLOW (cms)= 1.300 (i)
TIME TO PEAK (hrs)= 6.250

RUNOFF VOLUME (mm)= 32.076
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.362

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1076)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0083):	50.78	1.300	6.25	32.08
	+ ID2= 2 (2084):	2116.21	34.811	8.00	34.62
	ID = 3 (1076):	2166.99	35.491	8.00	34.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5076) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5076.0) ------>

Distance	Elevation	Manning	
0.00	260.17	0.0930	
14.24	259.77	0.0930	
43.01	255.21	0.0930	
58.26	254.66	0.0930 /0.0410	Main Channel
63.42	253.10	0.0410	Main Channel
66.04	253.09	0.0410	Main Channel
70.21	254.56	0.0410 /0.0930	Main Channel
123.72	254.97	0.0930	
148.22	259.84	0.0930	
150.20	260.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	253.38	.521E+03	0.3	0.33	26.27
0.59	253.68	.132E+04	1.2	0.48	17.88
0.88	253.97	.240E+04	2.8	0.60	14.31
1.18	254.27	.374E+04	5.1	0.70	12.19
1.47	254.56	.536E+04	8.3	0.80	10.75
1.86	254.95	.134E+05	16.5	0.63	13.59
2.25	255.34	.293E+05	33.0	0.58	14.78
2.64	255.73	.464E+05	57.0	0.63	13.58
3.03	256.12	.644E+05	87.3	0.70	12.31
3.42	256.51	.833E+05	123.5	0.76	11.24
3.81	256.90	.103E+06	165.6	0.83	10.38
4.19	257.28	.124E+06	213.3	0.89	9.67
4.58	257.67	.145E+06	266.7	0.94	9.08
4.97	258.06	.168E+06	325.6	1.00	8.59
5.36	258.45	.191E+06	390.2	1.05	8.16
5.75	258.84	.215E+06	460.3	1.10	7.79
6.14	259.23	.240E+06	536.1	1.15	7.47
6.53	259.62	.266E+06	617.6	1.19	7.19
6.92	260.01	.294E+06	691.2	1.21	7.08

<---- hydrograph ----> <-pipe / channel->

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

INFLOW : ID= 2 (1076)	2166.99	35.49	8.00	34.56	2.29	0.58
OUTFLOW: ID= 1 (5076)	2166.99	34.92	8.25	34.56	2.28	0.58

CALIB					
NASHYD (0076)	Area (ha)=	22.96	Curve Number (CN)=	69.0	
ID= 1 DT=15.0 min	Ia (mm)=	10.60	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.44			

Unit Hyd Qpeak (cms)= 2.011

PEAK FLOW (cms)= 0.931 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 31.424
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.355

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2076)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0076):	22.96	0.931	5.25	31.42
	+ ID2= 2 (5076):	2166.99	34.923	8.25	34.56
	ID = 3 (2076):	2189.95	35.074	8.25	34.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0071)	Area (ha)=	79.26	Curve Number (CN)=	72.0	
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.35			

Unit Hyd Qpeak (cms)= 2.247

PEAK FLOW (cms)= 1.932 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 35.061
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.396

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1063)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0071):	79.26	1.932	6.50	35.06
	+ ID2= 2 (2076):	2189.95	35.074	8.25	34.53
	ID = 3 (1063):	2269.21	36.310	8.25	34.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5063) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5063.0) ------>

Distance	Elevation	Manning	
0.00	260.53	0.0930	
7.93	260.16	0.0930	
25.92	255.95	0.0930	
48.02	251.95	0.0930	
74.10	251.57	0.0930 /0.0410	Main Channel
75.60	250.50	0.0410	Main Channel
79.20	250.50	0.0410	Main Channel
81.24	251.63	0.0410 /0.0930	Main Channel
112.21	252.04	0.0930	
134.13	254.75	0.0930	
150.69	255.82	0.0930	
162.81	257.37	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	250.86	.284E+04	0.6	0.38	84.04
0.71	251.21	.647E+04	1.9	0.56	57.07
1.07	251.57	.109E+05	3.9	0.69	45.95
1.43	251.93	.310E+05	8.2	0.50	63.18
1.80	252.30	.758E+05	18.0	0.45	70.25
2.16	252.66	.125E+06	32.8	0.50	63.38
2.52	253.02	.177E+06	52.0	0.56	56.78
2.88	253.38	.233E+06	75.3	0.62	51.53
3.24	253.74	.292E+06	102.7	0.67	47.38
3.61	254.11	.355E+06	134.2	0.72	44.04
3.97	254.47	.421E+06	169.8	0.77	41.30
4.33	254.83	.490E+06	208.9	0.81	39.11
4.69	255.19	.565E+06	250.5	0.85	37.56
5.06	255.56	.644E+06	296.8	0.88	36.16
5.42	255.92	.729E+06	349.0	0.92	34.80
5.78	256.28	.817E+06	409.2	0.96	33.29
6.14	256.64	.909E+06	474.1	1.00	31.94
6.51	257.01	.100E+07	543.9	1.04	30.74
6.87	257.37	.110E+07	618.4	1.07	29.67

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1063)	2269.21	36.31	8.25	34.55	2.22	0.51
OUTFLOW: ID= 1 (5063)	2269.21	32.29	9.25	34.55	2.14	0.50

CALIB					
NASHYD (0063)	Area (ha)=	109.84	Curve Number (CN)=	74.0	
ID= 1 DT=15.0 min	Ia (mm)=	8.90	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.82			

Unit Hyd Qpeak (cms)= 5.123

PEAK FLOW (cms)= 3.865 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 37.535

TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.424

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2063)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0063):	109.84	3.865	5.75	37.53
	+ ID2= 2 (5063):	2269.21	32.295	9.25	34.55
	ID = 3 (2063):	2379.05	32.977	9.00	34.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0035)	Area (ha)=	49.86	Curve Number (CN)=	72.0	
ID= 1 DT=15.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.90			

Unit Hyd Qpeak (cms)= 2.121

PEAK FLOW (cms)= 1.518 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 34.774
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.393

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0018)	Area (ha)=	165.67	Curve Number (CN)=	70.0	
ID= 1 DT=15.0 min	Ia (mm)=	8.30	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	1.18			

Unit Hyd Qpeak (cms)= 5.349

PEAK FLOW (cms)= 4.225 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 34.044
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.385

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1055)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0018):	165.67	4.225	6.25	34.04
	+ ID2= 2 (0035):	49.86	1.518	6.00	34.77
	ID = 3 (1055):	215.53	5.682	6.25	34.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5055)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5055.0) ------>

Distance	Elevation	Manning	
0.00	280.19	0.0930	
87.50	278.82	0.0930	
98.89	278.56	0.0930	
123.84	277.27	0.0930	
130.09	276.61	0.0930 /0.0410	Main Channel
131.71	276.44	0.0410	Main Channel
141.16	276.65	0.0410 /0.0930	Main Channel
152.62	277.02	0.0930	
168.18	278.51	0.0930	
229.80	279.24	0.0930	
279.45	279.08	0.0930	
352.04	279.93	0.0930	
414.67	279.67	0.0930	
506.68	280.29	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	276.61	.333E+04	0.3	0.36	194.87
0.36	276.80	.142E+05	2.2	0.66	106.21
0.55	276.99	.311E+05	6.0	0.82	86.49
0.74	277.18	.531E+05	11.7	0.93	75.45
0.92	277.36	.783E+05	19.2	1.04	67.84
1.11	277.55	.108E+06	28.6	1.12	62.81
1.30	277.74	.142E+06	40.0	1.19	59.08
1.49	277.93	.180E+06	53.5	1.26	56.15
1.68	278.12	.223E+06	69.2	1.31	53.73
1.87	278.31	.270E+06	87.2	1.36	51.68
2.05	278.49	.322E+06	107.7	1.41	49.89
2.24	278.68	.384E+06	123.7	1.36	51.76
2.43	278.87	.465E+06	145.3	1.32	53.33
2.62	279.06	.567E+06	172.7	1.29	54.76
2.81	279.25	.716E+06	195.8	1.16	60.92
3.00	279.44	.913E+06	246.9	1.14	61.62
3.18	279.62	.113E+07	307.9	1.15	61.33
3.37	279.81	.139E+07	362.7	1.10	63.96
3.56	280.00	.173E+07	441.2	1.08	65.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1055)	215.53	5.68	6.25	34.21	0.53	0.80
OUTFLOW: ID= 1 (5055)	215.53	3.94	7.25	34.21	0.44	0.73

CALIB	
NASHYD (0055)	Area (ha)= 149.76 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.53

Unit Hyd Qpeak (cms)= 3.748

PEAK FLOW (cms)= 3.236 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 33.703
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.381

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2055)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0055):	149.76	3.236	6.75	33.70
	+ ID2= 2 (5055):	215.53	3.945	7.25	34.21
	ID = 3 (2055):	365.29	7.069	7.00	34.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0054)	Area (ha)= 59.63 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.14

Unit Hyd Qpeak (cms)= 1.994

PEAK FLOW (cms)= 1.660 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 36.180
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.409

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1053)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0054):	59.63	1.660	6.25	36.18
	+ ID2= 2 (2055):	365.29	7.069	7.00	34.00
	ID = 3 (1053):	424.92	8.505	7.00	34.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5053)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5053.0) ------>

Distance	Elevation	Manning	
0.00	259.86	0.0930	
30.23	255.77	0.0930 /0.0410	Main Channel
32.12	255.61	0.0410	Main Channel
33.86	255.81	0.0410 /0.0930	Main Channel
75.21	261.86	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	255.77	.644E+02	0.1	0.19	21.35
0.38	255.99	.322E+03	0.5	0.37	10.94
0.59	256.20	.742E+03	1.4	0.45	9.00
0.81	256.42	.132E+04	2.7	0.51	8.07
1.02	256.63	.207E+04	4.6	0.55	7.47
1.24	256.85	.297E+04	7.1	0.58	7.01
1.45	257.06	.404E+04	10.1	0.62	6.64
1.67	257.28	.527E+04	13.9	0.65	6.33
1.88	257.49	.666E+04	18.3	0.67	6.06
2.10	257.71	.821E+04	23.5	0.70	5.82
2.31	257.92	.992E+04	29.5	0.73	5.61
2.53	258.14	.118E+05	36.3	0.76	5.41
2.74	258.35	.138E+05	44.1	0.78	5.23
2.96	258.57	.160E+05	52.7	0.81	5.07
3.17	258.78	.184E+05	62.3	0.83	4.92
3.39	259.00	.209E+05	72.9	0.86	4.78
3.60	259.21	.236E+05	84.6	0.88	4.65
3.82	259.43	.264E+05	97.3	0.90	4.53
4.03	259.64	.295E+05	111.1	0.93	4.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1053)	424.92	8.50	7.00	34.31	1.34	0.60
OUTFLOW: ID= 1 (5053)	424.92	8.47	7.00	34.31	1.34	0.60

CALIB	
NASHYD (0053)	Area (ha)= 5.96 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.35

Unit Hyd Qpeak (cms)= 0.652

PEAK FLOW (cms)= 0.299 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 34.335
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.388

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2053)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0053):	5.96	0.299	5.25	34.33
	+ ID2= 2 (5053):	424.92	8.471	7.00	34.31
	ID = 3 (2053):	430.88	8.542	7.00	34.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0020)	Area (ha)= 80.57 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 10.20 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.12

Unit Hyd Qpeak (cms)= 2.738

PEAK FLOW (cms)= 2.097 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 33.699
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.381

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0011)	Area (ha)= 91.04 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.42

Unit Hyd Qpeak (cms)= 2.445

PEAK FLOW (cms)= 2.203 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 36.042
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.407

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1021)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0011):	91.04	2.203	6.50	36.04
	+ ID2= 2 (0020):	80.57	2.097	6.25	33.70
	ID = 3 (1021):	171.61	4.260	6.50	34.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5021)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5021.0) ------>

Distance	Elevation	Manning	
0.00	276.23	0.0930	
23.73	276.03	0.0930	
36.85	275.23	0.0930	
61.59	270.42	0.0930	
76.89	269.69	0.0930	
79.38	269.35	0.0930 /0.0410	Main Channel
82.08	268.91	0.0410	Main Channel
83.34	269.30	0.0410 /0.0930	Main Channel
84.93	269.79	0.0930	
98.02	269.97	0.0930	
107.38	271.99	0.0930	

117.80	275.64	0.0930
136.41	276.14	0.0930
138.19	276.38	0.0930

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	269.11	.350E+03	0.1	0.48	67.98
0.39	269.30	.140E+04	0.5	0.77	42.82
0.80	269.71	.602E+04	3.9	1.29	25.50
1.21	270.12	.223E+05	12.1	1.07	30.66
1.61	270.52	.510E+05	30.1	1.16	28.18
2.02	270.93	.842E+05	58.1	1.36	24.18
2.43	271.34	.121E+06	94.6	1.54	21.28
2.84	271.75	.160E+06	139.5	1.71	19.16
3.24	272.15	.203E+06	193.4	1.87	17.51
3.65	272.56	.249E+06	256.5	2.03	16.17
4.06	272.97	.297E+06	328.1	2.17	15.08
4.47	273.38	.348E+06	408.4	2.31	14.19
4.87	273.78	.401E+06	497.5	2.44	13.44
5.28	274.19	.457E+06	595.6	2.56	12.79
5.69	274.60	.516E+06	702.7	2.68	12.23
6.10	275.01	.577E+06	819.1	2.79	11.74
6.50	275.41	.641E+06	934.0	2.87	11.44
6.91	275.82	.712E+06	1009.8	2.79	11.76
7.32	276.23	.803E+06	1016.7	2.49	13.16

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1021)	171.61	4.26	6.50	34.94	0.81	1.28
OUTFLOW: ID= 1 (5021)	171.61	4.16	6.75	34.94	0.81	1.28

CALIB NASHYD (0021) ID= 1 DT=15.0 min			
	Area (ha)=	68.90	Curve Number (CN)= 78.0
	Ia (mm)=	7.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.75	

Unit Hyd Qpeak (cms)= 3.490

PEAK FLOW (cms)= 2.941 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 43.215
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.488

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2021) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0021):	68.90	2.941	5.75	43.21
+ ID2= 2 (5021):	171.61	4.165	6.75	34.94
ID = 3 (2021):	240.51	6.280	6.25	37.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0042) ID= 1 DT=15.0 min			
	Area (ha)=	109.13	Curve Number (CN)= 73.0
	Ia (mm)=	9.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.32	

Unit Hyd Qpeak (cms)= 3.160

PEAK FLOW (cms)= 2.788 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 36.182
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.409

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1052) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0042):	109.13	2.788	6.50	36.18
+ ID2= 2 (2021):	240.51	6.280	6.25	37.31
ID = 3 (1052):	349.64	9.059	6.50	36.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5052) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5052.0) ------>

Distance	Elevation	Manning	
0.00	266.73	0.0930	
17.65	266.70	0.0930	
30.84	260.87	0.0930 /0.0410	Main Channel
33.16	260.30	0.0410	Main Channel
33.54	260.21	0.0410	Main Channel
34.62	260.23	0.0410	Main Channel
40.02	260.43	0.0410 /0.0930	Main Channel
79.73	260.97	0.0930	
92.56	266.14	0.0930	
101.74	266.11	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	260.43	.103E+04	0.4	0.49	40.73
0.52	260.73	.781E+04	4.3	0.66	30.29
0.82	261.03	.227E+05	14.6	0.77	25.83
1.12	261.33	.405E+05	33.4	0.98	20.21
1.42	261.63	.589E+05	58.5	1.18	16.79
1.71	261.92	.778E+05	89.1	1.37	14.55
2.01	262.22	.972E+05	125.0	1.53	12.95
2.31	262.52	.117E+06	166.0	1.69	11.76
2.61	262.82	.137E+06	211.7	1.84	10.82
2.91	263.12	.158E+06	262.2	1.97	10.07
3.21	263.42	.180E+06	317.2	2.11	9.44

3.51	263.72	.202E+06	376.8	2.23	8.92
3.81	264.02	.224E+06	440.8	2.35	8.47
4.11	264.32	.247E+06	509.2	2.46	8.08
4.41	264.62	.270E+06	582.0	2.57	7.74
4.70	264.91	.294E+06	659.2	2.67	7.44
5.00	265.21	.319E+06	740.6	2.77	7.17
5.30	265.51	.344E+06	826.4	2.87	6.93
5.60	265.81	.369E+06	916.5	2.96	6.71

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1052)	349.64	9.06	6.50	36.96	0.66	0.70
OUTFLOW: ID= 1 (5052)	349.64	8.51	6.75	36.96	0.64	0.70

CALIB NASHYD (0052) ID= 1 DT=15.0 min			
	Area (ha)=	37.91	Curve Number (CN)= 73.0
	Ia (mm)=	9.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.84	

Unit Hyd Qpeak (cms)= 1.718

PEAK FLOW (cms)= 1.263 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 36.308
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.410

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2052) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0052):	37.91	1.263	5.75	36.31
+ ID2= 2 (5052):	349.64	8.508	6.75	36.96
ID = 3 (2052):	387.55	9.442	6.75	36.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1050) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2052):	387.55	9.442	6.75	36.89
+ ID2= 2 (2053):	430.88	8.542	7.00	34.31
ID = 3 (1050):	818.43	17.866	7.00	35.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5050) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5050.0) ------>

Distance	Elevation	Manning	
0.00	259.67	0.0930	
13.92	256.13	0.0930	
17.59	256.29	0.0930	
21.12	255.95	0.0930	
30.78	255.82	0.0930	
33.55	255.60	0.0930	
35.41	255.31	0.0930	
42.56	254.71	0.0930 /0.0410	Main Channel
44.43	254.55	0.0410	Main Channel
44.75	254.59	0.0410	Main Channel
49.70	255.17	0.0410 /0.0930	Main Channel
61.41	256.32	0.0930	
62.19	256.25	0.0930	
64.00	256.45	0.0930	
73.57	258.88	0.0930	
75.52	259.01	0.0930	
83.84	260.70	0.0930	
88.87	260.76	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	254.71	.591E+02	0.1	0.31	12.48
0.42	254.97	.414E+03	1.0	0.56	6.87
0.68	255.23	.109E+04	3.4	0.72	5.32
0.94	255.49	.209E+04	8.0	0.89	4.32
1.20	255.75	.336E+04	14.5	1.00	3.86
1.47	256.02	.523E+04	22.5	0.99	3.87
1.73	256.28	.775E+04	34.4	1.02	3.76
1.99	256.54	.108E+05	51.1	1.09	3.52
2.25	256.80	.140E+05	71.5	1.18	3.26
2.51	257.06	.173E+05	95.2	1.27	3.03
2.77	257.32	.208E+05	122.0	1.36	2.84
3.03	257.58	.243E+05	151.8	1.44	2.67
3.29	257.84	.280E+05	184.5	1.52	2.53
3.55	258.10	.318E+05	220.3	1.60	2.41
3.81	258.36	.358E+05	259.0	1.67	2.30
4.08	258.63	.398E+05	300.7	1.74	2.21
4.34	258.89	.440E+05	345.1	1.81	2.13
4.60	259.15	.484E+05	390.3	1.86	2.07
4.86	259.41	.530E+05	441.0	1.92	2.00

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1050)	818.43	17.87	7.00	35.53	1.31	1.00
OUTFLOW: ID= 1 (5050)	818.43	17.89	7.00	35.53	1.31	1.00

CALIB NASHYD (0050) ID= 1 DT=15.0 min			
	Area (ha)=	7.41	Curve Number (CN)= 72.0
	Ia (mm)=	9.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.46	

Unit Hyd Qpeak (cms)= 0.615

PEAK FLOW (cms)= 0.324 (i)
TIME TO PEAK (hrs)= 5.250

RUNOFF VOLUME (mm)= 34.741
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.392

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2050)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0050):	7.41	0.324	5.25	34.74
	+ ID2= 2 (5050):	818.43	17.887	7.00	35.53
	ID = 3 (2050):	825.84	17.989	7.00	35.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0007)	Area (ha)= 178.66	Curve Number (CN)= 71.0	
ID= 1 DT=15.0 min	Ia (mm)= 10.20	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.46		

Unit Hyd Qpeak (cms)= 4.684

PEAK FLOW (cms)= 3.972 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 33.703
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.381

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5009)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5009.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
17.97	284.61	0.0930	
25.53	284.49	0.0930	
30.68	284.43	0.0930	
35.54	284.45	0.0930	
41.74	284.38	0.0930 /0.0410	Main Channel
43.34	284.37	0.0410	Main Channel
43.57	284.36	0.0410	Main Channel
43.90	284.36	0.0410	Main Channel
45.20	284.36	0.0410	Main Channel
47.00	284.36	0.0410 /0.0930	Main Channel
57.95	284.80	0.0930	
74.16	285.17	0.0930	
94.21	285.41	0.0930	
108.93	285.51	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	284.41	.601E+02	0.0	0.14	25.46

0.09	284.45	.195E+03	0.2	0.17	21.00
0.14	284.50	.428E+03	0.4	0.19	18.59
0.19	284.55	.706E+03	0.7	0.22	16.30
0.23	284.59	.103E+04	1.2	0.24	14.64
0.28	284.64	.138E+04	1.7	0.27	13.25
0.33	284.69	.177E+04	2.4	0.30	12.12
0.37	284.73	.217E+04	3.2	0.32	11.22
0.42	284.78	.261E+04	4.1	0.34	10.50
0.47	284.83	.307E+04	5.1	0.36	9.94
0.52	284.88	.356E+04	6.3	0.38	9.48
0.56	284.92	.409E+04	7.5	0.39	9.08
0.61	284.97	.465E+04	8.9	0.41	8.73
0.66	285.02	.524E+04	10.4	0.42	8.43
0.70	285.06	.587E+04	12.0	0.44	8.15
0.75	285.11	.653E+04	13.8	0.45	7.90
0.80	285.16	.723E+04	15.7	0.47	7.68
0.84	285.20	.796E+04	17.7	0.48	7.51
0.89	285.25	.875E+04	19.8	0.49	7.37

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0007)	178.66	3.97	6.75	33.70	0.41	0.34
OUTFLOW: ID= 1 (5009)	178.66	3.96	6.75	33.70	0.41	0.34

CALIB			
NASHYD (0009)	Area (ha)= 57.35	Curve Number (CN)= 74.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.98		

Unit Hyd Qpeak (cms)= 2.228

PEAK FLOW (cms)= 1.811 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 37.545
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.424

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2009)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0009):	57.35	1.811	6.00	37.55
	+ ID2= 2 (5009):	178.66	3.957	6.75	33.70
	ID = 3 (2009):	236.01	5.528	6.50	34.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5012)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5012.0) ------>

Distance	Elevation	Manning

0.00	286.59	0.0930		
7.35	286.54	0.0930		
182.68	282.59	0.0930 /0.0410	Main Channel	
188.50	282.42	0.0410	Main Channel	
196.35	282.37	0.0410	Main Channel	
198.54	282.38	0.0410	Main Channel	
198.86	282.39	0.0410	Main Channel	
204.09	282.60	0.0410 /0.0930	Main Channel	
220.42	283.20	0.0930		
227.76	283.19	0.0930		
249.45	283.60	0.0930		
276.70	284.52	0.0930		
280.20	284.62	0.0930		
338.90	285.99	0.0930		
430.49	286.70	0.0930		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	282.59	.133E+05	1.7	0.54	133.55
0.43	282.80	.395E+05	7.7	0.85	85.15
0.64	283.01	.795E+05	18.1	0.99	73.15
0.85	283.22	.134E+06	32.8	1.06	68.25
1.06	283.43	.212E+06	53.6	1.10	65.80
1.27	283.64	.308E+06	81.1	1.14	63.31
1.48	283.85	.420E+06	116.0	1.20	60.37
1.69	284.06	.546E+06	158.0	1.26	57.61
1.90	284.27	.687E+06	207.6	1.31	55.13
2.11	284.48	.841E+06	265.1	1.37	52.91
2.33	284.70	.101E+07	329.9	1.42	51.07
2.54	284.91	.120E+07	402.8	1.46	49.51
2.75	285.12	.140E+07	485.2	1.51	48.06
2.96	285.33	.162E+07	577.5	1.55	46.71
3.17	285.54	.185E+07	680.1	1.59	45.45
3.38	285.75	.211E+07	793.5	1.63	44.27
3.59	285.96	.238E+07	918.1	1.68	43.16
3.80	286.17	.267E+07	1036.2	1.68	42.94
4.01	286.38	.300E+07	1169.3	1.69	42.70

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2009)	236.01	5.53	6.50	34.64	0.35	0.70
OUTFLOW: ID= 1 (5012)	236.01	3.74	8.00	34.63	0.29	0.62

CALIB			
NASHYD (0012)	Area (ha)= 183.34	Curve Number (CN)= 75.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.22		

Unit Hyd Qpeak (cms)= 5.735

PEAK FLOW (cms)= 5.279 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 38.818
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.438

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2012)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0012):	183.34	5.279	6.25	38.82
	+ ID2= 2 (5012):	236.01	3.739	8.00	34.63
	ID = 3 (2012):	419.35	7.938	7.00	36.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0032)	Area (ha)= 49.09	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.40	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.97		

Unit Hyd Qpeak (cms)= 1.937

PEAK FLOW (cms)= 1.502 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 36.175
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.409

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1040)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0032):	49.09	1.502	6.00	36.17
	+ ID2= 2 (2012):	419.35	7.938	7.00	36.46
	ID = 3 (1040):	468.44	9.164	6.75	36.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5040)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5040.0) ------>

Distance	Elevation	Manning	
0.00	263.73	0.0930	
3.80	263.50	0.0930	
15.09	260.45	0.0930	
19.73	260.13	0.0930	
24.77	259.11	0.0930	
29.24	257.72	0.0930	
39.41	256.76	0.0930	
45.12	255.96	0.0930 /0.0410	Main Channel
45.71	255.95	0.0410	Main Channel
46.66	255.94	0.0410	Main Channel
47.79	255.93	0.0410	Main Channel
48.07	255.95	0.0410	Main Channel
49.01	256.02	0.0410	Main Channel

49.66	256.06	0.0410 /0.0930	Main Channel
50.09	256.08	0.0930	
66.82	257.59	0.0930	
68.76	257.78	0.0930	
85.17	263.07	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.03	255.96	.201E+02	0.0	0.13	49.56
0.40	256.33	.103E+04	2.0	0.75	8.68
0.78	256.71	.305E+04	7.5	0.95	6.80
1.15	257.08	.613E+04	16.9	1.07	6.03
1.53	257.46	.104E+05	31.3	1.17	5.53
1.90	257.83	.158E+05	52.0	1.28	5.06
2.28	258.21	.218E+05	80.4	1.43	4.52
2.65	258.58	.281E+05	114.3	1.58	4.10
3.02	258.95	.348E+05	153.7	1.72	3.78
3.40	259.33	.419E+05	197.9	1.84	3.53
3.77	259.70	.493E+05	247.2	1.95	3.33
4.15	260.08	.573E+05	302.2	2.05	3.16
4.52	260.45	.658E+05	356.5	2.11	3.08
4.89	260.82	.750E+05	426.3	2.21	2.93
5.27	261.20	.846E+05	502.3	2.31	2.81
5.64	261.57	.945E+05	584.5	2.41	2.69
6.02	261.95	.105E+06	673.1	2.50	2.60
6.39	262.32	.116E+06	768.0	2.59	2.51
6.77	262.70	.127E+06	869.4	2.67	2.43

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1040)	468.44	9.16	6.75	36.43	0.85	0.97
OUTFLOW: ID= 1 (5040)	468.44	9.14	6.75	36.43	0.84	0.97

CALIB			
NASHYD (0040)	Area (ha)=	5.95	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	8.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.28	

Unit Hyd Qpeak (cms)= 0.797

PEAK FLOW (cms)= 0.340 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 36.454
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.412

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2040)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0040):	5.95	0.340	5.25	36.45
	+ ID2= 2 (5040):	468.44	9.136	6.75	36.43
	ID = 3 (2040):	474.39	9.214	6.75	36.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1043)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2040):	474.39	9.214	6.75	36.43
	+ ID2= 2 (2050):	825.84	17.989	7.00	35.53
	ID = 3 (1043):	1300.23	27.174	7.00	35.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5043)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5043.0) ------>

Distance	Elevation	Manning	
0.00	258.27	0.0930	
9.62	255.23	0.0930	
22.15	254.22	0.0930	
41.61	253.70	0.0930 /0.0410	Main Channel
42.11	253.67	0.0410	Main Channel
44.98	252.56	0.0410	Main Channel
45.13	252.60	0.0410	Main Channel
47.49	253.41	0.0410 /0.0930	Main Channel
50.17	253.96	0.0930	
52.43	253.89	0.0930	
55.10	253.86	0.0930	
58.88	253.98	0.0930	
61.24	253.95	0.0930	
105.33	254.48	0.0930	
118.27	258.71	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	252.84	.132E+03	0.1	0.25	38.42
0.57	253.13	.519E+03	0.4	0.39	24.35
0.85	253.41	.116E+04	1.0	0.51	18.63
1.15	253.71	.219E+04	2.4	0.62	15.46
1.46	254.02	.541E+04	5.0	0.53	17.97
1.76	254.32	.150E+05	10.9	0.42	23.00
2.06	254.62	.295E+05	22.1	0.43	22.31
2.37	254.93	.454E+05	38.6	0.49	19.62
2.67	255.23	.622E+05	59.5	0.55	17.40
2.98	255.54	.795E+05	85.3	0.62	15.52
3.28	255.84	.971E+05	115.1	0.68	14.06
3.58	256.14	.115E+06	148.5	0.74	12.91
3.89	256.45	.133E+06	185.5	0.80	11.98
4.19	256.75	.152E+06	226.0	0.86	11.20
4.49	257.05	.171E+06	269.9	0.91	10.55
4.80	257.36	.190E+06	317.2	0.96	9.99
5.10	257.66	.210E+06	367.7	1.01	9.51
5.41	257.97	.230E+06	421.4	1.06	9.09
5.71	258.27	.250E+06	478.3	1.10	8.71

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1043)	1300.23	27.17	7.00	35.86	2.16	0.45
OUTFLOW: ID= 1 (5043)	1300.23	26.26	7.25	35.86	2.14	0.44

CALIB			
NASHYD (0043)	Area (ha)=	12.70	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.41	

Unit Hyd Qpeak (cms)= 1.195

PEAK FLOW (cms)= 0.623 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 36.017
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.407

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2043)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0043):	12.70	0.623	5.25	36.02
	+ ID2= 2 (5043):	1300.23	26.263	7.25	35.86
	ID = 3 (2043):	1312.93	26.418	7.25	35.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0014)	Area (ha)=	82.92	Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)=	8.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.27	

Unit Hyd Qpeak (cms)= 2.502

PEAK FLOW (cms)= 2.334 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 38.818
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.438

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5013)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5013.0) ------>

Distance	Elevation	Manning
0.00	275.77	0.0930
14.35	275.60	0.0930
43.06	272.29	0.0930

99.28	270.53	0.0930	
104.12	270.24	0.0930	
107.91	270.08	0.0930	
113.53	269.94	0.0930 /0.0410	Main Channel
117.24	269.85	0.0410	Main Channel
117.42	269.85	0.0410	Main Channel
122.48	269.97	0.0410 /0.0930	Main Channel
149.76	270.95	0.0930	
171.23	275.18	0.0930	
223.54	276.38	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	269.94	.752E+03	0.1	0.29	124.05
0.40	270.25	.123E+05	4.2	0.71	49.57
0.70	270.55	.339E+05	14.4	0.90	39.14
1.01	270.86	.661E+05	31.5	1.01	34.91
1.32	271.17	.109E+06	58.4	1.14	31.11
1.62	271.47	.160E+06	95.2	1.27	27.97
1.93	271.78	.218E+06	141.7	1.38	25.60
2.24	272.09	.283E+06	198.6	1.49	23.75
2.54	272.39	.356E+06	268.4	1.60	22.08
2.85	272.70	.432E+06	352.8	1.74	20.41
3.16	273.01	.511E+06	447.7	1.86	19.02
3.47	273.32	.593E+06	553.0	1.98	17.87
3.77	273.62	.677E+06	668.6	2.10	16.89
4.08	273.93	.765E+06	794.4	2.21	16.05
4.39	274.24	.855E+06	930.4	2.31	15.31
4.69	274.54	.948E+06	1076.7	2.41	14.67
5.00	274.85	.104E+07	1233.2	2.51	14.10
5.31	275.16	.114E+07	1400.1	2.61	13.59
5.61	275.46	.125E+07	1528.9	2.61	13.58

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0014)	82.92	2.33	6.50	38.82	0.26	0.43
OUTFLOW: ID= 1 (5013)	82.92	1.68	7.50	38.81	0.21	0.37

CALIB			
NASHYD (0013)	Area (ha)=	118.75	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)=	9.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.20	

Unit Hyd Qpeak (cms)= 3.792

PEAK FLOW (cms)= 3.097 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 34.991
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.395

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2013)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3					

```
                          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0013):   118.75   3.097     6.25    34.99
      + ID2= 2 (5013):    82.92   1.678     7.50    38.81
        ================================================
        ID = 3 (2013):   201.67   4.430     6.75    36.56

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB              |
| NASHYD    (0002) |   Area    (ha)= 141.56   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.90   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   1.27

    Unit Hyd Qpeak  (cms)=   4.261

    PEAK FLOW       (cms)=   3.553 (i)
    TIME TO PEAK    (hrs)=   6.500
    RUNOFF VOLUME    (mm)=  34.853
    TOTAL RAINFALL   (mm)=  88.540
    RUNOFF COEFFICIENT   =   0.394

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| CALIB              |
| NASHYD    (0003) |   Area    (ha)=  57.29   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.90   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.86

    Unit Hyd Qpeak  (cms)=   2.533

    PEAK FLOW       (cms)=   1.793 (i)
    TIME TO PEAK    (hrs)=   5.750
    RUNOFF VOLUME    (mm)=  34.841
    TOTAL RAINFALL   (mm)=  88.540
    RUNOFF COEFFICIENT   =   0.394

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (1006) |
|   1 +  2 =  3    |
                          AREA    QPEAK    TPEAK     R.V.
                          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0002):   141.56   3.553     6.50    34.85
      + ID2= 2 (0003):    57.29   1.793     5.75    34.84
        ================================================
        ID = 3 (1006):   198.85   5.206     6.25    34.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5006) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00

              <------ DATA FOR SECTION (5006.0) ------>
              Distance      Elevation       Manning
                  0.00         287.32        0.0930
```



```
                 23.48         286.69        0.0930
                 44.41         286.64        0.0930
                 58.95         286.40        0.0930
                 73.88         284.37    0.0930 /0.0410  Main Channel
                 84.88         284.02        0.0410      Main Channel
                 87.92         283.91        0.0410      Main Channel
                 95.02         284.40    0.0410 /0.0930  Main Channel
                111.06         285.99        0.0930
                138.74         286.46        0.0930
                172.31         287.17        0.0930
                211.16         287.27        0.0930
                236.90         287.59        0.0930
                267.08         287.45        0.0930
                312.04         288.42        0.0930

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.15    284.06    .461E+03         0.1          0.24      63.72
       0.31    284.22    .190E+04         0.8          0.38      40.19
       0.46    284.37    .434E+04         2.4          0.50      30.58
       0.64    284.55    .816E+04         6.4          0.73      21.22
       0.83    284.74    .125E+05        12.1          0.89      17.25
       1.01    284.92    .175E+05        19.4          1.03      15.03
       1.20    285.11    .229E+05        28.1          1.13      13.60
       1.38    285.29    .290E+05        38.4          1.23      12.58
       1.57    285.48    .355E+05        50.1          1.30      11.82
       1.75    285.66    .427E+05        63.4          1.37      11.21
       1.94    285.85    .503E+05        78.2          1.44      10.73
       2.12    286.03    .586E+05        94.1          1.49      10.38
       2.30    286.21    .684E+05       110.8          1.50      10.30
       2.49    286.40    .804E+05       130.2          1.50      10.29
       2.67    286.58    .952E+05       150.2          1.46      10.56
       2.86    286.77    .115E+06       173.2          1.39      11.06
       3.04    286.95    .139E+06       203.8          1.36      11.36
       3.23    287.14    .166E+06       238.3          1.33      11.58
       3.41    287.32    .198E+06       269.7          1.26      12.23

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (1006)  198.85     5.21    6.25  34.85      0.59      0.64
    OUTFLOW: ID= 1 (5006)  198.85     5.04    6.50  34.85      0.58      0.63
```

```
| CALIB              |
| NASHYD    (0006) |   Area    (ha)=  26.09   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.30   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.65

    Unit Hyd Qpeak  (cms)=   1.533

    PEAK FLOW       (cms)=   0.941 (i)
    TIME TO PEAK    (hrs)=   5.500
    RUNOFF VOLUME    (mm)=  34.001
    TOTAL RAINFALL   (mm)=  88.540
    RUNOFF COEFFICIENT   =   0.384

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```



```
| ADD HYD   (2006) |
|   1 +  2 =  3    |
                          AREA    QPEAK    TPEAK     R.V.
                          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0006):    26.09   0.941     5.50    34.00
      + ID2= 2 (5006):   198.85   5.044     6.50    34.85
        ================================================
        ID = 3 (2006):   224.94   5.658     6.50    34.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB              |
| NASHYD    (0001) |   Area    (ha)= 255.18   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.60   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   1.71

    Unit Hyd Qpeak  (cms)=   5.686

    PEAK FLOW       (cms)=   5.492 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)=  36.043
    TOTAL RAINFALL   (mm)=  88.540
    RUNOFF COEFFICIENT   =   0.407

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (1008) |
|   1 +  2 =  3    |
                          AREA    QPEAK    TPEAK     R.V.
                          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0001):   255.18   5.492     7.00    36.04
      + ID2= 2 (2006):   224.94   5.658     6.50    34.75
        ================================================
        ID = 3 (1008):   480.12  10.932     6.75    35.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5008) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00

              <------ DATA FOR SECTION (5008.0) ------>
              Distance      Elevation       Manning
                  0.00         285.25        0.0930
                  5.09         285.37        0.0930
                133.83         283.19        0.0930
                146.67         282.58        0.0930
                159.56         277.24        0.0930
                181.65         275.77    0.0930 /0.0410  Main Channel
                184.90         275.43        0.0410      Main Channel
                185.21         275.45        0.0410      Main Channel
                187.80         275.63        0.0410      Main Channel
                191.31         275.97    0.0410 /0.0930  Main Channel
                209.70         278.15        0.0930
                221.15         281.88        0.0930
                261.53         283.57        0.0930
                304.31         284.15        0.0930
```



```
                337.36         284.93        0.0930
                377.51         285.01        0.0930

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.34    275.77    .187E+04         0.8          0.58      40.13
       0.85    276.28    .116E+05         8.7          1.05      22.11
       1.35    276.78    .296E+05        26.7          1.25      18.51
       1.86    277.29    .559E+05        56.0          1.39      16.65
       2.36    277.79    .880E+05        99.4          1.57      14.74
       2.87    278.30    .124E+06       155.5          1.74      13.27
       3.37    278.80    .162E+06       224.4          1.92      12.03
       3.88    279.31    .202E+06       304.6          2.09      11.06
       4.38    279.81    .244E+06       395.9          2.25      10.28
       4.89    280.32    .288E+06       498.0          2.40       9.64
       5.39    280.82    .334E+06       611.1          2.54       9.11
       5.90    281.33    .382E+06       735.0          2.67       8.66
       6.40    281.83    .432E+06       869.8          2.79       8.28
       6.91    282.34    .487E+06       982.8          2.80       8.25
       7.41    282.84    .552E+06      1089.7          2.74       8.44
       7.92    283.35    .633E+06      1183.0          2.59       8.91
       8.42    283.85    .742E+06      1270.3          2.37       9.74
       8.93    284.36    .897E+06      1446.3          2.24      10.33
       9.43    284.86    .109E+07      1711.6          2.18      10.60

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (1008)  480.12    10.93    6.75  35.44      0.91      1.07
    OUTFLOW: ID= 1 (5008)  480.12    10.71    7.00  35.44      0.90      1.06
```

```
| CALIB              |
| NASHYD    (0008) |   Area    (ha)=  39.23   Curve Number   (CN)= 70.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.70   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.70

    Unit Hyd Qpeak  (cms)=   2.153

    PEAK FLOW       (cms)=   1.278 (i)
    TIME TO PEAK    (hrs)=   5.500
    RUNOFF VOLUME    (mm)=  32.419
    TOTAL RAINFALL   (mm)=  88.540
    RUNOFF COEFFICIENT   =   0.366

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (2008) |
|   1 +  2 =  3    |
                          AREA    QPEAK    TPEAK     R.V.
                          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0008):    39.23   1.278     5.50    32.42
      + ID2= 2 (5008):   480.12  10.715     7.00    35.44
        ================================================
        ID = 3 (2008):   519.35  11.404     6.75    35.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB                |
| NASHYD    (0010) |   Area    (ha)=  32.74   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.20   # of Linear Res.(N)= 3.00
                     |   U.H. Tp(hrs)=   0.85

     Unit Hyd Qpeak  (cms)=   1.473

     PEAK FLOW       (cms)=   1.086 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  36.309
     TOTAL RAINFALL   (mm)=  88.540
     RUNOFF COEFFICIENT   =   0.410

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (1017) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
                             (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0010):    32.74   1.086     5.75    36.31
       + ID2= 2 (2008):   519.35  11.404     6.75    35.21
         ================================================
         ID = 3 (1017):   552.09  12.213     6.75    35.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5017) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5017.0) ------>

Distance	Elevation	Manning	
0.00	284.04	0.0930	
46.21	283.58	0.0930	
60.07	282.83	0.0930	
78.57	282.39	0.0930	
85.85	282.05	0.0930	
121.94	278.24	0.0930	
123.09	278.18	0.0930	
129.01	277.91	0.0930	
139.25	277.70	0.0930	
148.64	277.62	0.0930	
150.40	277.60	0.0930 /0.0410	Main Channel
153.11	277.50	0.0410	Main Channel
156.99	277.64	0.0410 /0.0930	Main Channel
169.99	278.18	0.0930	
199.99	281.62	0.0930	
209.74	282.18	0.0930	
218.36	282.39	0.0930	
234.68	282.62	0.0930	
330.59	282.90	0.0930	
341.39	283.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	277.60	.885E+03	0.1	0.24	223.44
0.39	277.89	.204E+05	2.8	0.44	123.11

0.67	278.17	.572E+05	10.5	0.59	91.21
0.96	278.46	.103E+06	23.8	0.74	72.31
1.24	278.74	.154E+06	42.1	0.88	61.07
1.53	279.03	.210E+06	65.0	1.00	53.76
1.81	279.31	.270E+06	92.7	1.11	48.56
2.10	279.60	.336E+06	125.3	1.21	44.64
2.39	279.89	.406E+06	162.7	1.30	41.55
2.67	280.17	.480E+06	205.2	1.38	39.03
2.96	280.46	.560E+06	252.8	1.46	36.93
3.24	280.74	.645E+06	305.8	1.53	35.14
3.53	281.03	.734E+06	364.2	1.60	33.59
3.82	281.32	.828E+06	428.2	1.67	32.23
4.10	281.60	.927E+06	497.9	1.73	31.02
4.39	281.89	.103E+07	569.1	1.78	30.21
4.67	282.17	.114E+07	642.6	1.81	29.66
4.96	282.46	.127E+07	698.4	1.78	30.27
5.24	282.74	.143E+07	715.3	1.62	33.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1017)	552.09	12.21	6.75	35.27	0.71	0.61
OUTFLOW: ID= 1 (5017)	552.09	9.25	8.00	35.27	0.63	0.56

```
| CALIB                |
| NASHYD    (0017) |   Area    (ha)= 148.68   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.50   # of Linear Res.(N)= 3.00
                     |   U.H. Tp(hrs)=   1.11

     Unit Hyd Qpeak  (cms)=   5.125

     PEAK FLOW       (cms)=   3.810 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  32.991
     TOTAL RAINFALL   (mm)=  88.540
     RUNOFF COEFFICIENT   =   0.373

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (2017) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
                             (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0017):   148.68   3.810     6.25    32.99
       + ID2= 2 (5017):   552.09   9.253     8.00    35.27
         ================================================
         ID = 3 (2017):   700.77  11.457     7.75    34.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD   (1033) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
                             (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2013):   201.67   4.430     6.75    36.56
       + ID2= 2 (2017):   700.77  11.457     7.75    34.79
```



```
         ================================================
         ID = 3 (1033):   902.44  15.371     7.50    35.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5033) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5033.0) ------>

Distance	Elevation	Manning	
0.00	262.20	0.0930	
7.96	260.93	0.0930	
28.15	259.22	0.0930	
39.76	257.39	0.0930	
55.06	257.09	0.0930	
63.73	256.73	0.0930	
75.56	256.77	0.0930	
86.35	257.05	0.0930 /0.0410	Main Channel
88.50	256.67	0.0410	Main Channel
89.43	256.54	0.0410	Main Channel
90.89	256.33	0.0410	Main Channel
92.64	256.68	0.0410	Main Channel
94.27	257.00	0.0410 /0.0930	Main Channel
113.17	257.17	0.0930	
126.05	259.64	0.0930	
159.89	261.07	0.0930	
170.84	262.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	256.55	.142E+03	0.1	0.35	22.74
0.45	256.78	.731E+03	0.7	0.45	17.70
0.67	257.00	.357E+04	3.0	0.40	19.98
0.98	257.31	.121E+05	12.3	0.49	16.35
1.30	257.63	.234E+05	30.9	0.63	12.60
1.61	257.94	.352E+05	57.0	0.77	10.29
1.93	258.26	.476E+05	89.8	0.90	8.85
2.24	258.57	.606E+05	128.7	1.01	7.85
2.56	258.89	.741E+05	173.7	1.12	7.11
2.87	259.20	.882E+05	224.6	1.22	6.54
3.18	259.51	.103E+06	279.2	1.30	6.14
3.50	259.83	.119E+06	335.2	1.35	5.89
3.81	260.14	.136E+06	396.3	1.39	5.71
4.13	260.46	.155E+06	466.0	1.44	5.54
4.44	260.77	.175E+06	544.3	1.48	5.37
4.76	261.09	.198E+06	634.2	1.53	5.19
5.07	261.40	.221E+06	740.3	1.60	4.98
5.39	261.72	.245E+06	854.6	1.66	4.78
5.70	262.03	.270E+06	977.2	1.73	4.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1033)	902.44	15.37	7.50	35.18	1.04	0.51
OUTFLOW: ID= 1 (5033)	902.44	15.26	7.75	35.18	1.03	0.50

```
| CALIB            |
```



```
| NASHYD    (0033) |   Area    (ha)=  14.99   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
                     |   U.H. Tp(hrs)=   0.51

     Unit Hyd Qpeak  (cms)=   1.118

     PEAK FLOW       (cms)=   0.622 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  34.803
     TOTAL RAINFALL   (mm)=  88.540
     RUNOFF COEFFICIENT   =   0.393

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (2033) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
                             (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0033):    14.99   0.622     5.50    34.80
       + ID2= 2 (5033):   902.44  15.265     7.75    35.18
         ================================================
         ID = 3 (2033):   917.43  15.409     7.75    35.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CALIB            |
| NASHYD    (0034) |   Area    (ha)=  66.29   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.90   # of Linear Res.(N)= 3.00
                     |   U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   1.917

     PEAK FLOW       (cms)=   1.760 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  37.552
     TOTAL RAINFALL   (mm)=  88.540
     RUNOFF COEFFICIENT   =   0.424

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (1037) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
                             (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0034):    66.29   1.760     6.50    37.55
       + ID2= 2 (2033):   917.43  15.409     7.75    35.18
         ================================================
         ID = 3 (1037):   983.72  16.792     7.50    35.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN (5037) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5037.0) ------>

Distance	Elevation	Manning	
0.00	260.96	0.0930	
3.52	260.75	0.0930	
32.87	255.52	0.0930	
40.76	254.86	0.0930 /0.0410	Main Channel
42.91	253.65	0.0410	Main Channel
48.59	254.84	0.0410 /0.0930	Main Channel
80.76	254.83	0.0930	
96.56	255.53	0.0930	
112.29	261.81	0.0930	
119.25	261.97	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.95	.102E+03	0.1	0.40	14.86
0.60	254.25	.410E+03	0.7	0.63	9.36
0.89	254.54	.922E+03	2.2	0.82	7.14
1.19	254.84	.170E+04	4.6	0.97	6.10
1.60	255.25	.848E+04	16.3	0.68	8.67
2.01	255.66	.172E+05	38.2	0.78	7.50
2.41	256.06	.268E+05	70.6	0.93	6.32
2.82	256.47	.368E+05	111.6	1.07	5.50
3.23	256.88	.474E+05	160.7	1.20	4.91
3.64	257.29	.584E+05	217.8	1.32	4.47
4.05	257.70	.699E+05	282.6	1.43	4.12
4.45	258.10	.818E+05	355.1	1.53	3.84
4.86	258.51	.943E+05	435.2	1.63	3.61
5.27	258.92	.107E+06	522.9	1.72	3.42
5.68	259.33	.121E+06	618.3	1.81	3.25
6.09	259.74	.134E+06	721.4	1.90	3.11
6.49	260.14	.149E+06	832.2	1.98	2.98
6.90	260.55	.164E+06	950.8	2.05	2.87
7.31	260.96	.179E+06	1070.9	2.11	2.79

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1037)	983.72	16.79	7.50	35.34	1.61	0.68
OUTFLOW: ID= 1 (5037)	983.72	16.73	7.75	35.34	1.60	0.68

CALIB					
NASHYD (0037)	Area (ha)= 10.16	Curve Number (CN)= 75.0			
ID= 1 DT=15.0 min	Ia (mm)= 8.50	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.36				

Unit Hyd Qpeak (cms)= 1.090

PEAK FLOW (cms)= 0.566 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 38.354
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.433

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2037)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0037):	10.16	0.566	5.25	38.35
+ ID2= 2 (5037):	983.72	16.734	7.75	35.34
ID = 3 (2037):	993.88	16.821	7.75	35.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1049)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2037):	993.88	16.821	7.75	35.37
+ ID2= 2 (2043):	1312.93	26.418	7.25	35.86
ID = 3 (1049):	2306.81	42.842	7.50	35.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5049)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5049.0) ------>

Distance	Elevation	Manning	
0.00	263.74	0.0930	
50.53	263.28	0.0930	
63.03	262.47	0.0930	
87.97	255.04	0.0930	
98.77	253.73	0.0930 /0.0410	Main Channel
108.22	253.09	0.0410	Main Channel
111.56	253.07	0.0410	Main Channel
112.80	253.14	0.0410	Main Channel
114.25	253.67	0.0410 /0.0930	Main Channel
116.67	254.81	0.0930	
143.69	255.06	0.0930	
162.94	255.55	0.0930	
197.87	263.69	0.0930	
207.51	264.45	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.37	.221E+04	0.5	0.27	69.99
0.60	253.67	.629E+04	2.2	0.40	47.02
1.19	254.26	.184E+05	11.1	0.68	27.66
1.78	254.85	.348E+05	25.8	0.84	22.46
2.38	255.45	.732E+05	49.7	0.77	24.52
2.97	256.04	.125E+06	87.5	0.79	23.92
3.56	256.63	.181E+06	136.9	0.86	22.04
4.15	257.22	.240E+06	197.0	0.93	20.28
4.75	257.82	.301E+06	267.3	1.01	18.79
5.34	258.41	.366E+06	347.6	1.08	17.55
5.93	259.00	.434E+06	437.8	1.15	16.52
6.52	259.59	.505E+06	537.8	1.21	15.64
7.12	260.19	.579E+06	647.6	1.27	14.89
7.71	260.78	.655E+06	767.3	1.33	14.24
8.30	261.37	.735E+06	896.9	1.38	13.66
8.89	261.96	.818E+06	1036.6	1.44	13.16

9.49	262.56	.904E+06	1183.2	1.48	12.74
10.08	263.15	.997E+06	1325.9	1.51	12.53
10.67	263.74	.111E+07	1426.8	1.46	12.94

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1049)	2306.81	42.84	7.50	35.65	2.21	0.79
OUTFLOW: ID= 1 (5049)	2306.81	40.93	8.00	35.65	2.16	0.80

CALIB					
NASHYD (0049)	Area (ha)= 30.46	Curve Number (CN)= 74.0			
ID= 1 DT=15.0 min	Ia (mm)= 9.10	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.60				

Unit Hyd Qpeak (cms)= 1.949

PEAK FLOW (cms)= 1.281 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 37.339
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.422

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2049)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0049):	30.46	1.281	5.50	37.34
+ ID2= 2 (5049):	2306.81	40.928	8.00	35.65
ID = 3 (2049):	2337.27	41.219	8.00	35.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1039)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2049):	2337.27	41.219	8.00	35.67
+ ID2= 2 (2063):	2379.05	32.977	9.00	34.69
ID = 3 (1039):	4716.32	71.430	8.50	35.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5039)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5039.0) ------>

Distance	Elevation	Manning
0.00	260.00	0.0930
105.82	257.72	0.0930

137.40	257.00	0.0930
163.69	256.37	0.0930
237.19	256.95	0.0930
283.24	256.00	0.0930
335.42	256.00	0.0930
341.91	256.25	0.0930
370.46	254.68	0.0930
405.46	252.00	0.0930
421.66	251.26	0.0930 /0.0410 Main Channel
425.14	251.00	0.0410 Main Channel
430.43	250.00	0.0410 Main Channel
434.15	250.00	0.0410 Main Channel
436.43	250.89	0.0410 /0.0930 Main Channel
443.70	251.29	0.0930
472.16	252.35	0.0930
485.36	252.50	0.0930
501.02	253.82	0.0930
541.72	263.04	0.0930

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	250.44	.417E+04	0.9	0.39	73.75
0.89	250.89	.110E+05	3.6	0.57	50.45
1.43	251.43	.282E+05	10.5	0.64	44.71
1.96	251.96	.672E+05	25.6	0.65	43.77
2.50	252.50	.129E+06	49.3	0.65	43.75
3.03	253.03	.215E+06	87.2	0.70	41.04
3.57	253.57	.313E+06	137.1	0.75	38.00
4.11	254.11	.422E+06	200.2	0.81	35.13
4.64	254.64	.541E+06	276.8	0.88	32.56
5.18	255.18	.669E+06	364.3	0.93	30.60
5.71	255.71	.808E+06	465.2	0.99	28.96
6.25	256.25	.985E+06	546.0	0.95	30.06
6.78	256.78	.124E+07	671.8	0.93	30.86
7.32	257.32	.159E+07	859.8	0.93	30.80
7.86	257.86	.196E+07	1093.1	0.96	29.92
8.39	258.39	.236E+07	1360.3	0.99	28.92
8.93	258.93	.278E+07	1662.5	1.02	27.90
9.46	259.46	.323E+07	2000.4	1.06	26.92
10.00	260.00	.370E+07	2374.8	1.10	25.99

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1039)	4716.32	71.43	8.50	35.17	2.81	0.68
OUTFLOW: ID= 1 (5039)	4716.32	67.33	9.00	35.17	2.75	0.67

CALIB					
NASHYD (0039)	Area (ha)= 81.93	Curve Number (CN)= 71.0			
ID= 1 DT=15.0 min	Ia (mm)= 10.20	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.75				

Unit Hyd Qpeak (cms)= 4.145

PEAK FLOW (cms)= 2.678 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 33.678
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.380

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2039)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0039):	81.93	2.678	5.75	33.68
	+ ID2= 2 (5039):	4716.32	67.334	9.00	35.17
	ID = 3 (2039):	4798.25	67.818	9.00	35.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0454)	Area (ha)=	15.15	
ID= 1 DT=15.0 min	Total Imp(%)=	55.00	Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.33	6.82
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	317.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	47.22
over (min)		15.00	15.00
Storage Coeff. (min)=		1.80 (ii)	9.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.09

		TOTALS
PEAK FLOW	(cms)=	1.623 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	76.24
TOTAL RAINFALL	(mm)=	76.24
RUNOFF COEFFICIENT	=	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9119)					
Inlet Cap.=2.458					
#of Inlets= 1					
Total(cms)= 2.5		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	15.15	1.62	5.25	76.24
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	15.15	1.62	5.25	76.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6119)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.7140	0.1930
	0.0220	0.0770	1.0810	0.2120
	0.0300	0.1400	1.4980	0.2320
	0.1630	0.1580	2.4580	0.2560
	0.4020	0.1760	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9119)	15.150	1.623	5.25	76.24
OUTFLOW: ID= 1 (6119)	15.150	1.616	5.25	76.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.55
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.2353

ADD HYD (4119)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9119 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
	ID1= 1 (6119):	15.15	1.616	5.25	76.18
	+ ID2= 2 (9119):	0.00	0.000	0.00	0.00
	ID = 3 (4119):	15.15	1.616	5.25	76.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3039)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2039):	4798.25	67.818	9.00	35.15
	+ ID2= 2 (4119):	15.15	1.616	5.25	76.18
	ID = 3 (3039):	4813.40	67.907	9.00	35.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0029)	Area (ha)=	90.39	Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)=	8.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.87	

Unit Hyd Qpeak (cms)= 3.955

PEAK FLOW	(cms)=	2.628 (i)
TIME TO PEAK	(hrs)=	5.750
RUNOFF VOLUME	(mm)=	32.786
TOTAL RAINFALL	(mm)=	88.540

RUNOFF COEFFICIENT = 0.370

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1038)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0029):	90.39	2.628	5.75	32.79
	+ ID2= 2 (3039):	4813.40	67.907	9.00	35.28
	ID = 3 (1038):	4903.79	68.499	9.00	35.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5038)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5038.0) ------>

Distance	Elevation	Manning	
0.00	264.96	0.0930	
17.37	263.50	0.0930	
57.10	253.15	0.0930	
82.21	251.50	0.0930	
173.97	249.50	0.0930	
230.01	246.00	0.0930	
254.43	246.00	0.0930	
281.97	245.79	0.0930	
286.56	245.45	0.0930	
287.80	245.00	0.0930 /0.0410	Main Channel
288.00	244.50	0.0410	Main Channel
292.35	244.50	0.0410	Main Channel
292.94	245.00	0.0410 /0.0930	Main Channel
315.83	257.40	0.0930	
330.45	261.99	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	245.00	.228E+04	1.3	0.53	30.29
1.39	245.89	.101E+05	8.0	0.77	20.93
2.29	246.79	.679E+05	38.7	0.55	29.25
3.18	247.68	.143E+06	101.6	0.69	23.38
4.08	248.58	.231E+06	194.8	0.81	19.76
4.97	249.47	.333E+06	319.4	0.92	17.38
5.87	250.37	.460E+06	449.5	0.94	17.04
6.76	251.26	.623E+06	634.5	0.98	16.36
7.65	252.15	.817E+06	913.9	1.08	14.89
8.55	253.05	.102E+07	1260.8	1.18	13.54
9.44	253.94	.124E+07	1690.1	1.31	12.24
10.34	254.84	.146E+07	2176.8	1.43	11.20
11.23	255.73	.169E+07	2715.7	1.55	10.37
12.12	256.62	.192E+07	3305.4	1.66	9.68
13.02	257.52	.215E+07	3944.1	1.76	9.11
13.91	258.41	.239E+07	4628.0	1.86	8.62
14.81	259.31	.264E+07	5361.6	1.95	8.21
15.70	260.20	.289E+07	6144.6	2.04	7.84
16.60	261.10	.315E+07	6976.6	2.13	7.52

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1038)		4903.79	68.50	9.00	35.23	2.71	0.61
OUTFLOW: ID= 1 (5038)		4903.79	66.96	9.25	35.23	2.69	0.60

CALIB			
NASHYD (0038)	Area (ha)=	18.88	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.42	

Unit Hyd Qpeak (cms)= 1.701

PEAK FLOW	(cms)=	0.905 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	36.064
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.407

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2038)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0038):	18.88	0.905	5.25	36.06
	+ ID2= 2 (5038):	4903.79	66.965	9.25	35.23
	ID = 3 (2038):	4922.67	67.035	9.25	35.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0023)	Area (ha)=	185.77	Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)=	8.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.25	

Unit Hyd Qpeak (cms)= 5.685

PEAK FLOW	(cms)=	5.268 (i)
TIME TO PEAK	(hrs)=	6.250
RUNOFF VOLUME	(mm)=	38.818
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.438

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1051)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0023):	185.77	5.268	6.25	38.82
	+ ID2= 2 (2038):	4922.67	67.035	9.25	35.23

ID = 3 (1051): 5108.44 68.841 9.25 35.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0449)	Area (ha)=	59.38	
ID= 1 DT=15.0 min	Total Imp(%)=	46.00	Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	27.31	32.07
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	629.18	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	41.60
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW (cms)=	2.42	3.55	5.968 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	61.89	71.13
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.70	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9118)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		59.38	5.97	5.25	71.13
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		59.38	5.97	5.25	71.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6118)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	17.0000	0.4500
	1.1800	0.3000	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9118)	59.380	5.968	5.25	71.13

OUTFLOW: ID= 1 (6118) 59.380 5.993 5.25 71.12

PEAK FLOW REDUCTION [Qout/Qin](%)=100.41
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.3467

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (4118)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
*** W A R N I N G :	HYDROGRAPH 9118 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6118):	59.38	5.993	5.25	71.12	
+ ID2= 2 (9118):	0.00	0.000	0.00	0.00	
ID = 3 (4118):	59.38	5.993	5.25	71.12	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3051)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1051):	5108.44	68.841	9.25	35.36
+ ID2= 2 (4118):	59.38	5.993	5.25	71.12
ID = 3 (3051):	5167.82	69.253	9.25	35.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5051)			
IN= 2---> OUT= 1	Routing time step (min)'= 15.00		
	<------ DATA FOR SECTION (5051.0) ------>		
	Distance	Elevation	Manning
	0.00	254.99	0.0930
	45.56	252.50	0.0930
	55.02	252.50	0.0930
	73.97	254.29	0.0930
	227.89	251.34	0.0930
	260.10	248.27	0.0930
	305.08	247.61	0.0930
	342.61	243.00	0.0930
	370.31	242.00	0.0930
	383.77	242.50	0.0930
	407.52	242.50	0.0930
	427.35	242.00	0.0930
	428.40	241.76	0.0930 /0.0410 Main Channel
	429.92	241.00	0.0410 Main Channel
	437.00	241.00	0.0410 Main Channel
	437.12	241.50	0.0410 /0.0930 Main Channel
	439.50	242.50	0.0930
	471.55	242.50	0.0930
	491.51	244.88	0.0930

515.66 256.99 0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	241.50	.856E+04	2.7	0.70	53.03
1.21	242.21	.290E+05	13.1	1.01	36.81
1.92	242.92	.174E+06	49.5	0.64	58.53
2.63	243.63	.393E+06	138.4	0.79	47.30
3.34	244.34	.630E+06	269.1	0.96	39.04
4.05	245.05	.886E+06	439.5	1.11	33.60
4.76	245.76	.116E+07	651.0	1.26	29.59
5.47	246.47	.144E+07	898.5	1.40	26.65
6.18	247.18	.173E+07	1181.0	1.53	24.40
6.89	247.89	.204E+07	1436.7	1.58	23.65
7.60	248.60	.241E+07	1738.7	1.62	23.08
8.31	249.31	.280E+07	2162.7	1.73	21.58
9.02	250.02	.321E+07	2629.6	1.84	20.32
9.73	250.73	.363E+07	3139.3	1.94	19.25
10.44	251.44	.406E+07	3663.4	2.02	18.48
11.15	252.15	.454E+07	4085.1	2.01	18.52
11.86	252.86	.509E+07	4492.2	1.98	18.89
12.57	253.57	.574E+07	5031.6	1.96	19.02
13.28	254.28	.648E+07	5692.0	1.97	18.99

	AREA	QPEAK	TPEAK	R.V.	<---- hydrograph ----> MAX DEPTH	<-pipe / channel-> MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3051)	5167.82	69.25	9.25	35.78	2.08	0.67
OUTFLOW: ID= 1 (5051)	5167.82	64.28	10.25	35.78	2.04	0.66

CALIB			
NASHYD (0051)	Area (ha)=	73.29	Curve Number (CN)= 76.0
ID= 1 DT=15.0 min	Ia (mm)=	7.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.70	

Unit Hyd Qpeak (cms)= 3.971

PEAK FLOW (cms)= 3.036 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 40.462
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.457

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2051)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0051):	73.29	3.036	5.50	40.46	
+ ID2= 2 (5051):	5167.82	64.281	10.25	35.78	
ID = 3 (2051):	5241.11	64.485	10.25	35.84	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0067)	Area (ha)=	23.75	
ID= 1 DT=15.0 min	Total Imp(%)=	23.00	Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.46	18.29
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	397.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	29.80
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	12.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08

		TOTALS
PEAK FLOW (cms)=	0.56	1.45	2.013 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	48.89	57.01
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.55	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2467)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0067):	23.75	2.013	5.25	57.01	
+ ID2= 2 (2051):	5241.11	64.485	10.25	35.84	
ID = 3 (2467):	5264.86	64.535	10.25	35.94	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0467)	Area (ha)=	22.32	
ID= 1 DT=15.0 min	Total Imp(%)=	47.00	Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.49	11.83
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	385.75	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	40.14
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	11.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08

				TOTALS
PEAK FLOW	(cms)=	0.98	1.29	2.273 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	61.30	71.53
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.69	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9268)				
Inlet Cap.=0.026				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	22.32	2.27	5.25	71.53
MAJOR SYS.(ID= 2):	20.90	2.25	5.25	71.53
MINOR SYS.(ID= 3):	1.42	0.03	2.50	71.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6268)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0260	0.3400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9268)	1.418	0.026	2.50	71.53
OUTFLOW: ID= 1 (6268)	1.418	0.007	12.50	69.21

PEAK FLOW REDUCTION [Qout/Qin](%)= 25.59
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.0871

ADD HYD (4268)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6268):	1.42	0.007	12.50	69.21
+ ID2= 2 (9268):	20.90	2.247	5.25	71.53
ID = 3 (4268):	22.32	2.250	5.25	71.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1069)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2467):	5264.86	64.535	10.25	35.94
+ ID2= 2 (4268):	22.32	2.250	5.25	71.39
ID = 3 (1069):	5287.18	64.567	10.25	36.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5069)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5069.0) ------>

Distance	Elevation	Manning	
0.00	249.35	0.0930	
17.46	245.50	0.0930	
49.96	240.00	0.0930	
64.40	240.00	0.0930	
85.68	240.46	0.0930	
104.52	238.50	0.0930	
119.89	237.61	0.0930	
150.03	237.50	0.0930	
170.81	238.00	0.0930	
198.79	238.00	0.0930	
200.49	236.53	0.0930 /0.0410	Main Channel
201.16	235.70	0.0410	Main Channel
211.80	235.70	0.0410	Main Channel
212.04	236.00	0.0410 /0.0930	Main Channel
216.53	237.00	0.0930	
222.34	237.50	0.0930	
257.68	237.50	0.0930	
279.63	243.00	0.0930	
328.63	245.49	0.0930	
342.46	247.54	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	236.00	.100E+05	1.7	0.51	100.52
0.91	236.61	.337E+05	10.8	0.98	52.06
1.51	237.21	.641E+05	26.6	1.27	40.21
2.12	237.82	.173E+06	53.5	0.94	54.05
2.73	238.43	.434E+06	117.6	0.83	61.46
3.34	239.04	.732E+06	221.2	0.93	55.16
3.94	239.64	.105E+07	356.8	1.05	48.84
4.55	240.25	.139E+07	499.3	1.10	46.42
5.16	240.86	.180E+07	702.2	1.19	42.78
5.77	241.47	.223E+07	951.9	1.31	39.02
6.37	242.07	.267E+07	1235.3	1.42	35.97
6.98	242.68	.312E+07	1551.4	1.53	33.47
7.59	243.29	.358E+07	1880.6	1.61	31.70
8.20	243.90	.407E+07	2227.4	1.68	30.42
8.80	244.50	.458E+07	2614.2	1.75	29.22
9.41	245.11	.513E+07	3040.8	1.82	28.11
10.02	245.72	.570E+07	3522.2	1.89	26.99
10.63	246.33	.629E+07	4065.9	1.98	25.80
11.23	246.93	.690E+07	4645.2	2.06	24.74

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

INFLOW : ID= 2 (1069)	5287.18	64.57	10.25	36.09	2.23	0.92
OUTFLOW: ID= 1 (5069)	5287.18	60.28	11.25	36.09	2.18	0.93

CALIB			
STANDHYD (0069)	Area (ha)= 155.42		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 25.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	46.63	108.79	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.10	
Length (m)=	1017.91	40.00	
Mannings n =	0.013	0.250	

			TOTALS
Max.Eff.Inten.(mm/hr)=	40.71	33.82	
over (min)	15.00	15.00	
Storage Coeff. (min)=	3.00 (ii)	16.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.07	
PEAK FLOW (cms)=	4.39	9.53	13.926 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	53.93	62.33
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.61	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2069)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0069):	155.42	13.926	5.25	62.33
+ ID2= 2 (5069):	5287.18	60.277	11.25	36.09
ID = 3 (2069):	5442.60	60.623	11.25	36.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0471)	Area (ha)= 3.35		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 30.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	1.27	2.08	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	6.40	
Length (m)=	149.44	40.00	
Mannings n =	0.013	0.250	

			TOTALS
Max.Eff.Inten.(mm/hr)=	40.71	39.94	
over (min)	15.00	15.00	
Storage Coeff. (min)=	0.60 (ii)	4.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.11	
PEAK FLOW (cms)=	0.11	0.23	0.344 (iii)
TIME TO PEAK (hrs)=	4.50	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	62.46	69.98
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.71	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9158)				
Inlet Cap.=1.825				
#of Inlets= 1				
Total(cms)= 1.8	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.35	0.34	5.25	69.98
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.35	0.34	5.25	69.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6158)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0950	0.1100
	0.0750	0.0340	1.8250	0.1650

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9158)	3.350	0.344	5.25	69.98
OUTFLOW: ID= 1 (6158)	3.350	0.102	5.75	69.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.65
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.1104

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9158 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6158):	3.35	0.102	5.75	69.95
+ ID2= 2 (9158):	0.00	0.000	0.00	0.00

ID = 3 (****):	3.35	0.102	5.75	69.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3069)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2069):	5442.60	60.623	11.25	36.84
+ ID2= 2 (****):	3.35	0.102	5.75	69.95
ID = 3 (3069):	5445.95	60.657	11.25	36.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0078)	Area (ha)= 127.54		
ID= 1 DT=15.0 min	Total Imp(%)= 21.00	Dir. Conn.(%)= 17.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.78	100.76
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	922.10	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.11
over (min)		15.00	30.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	2.45	7.47	9.922 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	48.19	54.88
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.54	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (0475)	Area (ha)= 62.64		
ID= 1 DT=15.0 min	Total Imp(%)= 54.00	Dir. Conn.(%)= 44.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.83	28.81
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30

Length (m)=	646.22	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	45.12	
over (min)	15.00	15.00	
Storage Coeff. (min)=	3.00 (ii)	16.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.07	

				TOTALS
PEAK FLOW	(cms)=	3.12	3.47	6.582 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	67.03	76.05
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.76	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2475)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0078):	127.54	9.922	5.25	54.88
+ ID2= 2 (0475):	62.64	6.582	5.25	76.05
ID = 3 (2475):	190.18	16.504	5.25	61.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9078)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)= 14.6	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	190.18	16.50	5.25	61.85
MAJOR SYS.(ID= 2):	3.79	1.91	5.25	61.85
MINOR SYS.(ID= 3):	186.39	14.59	5.00	61.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0015)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3069):	5445.95	60.657	11.25	36.86
+ ID2= 2 (9078):	186.39	14.590	5.00	61.85
ID = 3 (0015):	5632.33	61.074	11.25	37.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ID = 3 (****):	3.35	0.102	5.75	69.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0066)	Area (ha)= 130.40		
ID= 1 DT=15.0 min	Total Imp(%)= 48.00	Dir. Conn.(%)= 39.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.59	67.81
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.60
Length	(m)=	932.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	41.08
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

				TOTALS
PEAK FLOW	(cms)=	5.75	7.35	13.104 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	61.69	71.77
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.70	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1101)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0015):	5632.33	61.074	11.25	37.68
+ ID2= 2 (0066):	130.40	13.104	5.25	71.77
ID = 3 (1101):	5762.73	61.382	11.25	38.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5101)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5101.0) ------>

Distance	Elevation	Manning
0.00	241.94	0.0930
8.16	239.50	0.0930
22.34	239.00	0.0930
28.16	235.50	0.0930
31.19	235.00	0.0930
45.37	235.00	0.0930
66.87	235.30	0.0930
92.82	235.00	0.0930
128.48	235.00	0.0930
131.88	234.50	0.0930

133.09	234.00	0.0930 /0.0410	Main Channel
133.35	233.80	0.0410	Main Channel
143.76	233.80	0.0410	Main Channel
143.82	234.00	0.0410 /0.0930	Main Channel
146.15	235.00	0.0930	
163.07	235.45	0.0930	
172.90	235.85	0.0930	
179.77	238.00	0.0930	
182.39	238.10	0.0930	
202.70	242.63	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	234.00	.288E+04	0.8	0.38	59.38
0.62	234.42	.955E+04	5.5	0.78	29.17
1.04	234.84	.177E+05	13.2	1.02	22.25
1.45	235.25	.536E+05	26.9	0.68	33.23
1.87	235.67	.130E+06	60.9	0.64	35.54
2.29	236.09	.212E+06	113.1	0.73	31.26
2.71	236.51	.296E+06	180.8	0.83	27.30
3.13	236.93	.381E+06	262.0	0.94	24.24
3.54	237.34	.467E+06	355.8	1.04	21.89
3.96	237.76	.555E+06	461.5	1.13	20.04
4.38	238.18	.644E+06	575.5	1.22	18.64
4.80	238.60	.735E+06	703.6	1.30	17.41
5.21	239.01	.828E+06	841.5	1.38	16.39
5.63	239.43	.925E+06	958.9	1.41	16.08
6.05	239.85	.103E+07	1117.1	1.48	15.34
6.47	240.27	.113E+07	1291.9	1.55	14.63
6.89	240.69	.124E+07	1477.9	1.62	13.99
7.30	241.10	.135E+07	1675.0	1.69	13.43
7.72	241.52	.146E+07	1883.1	1.76	12.93

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1101)	5762.73	61.38	11.25	38.45	1.88	0.64
OUTFLOW: ID= 1 (5101)	5762.73	59.92	12.00	38.45	1.85	0.64

CALIB / STANDHYD (0101)	Area (ha)= 133.45		
ID= 1 DT=15.0 min	Total Imp(%)= 47.00	Dir. Conn.(%)= 39.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.72	70.73
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	943.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	40.14
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

				TOTALS
PEAK FLOW	(cms)=	5.89	7.39	13.275 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	61.30	71.53

```
TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
RUNOFF COEFFICIENT   =       0.99         0.69           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  87.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2101) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0101):   133.45  13.275    5.25    71.53
      + ID2= 2 (5101):  5762.73  59.917   12.00    38.45
        ==============================================
        ID = 3 (2101):  5896.19  60.232   12.00    39.20

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5095) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
             <------ DATA FOR SECTION (5095.0) ------>
             Distance      Elevation      Manning
                0.00         236.91        0.0930
               17.88         233.09        0.0930
               29.64         231.89        0.0930
               36.51         231.50        0.0930
               36.72         231.50        0.0930
               39.68         230.95        0.0930
               42.58         230.50    0.0930 /0.0410  Main Channel
               42.67         229.70        0.0410      Main Channel
               42.81         229.70        0.0410      Main Channel
               49.66         229.70        0.0410      Main Channel
               49.91         230.50    0.0410 /0.0930  Main Channel
               53.95         231.00        0.0930
              111.16         232.00        0.0930
              167.36         232.00        0.0930
              183.43         233.00        0.0930
              203.76         237.50        0.0930
              211.96         238.12        0.0930

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.27   229.97    .137E+04       1.1         0.56       21.49
      0.53   230.23    .275E+04       3.3         0.86       14.11
      0.80   230.50    .416E+04       6.2         1.08       11.19
      1.20   230.90    .714E+04      12.6         1.28        9.45
      1.60   231.30    .134E+05      21.9         1.19       10.18
      2.00   231.70    .270E+05      37.2         1.00       12.08
      2.40   232.10    .530E+05      59.5         0.82       14.86
      2.80   232.50    .957E+05     110.2         0.84       14.47
      3.20   232.90    .141E+06     179.2         0.92       13.15
      3.60   233.30    .190E+06     268.0         1.03       11.79
      4.01   233.71    .239E+06     374.4         1.14       10.64
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      4.41   234.11    .290E+06     496.3         1.25        9.72
      4.81   234.51    .341E+06     633.1         1.35        8.98
      5.21   234.91    .394E+06     784.4         1.45        8.37
      5.61   235.31    .447E+06     949.8         1.54        7.85
      6.01   235.71    .502E+06    1129.0         1.63        7.41
      6.41   236.11    .558E+06    1322.0         1.72        7.04
      6.81   236.51    .615E+06    1528.3         1.81        6.71
      7.21   236.91    .673E+06    1748.1         1.89        6.42

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)     (m)      (m/s)
    INFLOW : ID= 2 (2101) 5896.19    60.23   12.00  39.20      2.41      0.82
    OUTFLOW: ID= 1 (5095) 5896.19    59.89   12.25  39.20      2.41      0.82


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--------------------
| CALIB            |
| STANDHYD  (0095) |   Area    (ha)=  84.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.02        45.80
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     751.98        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        40.75
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       3.00 (ii)   15.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.64         4.96      8.602 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      87.54        62.79      72.19
     TOTAL RAINFALL   (mm)=      88.54        88.54      88.54
     RUNOFF COEFFICIENT   =       0.99         0.71       0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  88.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2095) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0095):    84.82   8.602     5.25    72.19
      + ID2= 2 (5095):  5896.19  59.887    12.25    39.20
        ==============================================
        ID = 3 (2095):  5981.00  60.088    12.25    39.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0688) |   Area    (ha)=  43.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  39.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.23        24.47
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     539.75        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        36.78
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       2.40 (ii)   15.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.93         2.38       4.311 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25       5.25
     RUNOFF VOLUME    (mm)=      87.54        58.64      69.91
     TOTAL RAINFALL   (mm)=      88.54        88.54      88.54
     RUNOFF COEFFICIENT   =       0.99         0.66       0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  86.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2688) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0688):    43.70   4.311     5.25    69.91
      + ID2= 2 (9078):     3.79   1.914     5.25    61.85
        ==============================================
        ID = 3 (2688):    47.49   6.225     5.25    69.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0476) |   Area    (ha)=  22.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  76.00   Dir. Conn.(%)=  76.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.25         5.45
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.20
     Length            (m)=     389.02        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        36.56
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       1.80 (ii)   12.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.11         0.08
```



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                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.95         0.54       2.493 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25       5.25
     RUNOFF VOLUME    (mm)=      87.54        65.17      82.17
     TOTAL RAINFALL   (mm)=      88.54        88.54      88.54
     RUNOFF COEFFICIENT   =       0.99         0.74       0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  91.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9331) |
| Inlet Cap.=5.900 |
| #of Inlets=    1 |
| Total(cms)=  5.9 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  22.70      2.49      5.25   82.17
     ==============================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  22.70      2.49      5.25   82.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6331) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  1.2500      0.7550
                          0.0400     0.4210   |  1.6700      0.8120
                          0.0800     0.4760   |  2.3800      0.8680
                          0.1700     0.5310   |  3.3600      0.9250
                          0.4100     0.5870   |  4.5400      0.9820
                          0.6500     0.6430   |  5.9000      1.0400
                          0.9500     0.6990   |  0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9331)     22.700      2.493      5.25      82.17
    OUTFLOW: ID= 1 (6331)     22.700      2.101      5.25      82.05

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 84.30
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8636

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9331 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6331):    22.70   2.101     5.25    82.05
      + ID2= 2 (9331):     0.00   0.000     0.00     0.00
```

ID = 3 (****):	22.70	2.101	5.25	82.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0689)	Area (ha)= 4.42
ID= 1 DT=15.0 min	Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	1.02	3.40	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.70	
Length (m)=	171.66	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	27.40	
over (min)	15.00	15.00	
Storage Coeff. (min)=	1.20 (ii)	7.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.10	
			TOTALS
PEAK FLOW (cms)=	0.11	0.26	0.371 (iii)
TIME TO PEAK (hrs)=	4.75	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	45.76	55.37
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.52	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2689)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0689):	4.42	0.371	5.25	55.37
+	ID2= 2 (****):	22.70	2.101	5.25	82.05
	ID = 3 (2689):	27.12	2.472	5.25	77.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1113)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2688):	47.49	6.225	5.25	69.27
+	ID2= 2 (2689):	27.12	2.472	5.25	77.71
	ID = 3 (1113):	74.61	8.697	5.25	72.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5113)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5113.0) ------>

Distance	Elevation	Manning	
0.00	244.57	0.0930	
317.65	242.05	0.0930	
348.79	241.03	0.0930	
378.18	238.00	0.0930	
381.25	236.49	0.0930 /0.0410	Main Channel
381.97	235.89	0.0410	Main Channel
384.32	236.39	0.0410 /0.0930	Main Channel
413.50	241.05	0.0930	
457.83	240.38	0.0930	
497.88	241.26	0.0930	
759.99	241.26	0.0930	
924.92	242.38	0.0930	
990.74	242.50	0.0930	
1030.87	242.13	0.0930	
1081.60	243.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	236.14	.126E+03	0.1	0.48	23.67
0.50	236.39	.504E+03	0.6	0.76	14.91
0.89	236.78	.171E+04	2.9	1.15	9.87
1.28	237.17	.379E+04	7.2	1.30	8.76
1.68	237.57	.674E+04	13.8	1.40	8.12
2.07	237.96	.106E+05	23.1	1.49	7.64
2.46	238.35	.156E+05	34.9	1.53	7.44
2.85	238.74	.223E+05	50.9	1.56	7.29
3.25	239.14	.307E+05	71.8	1.60	7.12
3.64	239.53	.407E+05	98.0	1.65	6.93
4.03	239.92	.525E+05	130.2	1.70	6.71
4.42	240.31	.659E+05	169.0	1.75	6.50
4.82	240.71	.850E+05	186.4	1.50	7.60
5.21	241.10	.117E+06	240.8	1.40	8.13
5.60	241.49	.203E+06	302.7	1.02	11.19
5.99	241.88	.336E+06	517.9	1.05	10.81
6.39	242.28	.490E+06	782.2	1.09	10.44
6.78	242.67	.691E+06	1137.8	1.13	10.12
7.17	243.06	.920E+06	1698.5	1.26	9.03

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1113)	74.61	8.70	5.25	72.33	1.37	1.32
OUTFLOW: ID= 1 (5113)	74.61	7.64	5.25	72.33	1.31	1.31

CALIB / STANDHYD (0113)	Area (ha)= 12.71
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 52.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.61	6.10
Dep. Storage (mm)=	1.00	4.00

Average Slope (%)=	1.00	3.50	
Length (m)=	291.09	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	32.27	
over (min)	15.00	15.00	
Storage Coeff. (min)=	1.80 (ii)	9.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.09	
			TOTALS
PEAK FLOW (cms)=	0.75	0.54	1.285 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	55.25	72.04
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.62	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2113)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0113):	12.71	1.285	5.25	72.04
+	ID2= 2 (5113):	74.61	7.640	5.25	72.33
	ID = 3 (2113):	87.32	8.925	5.25	72.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0120)	Area (ha)= 46.27
ID= 1 DT=15.0 min	Total Imp(%)= 63.00 Dir. Conn.(%)= 63.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	29.15	17.12	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.60	
Length (m)=	555.40	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	35.16	
over (min)	15.00	15.00	
Storage Coeff. (min)=	2.40 (ii)	14.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.07	
			TOTALS
PEAK FLOW (cms)=	3.30	1.61	4.904 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	61.65	77.96
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.70	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1119)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0120):	46.27	4.904	5.25	77.96
+	ID2= 2 (2113):	87.32	8.925	5.25	72.29
	ID = 3 (1119):	133.59	13.829	5.25	74.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5119)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5119.0) ------>

Distance	Elevation	Manning	
0.00	240.51	0.0930	
29.89	240.57	0.0930	
116.44	238.41	0.0930	
139.64	232.93	0.0930 /0.0410	Main Channel
141.61	232.28	0.0410	Main Channel
145.25	233.93	0.0410 /0.0930	Main Channel
173.42	238.12	0.0930	
173.87	238.19	0.0930	
270.90	240.57	0.0930	
279.44	240.59	0.0930	
297.64	240.11	0.0930	
300.84	240.11	0.0930	
309.34	240.24	0.0930	
309.90	240.23	0.0930	
315.37	240.29	0.0930	
322.46	240.34	0.0930	
324.59	240.37	0.0930	
337.93	240.53	0.0930	
338.14	240.54	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	232.60	.159E+03	0.1	0.35	27.10
0.65	232.93	.636E+03	0.6	0.56	17.07
1.10	233.38	.189E+04	2.6	0.80	12.00
1.55	233.83	.390E+04	6.3	0.93	10.35
2.00	234.28	.683E+04	12.6	1.06	9.01
2.45	234.73	.110E+05	21.8	1.14	8.43
2.90	235.18	.165E+05	34.0	1.19	8.08
3.35	235.63	.232E+05	49.7	1.23	7.79
3.80	236.08	.313E+05	69.2	1.27	7.53
4.25	236.53	.406E+05	92.9	1.32	7.28
4.71	236.99	.511E+05	121.0	1.36	7.05
5.16	237.44	.630E+05	153.9	1.40	6.83
5.61	237.89	.761E+05	191.8	1.45	6.62

6.06	238.34	.908E+05	229.8	1.46	6.58
6.51	238.79	.111E+06	254.0	1.31	7.30
6.96	239.24	.141E+06	302.2	1.23	7.78
7.41	239.69	.180E+06	372.7	1.19	8.06
7.86	240.14	.229E+06	460.2	1.16	8.30
8.31	240.59	.297E+06	525.8	1.02	9.42

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1119)	133.59	13.83	5.25	74.25	2.06	1.07
OUTFLOW: ID= 1 (5119)	133.59	12.82	5.25	74.25	2.02	1.07

DUHYD (9033)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)= 26.9				
TOTAL HYD.(ID= 1):	133.59	12.82	5.25	74.25
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	133.59	12.82	5.25	74.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6033)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	9.6100	1.9350
DT= 15.0 min	0.1300	1.4400	12.0700	2.0240
	0.7800	1.5180	14.7200	2.1150
	1.9600	1.5970	17.5300	2.2070
	3.4900	1.6790	20.5100	2.3010
	5.2900	1.7620	23.6400	2.3970
	7.3400	1.8480	26.9100	2.4940

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9033)	133.595	12.824	5.25	74.25
OUTFLOW: ID= 1 (6033)	133.595	12.032	5.25	74.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 93.82
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 2.0582

ADD HYD (****)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
*** W A R N I N G :	HYDROGRAPH 9033 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6033):	133.59	12.032	5.25	74.23
+ ID2= 2 (9033):	0.00	0.000	0.00	0.00
ID = 3 (****):	133.59	12.032	5.25	74.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0119)	Area (ha)= 7.24			
ID= 1 DT=15.0 min	Total Imp(%)= 21.00	Dir. Conn.(%)= 19.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	1.52	5.72		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	6.50		
Length (m)=	219.70	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	40.71	29.09		
over (min)	15.00	15.00		
Storage Coeff. (min)=	1.20 (ii)	6.00 (ii)		
Unit Hyd. Tpeak (min)=	15.00	15.00		
Unit Hyd. peak (cms)=	0.11	0.10		
			TOTALS	
PEAK FLOW (cms)=	0.16	0.46	0.614 (iii)	
TIME TO PEAK (hrs)=	4.75	5.25	5.25	
RUNOFF VOLUME (mm)=	87.54	47.60	55.19	
TOTAL RAINFALL (mm)=	88.54	88.54	88.54	
RUNOFF COEFFICIENT =	0.99	0.54	0.62	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2119)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0119):	7.24	0.614	5.25	55.19
+ ID2= 2 (****):	133.59	12.032	5.25	74.23
ID = 3 (2119):	140.83	12.646	5.25	73.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9529)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****				
TOTAL HYD.(ID= 1):	140.83	12.65	5.25	73.25
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	140.83	12.65	5.25	73.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6529)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	6.0000	0.2720
DT= 15.0 min	2.0000	0.0946	8.0000	0.3631
	4.0000	0.1999	10.0000	0.4677

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9529)	140.835	12.646	5.25	73.25
OUTFLOW: ID= 1 (6529)	140.835	12.284	5.50	73.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 97.14
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.5968

ADD HYD (4529)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
*** W A R N I N G :	HYDROGRAPH 9529 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6529):	140.83	12.284	5.50	73.25
+ ID2= 2 (9529):	0.00	0.000	0.00	0.00
ID = 3 (4529):	140.83	12.284	5.50	73.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0484)	Area (ha)= 10.31			
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 42.00		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	5.46	4.85		
Dep. Storage (mm)=	1.00	4.00		
Average Slope (%)=	1.00	3.10		
Length (m)=	262.17	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	40.71	45.13		
over (min)	15.00	15.00		
Storage Coeff. (min)=	1.80 (ii)	8.40 (ii)		
Unit Hyd. Tpeak (min)=	15.00	15.00		
Unit Hyd. peak (cms)=	0.11	0.09		
			TOTALS	
PEAK FLOW (cms)=	0.49	0.60	1.092 (iii)	
TIME TO PEAK (hrs)=	5.00	5.25	5.25	
RUNOFF VOLUME (mm)=	87.54	65.70	74.87	
TOTAL RAINFALL (mm)=	88.54	88.54	88.54	
RUNOFF COEFFICIENT =	0.99	0.74	0.85	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9129)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=0.021				
#of Inlets= 1				
Total(cms)= 0.0				
TOTAL HYD.(ID= 1):	10.31	1.09	5.25	74.87
MAJOR SYS.(ID= 2):	9.25	1.07	5.25	74.87
MINOR SYS.(ID= 3):	1.06	0.02	2.50	74.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6129)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	0.0160	0.0567
DT= 15.0 min	0.0090	0.0175	0.0190	0.0784
	0.0130	0.0364	0.0210	0.1015

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9129)	1.058	0.021	2.50	74.87
OUTFLOW: ID= 1 (6129)	1.058	0.014	12.25	74.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 65.67
TIME SHIFT OF PEAK FLOW (min)=585.00
MAXIMUM STORAGE USED (ha.m.)= 0.0421

ADD HYD (4129)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (6129):	1.06	0.014	12.25	74.42
+ ID2= 2 (9129):	9.25	1.071	5.25	74.87
ID = 3 (4129):	10.31	1.080	5.25	74.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2484)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (4129):	10.31	1.080	5.25	74.83
+ ID2= 2 (4529):	140.83	12.284	5.50	73.25

ID = 3 (2484):	151.14	12.657	5.50	73.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0485) / ID= 1 DT=15.0 min	Area (ha)= 44.69	Total Imp(%)= 50.00	Dir. Conn.(%)= 49.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	22.34	22.34	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	1.70	
Length	(m)=	545.83	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	33.12	
over (min)		15.00	15.00	
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.11	0.07	
				TOTALS
PEAK FLOW	(cms)=	2.48	1.93	4.409 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	55.69	71.30
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.63	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2485) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0485):	44.69	4.409	5.25	71.30
+ ID2= 2 (2484):	151.14	12.657	5.50	73.36
ID = 3 (2485):	195.83	16.870	5.25	72.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1122) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2095):	5981.00	60.088	12.25	39.67
+ ID2= 2 (2485):	195.83	16.870	5.25	72.89
ID = 3 (1122):	6176.84	65.419	5.25	40.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5122) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5122.0) ------>

Distance	Elevation	Manning	
0.00	235.73	0.0930	
17.92	231.50	0.0930	
24.58	231.00	0.0930	
44.00	230.55	0.0930	
142.67	231.50	0.0930	
150.22	231.50	0.0930	
174.16	231.28	0.0930	
192.63	231.06	0.0930	
194.24	231.00	0.0930	
196.93	230.16	0.0930	
197.38	230.00	0.0930 /0.0410	Main Channel
197.43	229.98	0.0410	Main Channel
197.57	229.00	0.0410	Main Channel
205.27	229.00	0.0410	Main Channel
205.34	229.94	0.0410	Main Channel
205.54	230.00	0.0410 /0.0930	Main Channel
229.92	238.50	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	229.33	.126E+04	1.5	0.58	14.12
0.67	229.67	.254E+04	4.5	0.87	9.33
1.00	230.00	.383E+04	8.5	1.08	7.54
1.36	230.36	.544E+04	14.4	1.30	6.28
1.72	230.72	.843E+04	22.0	1.28	6.38
2.07	231.07	.197E+05	35.4	0.88	9.28
2.43	231.43	.424E+05	59.9	0.69	11.80
2.79	231.79	.757E+05	107.8	0.70	11.70
3.15	232.15	.110E+06	175.4	0.78	10.45
3.51	232.51	.145E+06	258.4	0.88	9.33
3.87	232.87	.180E+06	355.7	0.97	8.42
4.22	233.22	.215E+06	466.3	1.06	7.70
4.58	233.58	.251E+06	589.7	1.15	7.10
4.94	233.94	.288E+06	725.4	1.23	6.61
5.30	234.30	.325E+06	873.0	1.32	6.20
5.66	234.66	.362E+06	1032.1	1.40	5.85
6.01	235.01	.400E+06	1202.5	1.47	5.54
6.37	235.37	.438E+06	1384.0	1.55	5.28
6.73	235.73	.477E+06	1576.4	1.62	5.04

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1122)	6176.84	65.42	5.25	40.72	2.47	0.69
OUTFLOW: ID= 1 (5122)	6176.84	60.11	12.50	40.72	2.43	0.69

CALIB / STANDHYD (0122) / ID= 1 DT=15.0 min	Area (ha)= 30.63	Total Imp(%)= 32.00	Dir. Conn.(%)= 26.00	

		IMPERVIOUS	PERVIOUS (i)	

Surface Area	(ha)=	9.80	20.83	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.30	
Length	(m)=	451.88	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	34.53	
over (min)		15.00	15.00	
Storage Coeff. (min)=		1.80 (ii)	12.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.11	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.90	1.93	2.832 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	54.28	62.93
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.61	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2122) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0122):	30.63	2.832	5.25	62.93
+ ID2= 2 (5122):	6176.84	60.112	12.50	40.72
ID = 3 (2122):	6207.47	60.257	5.50	40.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5112) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5112.0) ------>

Distance	Elevation	Manning	
0.00	235.91	0.0930	
5.76	235.56	0.0930	
118.08	233.00	0.0930	
121.46	233.00	0.0930	
158.56	231.55	0.0930	
190.22	229.04	0.0930	
190.34	229.04	0.0930	
212.62	228.00	0.0930	
225.02	227.50	0.0930	
226.84	227.00	0.0930 /0.0410	Main Channel
227.92	226.50	0.0410	Main Channel
232.46	226.50	0.0410	Main Channel
232.95	226.98	0.0410 /0.0930	Main Channel
237.55	228.00	0.0930	
247.07	228.50	0.0930	
255.73	228.80	0.0930	
268.28	229.64	0.0930	

274.49	231.50	0.0930
283.66	232.45	0.0930
298.53	235.00	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	226.74	.770E+03	0.5	0.47	23.34
0.48	226.98	.166E+04	1.8	0.70	15.51
0.95	227.45	.411E+04	6.4	1.02	10.61
1.42	227.92	.897E+04	14.3	1.04	10.49
1.90	228.40	.186E+05	27.2	0.95	11.44
2.37	228.87	.346E+05	48.1	0.91	11.99
2.84	229.34	.563E+05	80.7	0.93	11.62
3.31	229.81	.819E+05	125.6	1.00	10.87
3.78	230.28	.110E+06	183.3	1.08	10.03
4.25	230.75	.141E+06	252.3	1.17	9.31
4.73	231.23	.174E+06	333.0	1.25	8.70
5.20	231.70	.209E+06	420.3	1.31	8.30
5.67	232.17	.249E+06	512.6	1.34	8.10
6.14	232.64	.294E+06	623.0	1.38	7.87
6.61	233.11	.344E+06	742.9	1.41	7.72
7.08	233.58	.401E+06	880.3	1.43	7.60
7.56	234.06	.466E+06	1041.7	1.46	7.45
8.03	234.53	.538E+06	1228.2	1.49	7.30
8.50	235.00	.616E+06	1440.8	1.52	7.13

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2122)	6207.47	60.26	5.50	40.83	2.54	0.92
OUTFLOW: ID= 1 (5112)	6207.47	59.96	12.50	40.83	2.53	0.92

CALIB / STANDHYD (0112) / ID= 1 DT=15.0 min	Area (ha)= 91.24	Total Imp(%)= 48.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	43.80	47.44	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.10	
Length	(m)=	779.91	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	42.64	
over (min)		15.00	15.00	
Storage Coeff. (min)=		3.00 (ii)	16.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.11	0.07	
				TOTALS
PEAK FLOW	(cms)=	3.92	5.34	9.256 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	63.52	72.65
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.72	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2112)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0112):		91.24	9.256	5.25	72.65
+ ID2= 2 (5112):		6207.47	59.960	12.50	40.83
ID = 3 (2112):		6298.71	61.560	5.75	41.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5091)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5091.0) ------>

Distance	Elevation	Manning	
0.00	233.68	0.0930	
57.19	231.45	0.0930	
70.84	229.38	0.0930	
75.11	228.00	0.0930	
76.32	227.82	0.0930	
78.35	227.50	0.0930 /0.0410	Main Channel
79.48	227.23	0.0410	Main Channel
80.40	227.00	0.0410	Main Channel
81.40	226.00	0.0410	Main Channel
87.08	226.00	0.0410	Main Channel
87.20	226.00	0.0410	Main Channel
87.27	226.50	0.0410	Main Channel
88.50	227.47	0.0410	Main Channel
88.62	227.50	0.0410	Main Channel
92.08	227.50	0.0410	Main Channel
93.44	227.80	0.0410	Main Channel
94.43	228.72	0.0410 /0.0930	Main Channel
111.61	232.98	0.0930	
115.31	233.50	0.0930	
134.67	234.81	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	226.38	.167E+04	1.4	0.61	20.11
0.75	226.75	.348E+04	4.3	0.91	13.58
1.12	227.12	.554E+04	8.3	1.10	11.19
1.50	227.50	.808E+04	13.4	1.22	10.07
1.91	227.91	.129E+05	21.9	1.25	9.82
2.32	228.32	.187E+05	36.9	1.46	8.45
2.74	228.74	.250E+05	55.3	1.63	7.54
3.15	229.15	.321E+05	78.4	1.81	6.83
3.56	229.56	.401E+05	104.9	1.94	6.37
3.97	229.97	.493E+05	135.2	2.03	6.08
4.38	230.38	.599E+05	169.9	2.10	5.88
4.80	230.80	.718E+05	209.2	2.15	5.72
5.21	231.21	.851E+05	253.2	2.20	5.60
5.62	231.62	.999E+05	299.6	2.22	5.56
6.03	232.03	.118E+06	350.3	2.20	5.61

6.44	232.44	.140E+06	409.8	2.17	5.69
6.86	232.86	.165E+06	478.0	2.14	5.76
7.27	233.27	.195E+06	554.6	2.11	5.85
7.68	233.68	.228E+06	639.5	2.07	5.95

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2112)		6298.71	61.56	5.75	41.29	2.85	1.68
OUTFLOW: ID= 1 (5091)		6298.71	61.19	5.75	41.29	2.84	1.67

CALIB	
STANDHYD (0091)	Area (ha)= 180.35
ID= 1 DT=15.0 min	Total Imp(%)= 47.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	84.76	95.59
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	1096.51	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	41.68
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	19.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	7.75	10.26	18.015 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	63.15	72.42
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.71	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2091)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0091):		180.35	18.015	5.25	72.42
+ ID2= 2 (5091):		6298.71	61.185	5.75	41.29
ID = 3 (2091):		6479.06	72.128	5.25	42.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9023)
Inlet Cap.=*****
#of Inlets= 1

Total(cms)= 17.8		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):		6479.06	72.13	5.25	42.16
MAJOR SYS.(ID= 2):		3747.21	54.29	5.25	42.16
MINOR SYS.(ID= 3):		2731.85	17.84	4.25	42.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6023)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	6.0830	0.7376
0.5140	0.0185	8.6630	1.7454
1.9040	0.1110	17.8370	3.6437
3.8440	0.3047	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9023)		2731.850	17.837	4.25	42.16
OUTFLOW: ID= 1 (6023)		2731.850	17.837	12.75	42.16

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)=510.00
MAXIMUM STORAGE USED (ha.m.)= 3.6437

ADD HYD (****)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6023):		2731.85	17.837	12.75	42.16
+ ID2= 2 (9023):		3747.21	54.291	5.25	42.16
ID = 3 (****):		6479.06	70.903	5.25	42.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5530)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5530.0) ------>

Distance	Elevation	Manning	
0.00	232.00	0.0930	
4.96	232.00	0.0930	
7.83	231.50	0.0930	
17.85	231.00	0.0930	
42.32	226.50	0.0930	
90.46	226.50	0.0930	
96.74	225.00	0.0930 /0.0410	Main Channel
98.31	224.50	0.0410	Main Channel
108.69	224.50	0.0410	Main Channel
109.36	225.00	0.0410 /0.0930	Main Channel
114.19	225.50	0.0930	
117.90	227.00	0.0930	
121.45	227.50	0.0930	
134.20	227.50	0.0930	

149.51	228.94	0.0930
154.36	229.23	0.0930
155.62	229.30	0.0930
155.63	232.00	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	224.75	.192E+04	2.5	0.92	12.70
0.50	225.00	.403E+04	8.1	1.41	8.28
0.91	225.41	.850E+04	24.2	1.99	5.86
1.32	225.82	.144E+05	48.1	2.35	4.97
1.74	226.24	.210E+05	79.6	2.66	4.40
2.15	226.65	.335E+05	118.2	2.48	4.72
2.56	227.06	.557E+05	182.5	2.30	5.09
2.97	227.47	.793E+05	264.6	2.34	5.00
3.38	227.88	.108E+06	362.6	2.36	4.96
3.79	228.29	.139E+06	488.9	2.47	4.73
4.21	228.71	.172E+06	634.9	2.60	4.50
4.62	229.12	.206E+06	799.2	2.72	4.30
5.03	229.53	.243E+06	987.9	2.85	4.10
5.44	229.94	.281E+06	1201.3	3.00	3.90
5.85	230.35	.320E+06	1433.6	3.15	3.72
6.26	230.76	.359E+06	1684.2	3.29	3.55
6.68	231.18	.399E+06	1936.0	3.41	3.43
7.09	231.59	.441E+06	2195.5	3.50	3.34
7.50	232.00	.484E+06	2505.8	3.63	3.22

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (****)		6479.06	70.90	5.25	42.16	1.62	2.56
OUTFLOW: ID= 1 (5530)		6479.06	70.58	5.50	42.16	1.62	2.56

CALIB	
STANDHYD (0530)	Area (ha)= 12.46
ID= 1 DT=15.0 min	Total Imp(%)= 33.00 Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.11	8.35
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.00
Length	(m)=	288.21	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.79
over (min)		15.00	15.00
Storage Coeff. (min)=		1.20 (ii)	7.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.10

		TOTALS
PEAK FLOW	(cms)=	0.39	0.73	1.121 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	49.99	60.50
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.56	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2530)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0530):	12.46	1.121	5.25	60.50
	+ ID2= 2 (5530):	6479.06	70.580	5.50	42.16
	ID = 3 (2530):	6491.52	70.983	5.50	42.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0114)	Area (ha)= 71.32
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	37.09	34.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	689.54	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	43.15
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	15.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	3.47	3.94 7.406 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	65.00 74.69
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.73 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1529)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0114):	71.32	7.406	5.25	74.69
	+ ID2= 2 (2530):	6491.52	70.983	5.50	42.20
	ID = 3 (1529):	6562.84	76.585	5.25	42.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5529)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5529.0) ------>

Distance	Elevation	Manning	
0.00	229.04	0.0930	
7.45	221.83	0.0930 /0.0410	Main Channel
7.73	221.00	0.0410	Main Channel
11.19	221.00	0.0410	Main Channel
14.51	222.00	0.0410 /0.0930	Main Channel
15.34	222.00	0.0930	
16.50	222.50	0.0930	
29.47	222.35	0.0930	
55.40	222.50	0.0930	
76.32	222.50	0.0930	
144.32	223.00	0.0930	
157.97	223.80	0.0930	
163.43	224.00	0.0930	
184.95	224.50	0.0930	
193.87	225.00	0.0930	
197.46	225.00	0.0930	
203.83	225.27	0.0930	
208.01	225.56	0.0930	
214.39	225.78	0.0930	
214.40	229.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	221.41	.154E+04	0.8	0.48	30.55
0.83	221.83	.362E+04	2.9	0.69	21.07
1.25	222.25	.652E+04	6.7	0.90	16.23
1.67	222.67	.235E+05	14.4	0.54	27.14
2.10	223.10	.682E+05	36.2	0.46	31.45
2.52	223.52	.121E+06	75.3	0.54	26.85
2.94	223.94	.177E+06	127.4	0.63	23.21
3.36	224.36	.238E+06	188.5	0.69	21.08
3.78	224.78	.305E+06	266.7	0.77	19.08
4.20	225.20	.376E+06	356.2	0.83	17.60
4.63	225.63	.451E+06	463.5	0.90	16.22
5.05	226.05	.529E+06	588.5	0.98	14.97
5.47	226.47	.607E+06	732.6	1.06	13.81
5.89	226.89	.685E+06	889.1	1.14	12.85
6.31	227.31	.764E+06	1057.6	1.21	12.04
6.73	227.73	.843E+06	1237.6	1.29	11.35
7.16	228.16	.922E+06	1428.6	1.36	10.75
7.58	228.58	.100E+07	1630.4	1.43	10.23
8.00	229.00	.108E+07	1842.6	1.50	9.77

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1529)	6562.84	76.58	5.25	42.55	2.53	0.55
OUTFLOW: ID= 1 (5529)	6562.84	66.93	6.25	42.55	2.43	0.52

CALIB	
STANDHYD (0529)	Area (ha)= 41.93

ID= 1 DT=15.0 min	Total Imp(%)= 33.00 Dir. Conn.(%)= 26.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	13.84	28.09
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.80
Length (m)=	528.71	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	35.21
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	12.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08
		TOTALS
PEAK FLOW (cms)=	1.23	2.65 3.880 (iii)
TIME TO PEAK (hrs)=	5.00	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	54.62 63.18
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.62 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2529)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0529):	41.93	3.880	5.25	63.18
	+ ID2= 2 (5529):	6562.84	66.927	6.25	42.55
	ID = 3 (2529):	6604.77	68.117	6.25	42.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0488)	Area (ha)= 47.77
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 51.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	27.23	20.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	564.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	41.11
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	2.76	2.26 5.020 (iii)
TIME TO PEAK (hrs)=	5.00	5.25 5.25

RUNOFF VOLUME (mm)=	87.54	64.22	76.11
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.73	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9164)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	TOTAL HYD.(ID= 1):	47.77	5.02	5.25	76.11
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	47.77	5.02	5.25	76.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6164)	
IN= 2---> OUT= 1	
DT= 15.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1280	0.6485
0.0360	0.0650	0.2220	0.6870
0.0470	0.1250	0.6040	0.7600
0.0620	0.1800	1.1450	0.8300
0.0750	0.2500	1.8080	0.9100
0.0850	0.3100	2.5730	0.9800
0.0950	0.3750	3.4270	1.0500
0.1030	0.4330	4.3630	1.1200
0.1110	0.4930	5.3730	1.1950
0.1180	0.5630	0.0000	0.0000
0.1250	0.6120	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9164)	47.770	5.020	5.25	76.11
OUTFLOW: ID= 1 (6164)	47.770	4.774	5.25	76.11

PEAK FLOW REDUCTION [Qout/Qin](%)= 95.11
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 1.1616

ADD HYD (4164)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6164):	47.77	4.774	5.25	76.11

*** W A R N I N G : HYDROGRAPH 9164 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

+ ID2= 2 (9164):	0.00	0.000	0.00	0.00
ID = 3 (4164):	47.77	4.774	5.25	76.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1486)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2529):	6604.77	68.117	6.25	42.68
+ ID2= 2 (4164):	47.77	4.774	5.25	76.11
ID = 3 (1486):	6652.54	69.938	6.00	42.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5486) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5486.0) ------>

Distance	Elevation	Manning	
0.00	225.00	0.0930	
11.94	222.00	0.0930	
16.06	221.50	0.0930	
41.45	220.50	0.0930	
88.07	220.00	0.0930	
99.13	219.50	0.0930	
102.39	219.00	0.0930 /0.0410	Main Channel
102.82	218.50	0.0410	Main Channel
108.08	218.50	0.0410	Main Channel
108.18	219.00	0.0410 /0.0930	Main Channel
109.15	219.20	0.0930	
110.60	219.50	0.0930	
116.50	221.36	0.0930	
127.30	226.50	0.0930	
144.83	227.58	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	218.75	.815E+03	0.8	0.62	16.38
0.50	219.00	.167E+04	2.6	0.93	10.82
0.85	219.35	.333E+04	6.6	1.20	8.38
1.21	219.71	.603E+04	12.7	1.27	7.93
1.56	220.06	.106E+05	21.3	1.22	8.29
1.91	220.41	.206E+05	34.9	1.02	9.84
2.26	220.76	.364E+05	59.4	0.99	10.22
2.62	221.12	.546E+05	93.6	1.04	9.71
2.97	221.47	.748E+05	137.0	1.11	9.10
3.32	221.82	.967E+05	193.1	1.21	8.34
3.68	222.18	.119E+06	259.4	1.32	7.66
4.03	222.53	.142E+06	335.2	1.42	7.08
4.38	222.88	.166E+06	419.5	1.53	6.59
4.74	223.24	.190E+06	512.1	1.63	6.18
5.09	223.59	.214E+06	612.7	1.73	5.83
5.44	223.94	.239E+06	721.2	1.82	5.53
5.79	224.29	.264E+06	837.5	1.92	5.26
6.15	224.65	.290E+06	961.5	2.00	5.03

6.50	225.00	.317E+06	1093.1	2.09	4.83

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1486)	6652.54	69.94	6.00	42.92	2.37	1.00
OUTFLOW: ID= 1 (5486)	6652.54	69.77	6.25	42.92	2.37	1.00

CALIB | STANDHYD (0486) | Area (ha)= 35.14 | ID= 1 DT=15.0 min | Total Imp(%)= 47.00 Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.52	18.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	484.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	37.80
over (min)		15.00	15.00
Storage Coeff. (min)	=	1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.11	0.08

		TOTALS
PEAK FLOW	(cms)=	1.63	1.90	3.530 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	59.10	70.76
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.67	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2486)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0486):	35.14	3.530	5.25	70.76
+ ID2= 2 (5486):	6652.54	69.773	6.25	42.92
ID = 3 (2486):	6687.68	70.823	6.25	43.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0533) | Area (ha)= 61.35 | ID= 1 DT=15.0 min | Total Imp(%)= 49.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.06	31.29

Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	639.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	42.80
over (min)		15.00	15.00
Storage Coeff. (min)	=	2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.71	3.57	6.280 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	63.58	72.93
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.72	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1165)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0533):	61.35	6.280	5.25	72.93
+ ID2= 2 (2486):	6687.68	70.823	6.25	43.07
ID = 3 (1165):	6749.03	72.723	6.25	43.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5165) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5165.0) ------>

Distance	Elevation	Manning	
0.00	217.93	0.0930	
93.89	215.00	0.0930	
100.20	213.00	0.0930	
110.33	212.37	0.0930	
119.07	212.00	0.0930	
119.29	212.00	0.0930	
131.29	211.51	0.0930	
131.54	211.50	0.0930 /0.0410	Main Channel
133.06	211.27	0.0410	Main Channel
133.84	211.00	0.0410	Main Channel
145.04	211.00	0.0410	Main Channel
145.53	211.37	0.0410 /0.0930	Main Channel
148.07	212.50	0.0930	
159.61	213.50	0.0930	
179.18	214.00	0.0930	
235.23	213.00	0.0930	
247.26	213.00	0.0930	
261.80	214.00	0.0930	

277.22	218.03	0.0930			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	211.18	.179E+04	0.9	0.44	31.48
0.37	211.37	.372E+04	3.0	0.68	20.65
0.76	211.76	.900E+04	10.9	1.01	13.79
1.14	212.14	.175E+05	24.0	1.14	12.17
1.53	212.53	.292E+05	42.8	1.23	11.37
1.91	212.91	.440E+05	67.9	1.29	10.81
2.30	213.30	.675E+05	101.8	1.26	11.05
2.69	213.69	.103E+06	148.9	1.21	11.48
3.07	214.07	.151E+06	213.5	1.18	11.80
3.46	214.46	.205E+06	302.0	1.23	11.31
3.84	214.84	.260E+06	407.0	1.31	10.63
4.23	215.23	.316E+06	516.4	1.37	10.19
4.61	215.61	.376E+06	638.6	1.42	9.81
5.00	216.00	.441E+06	780.7	1.48	9.41
5.39	216.39	.510E+06	941.7	1.54	9.03
5.77	216.77	.584E+06	1121.6	1.61	8.67
6.16	217.16	.662E+06	1320.5	1.67	8.35
6.54	217.54	.744E+06	1538.7	1.73	8.06
6.93	217.93	.832E+06	1776.7	1.79	7.80

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1165)	6749.03	72.72	6.25	43.34	1.97	1.29
OUTFLOW: ID= 1 (5165)	6749.03	72.17	6.25	43.34	1.96	1.29

CALIB | STANDHYD (0165) | Area (ha)= 101.91 | ID= 1 DT=15.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.96	50.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	824.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	40.53
over (min)		15.00	15.00
Storage Coeff. (min)	=	3.00 (ii)	17.40 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	4.84	5.40	10.241 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	61.46	72.41
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.69	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2165)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0165):		101.91	10.241	5.25	72.41
+ ID2= 2 (5165):		6749.03	72.168	6.25	43.34
ID = 3 (2165):		6850.94	75.344	6.25	43.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5383)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5383.0) ------>

Distance	Elevation	Manning	
0.00	217.40	0.0930	
9.80	217.00	0.0930	
16.80	215.50	0.0930	
48.20	214.50	0.0930	
66.70	214.50	0.0930	
92.00	211.00	0.0930	
96.20	210.50	0.0930 /0.0410	Main Channel
97.00	210.10	0.0410	Main Channel
107.00	210.10	0.0410	Main Channel
107.50	210.50	0.0410 /0.0930	Main Channel
112.00	211.00	0.0930	
120.50	212.50	0.0930	
131.90	213.00	0.0930	
199.00	213.00	0.0930	
201.70	212.50	0.0930	
214.00	212.00	0.0930	
229.70	212.00	0.0930	
243.80	215.00	0.0930	
270.00	215.00	0.0930	
310.90	216.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	210.30	.188E+04	1.1	0.53	28.54
0.40	210.50	.388E+04	3.5	0.82	18.44
0.72	210.82	.804E+04	10.0	1.14	13.34
1.05	211.15	.138E+05	19.8	1.30	11.64
1.37	211.47	.209E+05	32.8	1.43	10.61
1.69	211.79	.292E+05	49.2	1.54	9.89
2.02	212.12	.406E+05	67.1	1.51	10.07
2.34	212.44	.584E+05	93.8	1.46	10.37
2.66	212.76	.801E+05	127.3	1.45	10.49
2.99	213.09	.111E+06	158.3	1.30	11.68
3.31	213.41	.158E+06	222.8	1.28	11.83
3.64	213.74	.206E+06	301.4	1.33	11.41
3.96	214.06	.256E+06	393.0	1.40	10.84
4.28	214.38	.306E+06	497.1	1.48	10.26
4.61	214.71	.362E+06	595.1	1.50	10.13
4.93	215.03	.423E+06	682.5	1.47	10.34
5.25	215.35	.497E+06	819.4	1.50	10.12

5.58	215.68	.578E+06	979.1	1.54	9.84
5.90	216.00	.663E+06	1160.9	1.59	9.52

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2165)	6850.94	75.34	6.25	43.77	2.12	1.49
OUTFLOW: ID= 1 (5383)	6850.94	74.27	6.50	43.77	2.10	1.50

CALIB			
STANDHYD (0383)	ID= 1 DT=15.0 min	Area (ha)= 61.08	Total Imp(%)= 40.00
		Dir. Conn.(%)= 31.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.43	36.65
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.60
Length (m)=	638.12	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	38.61
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.14	3.76	5.902 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	58.33	67.39
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.66	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2383)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0383):		61.08	5.902	5.25	67.39
+ ID2= 2 (5383):		6850.94	74.268	6.50	43.77
ID = 3 (2383):		6912.02	76.013	6.25	43.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0177)	ID= 1 DT=15.0 min	Area (ha)= 144.80	Total Imp(%)= 52.00
		Dir. Conn.(%)= 43.00	

	IMPERVIOUS	PERVIOUS (i)

Surface Area (ha)=	75.30	69.50	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.40	
Length (m)=	982.51	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	43.15	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	

		TOTALS
PEAK FLOW	(cms)=	6.98	4.01	9.563 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	65.00	74.69
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.73	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1720)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0177):		144.80	9.563	5.25	74.69
+ ID2= 2 (2383):		6912.02	76.013	6.25	43.98
ID = 3 (1720):		7056.82	82.057	6.25	44.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DIVERT HYD (1800)		
IN= 1	# OUT= 5	

Outflow / Inflow Relationships

Flow 1 (cms)	+ Flow 2 (cms)	+ Flow 3 (cms)	+ Flow 4 (cms)	+ Flow 5 (cms)	= Total (cms)
0.00	0.00	0.00	0.00	0.00	0.00
0.00	******	0.00	0.00	0.00	******

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	7056.82	82.06	6.25	44.61
ID= 2 (2) :	0.01	0.00	6.25	44.61
ID= 3 (2) :	7056.82	82.06	6.25	44.61
ID= 4 (2) :	0.00	0.00	0.00	0.00
ID= 5 (2) :	0.00	0.00	0.00	0.00
ID= 6 (2) :	0.00	0.00	0.00	0.00

ROUTE CHN (5800)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5800.0) ------>

Distance	Elevation	Manning	
0.00	214.42	0.0700	
79.28	213.89	0.0700	
120.12	213.16	0.0700	
155.24	211.47	0.0700 /0.0700	Main Channel
158.88	211.30	0.0700	Main Channel
162.95	211.27	0.0700	Main Channel
173.48	211.26	0.0700	Main Channel
221.99	210.58	0.0700	Main Channel
245.42	210.53	0.0700	Main Channel
264.64	210.60	0.0700	Main Channel
283.77	210.98	0.0700	Main Channel
294.38	211.50	0.0700 /0.0700	Main Channel
314.27	212.46	0.0700	
375.00	214.31	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	210.72	.117E+05	1.6	0.20	122.43
0.38	210.91	.314E+05	6.6	0.32	78.97
0.56	211.09	.573E+05	15.6	0.41	61.03
0.75	211.28	.884E+05	27.4	0.46	53.77
0.94	211.47	.126E+06	47.3	0.56	44.53
1.14	211.67	.170E+06	76.4	0.68	37.02
1.35	211.88	.216E+06	111.7	0.78	32.20
1.55	212.08	.264E+06	152.9	0.87	28.81
1.75	212.28	.315E+06	200.1	0.95	26.27
1.95	212.48	.369E+06	253.3	1.03	24.29
2.16	212.69	.426E+06	312.4	1.10	22.72
2.36	212.89	.486E+06	377.9	1.17	21.42
2.56	213.09	.549E+06	450.2	1.23	20.33
2.77	213.30	.616E+06	527.6	1.28	19.47
2.97	213.50	.689E+06	612.3	1.33	18.75
3.17	213.70	.767E+06	705.3	1.38	18.12
3.37	213.90	.850E+06	806.4	1.42	17.57
3.58	214.11	.942E+06	911.2	1.45	17.23
3.78	214.31	.105E+07	1029.3	1.48	16.93

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	0.01	0.00	6.25	44.61	0.00	0.20
OUTFLOW: ID= 1 (5800)	0.01	0.00	8.00	44.61	0.00	0.20

ROUTE CHN (5720)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5720.0) ------>

Distance	Elevation	Manning	
0.00	217.21	0.1110	
21.44	216.00	0.1110	
44.42	215.50	0.1110	
50.34	215.00	0.1110	
62.51	209.50	0.1110	
65.10	209.15	0.1110	
66.24	209.00	0.1110 /0.0490	Main Channel

66.50	208.60	0.0490	Main Channel
68.40	208.60	0.0490	Main Channel
68.93	209.00	0.0490 /0.1110	Main Channel
69.89	209.12	0.1110	
72.86	209.50	0.1110	
80.96	213.52	0.1110	
83.23	214.31	0.1110	
86.07	215.00	0.1110	
87.25	215.10	0.1110	
97.04	215.50	0.1110	
101.19	215.50	0.1110	
112.34	215.74	0.1110	
112.52	215.74	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	208.80	.325E+03	0.2	0.46	28.04
0.40	209.00	.710E+03	0.6	0.67	19.10
0.80	209.40	.247E+04	2.5	0.79	16.41
1.19	209.79	.573E+04	6.3	0.86	15.03
1.59	210.19	.954E+04	12.0	0.98	13.20
1.99	210.59	.139E+05	19.5	1.09	11.85
2.38	210.98	.187E+05	28.7	1.19	10.85
2.78	211.38	.241E+05	39.8	1.28	10.08
3.18	211.78	.299E+05	52.7	1.36	9.46
3.57	212.17	.363E+05	67.6	1.44	8.95
3.97	212.57	.432E+05	84.5	1.51	8.52
4.36	212.96	.506E+05	103.6	1.58	8.14
4.76	213.36	.585E+05	124.8	1.65	7.82
5.16	213.76	.670E+05	147.8	1.71	7.55
5.55	214.15	.761E+05	173.1	1.76	7.32
5.95	214.55	.858E+05	200.2	1.81	7.14
6.35	214.95	.962E+05	229.9	1.85	6.98
6.74	215.34	.109E+06	242.9	1.73	7.45
7.14	215.74	.127E+06	242.9	1.48	8.73

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	7056.82	82.06	6.25	44.61	3.91	1.50
OUTFLOW: ID= 1 (5720)	7056.82	81.25	6.50	44.61	3.89	1.50

ADD HYD (2800)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (5720):	7056.82	81.255	6.50	44.61
+ ID2= 2 (5800):	0.01	0.000	8.00	44.61
ID = 3 (2800):	7056.82	81.255	6.50	44.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0720)	Area (ha)=	50.88	
ID= 1 DT=15.0 min	Total Imp(%)=	36.00	Dir. Conn.(%)= 32.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	18.32	32.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	582.41	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	34.18
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.84	1.89	3.523 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	55.15	65.52
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.62	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2720)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0720):	50.88	3.523	5.25	65.52
+ ID2= 2 (2800):	7056.82	81.255	6.50	44.61
ID = 3 (2720):	7107.70	83.077	6.25	44.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0393)	Area (ha)=	98.98	
ID= 1 DT=15.0 min	Total Imp(%)=	57.00	Dir. Conn.(%)= 51.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	56.42	42.56
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	812.32	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	41.11
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	67.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	5.69	2.53	7.346 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	64.22	76.11
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54

RUNOFF COEFFICIENT = 0.99 0.73 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1394)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0393):	98.98	7.346	5.25	76.11
+ ID2= 2 (2720):	7107.70	83.077	6.25	44.76
ID = 3 (1394):	7206.68	87.199	6.25	45.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5394)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5394.0) ------>

Distance	Elevation	Manning	
0.00	213.16	0.1110	
20.83	211.00	0.1110	
60.38	209.34	0.1110	
86.89	209.00	0.1110	
94.15	208.62	0.1110	
151.69	206.40	0.1110	
157.26	206.00	0.1110	
161.49	205.39	0.1110	
163.96	204.98	0.1110 /0.0490	Main Channel
166.91	204.50	0.0490	Main Channel
174.77	204.50	0.0490	Main Channel
177.78	204.96	0.0490	Main Channel
178.68	205.00	0.0490	Main Channel
178.78	204.99	0.0490 /0.1110	Main Channel
180.81	206.00	0.1110	
203.93	206.50	0.1110	
209.84	206.50	0.1110	
222.90	207.00	0.1110	
250.93	210.92	0.1110	
250.94	213.16	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	204.74	.209E+04	0.7	0.33	47.42
0.48	204.98	.486E+04	2.5	0.48	32.36
0.96	205.46	.123E+05	10.4	0.78	19.84
1.44	205.94	.216E+05	22.7	0.97	15.86
1.92	206.42	.372E+05	39.8	0.99	15.55
2.40	206.90	.676E+05	65.8	0.90	17.13
2.89	207.39	.108E+06	104.1	0.89	17.35
3.37	207.87	.156E+06	154.4	0.92	16.88
3.85	208.35	.211E+06	217.1	0.95	16.23

4.33	208.83	.273E+06	293.4	0.99	15.54
4.81	209.31	.344E+06	374.8	1.01	15.30
5.29	209.79	.427E+06	483.1	1.05	14.73
5.77	210.27	.517E+06	608.5	1.09	14.15
6.25	210.75	.613E+06	750.5	1.14	13.61
6.74	211.24	.715E+06	918.2	1.19	12.98
7.22	211.72	.820E+06	1109.3	1.26	12.32
7.70	212.20	.927E+06	1316.7	1.32	11.73
8.18	212.68	.104E+07	1539.9	1.38	11.21
8.66	213.16	.115E+07	1778.7	1.44	10.74

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1394)	7206.68	87.20	6.25	45.19	2.67	0.90
OUTFLOW: ID= 1 (5394)	7206.68	84.67	6.50	45.19	2.64	0.90

CALIB			
STANDHYD (0394)	Area (ha)=	38.01	
ID= 1 DT=15.0 min	Total Imp(%)=	31.00	Dir. Conn.(%)= 25.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	11.78	26.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	503.39	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	33.74
over (min)	15.00	30.00
Storage Coeff. (min)=	7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.07	1.53	2.445 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	52.89	61.55
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.60	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2394)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0394):	38.01	2.445	5.25	61.55
+ ID2= 2 (5394):	7206.68	84.673	6.50	45.19
ID = 3 (2394):	7244.69	85.847	6.50	45.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (5221) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5221.0) ------>

Distance	Elevation	Manning	
0.00	209.40	0.1110	
6.90	205.50	0.1110	
12.79	205.00	0.1110	
50.72	205.00	0.1110	
54.17	204.40	0.1110	
58.47	204.00	0.1110	
68.03	203.71	0.1110	
77.31	203.69	0.1110	
81.46	203.50	0.1110	
86.45	203.56	0.1110	
89.27	202.50	0.1110	
89.61	202.33	0.1110 /0.0490	Main Channel
90.01	201.80	0.0490	Main Channel
100.15	201.80	0.0490	Main Channel
100.63	202.43	0.0490 /0.1110	Main Channel
104.18	204.27	0.1110	
115.16	204.94	0.1110	
119.53	204.93	0.1110	
121.87	205.00	0.1110	
148.39	209.73	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	202.07	.229E+04	1.1	0.40	34.80
0.53	202.33	.467E+04	3.5	0.62	22.52
0.95	202.75	.875E+04	9.3	0.89	15.59
1.36	203.16	.135E+05	17.6	1.09	12.75
1.78	203.58	.191E+05	27.9	1.22	11.42
2.19	203.99	.314E+05	42.1	1.12	12.44
2.61	204.41	.481E+05	61.9	1.08	12.96
3.03	204.83	.679E+05	87.5	1.08	12.95
3.44	205.24	.999E+05	113.6	0.95	14.66
3.86	205.66	.140E+06	161.3	0.96	14.52
4.27	206.07	.182E+06	219.4	1.01	13.86
4.69	206.49	.225E+06	286.6	1.06	13.11
5.10	206.90	.269E+06	362.5	1.13	12.39
5.52	207.32	.315E+06	446.9	1.19	11.73
5.94	207.74	.361E+06	539.4	1.25	11.15
6.35	208.15	.408E+06	640.0	1.31	10.62
6.77	208.57	.456E+06	748.5	1.37	10.16
7.18	208.98	.506E+06	864.8	1.43	9.74
7.60	209.40	.556E+06	988.9	1.49	9.37

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2394)	7244.69	85.85	6.50	45.28	3.00	1.08
OUTFLOW: ID= 1 (5221)	7244.69	84.63	6.75	45.28	2.98	1.08

```
| CALIB                |
| STANDHYD  (0221) |   Area    (ha)= 129.39
```



```
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  39.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	62.11	67.28
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	928.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	42.54
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.60 (ii)	75.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	75.00
Unit Hyd. peak (cms)	=	0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	3.97	8.247 (iii)
TIME TO PEAK	(hrs)=	6.00	5.25
RUNOFF VOLUME	(mm)=	64.77	73.65
TOTAL RAINFALL	(mm)=	88.54	88.54
RUNOFF COEFFICIENT	=	0.73	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (2221) |
|   1 +  2 =  3    |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0221):	129.39	8.247	5.25	73.65
+ ID2= 2 (5221):	7244.69	84.630	6.75	45.28
ID = 3 (2221):	7374.08	88.880	6.75	45.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (5233) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5233.0) ------>

Distance	Elevation	Manning	
0.00	211.05	0.1110	
13.16	206.00	0.1110	
38.98	205.50	0.1110	
46.73	205.50	0.1110	
58.41	203.00	0.1110	
69.39	202.53	0.1110	
79.51	202.50	0.1110	
95.91	202.01	0.1110 /0.0490	Main Channel
96.32	201.98	0.0490	Main Channel
100.74	201.58	0.0490	Main Channel
109.40	201.58	0.0490	Main Channel
111.17	202.00	0.0490 /0.1110	Main Channel
111.89	202.15	0.1110	
117.63	203.50	0.1110	

<------ DATA FOR SECTION (5233.0) ------>

Distance	Elevation	Manning	
119.63	204.24	0.1110	
122.33	205.00	0.1110	
127.31	205.55	0.1110	
140.44	206.50	0.1110	
170.27	211.50	0.1110	
180.32	212.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	202.00	.395E+04	2.6	0.51	25.73
0.90	202.48	.130E+05	12.1	0.74	17.85
1.37	202.95	.313E+05	30.7	0.78	17.01
1.85	203.43	.535E+05	59.9	0.89	14.88
2.33	203.91	.772E+05	98.3	1.01	13.09
2.80	204.38	.102E+06	145.9	1.12	11.76
3.28	204.86	.129E+06	199.5	1.23	10.76
3.75	205.33	.157E+06	261.1	1.32	10.02
4.23	205.81	.191E+06	306.9	1.27	10.40
4.71	206.29	.237E+06	388.0	1.30	10.16
5.18	206.76	.285E+06	493.3	1.37	9.63
5.66	207.24	.335E+06	612.1	1.45	9.13
6.14	207.72	.387E+06	742.9	1.52	8.68
6.61	208.19	.440E+06	885.6	1.60	8.29
7.09	208.67	.495E+06	1040.0	1.67	7.94
7.56	209.14	.552E+06	1206.2	1.73	7.62
8.04	209.62	.609E+06	1384.0	1.80	7.34
8.52	210.10	.669E+06	1573.4	1.87	7.09
8.99	210.57	.730E+06	1774.6	1.93	6.86

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2221)	7374.08	88.88	6.75	45.77	2.21	0.98
OUTFLOW: ID= 1 (5233)	7374.08	88.19	7.00	45.77	2.20	0.97

```
| CALIB                |
| STANDHYD  (0233) |   Area    (ha)=  60.17
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  35.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.47	33.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.10
Length	(m)=	633.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	42.01
over (min)		15.00	30.00
Storage Coeff. (min)	=	9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)	=	15.00	60.00
Unit Hyd. peak (cms)	=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.38	2.35	4.268 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	64.57	72.61
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.73	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (2233) |
|   1 +  2 =  3    |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0233):	60.17	4.268	5.25	72.61
+ ID2= 2 (5233):	7374.08	88.189	7.00	45.77
ID = 3 (2233):	7434.25	89.920	7.00	45.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (5242) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5242.0) ------>

Distance	Elevation	Manning	
0.00	206.25	0.1110	
7.53	204.51	0.1110	
40.12	201.31	0.1110	
59.19	200.00	0.1110	
69.28	199.50	0.1110	
73.36	199.03	0.1110 /0.0490	Main Channel
74.00	198.50	0.0490	Main Channel
83.49	198.50	0.0490	Main Channel
84.08	199.00	0.0490 /0.1110	Main Channel
84.49	199.26	0.1110	
86.60	200.30	0.1110	
87.15	200.50	0.1110	
94.96	201.00	0.1110	
98.93	201.50	0.1110	
111.89	204.46	0.1110	
115.16	205.00	0.1110	
122.69	207.55	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	198.75	.233E+04	1.0	0.40	39.67
0.50	199.00	.480E+04	3.1	0.62	25.72
0.93	199.43	.995E+04	9.2	0.88	17.97
1.35	199.85	.176E+05	18.3	0.99	16.00
1.78	200.28	.289E+05	31.3	1.03	15.39
2.21	200.71	.434E+05	48.2	1.06	15.01
2.63	201.13	.628E+05	70.2	1.07	14.90
3.06	201.56	.862E+05	98.6	1.09	14.58
3.49	201.99	.113E+06	133.3	1.13	14.06
3.91	202.41	.141E+06	174.0	1.17	13.53
4.34	202.84	.173E+06	220.8	1.22	13.03
4.76	203.26	.206E+06	273.9	1.26	12.57
5.19	203.69	.243E+06	333.4	1.31	12.14
5.62	204.12	.282E+06	399.8	1.35	11.74
6.04	204.54	.323E+06	473.2	1.39	11.38

6.47	204.97	.367E+06	557.1	1.45	10.97
6.90	205.40	.412E+06	650.2	1.50	10.56
7.32	205.82	.458E+06	750.3	1.56	10.18
7.75	206.25	.506E+06	857.3	1.61	9.83

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2233)	7434.25	89.92	7.00	45.99	2.93	1.08
OUTFLOW: ID= 1 (5242)	7434.25	88.77	7.25	45.99	2.91	1.08

CALIB			
STANDHYD (0242)	Area (ha)= 144.68		
ID= 1 DT=15.0 min	Total Imp(%)= 52.00	Dir. Conn.(%)= 44.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.23	69.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	982.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	42.97
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	7.16	4.22	9.932 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	66.27	75.63
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.75	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2242)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0242):	144.68	9.932	5.25	75.63
+ ID2= 2 (5242):	7434.25	88.773	7.25	45.99
ID = 3 (2242):	7578.93	93.023	7.00	46.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5551)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5551.0) ------>

Distance	Elevation	Manning	
0.00	206.24	0.1110	
25.71	201.81	0.1110	
46.60	199.50	0.1110	
67.80	199.50	0.1110	
74.10	198.50	0.1110	
97.90	197.50	0.1110	
132.90	197.50	0.1110	
138.60	197.00	0.1110	
146.80	196.50	0.1110 /0.0490	Main Channel
150.90	196.00	0.0490	Main Channel
160.46	196.00	0.0490	Main Channel
161.39	196.31	0.0490	Main Channel
161.98	196.50	0.0490 /0.1110	Main Channel
163.24	196.92	0.1110	
163.50	197.00	0.1110	
165.25	197.50	0.1110	
193.50	204.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	196.25	.400E+04	1.8	0.65	37.22
0.50	196.50	.903E+04	6.1	0.98	24.86
0.94	196.94	.216E+05	21.1	1.43	17.03
1.38	197.38	.392E+05	44.8	1.67	14.58
1.82	197.82	.785E+05	80.3	1.49	16.31
2.26	198.26	.132E+06	136.7	1.52	16.07
2.71	198.71	.193E+06	212.4	1.61	15.11
3.15	199.15	.257E+06	307.3	1.75	13.94
3.59	199.59	.327E+06	395.1	1.76	13.80
4.03	200.03	.412E+06	531.2	1.88	12.93
4.47	200.47	.500E+06	686.6	2.00	12.15
4.91	200.91	.593E+06	861.3	2.12	11.47
5.35	201.35	.689E+06	1054.9	2.24	10.88
5.79	201.79	.789E+06	1267.4	2.35	10.37
6.24	202.24	.892E+06	1504.2	2.46	9.88
6.68	202.68	.998E+06	1760.2	2.57	9.45
7.12	203.12	.111E+07	2034.9	2.68	9.07
7.56	203.56	.122E+07	2328.5	2.79	8.73
8.00	204.00	.133E+07	2640.8	2.89	8.42

	<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2242)	7578.93	93.02	7.00	46.56	1.92	1.50
OUTFLOW: ID= 1 (5551)	7578.93	91.83	7.25	46.56	1.91	1.50

CALIB			
NASHYD (0551)	Area (ha)= 27.37	Curve Number (CN)= 79.1	
ID= 1 DT=15.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.31		

Unit Hyd Qpeak (cms)= 3.405

PEAK FLOW (cms)= 1.831 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 43.891
TOTAL RAINFALL (mm)= 88.540

RUNOFF COEFFICIENT = 0.496

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2551)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0551):	27.37	1.831	5.25	43.89
+ ID2= 2 (5551):	7578.93	91.832	7.25	46.55
ID = 3 (2551):	7606.30	92.191	7.25	46.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0554)	Area (ha)= 16.13		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 39.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.06	8.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	327.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	45.24
over (min)	15.00	15.00
Storage Coeff. (min)=	6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.71	0.72	1.390 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	67.07	75.05
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.76	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9099)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	16.13	1.39	5.25	75.05
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	16.13	1.39	5.25	75.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6099)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1500	2.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9099)	16.130	1.390	5.25	75.05
OUTFLOW: ID= 1 (6099)	16.130	0.078	9.50	74.84

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.61
TIME SHIFT OF PEAK FLOW (min)=255.00
MAXIMUM STORAGE USED (ha.m.)= 1.0397

ADD HYD (4099)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9099 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6099):	16.13	0.078	9.50	74.84
+ ID2= 2 (9099):	0.00	0.000	0.00	0.00
ID = 3 (4099):	16.13	0.078	9.50	74.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1230)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2551):	7606.30	92.191	7.25	46.55
+ ID2= 2 (4099):	16.13	0.078	9.50	74.84
ID = 3 (1230):	7622.43	92.262	7.25	46.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5230)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5230.0) ------>

Distance	Elevation	Manning	
0.00	206.83	0.1110	
4.14	206.00	0.1110	
22.63	198.67	0.1110	
36.40	196.50	0.1110	
112.13	195.70	0.1110	
118.23	195.50	0.1110	
122.94	195.00	0.1110	
123.65	194.50	0.1110 /0.0490	Main Channel
123.86	194.36	0.0490	Main Channel

135.37	194.41	0.0490		Main Channel
135.47	194.41	0.0490		Main Channel
135.58	194.50	0.0490 /0.1110		Main Channel
136.38	195.21	0.1110		
163.77	196.50	0.1110		
176.41	197.50	0.1110		
187.00	199.50	0.1110		
197.29	200.50	0.1110		
222.22	205.14	0.1110		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	194.50	.102E+04	0.3	0.22	57.77
0.70	195.06	.639E+04	5.8	0.69	18.34
1.26	195.62	.149E+05	16.6	0.84	14.95
1.82	196.18	.395E+05	36.4	0.70	18.12
2.38	196.74	.894E+05	77.0	0.65	19.35
2.94	197.30	.147E+06	141.7	0.73	17.35
3.50	197.86	.210E+06	227.1	0.82	15.39
4.06	198.42	.275E+06	331.5	0.91	13.82
4.62	198.98	.343E+06	455.0	1.00	12.55
5.18	199.54	.412E+06	596.4	1.09	11.52
5.74	200.10	.485E+06	751.0	1.17	10.75
6.30	200.66	.560E+06	924.2	1.25	10.09
6.86	201.22	.637E+06	1117.9	1.33	9.50
7.42	201.78	.716E+06	1327.9	1.40	8.99
7.98	202.34	.797E+06	1554.0	1.47	8.55
8.54	202.90	.880E+06	1796.2	1.54	8.17
9.10	203.46	.965E+06	2054.2	1.61	7.83
9.66	204.02	.105E+07	2328.1	1.67	7.53
10.22	204.58	.114E+07	2617.9	1.74	7.26

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1230)	7622.43	92.26	7.25	46.61	2.51	0.67
OUTFLOW: ID= 1 (5230)	7622.43	90.45	7.75	46.61	2.50	0.67

CALIB STANDHYD (0230) ID= 1 DT=15.0 min	Area (ha)= 73.89 Total Imp(%)= 28.00 Dir. Conn.(%)= 22.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.69	53.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.40
Length	(m)=	701.85	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	36.53
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	54.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.228 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	64.91
TOTAL RAINFALL	(mm)=	88.54

RUNOFF COEFFICIENT =	0.99	0.66	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2230) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0230):	73.89	4.228	5.25	64.91
+ ID2= 2 (5230):	7622.43	90.446	7.75	46.61
ID = 3 (2230):	7696.32	91.878	7.75	46.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0561) ID= 1 DT=15.0 min	Area (ha)= 20.84 Total Imp(%)= 55.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.46	9.38
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80
Length	(m)=	372.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	40.60
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	49.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.792 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	76.46
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9561) Inlet Cap.=0.850 #of Inlets= 1 Total(cms)= 0.9	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

TOTAL HYD.(ID= 1):	20.84	1.79	5.25 76.46
MAJOR SYS.(ID= 2):	3.86	0.94	5.25 76.46
MINOR SYS.(ID= 3):	16.98	0.85	4.50 76.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2230):	7696.32	91.878	7.75	46.78
+ ID2= 2 (9561):	16.98	0.850	4.50	76.46
ID = 3 (****):	7713.30	92.234	7.50	46.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5389) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5389.0) ------>

Distance	Elevation	Manning	
0.00	199.34	0.1110	
3.25	198.31	0.1110	
8.26	194.50	0.1110	
12.49	192.78	0.1110	
35.23	192.57	0.1110	
45.14	192.86	0.1110	
56.75	192.19	0.1110	
64.87	192.00	0.1110	
86.92	192.00	0.1110	
87.41	191.50	0.1110	
87.93	191.00	0.1110	
88.41	190.96	0.1110 /0.0490	Main Channel
89.77	190.00	0.0490	Main Channel
93.81	190.00	0.0490	Main Channel
95.69	190.80	0.0490	Main Channel
96.61	191.00	0.0490 /0.1110	Main Channel
98.47	191.50	0.1110	
113.20	193.50	0.1110	
129.63	197.50	0.1110	
129.73	197.53	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	190.32	.222E+04	0.9	0.58	42.60
0.64	190.64	.502E+04	2.9	0.87	28.76
0.96	190.96	.843E+04	5.9	1.05	23.65
1.37	191.37	.142E+05	12.9	1.35	18.41
1.78	191.78	.214E+05	22.3	1.55	16.04
2.19	192.19	.382E+05	35.0	1.37	18.18
2.60	192.60	.702E+05	55.8	1.19	20.95
3.01	193.01	.124E+06	87.2	1.05	23.68
3.42	193.42	.185E+06	135.4	1.09	22.78
3.83	193.83	.248E+06	195.9	1.18	21.14
4.24	194.24	.313E+06	267.3	1.27	19.55
4.66	194.66	.380E+06	349.2	1.37	18.15

5.07	195.07	.448E+06	441.3	1.47	16.93
5.48	195.48	.518E+06	542.9	1.57	15.90
5.89	195.89	.589E+06	653.9	1.66	15.00
6.30	196.30	.661E+06	773.9	1.75	14.23
6.71	196.71	.734E+06	902.9	1.84	13.56
7.12	197.12	.809E+06	1040.7	1.92	12.96
7.53	197.53	.886E+06	1187.4	2.00	12.43

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (****)	7713.30	92.23	7.50	46.85	3.06	1.06
OUTFLOW: ID= 1 (5389)	7713.30	89.47	8.00	46.85	3.03	1.05

CALIB STANDHYD (0389) ID= 1 DT=15.0 min	Area (ha)= 77.16 Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.52	58.64
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.50
Length	(m)=	717.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.84
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.649 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	60.78
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2389) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0389):	77.16	4.649	5.25	60.78
+ ID2= 2 (5389):	7713.30	89.469	8.00	46.85
ID = 3 (2389):	7790.46	90.581	8.00	46.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (5680) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (5680.0) ------>

Distance	Elevation	Manning	
0.00	192.05	0.1110	
4.42	191.50	0.1110	
19.11	187.00	0.1110	
24.86	186.33	0.1110	
30.83	186.31	0.1110	
36.85	186.50	0.1110	
56.81	186.50	0.1110	
63.15	186.00	0.1110	
73.63	186.00	0.1110	
74.48	185.90	0.1110 /0.0490	Main Channel
75.36	184.90	0.0490	Main Channel
82.36	184.90	0.0490	Main Channel
83.09	185.85	0.0490 /0.1110	Main Channel
83.24	185.85	0.1110	
96.38	186.50	0.1110	
112.87	191.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	185.22	.230E+04	1.5	0.64	26.12
0.63	185.53	.476E+04	4.6	0.97	17.18
0.95	185.85	.739E+04	9.1	1.22	13.61
1.33	186.23	.150E+05	17.5	1.16	14.35
1.70	186.60	.339E+05	31.6	0.93	17.88
2.08	186.98	.626E+05	58.2	0.93	17.92
2.45	187.35	.925E+05	94.4	1.02	16.33
2.83	187.73	.123E+06	139.1	1.13	14.79
3.20	188.10	.155E+06	191.4	1.23	13.51
3.58	188.48	.188E+06	251.2	1.34	12.47
3.96	188.86	.221E+06	318.1	1.44	11.60
4.33	189.23	.256E+06	392.0	1.53	10.88
4.71	189.61	.291E+06	472.7	1.62	10.27
5.08	189.98	.328E+06	560.2	1.71	9.74
5.46	190.36	.365E+06	654.4	1.79	9.29
5.83	190.73	.403E+06	755.2	1.87	8.89
6.21	191.11	.442E+06	862.6	1.95	8.53
6.58	191.48	.482E+06	976.5	2.03	8.22
6.96	191.86	.523E+06	1088.5	2.08	8.00

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2389)	7790.46	90.58	8.00	46.99	2.41	1.01
OUTFLOW: ID= 1 (5680)	7790.46	89.96	8.25	46.99	2.41	1.01

```
-------------------
| CALIB             |
| STANDHYD  (0680) |   Area    (ha)=  29.70
|ID= 1 DT=15.0 min |   Total Imp(%)=  19.00   Dir. Conn.(%)=  19.00
-------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.64	24.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.80
Length (m)=	444.97	40.00

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.84
over (min)		15.00	15.00
Storage Coeff. (min)=		6.00 (ii)	34.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW (cms)=		0.64	1.46 2.101 (iii)
TIME TO PEAK (hrs)=		5.25	5.25 5.25
RUNOFF VOLUME (mm)=		87.54	52.33 59.02
TOTAL RAINFALL (mm)=		88.54	88.54 88.54
RUNOFF COEFFICIENT =		0.99	0.59 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
-------------------
| ADD HYD   (2680) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0680):    29.70   2.101     5.25    59.02
      + ID2= 2 (5680):  7790.46  89.962     8.25    46.99
        ================================================
        ID = 3 (2680):  7820.16  90.267     8.25    47.03
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| CALIB             |
| STANDHYD  (0215) |   Area    (ha)= 168.73
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  52.00
-------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.86	70.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.80
Length (m)=	1060.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	42.64
over (min)	15.00	30.00
Storage Coeff. (min)=	15.60 (ii)	91.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01
		TOTALS
PEAK FLOW (cms)=	9.79	3.79 11.887 (iii)
TIME TO PEAK (hrs)=	5.25	6.25 5.25
RUNOFF VOLUME (mm)=	87.54	67.57 77.96
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.76 0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
-------------------
| ROUTE CHN (5563) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
```

<------ DATA FOR SECTION (5563.0) ------>

Distance	Elevation	Manning	
0.00	191.36	0.1110	
14.77	191.00	0.1110	
25.44	190.67	0.1110	
80.93	190.90	0.1110	
145.10	190.42	0.1110	
212.09	190.83	0.1110	
285.12	189.56	0.1110	
295.52	188.71	0.1110	
307.38	188.32	0.1110	
307.51	188.31	0.1110	
312.32	188.04	0.1110 /0.0490	Main Channel
317.15	187.12	0.0490	Main Channel
321.73	188.01	0.0490 /0.1110	Main Channel
327.33	189.06	0.1110	
328.00	189.07	0.1110	
347.82	189.58	0.1110	
348.77	189.58	0.1110	
359.57	189.55	0.1110	
452.50	191.17	0.1110	
496.50	191.28	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	187.30	.208E+03	0.1	0.42	50.17
0.36	187.48	.832E+03	0.4	0.67	31.60
0.53	187.65	.187E+04	1.3	0.87	24.12
0.71	187.83	.333E+04	2.8	1.06	19.91
0.89	188.01	.520E+04	5.1	1.23	17.16
1.12	188.24	.862E+04	10.3	1.51	13.96
1.36	188.48	.138E+05	17.5	1.60	13.14
1.59	188.71	.214E+05	27.2	1.61	13.11
1.82	188.94	.309E+05	40.1	1.64	12.84
2.06	189.18	.419E+05	55.2	1.67	12.64
2.29	189.41	.561E+05	74.0	1.66	12.65
2.52	189.64	.755E+05	94.5	1.58	13.32
2.76	189.88	.104E+06	122.0	1.47	14.28
2.99	190.11	.141E+06	158.7	1.42	14.85
3.23	190.35	.186E+06	205.5	1.39	15.10
3.46	190.58	.244E+06	249.0	1.29	16.31
3.69	190.81	.332E+06	310.8	1.18	17.80
3.93	191.05	.455E+06	425.1	1.18	17.82
4.16	191.28	.588E+06	551.2	1.18	17.79

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0215)	168.73	11.89	5.25	77.96	1.17	1.53
OUTFLOW: ID= 1 (5563)	168.73	11.30	5.25	77.96	1.16	1.52


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-------------------
| CALIB             |
| STANDHYD  (0563) |   Area    (ha)=  27.61
|ID= 1 DT=15.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  37.00
-------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.22	17.39
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.90
Length (m)=	429.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.99
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	1.16	1.03 2.086 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	87.54	56.77 68.16
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.64 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2563) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0563):    27.61   2.086     5.25    68.16
      + ID2= 2 (5563):   168.73  11.304     5.25    77.96
        ================================================
        ID = 3 (2563):   196.34  13.391     5.25    76.58
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
-------------------
| CALIB             |
| STANDHYD  (0565) |   Area    (ha)=  11.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  54.00
-------------------
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.11	5.20
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	274.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	35.87
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)

```
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.69         0.36          1.023 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      87.54        63.38         76.42
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.72          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9290) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  11.31      1.02      5.25   76.42
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  11.31      1.02      5.25   76.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6290) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6680      0.3357
                          0.0690     0.0792   |   0.9860      0.4276
                          0.2090     0.1615   |   1.3660      0.5226
                          0.4090     0.2471   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9290)     11.310     1.023      5.25      76.42
     OUTFLOW: ID= 1 (6290)     11.310     0.592      5.50      76.40

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.93
                    TIME SHIFT OF PEAK FLOW          (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3104

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (4290) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9290 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6290):    11.31   0.592     5.50    76.40
        + ID2= 2 (9290):     0.00   0.000     0.00     0.00
          ==========================================================
```



```
          ID = 3 (4290):    11.31   0.592     5.50    76.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (3563) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2563):   196.34  13.391     5.25    76.58
        + ID2= 2 (4290):    11.31   0.592     5.50    76.40
          ==========================================================
          ID = 3 (3563):   207.65  13.916     5.25    76.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (3680) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2680):  7820.16  90.267     8.25    47.03
        + ID2= 2 (3563):   207.65  13.916     5.25    76.57
          ==========================================================
          ID = 3 (3680):  8027.81  94.116     8.25    47.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.41
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        13.50
     Length            (m)=      63.25        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        33.72
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.03          0.052 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        58.35         67.36
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.66          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```



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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.60
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         1.10
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        13.50
     Length            (m)=     103.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        33.72
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.08          0.138 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        58.35         67.39
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.66          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  19.81
|ID= 1 DT=15.0 min |   Total Imp(%)=  31.00   Dir. Conn.(%)=  31.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.14        13.67
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        13.50
     Length            (m)=     363.41        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        33.72
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.69         1.01          1.705 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        58.35         67.40
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.66          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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```
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    19.81   1.705     5.25    67.40
        + ID2= 2 (****):     1.60   0.138     5.25    67.39
          ==========================================================
          ID = 3 (0405):    21.41   1.842     5.25    67.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0404) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0405):    21.41   1.842     5.25    67.39
        + ID2= 2 (****):     0.60   0.052     5.25    67.36
          ==========================================================
          ID = 3 (0404):    22.01   1.894     5.25    67.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9473) |
| Inlet Cap.=0.059 |
| #of Inlets=    1 |
| Total(cms)=  0.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  22.01      1.89      5.25   67.39
     ==========================================================
     MAJOR SYS.(ID= 2):  18.77      1.84      5.25   67.39
     MINOR SYS.(ID= 3):   3.24      0.06      2.50   67.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6473) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0590      0.2565

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9473)      3.242     0.059      2.50      67.39
     OUTFLOW: ID= 1 (6473)      3.242     0.033     12.50      67.06

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.22
                    TIME SHIFT OF PEAK FLOW          (min)=600.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1418

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| ADD HYD   (4473) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6473):     3.24   0.033    12.50    67.06
      + ID2= 2 (9473):    18.77   1.835     5.25    67.39
        ================================================
        ID = 3 (4473):    22.01   1.848     5.25    67.34

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1227) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (3680):  8027.81  94.116     8.25    47.80
      + ID2= 2 (4473):    22.01   1.848     5.25    67.34
        ================================================
        ID = 3 (1227):  8049.82  94.302     8.25    47.85

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5227) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (5227.0) ------>
               Distance      Elevation       Manning
                  0.00         183.10        0.1110
                  2.58         183.12        0.1110
                 12.20         179.50        0.1110
                 18.00         179.50        0.1110
                 24.51         179.00        0.1110
                 31.60         179.00        0.1110
                 36.79         179.37        0.1110
                 53.69         179.00    0.1110 /0.0490  Main Channel
                 55.00         178.00        0.0490      Main Channel
                 68.00         178.00        0.0490      Main Channel
                 69.17         179.00    0.0490 /0.1110  Main Channel
                 81.13         179.50        0.1110
                103.11         179.50        0.1110
                130.08         180.00        0.1110
                146.16         180.75        0.1110
                171.96         185.35        0.1110

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   178.25    .765E+04       2.3          0.70      54.53
      0.50   178.50    .157E+05       7.4          1.09      35.12
      0.75   178.75    .240E+05      14.6          1.40      27.35
      1.00   179.00    .327E+05      23.7          1.67      23.01
      1.27   179.27    .552E+05      37.9          1.58      24.27
      1.55   179.55    .952E+05      58.0          1.40      27.36
      1.82   179.82    .159E+06      89.5          1.29      29.60
      2.09   180.09    .232E+06     131.2          1.30      29.46
      2.37   180.37    .310E+06     183.3          1.36      28.21
      2.64   180.64    .393E+06     244.7          1.43      26.77
      2.91   180.91    .479E+06     316.3          1.52      25.24
      3.19   181.19    .567E+06     397.7          1.61      23.76
      3.46   181.46    .656E+06     487.5          1.71      22.43
```



```
      3.73   181.73    .747E+06     585.4          1.80      21.26
      4.01   182.01    .839E+06     691.2          1.89      20.23
      4.28   182.28    .933E+06     804.7          1.98      19.32
      4.55   182.55    .103E+07     925.7          2.07      18.50
      4.83   182.83    .112E+07    1054.1          2.16      17.77
      5.10   183.10    .122E+07    1189.9          2.24      17.11

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
 INFLOW : ID= 2 (1227) 8049.82    94.30    8.25  47.85      1.85      1.30
 OUTFLOW: ID= 1 (5227) 8049.82    91.15    8.75  47.85      1.83      1.30


--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  91.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.38         62.44
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.60
     Length            (m)=     782.39         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         31.55
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.20 (ii)    60.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.32          2.90          5.497 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME    (mm)=      87.54         53.77          64.58
     TOTAL RAINFALL   (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT   =       0.99          0.61           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   4.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.38          2.92
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.60
     Length            (m)=     169.31         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         31.55
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.20 (ii)    60.60 (ii)
```



```
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.16          0.14           0.257 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME    (mm)=      87.54         53.77          64.57
     TOTAL RAINFALL   (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT   =       0.99          0.61           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  12.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  32.00   Dir. Conn.(%)=  32.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.99          8.49
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.60
     Length            (m)=     288.44         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         31.55
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      10.20 (ii)    60.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.45          0.39           0.747 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME    (mm)=      87.54         53.77          64.57
     TOTAL RAINFALL   (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT   =       0.99          0.61           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0359) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    12.48   0.747     5.25    64.57
      + ID2= 2 (****):     4.30   0.257     5.25    64.57
        ================================================
        ID = 3 (0359):    16.78   1.005     5.25    64.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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-------------------
| ADD HYD   (0358) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0359):    16.78   1.005     5.25    64.57
      + ID2= 2 (****):    91.82   5.497     5.25    64.58
        ================================================
        ID = 3 (0358):   108.60   6.501     5.25    64.57

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (2227) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0358):   108.60   6.501     5.25    64.57
      + ID2= 2 (5227):  8049.82  91.150     8.75    47.85
        ================================================
        ID = 3 (2227):  8158.42  92.286     8.75    48.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0197) |   Area    (ha)= 124.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  62.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      83.33         41.05
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.50
     Length            (m)=     910.60         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         43.67
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.20 (ii)    76.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=       8.66          2.54          10.356 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=      87.54         69.41          80.65
     TOTAL RAINFALL   (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT   =       0.99          0.78           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0183) |   Area    (ha)=  74.89
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|ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	63.66	11.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	706.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	39.09
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	67.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	7.18	0.69	7.738 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	73.00	85.36
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.82	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1191)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0183):	74.89	7.738	5.25	85.36
	+ ID2= 2 (0197):	124.38	10.356	5.25	80.65
	ID = 3 (1191):	199.27	18.094	5.25	82.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5191)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5191.0) ------>

Distance	Elevation	Manning	
0.00	206.09	0.1110	
41.11	202.34	0.1110	
69.44	202.09	0.1110	
120.54	202.43	0.1110	
159.64	202.06	0.1110	
176.80	201.18	0.1110	
193.03	197.88	0.1110	
193.97	197.91	0.1110 /0.0490	Main Channel
202.84	197.45	0.0490	Main Channel
207.88	196.02	0.0490 /0.1110	Main Channel
219.68	198.15	0.1110	
226.18	199.27	0.1110	
252.21	200.52	0.1110	
288.65	200.95	0.1110	

324.33	200.78	0.1110
336.83	201.55	0.1110
350.63	201.56	0.1110
407.58	202.86	0.1110
457.84	201.67	0.1110
478.94	202.83	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	196.38	.805E+03	0.2	0.26	88.04
0.72	196.74	.322E+04	1.0	0.42	55.46
1.08	197.10	.724E+04	2.9	0.54	42.32
1.43	197.45	.129E+05	6.1	0.66	35.09
1.79	197.81	.215E+05	10.3	0.66	34.83
2.15	198.17	.344E+05	20.5	0.83	27.92
2.51	198.53	.493E+05	35.2	0.99	23.31
2.87	198.89	.661E+05	53.8	1.13	20.47
3.23	199.25	.848E+05	76.3	1.24	18.53
3.58	199.60	.107E+06	99.7	1.29	17.82
3.94	199.96	.133E+06	128.8	1.34	17.20
4.30	200.32	.164E+06	163.8	1.38	16.67
4.66	200.68	.201E+06	198.9	1.37	16.81
5.02	201.04	.260E+06	234.3	1.24	18.51
5.38	201.40	.337E+06	305.3	1.25	18.42
5.73	201.75	.425E+06	376.5	1.22	18.83
6.09	202.11	.535E+06	456.7	1.18	19.53
6.45	202.47	.701E+06	555.9	1.10	21.03
6.81	202.83	.909E+06	714.3	1.09	21.22

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1191)	199.27	18.09	5.25	82.42	2.07	0.78
OUTFLOW: ID= 1 (5191)	199.27	15.15	5.25	82.42	1.96	0.73

CALIB	
STANDHYD (0191)	Area (ha)= 162.87
ID= 1 DT=15.0 min	Total Imp(%)= 82.00 Dir. Conn.(%)= 81.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	133.55	29.32
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	1042.02	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	40.85
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	78.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	14.82	1.71	15.969 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	87.54	71.75	84.54
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.81	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2191)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0191):	162.87	15.969	5.25	84.54
	+ ID2= 2 (5191):	199.27	15.154	5.25	82.42
	ID = 3 (2191):	362.14	31.124	5.25	83.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5214)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5214.0) ------>

Distance	Elevation	Manning	
0.00	190.50	0.1110	
2.09	189.13	0.1110	
13.57	187.20	0.1110	
23.54	186.97	0.1110 /0.0490	Main Channel
26.84	186.32	0.0490	Main Channel
27.21	186.25	0.0490	Main Channel
31.31	187.11	0.0490 /0.1110	Main Channel
35.60	187.49	0.1110	
46.65	189.04	0.1110	
49.91	188.81	0.1110	
63.03	189.57	0.1110	
78.54	190.45	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	186.43	.305E+03	0.1	0.37	85.15
0.36	186.61	.121E+04	0.4	0.59	53.70
0.54	186.79	.272E+04	1.1	0.77	41.01
0.72	186.97	.484E+04	2.4	0.93	33.86
0.95	187.20	.104E+05	5.6	1.01	31.17
1.18	187.43	.196E+05	11.1	1.07	29.32
1.42	187.67	.303E+05	18.7	1.17	27.02
1.65	187.90	.424E+05	28.2	1.26	25.01
1.88	188.13	.558E+05	39.8	1.35	23.38
2.11	188.36	.705E+05	53.3	1.43	22.05
2.34	188.59	.866E+05	68.9	1.50	20.94
2.58	188.83	.104E+06	86.4	1.57	20.06
2.81	189.06	.125E+06	104.5	1.58	19.87
3.04	189.29	.148E+06	128.2	1.63	19.28
3.27	189.52	.174E+06	155.0	1.68	18.70
3.50	189.75	.201E+06	184.8	1.73	18.17
3.74	189.99	.231E+06	217.7	1.78	17.68
3.97	190.22	.262E+06	253.8	1.83	17.24
4.20	190.45	.296E+06	293.1	1.87	16.82

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2191)	362.14	31.12	5.25	83.37	1.71	1.28
OUTFLOW: ID= 1 (5214)	362.14	26.43	5.50	83.37	1.60	1.24

CALIB	
STANDHYD (0214)	Area (ha)= 38.36
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	19.18	19.18
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	505.70	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	35.16
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	2.17	1.23	3.290 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	87.54	61.65	74.59
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.70	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2214)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0214):	38.36	3.290	5.25	74.59
	+ ID2= 2 (5214):	362.14	26.431	5.50	83.37
	ID = 3 (2214):	400.50	29.155	5.25	82.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0134)	Area (ha)= 24.26
ID= 1 DT=15.0 min	Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.95	6.31
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30

Length	(m)=	402.16	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	37.89
over (min)		15.00	30.00
Storage Coeff. (min)	=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	45.00
Unit Hyd. peak (cms)	=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.03	0.44	2.434 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	68.95	82.70
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.78	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9313)				
Inlet Cap.=8.700				
#of Inlets= 1				
Total(cms)= 8.7		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		24.26	2.43	5.25	82.70
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		24.26	2.43	5.25	82.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6313)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.1050	0.6800
	0.1030	0.5950	8.7000	0.9200

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9313)	24.260	2.434	5.25	82.70
OUTFLOW: ID= 1 (6313)	24.260	2.463	5.25	82.65

PEAK FLOW REDUCTION [Qout/Qin](%)=101.20
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.7472

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (4313)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)

*** W A R N I N G : HYDROGRAPH 9313 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6313):	24.26	2.463	5.25	82.65
+ ID2= 2 (9313):	0.00	0.000	0.00	0.00
ID = 3 (4313):	24.26	2.463	5.25	82.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3214)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2214):	400.50	29.155	5.25	82.53
+ ID2= 2 (4313):	24.26	2.463	5.25	82.65
ID = 3 (3214):	424.76	31.618	5.25	82.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0189)	Area (ha)=	116.03	
ID= 1 DT=15.0 min	Total Imp(%)=	74.00	Dir. Conn.(%)= 74.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	85.86	30.17
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.20
Length	(m)=	879.51	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	37.89
over (min)		15.00	30.00
Storage Coeff. (min)	=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)	=	15.00	60.00
Unit Hyd. peak (cms)	=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	9.69	1.80	11.126 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	68.95	82.71
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.78	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5200)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5200.0) ------>
Distance Elevation Manning

0.00	193.37	0.1110
17.44	193.51	0.1110
50.09	193.00	0.1110
90.09	192.83	0.1110
121.68	192.17	0.1110
128.93	192.61	0.1110
141.32	191.78	0.1110
147.98	191.88	0.1110
197.61	189.48	0.1110 /0.0490 Main Channel
204.01	189.06	0.0490 Main Channel
205.40	188.96	0.0490 Main Channel
211.29	189.53	0.0490 /0.1110 Main Channel
222.97	191.23	0.1110
226.70	191.10	0.1110
263.00	191.03	0.1110
355.09	192.45	0.1110
382.19	192.49	0.1110
383.02	192.49	0.1110
396.28	192.31	0.1110
520.20	195.65	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	189.13	.489E+03	0.1	0.39	56.62
0.35	189.31	.199E+04	0.9	0.62	35.61
0.52	189.48	.451E+04	2.8	0.82	27.13
0.76	189.72	.990E+04	8.6	1.15	19.26
1.01	189.97	.175E+05	17.5	1.33	16.62
1.25	190.21	.272E+05	29.7	1.45	15.26
1.49	190.45	.391E+05	45.3	1.54	14.36
1.74	190.70	.531E+05	64.6	1.62	13.70
1.98	190.94	.693E+05	87.8	1.68	13.16
2.22	191.18	.945E+05	112.8	1.59	13.96
2.47	191.43	.133E+06	151.5	1.51	14.68
2.71	191.67	.179E+06	199.9	1.48	14.95
2.95	191.91	.233E+06	253.7	1.45	15.28
3.19	192.15	.294E+06	326.4	1.47	15.02
3.44	192.40	.365E+06	396.3	1.44	15.34
3.68	192.64	.457E+06	480.9	1.40	15.85
3.92	192.88	.561E+06	600.7	1.42	15.57
4.17	193.13	.680E+06	737.3	1.44	15.37
4.41	193.37	.808E+06	909.7	1.50	14.81

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0189)	116.03	11.13	5.25	82.71	0.83	1.20
OUTFLOW: ID= 1 (5200)	116.03	10.54	5.25	82.70	0.82	1.19

CALIB			
STANDHYD (0200)	Area (ha)=	47.53	
ID= 1 DT=15.0 min	Total Imp(%)=	81.00	Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.50	9.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	562.91	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)	=	40.71	38.51
over (min)		15.00	30.00
Storage Coeff. (min)	=	9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)	=	15.00	60.00
Unit Hyd. peak (cms)	=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.35	0.59	4.831 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	70.94	84.38
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.80	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2200)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0200):	47.53	4.831	5.25	84.38
+ ID2= 2 (5200):	116.03	10.541	5.25	82.70
ID = 3 (2200):	163.56	15.372	5.25	83.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1650)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2200):	163.56	15.372	5.25	83.19
+ ID2= 2 (3214):	424.76	31.618	5.25	82.54
ID = 3 (1650):	588.32	46.990	5.25	82.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5650)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5650.0) ------>

Distance	Elevation	Manning	
0.00	186.99	0.1110	
0.62	186.98	0.1110	
54.47	185.71	0.1110	
69.34	182.09	0.1110 /0.0490	Main Channel
71.18	181.64	0.0490	Main Channel
73.43	182.23	0.0490 /0.1110	Main Channel
82.69	184.73	0.1110	
87.60	185.04	0.1110	
110.20	184.66	0.1110	

129.32	184.73	0.1110
164.79	185.85	0.1110
170.26	185.86	0.1110

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	181.79	.249E+02	0.0	0.18	26.45
0.30	181.94	.997E+02	0.1	0.28	16.66
0.45	182.09	.224E+03	0.3	0.37	12.71
0.69	182.33	.521E+03	1.0	0.53	8.87
0.92	182.56	.939E+03	2.1	0.63	7.37
1.16	182.80	.148E+04	3.7	0.70	6.65
1.39	183.03	.214E+04	5.7	0.75	6.21
1.63	183.27	.292E+04	8.3	0.79	5.90
1.86	183.50	.383E+04	11.3	0.83	5.65
2.10	183.74	.486E+04	14.9	0.86	5.44
2.34	183.98	.600E+04	19.0	0.89	5.26
2.57	184.21	.727E+04	23.7	0.92	5.10
2.81	184.45	.866E+04	29.1	0.94	4.96
3.04	184.68	.102E+05	33.4	0.92	5.09
3.28	184.92	.138E+05	39.5	0.80	5.82
3.51	185.15	.190E+05	50.2	0.74	6.31
3.75	185.39	.250E+05	64.4	0.72	6.46
3.98	185.62	.315E+05	81.4	0.72	6.45
4.22	185.86	.387E+05	96.4	0.70	6.69

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1650)	588.32	46.99	5.25	82.72	3.44	0.76
OUTFLOW: ID= 1 (5650)	588.32	43.44	5.25	82.72	3.36	0.78

CALIB	
STANDHYD (0650)	Area (ha)= 10.55
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.59	4.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	265.20	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	34.44
over (min)		15.00	15.00
Storage Coeff. (min)	=	5.40 (ii)	33.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	0.63	0.36	0.988 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	59.97	74.58
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.68	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2650)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0650):	10.55	0.988	5.25	74.58
	+ ID2= 2 (5650):	588.32	43.445	5.25	82.72
	ID = 3 (2650):	598.87	44.432	5.25	82.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0187)	Area (ha)= 103.50
ID= 1 DT=15.0 min	Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	83.83	19.66
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	830.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	38.51
over (min)		15.00	30.00
Storage Coeff. (min)	=	13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)	=	15.00	75.00
Unit Hyd. peak (cms)	=	0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	9.42	1.08	10.145 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	70.94	84.38
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.80	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2187)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0187):	103.50	10.145	5.25	84.38
	+ ID2= 2 (2650):	598.87	44.432	5.25	82.58
	ID = 3 (2187):	702.37	54.578	5.25	82.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0212)	Area (ha)= 14.09
ID= 1 DT=15.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.38	10.71
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.60
Length	(m)=	306.49	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	32.27
over (min)		15.00	15.00
Storage Coeff. (min)	=	5.40 (ii)	31.20 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.38	0.72	1.098 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	55.25	63.00
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.62	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9474)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=0.031					
#of Inlets= 1					
Total(cms)= 0.0	TOTAL HYD.(ID= 1):	14.09	1.10	5.25	63.00
	MAJOR SYS.(ID= 2):	12.20	1.07	5.25	63.00
	MINOR SYS.(ID= 3):	1.89	0.03	2.50	63.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6474)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1		0.0000	0.0000	0.0310	0.1340
DT= 15.0 min					

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9474)	1.886	0.031	2.50	63.00
OUTFLOW: ID= 1 (6474)	1.886	0.018	12.50	62.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 57.41
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.0770

ADD HYD (4474)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6474):	1.89	0.018	12.50	62.43
	+ ID2= 2 (9474):	12.20	1.067	5.25	63.00
	ID = 3 (4474):	14.09	1.074	5.25	62.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1210)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2187):	702.37	54.578	5.25	82.84
	+ ID2= 2 (4474):	14.09	1.074	5.25	62.92
	ID = 3 (1210):	716.46	55.652	5.25	82.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5210)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5210.0) ------>

Distance	Elevation	Manning	
0.00	186.99	0.1110	
0.62	186.98	0.1110	
54.47	185.71	0.1110	
69.34	182.09	0.1110 /0.0490	Main Channel
71.18	181.64	0.0490	Main Channel
73.43	182.23	0.0490 /0.1110	Main Channel
82.69	184.73	0.1110	
87.60	185.04	0.1110	
110.20	184.66	0.1110	
129.32	184.73	0.1110	
164.79	185.85	0.1110	
170.26	185.86	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	181.79	.140E+03	0.0	0.24	111.40
0.30	181.94	.561E+03	0.1	0.37	70.18
0.45	182.09	.126E+04	0.4	0.49	53.56
0.69	182.33	.293E+04	1.3	0.70	37.38
0.92	182.56	.528E+04	2.8	0.85	31.04
1.16	182.80	.832E+04	4.9	0.94	28.03
1.39	183.03	.120E+05	7.7	1.00	26.17
1.63	183.27	.164E+05	11.0	1.06	24.84
1.86	183.50	.215E+05	15.1	1.10	23.79
2.10	183.74	.273E+05	19.8	1.15	22.92
2.34	183.98	.338E+05	25.4	1.19	22.17
2.57	184.21	.409E+05	31.7	1.22	21.50
2.81	184.45	.487E+05	38.8	1.26	20.91

3.04	184.68	.573E+05	44.5	1.22	21.46
3.28	184.92	.774E+05	52.7	1.07	24.50
3.51	185.15	.107E+06	67.1	0.99	26.57
3.75	185.39	.140E+06	86.0	0.97	27.21
3.98	185.62	.177E+06	108.6	0.97	27.17
4.22	185.86	.218E+06	128.7	0.93	28.18

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1210)	716.46	55.65	5.25	82.45	3.33	1.05
OUTFLOW: ID= 1 (5210)	716.46	47.40	5.75	82.45	3.12	1.17

CALIB	
STANDHYD (****)	Area (ha)= 20.85
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.38	16.47
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	372.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.84
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.49	0.79	1.091 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	52.33	59.73
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.59	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 1.40
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.29	1.11
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	96.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.84
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)

		TOTALS
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
PEAK FLOW	(cms)=	0.03	0.05	0.073 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	52.33	59.71
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.59	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0352)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	20.85	1.091	5.25	59.73
+ ID2= 2 (****):	1.40	0.073	5.25	59.71
ID = 3 (0352):	22.25	1.165	5.25	59.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 32.86
ID= 1 DT=15.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.90	25.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	468.05	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.84
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.78	1.24	1.720 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	52.33	59.73
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.59	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0351)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0352):	22.25	1.165	5.25	59.72
+ ID2= 2 (****):	32.86	1.720	5.25	59.73
ID = 3 (0351):	55.11	2.885	5.25	59.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2210)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0351):	55.11	2.885	5.25	59.73
+ ID2= 2 (5210):	716.46	47.398	5.75	82.45
ID = 3 (2210):	771.57	49.878	5.75	80.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1431)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2210):	771.57	49.878	5.75	80.83
+ ID2= 2 (2227):	8158.42	92.286	8.75	48.07
ID = 3 (1431):	8929.99	104.986	8.25	50.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5431)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5431.0) ------>

Distance	Elevation	Manning	
0.00	176.00	0.1110	
18.09	175.90	0.1110	
27.45	175.50	0.1110	
47.50	172.50	0.1110	
67.08	171.89	0.1110	
142.45	171.74	0.1110	
221.81	171.00	0.1110	
241.52	171.00	0.1110	
242.37	170.64	0.1110 /0.0490	Main Channel
242.71	170.00	0.0490	Main Channel
253.79	170.00	0.0490	Main Channel
256.58	170.50	0.0490 /0.1110	Main Channel
257.61	170.61	0.1110	
261.77	171.00	0.1110	
278.03	171.50	0.1110	
301.37	172.00	0.1110	
309.55	174.50	0.1110	

324.51	174.87	0.1110
351.19	174.68	0.1110
357.20	176.00	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	170.25	.704E+03	2.0	0.68	5.79
0.50	170.50	.150E+04	6.6	1.04	3.81
0.82	170.82	.273E+04	16.4	1.43	2.78
1.15	171.15	.528E+04	30.8	1.38	2.86
1.47	171.47	.117E+05	55.8	1.14	3.49
1.79	171.79	.218E+05	93.3	1.02	3.90
2.12	172.12	.393E+05	161.6	0.98	4.05
2.44	172.44	.584E+05	263.6	1.07	3.69
2.76	172.76	.781E+05	393.2	1.20	3.31
3.09	173.09	.981E+05	546.6	1.33	2.99
3.41	173.41	.118E+06	721.6	1.45	2.73
3.74	173.74	.139E+06	917.2	1.57	2.52
4.06	174.06	.160E+06	1132.4	1.69	2.35
4.38	174.38	.181E+06	1366.6	1.80	2.20
4.71	174.71	.202E+06	1590.5	1.87	2.12
5.03	175.03	.226E+06	1819.4	1.91	2.07
5.35	175.35	.251E+06	2124.7	2.01	1.97
5.68	175.68	.276E+06	2436.9	2.10	1.89
6.00	176.00	.302E+06	2681.4	2.11	1.88

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1431)	8929.99	104.99	8.25	50.90	1.85	1.01
OUTFLOW: ID= 1 (5431)	8929.99	105.02	8.50	50.90	1.85	1.01

CALIB	
STANDHYD (0431)	Area (ha)= 8.28
ID= 1 DT=15.0 min	Total Imp(%)= 22.00 Dir. Conn.(%)= 22.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.82	6.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	234.95	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	28.75
over (min)		15.00	30.00
Storage Coeff. (min)=		5.40 (ii)	30.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	0.21	0.38	0.583 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	48.28	56.91
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.55	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2431)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0431):		8.28	0.583	5.25	56.91
+ ID2= 2 (5431):		8929.99	105.015	8.50	50.90
ID = 3 (2431):		8938.27	105.077	8.50	50.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5213)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5213.0) ------>

Distance	Elevation	Manning	
0.00	171.99	0.1110	
10.86	169.00	0.1110	
21.10	168.00	0.1110	
30.39	165.73	0.1110	
64.57	165.00	0.1110	
65.32	164.91	0.1110	
68.94	164.50	0.1110	
71.70	164.50	0.1110 /0.0490	Main Channel
71.83	163.50	0.0490	Main Channel
75.93	163.50	0.0490	Main Channel
76.19	164.48	0.0490 /0.1110	Main Channel
76.80	164.50	0.1110	
78.99	165.50	0.1110	
107.09	166.50	0.1110	
126.24	171.00	0.1110	
133.28	171.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	163.83	.319E+04	0.9	0.63	62.42
0.65	164.15	.647E+04	2.5	0.92	42.47
0.98	164.48	.986E+04	4.7	1.13	34.66
1.42	164.92	.201E+05	9.6	1.13	34.67
1.86	165.36	.410E+05	17.2	0.98	39.67
2.30	165.80	.862E+05	31.4	0.85	45.81
2.73	166.24	.152E+06	57.6	0.89	44.08
3.17	166.67	.232E+06	95.3	0.96	40.57
3.61	167.11	.317E+06	144.7	1.07	36.56
4.05	167.55	.407E+06	204.0	1.18	33.22
4.49	167.99	.500E+06	272.8	1.28	30.53
4.93	168.43	.598E+06	346.1	1.36	28.78
5.37	168.87	.702E+06	429.2	1.43	27.27
5.81	169.31	.813E+06	527.3	1.52	25.69
6.24	169.74	.927E+06	637.5	1.61	24.23
6.68	170.18	.104E+07	757.3	1.70	22.98
7.12	170.62	.117E+07	886.9	1.78	21.91
7.56	171.06	.129E+07	1023.7	1.86	21.01
8.00	171.50	.142E+07	1156.8	1.91	20.48

Average Slope	(%)=	1.00	2.80	
Length	(m)=	484.22	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	45.05	
over (min)		15.00	30.00	
Storage Coeff. (min)=		8.40 (ii)	50.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	1.51	1.44	2.825 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	67.00	74.81
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.76	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2561)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0559):		35.17	2.825	5.25	74.81
+ ID2= 2 (9561):		3.86	0.942	5.25	76.46
ID = 3 (2561):		39.03	3.767	5.25	74.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9105)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	39.03	3.77	5.25	74.97	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	39.03	3.77	5.25	74.97	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6105)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6400	0.3000
	0.0990	0.0030	0.8600	0.4700
	0.2100	0.0050	1.3200	0.7100
	0.3400	0.0100	1.9000	0.9500
	0.4600	0.0330	2.5600	1.2000
	0.5600	0.1330	3.2000	1.4500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2431)	8938.27	105.08	8.50	50.91	3.26	0.98
OUTFLOW: ID= 1 (5213)	8938.27	103.17	8.75	50.91	3.24	0.98

CALIB			
STANDHYD (0213)	Area (ha)= 101.69		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 50.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	50.85	50.85	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.80	
Length (m)=	823.37	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	32.99	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	5.74	2.45	7.591 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	56.77	72.16
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.64	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2213)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0213):		101.69	7.591	5.25	72.16
+ ID2= 2 (5213):		8938.27	103.168	8.75	50.91
ID = 3 (2213):		9039.96	104.138	8.75	51.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0559)	Area (ha)= 35.17		
ID= 1 DT=15.0 min	Total Imp(%)= 49.00	Dir. Conn.(%)= 38.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	17.23	17.94	
Dep. Storage (mm)=	1.00	4.00	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9105)	39.031	3.767	5.25	74.97
OUTFLOW: ID= 1 (6105)	39.031	1.825	6.00	74.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 48.45
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.9250

ADD HYD (4105)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G : HYDROGRAPH 9105 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (6105):		39.03	1.825	6.00	74.97
+ ID2= 2 (9105):		0.00	0.000	0.00	0.00
ID = 3 (4105):		39.03	1.825	6.00	74.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 3.04		
ID= 1 DT=15.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.73	2.31	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.60	
Length (m)=	142.36	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	31.55	
over (min)	15.00	15.00	
Storage Coeff. (min)=	3.60 (ii)	22.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.06	
			TOTALS
PEAK FLOW (cms)=	0.08	0.18	0.262 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	53.77	61.87
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.61	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9470)
Inlet Cap.=*****

```
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.04      0.26      5.25   61.87
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.04      0.26      5.25   61.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (6470) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0190      0.1800
                          0.0110     0.0490   |   0.4930      0.2300
                          0.0160     0.1130   |   2.4340      0.3150

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9470)      3.040     0.262      5.25      61.87
     OUTFLOW: ID= 1 (6470)      3.040     0.018      8.50      61.50

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.75
                    TIME SHIFT OF PEAK FLOW          (min)=195.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1507

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (4470) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9470 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6470):     3.04   0.018     8.50    61.50
        + ID2= 2 (9470):     0.00   0.000     0.00     0.00
          ==============================================
          ID = 3 (4470):     3.04   0.018     8.50    61.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (2568) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4105):    39.03   1.825     6.00    74.97
        + ID2= 2 (4470):     3.04   0.018     8.50    61.50
          ==============================================
          ID = 3 (2568):    42.07   1.841     6.00    74.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   3.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
```



```
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.85         1.92
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.90
     Length            (m)=    158.53        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        35.87
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      4.20 (ii)   25.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.11         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.21         0.16        0.367 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=     87.54        63.38        75.22
     TOTAL RAINFALL   (mm)=     88.54        88.54        88.54
     RUNOFF COEFFICIENT   =      0.99         0.72         0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| DUHYD     (9471) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.77      0.37      5.25   75.22
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.77      0.37      5.25   75.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (6471) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0110      0.1460
                          0.0050     0.0110   |   0.1620      0.1660
                          0.0090     0.0690   |   0.9650      0.2080

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9471)      3.770     0.367      5.25      75.22
     OUTFLOW: ID= 1 (6471)      3.770     0.154      6.00      75.07

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 41.86
                    TIME SHIFT OF PEAK FLOW          (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1653

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--------------------
| ADD HYD   (4471) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9471 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6471):     3.77   0.154     6.00    75.07
        + ID2= 2 (9471):     0.00   0.000     0.00     0.00
          ==============================================
          ID = 3 (4471):     3.77   0.154     6.00    75.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2605) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2568):    42.07   1.841     6.00    74.00
        + ID2= 2 (4471):     3.77   0.154     6.00    75.07
          ==============================================
          ID = 3 (2605):    45.84   1.995     6.00    74.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 128.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     57.83        70.68
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.60
     Length            (m)=    925.56        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        33.72
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.80 (ii)   81.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=      6.49         3.06        8.366 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=     87.54        58.35        71.48
     TOTAL RAINFALL   (mm)=     88.54        88.54        88.54
     RUNOFF COEFFICIENT   =      0.99         0.66         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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```
| STANDHYD  (****) |   Area    (ha)=   3.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.37         1.67
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.60
     Length            (m)=    142.36        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        33.72
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.80 (ii)   81.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.15         0.07        0.198 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=     87.54        58.35        71.47
     TOTAL RAINFALL   (mm)=     88.54        88.54        88.54
     RUNOFF COEFFICIENT   =      0.99         0.66         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  24.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     10.80        13.20
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.60
     Length            (m)=    400.00        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        33.72
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.80 (ii)   81.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.21         0.57        1.562 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=     87.54        58.35        71.48
     TOTAL RAINFALL   (mm)=     88.54        88.54        88.54
     RUNOFF COEFFICIENT   =      0.99         0.66         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (0390) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    24.00   1.562     5.25    71.48
      + ID2= 2 (****):     3.04   0.198     5.25    71.47
        ================================================
        ID = 3 (0390):    27.04   1.760     5.25    71.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (0391) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0390):    27.04   1.760     5.25    71.48
      + ID2= 2 (****):   128.50   8.366     5.25    71.48
        ================================================
        ID = 3 (0391):   155.54  10.126     5.25    71.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD   (2603) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0391):   155.54  10.126     5.25    71.48
      + ID2= 2 (2605):    45.84   1.995     6.00    74.09
        ================================================
        ID = 3 (2603):   201.38  11.555     5.25    72.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| DUHYD     (9961) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1): 201.38     11.56      5.25   72.07
    ================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3): 201.38     11.56      5.25   72.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| RESERVOIR (6961) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   5.7000      4.8500
                          1.6000     3.9500   |   6.2000      5.1400
                          3.4000     4.2400   |   7.2000      5.6300
                          4.2000     4.4000   |  23.4500      7.4400
```



```
                                 AREA     QPEAK     TPEAK      R.V.
                                  (ha)     (cms)     (hrs)      (mm)
    INFLOW : ID= 2 (9961)    201.381     11.555      5.25     72.07
    OUTFLOW: ID= 1 (6961)    201.381      6.643      6.50     72.07

              PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.49
              TIME SHIFT OF PEAK FLOW       (min)= 75.00
              MAXIMUM  STORAGE   USED      (ha.m.)=  5.3671

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4961) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9961 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6961):   201.38   6.643     6.50    72.07
      + ID2= 2 (9961):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4961):   201.38   6.643     6.50    72.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5602) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5602.0) ------>
               Distance      Elevation       Manning
                   0.00         188.36        0.1110
                  46.99         187.30        0.1110
                 162.32         186.72        0.1110
                 234.98         185.20        0.1110
                 249.46         183.65    0.1110 /0.0490  Main Channel
                 254.33         182.64        0.0490      Main Channel
                 258.04         183.49        0.0490      Main Channel
                 258.31         183.51        0.0490      Main Channel
                 262.53         182.77        0.0490      Main Channel
                 262.63         182.75        0.0490      Main Channel
                 267.86         183.52    0.0490 /0.1110  Main Channel
                 270.83         183.61        0.1110
                 286.95         183.40        0.1110
                 289.09         183.46        0.1110
                 298.71         185.52        0.1110
                 325.92         186.31        0.1110
                 406.09         185.45        0.1110
                 529.18         187.66        0.1110
                 556.31         187.61        0.1110
                 804.52         190.22        0.1110

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.29   182.93    .360E+03       0.3         0.50       19.84
       0.59   183.23    .179E+04       2.5         0.84       11.80
       0.88   183.52    .478E+04       8.3         1.03        9.61
       1.18   183.82    .119E+05      23.5         1.18        8.45
       1.49   184.13    .200E+05      46.9         1.40        7.12
       1.79   184.43    .289E+05      77.4         1.60        6.23
```



```
       2.09   184.73    .386E+05     114.7          1.77        5.61
       2.39   185.03    .490E+05     158.8          1.93        5.15
       2.70   185.34    .604E+05     208.1          2.05        4.84
       3.00   185.64    .761E+05     241.2          1.89        5.26
       3.30   185.94    .103E+06     300.5          1.73        5.74
       3.60   186.24    .143E+06     390.6          1.63        6.12
       3.90   186.54    .194E+06     522.2          1.61        6.19
       4.21   186.85    .251E+06     675.9          1.61        6.19
       4.51   187.15    .321E+06     859.4          1.60        6.22
       4.81   187.45    .403E+06    1099.0          1.63        6.11
       5.11   187.75    .494E+06    1347.8          1.63        6.11
       5.42   188.06    .596E+06    1679.2          1.68        5.92
       5.72   188.36    .706E+06    2056.8          1.74        5.72

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (4961)  201.38     6.64    6.50  72.07      0.80      0.97
    OUTFLOW: ID= 1 (5602)  201.38     6.64    6.75  72.07      0.80      0.97

--------------------
| CALIB            |
| STANDHYD  (0602) |   Area    (ha)=  42.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  67.00   Dir. Conn.(%)=  67.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      28.80         14.19
    Dep. Storage     (mm)=       1.00          4.00
    Average Slope     (%)=       1.00          2.90
    Length            (m)=     535.35         40.00
    Mannings n            =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      40.71         36.56
              over (min)        15.00         30.00
    Storage Coeff.  (min)=       9.00 (ii)    52.80 (ii)
    Unit Hyd. Tpeak (min)=      15.00         60.00
    Unit Hyd. peak  (cms)=       0.09          0.02
                                                        *TOTALS*
    PEAK FLOW       (cms)=       3.25          0.86          3.949 (iii)
    TIME TO PEAK    (hrs)=       5.25          5.75          5.25
    RUNOFF VOLUME    (mm)=      87.54         65.17         80.16
    TOTAL RAINFALL   (mm)=      88.54         88.54         88.54
    RUNOFF COEFFICIENT   =       0.99          0.74          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  91.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (2602) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0602):    42.99   3.949     5.25    80.16
      + ID2= 2 (5602):   201.38   6.639     6.75    72.07
        ================================================
```



```
        ID = 3 (2602):   244.37   7.983     6.25    73.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5271) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5271.0) ------>
               Distance      Elevation       Manning
                   0.00         187.00        0.1110
                   3.39         183.79        0.1110
                  10.53         183.00        0.1110
                  21.75         182.99        0.1110
                  23.53         182.68    0.1110 /0.0490  Main Channel
                  33.07         181.08        0.0490      Main Channel
                  41.98         183.10    0.0490 /0.1110  Main Channel
                  44.71         183.70        0.1110
                  62.12         184.09        0.1110
                  77.77         183.81        0.1110
                 120.17         183.78        0.1110
                 169.07         183.98        0.1110
                 228.74         185.84        0.1110
                 358.41         186.79        0.1110
                 420.15         186.79        0.1110
                 448.98         187.02        0.1110

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.27   181.35    .272E+03       0.1         0.36       33.75
       0.53   181.61    .109E+04       0.9         0.58       21.26
       0.80   181.88    .245E+04       2.5         0.76       16.23
       1.07   182.15    .436E+04       5.4         0.92       13.39
       1.33   182.41    .681E+04       9.8         1.07       11.54
       1.60   182.68    .980E+04      16.0         1.20       10.22
       1.93   183.01    .144E+05      27.6         1.41        8.73
       2.26   183.34    .226E+05      44.8         1.46        8.42
       2.60   183.68    .319E+05      67.2         1.55        7.92
       2.93   184.01    .558E+05      97.7         1.29        9.52
       3.26   184.34    .978E+05     149.0         1.12       10.95
       3.59   184.67    .143E+06     217.6         1.12       10.94
       3.93   185.01    .190E+06     301.7         1.17       10.52
       4.26   185.34    .241E+06     400.7         1.23       10.02
       4.59   185.67    .294E+06     514.3         1.29        9.53
       4.92   186.00    .351E+06     627.2         1.32        9.32
       5.26   186.34    .418E+06     746.8         1.32        9.32
       5.59   186.67    .496E+06     891.5         1.33        9.27
       5.92   187.00    .594E+06    1023.1         1.27        9.68

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (2602)  244.37     7.98    6.25  73.49      1.22      1.00
    OUTFLOW: ID= 1 (5271)  244.37     7.88    6.50  73.49      1.22      1.00

--------------------
| CALIB            |
| STANDHYD  (0271) |   Area    (ha)=  17.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  40.00   Dir. Conn.(%)=  40.00
```

```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          7.03          10.55
     Dep. Storage     (mm)=          1.00           4.00
     Average Slope     (%)=          1.00           4.70
     Length            (m)=        342.34          40.00
     Mannings n           =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         40.71          33.72
               over (min)          15.00          15.00
     Storage Coeff.  (min)=          6.00 (ii)     34.80 (ii)
     Unit Hyd. Tpeak (min)=         15.00          30.00
     Unit Hyd. peak  (cms)=          0.10           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=          0.80           0.72          1.514 (iii)
     TIME TO PEAK    (hrs)=          5.25           5.25          5.25
     RUNOFF VOLUME    (mm)=         87.54          58.35         70.02
     TOTAL RAINFALL   (mm)=         88.54          88.54         88.54
     RUNOFF COEFFICIENT   =          0.99           0.66          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2271) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0271):    17.58   1.514     5.25    70.02
      + ID2= 2 (5271):   244.37   7.878     6.50    73.49
        ================================================
        ID = 3 (2271):   261.95   8.437     6.25    73.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)= 198.33
|ID= 1 DT=15.0 min  |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        113.05          85.28
     Dep. Storage     (mm)=          1.00           4.00
     Average Slope     (%)=          1.00           5.10
     Length            (m)=       1149.87          40.00
     Mannings n           =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         40.71          37.24
               over (min)          15.00          30.00
     Storage Coeff.  (min)=         13.80 (ii)     81.60 (ii)
     Unit Hyd. Tpeak (min)=         15.00          75.00
     Unit Hyd. peak  (cms)=          0.08           0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=         12.68           4.28         15.454 (iii)
     TIME TO PEAK    (hrs)=          5.25           6.00          5.25
     RUNOFF VOLUME    (mm)=         87.54          67.03         78.72
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     TOTAL RAINFALL   (mm)=         88.54          88.54         88.54
     RUNOFF COEFFICIENT   =          0.99           0.76          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=  35.00
|ID= 1 DT=15.0 min  |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         29.75           5.25
     Dep. Storage     (mm)=          1.00           4.00
     Average Slope     (%)=          1.00           5.10
     Length            (m)=        483.05          40.00
     Mannings n           =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         40.71          37.24
               over (min)          15.00          30.00
     Storage Coeff.  (min)=         13.80 (ii)     81.60 (ii)
     Unit Hyd. Tpeak (min)=         15.00          75.00
     Unit Hyd. peak  (cms)=          0.08           0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=          3.34           0.26          3.508 (iii)
     TIME TO PEAK    (hrs)=          5.25           6.00          5.25
     RUNOFF VOLUME    (mm)=         87.54          67.03         84.46
     TOTAL RAINFALL   (mm)=         88.54          88.54         88.54
     RUNOFF COEFFICIENT   =          0.99           0.76          0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (****)  |
| Inlet Cap.=*****  |
| #of Inlets=    1  |
| Total(cms)=*****  |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  35.00      3.51      5.25   84.46
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  35.00      3.51      5.25   84.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (****)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
```



```
                          (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.2800      1.3790
                         0.3900     0.0010   |   1.3400      1.7290
                         0.8700     0.1580   |   1.4700      2.5690
                         1.0600     0.4640   |   5.1200      2.6000
                         1.2300     1.0530   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     35.000      3.508      5.25      84.46
     OUTFLOW: ID= 1 (****)     35.000      1.228      6.25      84.69

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.02
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.0479

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-------------------
| ADD HYD   (****)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    35.00   1.228     6.25    84.69
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (****):    35.00   1.228     6.25    84.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (****)  |   Area    (ha)=  17.10
|ID= 1 DT=15.0 min  |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         14.54           2.56
     Dep. Storage     (mm)=          1.00           4.00
     Average Slope     (%)=          1.00           5.10
     Length            (m)=        337.64          40.00
     Mannings n           =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         40.71          37.24
               over (min)          15.00          30.00
     Storage Coeff.  (min)=         13.80 (ii)     81.60 (ii)
     Unit Hyd. Tpeak (min)=         15.00          75.00
     Unit Hyd. peak  (cms)=          0.08           0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=          1.63           0.13          1.714 (iii)
     TIME TO PEAK    (hrs)=          5.25           6.00          5.25
     RUNOFF VOLUME    (mm)=         87.54          67.03         84.46
     TOTAL RAINFALL   (mm)=         88.54          88.54         88.54
     RUNOFF COEFFICIENT   =          0.99           0.76          0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD     (****)  |
| Inlet Cap.=*****  |
| #of Inlets=    1  |
| Total(cms)=*****  |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  17.10      1.71      5.25   84.46
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  17.10      1.71      5.25   84.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (****)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.6300      0.6750
                         0.1900     0.0610   |   0.6600      0.8460
                         0.4200     0.0770   |   0.7200      1.2570
                         0.5200     0.2270   |   2.5000      1.3000
                         0.6000     0.5150   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     17.100      1.714      5.25      84.46
     OUTFLOW: ID= 1 (****)     17.100      0.604      6.25      84.46

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.23
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5351

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-------------------
| ADD HYD   (****)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (****):    17.10   0.604     6.25    84.46
      + ID2= 2 (****):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (****):    17.10   0.604     6.25    84.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ADD HYD   (****)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    35.00   1.228     6.25    84.69
      + ID2= 2 (****):    17.10   0.604     6.25    84.46
        ================================================
        ID = 3 (****):    52.10   1.832     6.25    84.61
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 16.10
ID= 1 DT=15.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	13.69	2.41
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	327.62	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	37.24
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	1.53 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	84.46
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)	
Inlet Cap.=*****	
#of Inlets= 1	
Total(cms)=*****	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	16.10	1.61	5.25	84.46
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	16.10	1.61	5.25	84.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)	
IN= 2---> OUT= 1	
DT= 15.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.5900	0.6350
0.1800	0.0610	0.6200	0.7960
0.4000	0.0730	0.6800	1.1820
0.4900	0.2140	2.3600	1.2000
0.5600	0.4850	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	16.100	1.613	5.25	84.46
OUTFLOW: ID= 1 (****)	16.100	0.564	6.25	84.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.96
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.5060

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH **** <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (****):	16.10	0.564	6.25	84.46
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	16.10	0.564	6.25	84.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	52.10	1.832	6.25	84.61
+ ID2= 2 (****):	16.10	0.564	6.25	84.46
ID = 3 (****):	68.20	2.396	6.25	84.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 37.00
ID= 1 DT=15.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.45	5.55
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	496.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	37.24
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	3.53 0.28 3.708 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	87.54 67.03 84.46
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.76 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)	
Inlet Cap.=*****	
#of Inlets= 1	
Total(cms)=*****	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	37.00	3.71	5.25	84.46
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	37.00	3.71	5.25	84.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)	
IN= 2---> OUT= 1	
DT= 15.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.3600	1.4580
0.4100	0.0010	1.4200	1.8280
0.9200	0.1670	1.5600	2.7160
1.1200	0.4910	5.4000	2.8000
1.3000	1.1140	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	37.000	3.708	5.25	84.46
OUTFLOW: ID= 1 (****)	37.000	1.298	6.25	84.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.01
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 1.1083

ADD HYD (****)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH **** <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (****):	37.00	1.298	6.25	84.68
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	37.00	1.298	6.25	84.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	68.20	2.396	6.25	84.58
+ ID2= 2 (****):	37.00	1.298	6.25	84.68
ID = 3 (****):	105.20	3.694	6.25	84.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 17.40
ID= 1 DT=15.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.79	2.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	340.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	37.24
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	1.66 0.13 1.744 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	87.54 67.03 84.46
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.76 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)	
Inlet Cap.=*****	
#of Inlets= 1	
Total(cms)=*****	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	17.40	1.74	5.25	84.46
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	17.40	1.74	5.25	84.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)	
IN= 2---> OUT= 1	
DT= 15.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.6300	0.6750
0.1900	0.0610	0.6600	0.8460

0.4200	0.0770	0.7200	1.2570
0.5200	0.2270	2.5500	1.3000
0.6000	0.5150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.400	1.744	5.25	84.46
OUTFLOW: ID= 1 (****)	17.400	0.607	6.25	84.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.79
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.5512

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	17.40	0.607	6.25	84.46
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	17.40	0.607	6.25	84.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0218)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	105.20	3.694	6.25	84.61
+ ID2= 2 (****):	17.40	0.607	6.25	84.46
ID = 3 (0218):	122.60	4.301	6.25	84.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0218):	122.60	4.301	6.25	84.59
+ ID2= 2 (****):	198.33	15.454	5.25	78.72
ID = 3 (****):	320.93	19.560	5.25	80.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9962)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	320.93	19.56	5.25	80.96

MAJOR SYS.(ID= 2): 0.00 0.00 0.00 0.00
MINOR SYS.(ID= 3): 320.93 19.56 5.25 80.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6962)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	8.8300	5.8290
0.7800	0.0930	14.9900	7.2690
3.3000	1.1140	22.7900	8.7080
4.6600	3.2000	28.8000	10.2730
5.2100	4.5150	31.2000	11.8370

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9962)	320.930	19.560	5.25	80.96
OUTFLOW: ID= 1 (6962)	320.930	12.189	6.25	80.96

PEAK FLOW REDUCTION [Qout/Qin](%)= 62.32
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 6.6184

ADD HYD (4962)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9962 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6962):	320.93	12.189	6.25	80.96
+ ID2= 2 (9962):	0.00	0.000	0.00	0.00
ID = 3 (4962):	320.93	12.189	6.25	80.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1273)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2271):	261.95	8.437	6.25	73.26
+ ID2= 2 (4962):	320.93	12.189	6.25	80.96
ID = 3 (1273):	582.88	20.626	6.25	77.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5273)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5273.0) ------>

Distance	Elevation	Manning

0.00	179.99	0.1110	
18.34	178.57	0.1110	
55.29	178.07	0.1110	
114.00	177.92	0.1110	
155.06	177.41	0.1110	
161.65	174.89	0.1110 /0.0490	Main Channel
164.66	174.75	0.0490	Main Channel
167.51	174.61	0.0490 /0.1110	Main Channel
169.36	174.72	0.1110	
179.42	177.94	0.1110	
271.83	179.31	0.1110	
298.09	178.85	0.1110	
325.92	179.14	0.1110	
444.55	179.57	0.1110	
496.32	180.68	0.1110	
506.76	181.27	0.1110	
526.42	185.07	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	174.89	.871E+03	0.7	0.51	21.75
0.57	175.18	.260E+04	3.9	1.01	11.13
0.85	175.46	.463E+04	9.2	1.34	8.38
1.13	175.74	.697E+04	16.5	1.59	7.05
1.42	176.03	.963E+04	25.7	1.79	6.25
1.70	176.31	.126E+05	36.8	1.96	5.70
1.98	176.59	.159E+05	49.9	2.11	5.30
2.27	176.88	.194E+05	65.0	2.24	4.99
2.55	177.16	.233E+05	82.1	2.36	4.74
2.83	177.44	.275E+05	99.6	2.43	4.61
3.11	177.72	.346E+05	118.3	2.29	4.88
3.40	178.01	.471E+05	137.4	1.96	5.71
3.68	178.29	.741E+05	173.1	1.57	7.13
3.96	178.57	.109E+06	235.8	1.45	7.71
4.25	178.86	.150E+06	326.1	1.46	7.67
4.53	179.14	.200E+06	429.3	1.44	7.75
4.81	179.42	.266E+06	565.0	1.43	7.85
5.10	179.71	.348E+06	760.3	1.47	7.63
5.38	179.99	.435E+06	1005.3	1.55	7.21

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1273)	582.88	20.63	6.25	77.50	1.26	1.67
OUTFLOW: ID= 1 (5273)	582.88	20.51	6.25	77.50	1.26	1.67

CALIB
STANDHYD (0273)
ID= 1 DT=15.0 min

Area (ha)= 25.66
Total Imp(%)= 65.00 Dir. Conn.(%)= 65.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.68	8.98
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	413.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	37.24
over (min)	15.00	15.00

Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	1.89	0.66	2.499 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	87.54	67.03	80.36
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.76	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2273)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0273):	25.66	2.499	5.25	80.36
+ ID2= 2 (5273):	582.88	20.508	6.25	77.50
ID = 3 (2273):	608.54	21.472	6.25	77.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0272)
ID= 1 DT=15.0 min

Area (ha)= 42.09
Total Imp(%)= 78.00 Dir. Conn.(%)= 78.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	32.83	9.26
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.70
Length (m)=	529.72	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	38.51
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	3.70	0.57 4.169 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	87.54	70.94 83.89
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.80 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2272) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0272):    42.09   4.169     5.25    83.89
       + ID2= 2 (2273):   608.54  21.472     6.25    77.62
         ================================================
         ID = 3 (2272):   650.63  23.033     6.25    78.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5260) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5260.0) ------>
              Distance      Elevation       Manning
                  0.00         175.32        0.1110
                 51.36         174.58        0.1110
                 87.35         174.75        0.1110
                122.73         174.10        0.1110
                131.56         174.13        0.1110
                202.82         173.44        0.1110
                276.03         173.59        0.1110
                349.20         172.56        0.1110
                376.00         173.21        0.1110
                384.10         170.08    0.1110 /0.0490  Main Channel
                390.86         169.74        0.0490      Main Channel
                394.42         170.00    0.0490 /0.1110  Main Channel
                398.31         170.30        0.1110
                402.54         173.35        0.1110
                447.19         173.02        0.1110
                550.72         173.46        0.1110
                592.93         173.28        0.1110
                680.14         173.52        0.1110
                753.95         175.23        0.1110
                784.10         175.41        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.26   170.00    .960E+03       0.4         0.39       36.34
       0.54   170.28    .382E+04       3.3         0.72       19.54
       0.82   170.56    .743E+04       8.5         0.97       14.53
       1.10   170.84    .113E+05      15.8         1.18       11.94
       1.38   171.12    .155E+05      24.9         1.36       10.36
       1.66   171.40    .199E+05      35.7         1.52        9.28
       1.94   171.68    .245E+05      48.1         1.66        8.49
       2.22   171.96    .295E+05      62.2         1.79        7.89
       2.50   172.24    .346E+05      77.9         1.90        7.41
       2.78   172.52    .401E+05      95.2         2.01        7.02
       3.06   172.80    .486E+05     111.1         1.93        7.29
       3.34   173.08    .652E+05     125.2         1.62        8.68
       3.62   173.36    .108E+06     156.2         1.23       11.50
       3.90   173.64    .206E+06     216.9         0.89       15.81
       4.18   173.92    .330E+06     333.6         0.86       16.48
       4.46   174.20    .464E+06     483.8         0.88       15.99
       4.74   174.48    .608E+06     675.3         0.94       15.00
       5.02   174.76    .761E+06     877.5         0.97       14.46
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      5.30   175.04    .930E+06    1142.6          1.04      13.56

                                        <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2272)  650.63    23.03    6.25  78.03      1.32      1.32
     OUTFLOW: ID= 1 (5260)  650.63    22.71    6.50  78.03      1.31      1.31

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--------------------
| CALIB            |
| STANDHYD  (0260) |   Area    (ha)=  60.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       45.70         15.23
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.60
     Length            (m)=     637.39         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         37.89
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     10.20 (ii)    60.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.16          0.93          5.907 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75          5.25
     RUNOFF VOLUME    (mm)=      87.54         68.95         82.89
     TOTAL RAINFALL   (mm)=      88.54         88.54         88.54
     RUNOFF COEFFICIENT   =       0.99          0.78          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0260):    60.94   5.907     5.25    82.89
       + ID2= 2 (5260):   650.63  22.714     6.50    78.03
         ================================================
         ID = 3 (2260):   711.57  24.987     6.25    78.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0643) |   Area    (ha)=   7.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  48.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        3.44          3.72
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     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00         11.00
     Length            (m)=      218.48         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         35.87
               over (min)        15.00         15.00
     Storage Coeff.  (min)=      3.60 (ii)     21.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.39          0.34          0.730 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54         63.38         74.98
     TOTAL RAINFALL   (mm)=      88.54         88.54         88.54
     RUNOFF COEFFICIENT   =       0.99          0.72          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9472) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   7.16      0.73      5.25   74.98
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   7.16      0.73      5.25   74.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6472) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3490     0.9110
                          0.0190     0.1220   |   0.4450     0.9620
                          0.0270     0.2490   |   1.0700     1.0670
                          0.1280     0.5180   |   2.6100     1.2280
                          0.2430     0.7100   |   4.0000     1.3380

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9472)    7.160     0.730     5.25       74.98
     OUTFLOW: ID= 1 (6472)    7.160     0.087     7.50       74.75

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.88
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4082

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| ADD HYD   (4472) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9472 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6472):     7.16   0.087     7.50    74.75
       + ID2= 2 (9472):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4472):     7.16   0.087     7.50    74.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  76.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       18.33         58.05
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.70
     Length            (m)=     713.58         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         30.84
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     11.40 (ii)    68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.07          2.42          3.537 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      87.54         52.33         60.78
     TOTAL RAINFALL   (mm)=      88.54         88.54         88.54
     RUNOFF COEFFICIENT   =       0.99          0.59          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   2.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.54          1.70
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.70
     Length            (m)=     122.20         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         30.84
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     11.40 (ii)    68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
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     Unit Hyd. peak  (cms)=       0.08          0.02
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.06          0.07          0.104 (iii)
     TIME TO PEAK   (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME   (mm)=      87.54         52.33          60.77
     TOTAL RAINFALL  (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT  =       0.99          0.59           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  84.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.37         64.52
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.70
     Length            (m)=     752.29         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         30.84
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     11.40 (ii)    68.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                          *TOTALS*
     PEAK FLOW      (cms)=       2.30          2.68          3.931 (iii)
     TIME TO PEAK   (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME   (mm)=      87.54         52.33          60.78
     TOTAL RAINFALL  (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT  =       0.99          0.59           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (0380) |
|   1 +  2 =  3   |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    84.89   3.931     5.25    60.78
      + ID2= 2 (****):     2.24   0.104     5.25    60.77
        ================================================
        ID = 3 (0380):    87.13   4.035     5.25    60.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0381) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0380):    87.13   4.035     5.25    60.78
      + ID2= 2 (****):    76.38   3.537     5.25    60.78
        ================================================
        ID = 3 (0381):   163.51   7.572     5.25    60.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2251) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0381):   163.51   7.572     5.25    60.78
      + ID2= 2 (4472):     7.16   0.087     7.50    74.75
        ================================================
        ID = 3 (2251):   170.67   7.613     5.25    61.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0709) |   Area    (ha)=   7.69
|ID= 1 DT=15.0 min |   Total Imp(%)=   4.00   Dir. Conn.(%)=   4.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31          7.38
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.30
     Length            (m)=     226.42         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         28.07
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      6.00 (ii)    33.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.03          0.40          0.436 (iii)
     TIME TO PEAK   (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME   (mm)=      87.54         47.00          48.62
     TOTAL RAINFALL  (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT  =       0.99          0.53           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (9219) |
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| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |        AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   7.69      0.44      5.25   48.62
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   7.69      0.44      5.25   48.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6219) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5000      0.0350

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9219)     7.690     0.436      5.25      48.62
     OUTFLOW: ID= 1 (6219)     7.690     0.413      5.50      48.62

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.73
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0289

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--------------------
| ADD HYD   (4219) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9219 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6219):     7.69   0.413     5.50    48.62
      + ID2= 2 (9219):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4219):     7.69   0.413     5.50    48.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  40.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.44         25.67
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.10
     Length            (m)=     517.11         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         32.99
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     10.80 (ii)    63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                          *TOTALS*
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     PEAK FLOW      (cms)=       1.63          1.24          2.565 (iii)
     TIME TO PEAK   (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME   (mm)=      87.54         56.77          67.85
     TOTAL RAINFALL  (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT  =       0.99          0.64           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   1.17
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42          0.75
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.10
     Length            (m)=      88.32         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         32.99
               over (min)        15.00         30.00
     Storage Coeff.  (min)=     10.80 (ii)    63.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.05          0.04          0.075 (iii)
     TIME TO PEAK   (hrs)=       5.25          5.75           5.25
     RUNOFF VOLUME   (mm)=      87.54         56.77          67.82
     TOTAL RAINFALL  (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT  =       0.99          0.64           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0371) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------      (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    40.11   2.565     5.25    67.85
      + ID2= 2 (****):     1.17   0.075     5.25    67.82
        ================================================
        ID = 3 (0371):    41.28   2.640     5.25    67.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
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| STANDHYD (****) | Area (ha)= 70.33
|ID= 1 DT=15.0 min | Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.32	45.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	684.74	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.99
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	2.86	2.17	4.498 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	56.77	67.85
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.64	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0377)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0371):	41.28	2.640	5.25	67.85
+ ID2= 2 (****):	70.33	4.498	5.25	67.85
ID = 3 (0377):	111.61	7.138	5.25	67.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2248)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0377):	111.61	7.138	5.25	67.85
+ ID2= 2 (4219):	7.69	0.413	5.50	48.62
ID = 3 (2248):	119.30	7.508	5.25	66.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1252)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2248):	119.30	7.508	5.25	66.61

+ ID2= 2 (2251):	170.67	7.613	5.25	61.37
ID = 3 (1252):	289.97	15.121	5.25	63.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0252)	Area (ha)= 58.15
ID= 1 DT=15.0 min	Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	44.19	13.96
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.60
Length (m)=	622.63	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	37.89
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	69.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	4.98	0.78	5.498 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	87.54	68.95	83.08
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.78	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2252)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):	58.15	5.498	5.25	83.08
+ ID2= 2 (1252):	289.97	15.121	5.25	63.52
ID = 3 (2252):	348.12	20.619	5.25	66.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1261)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2252):	348.12	20.619	5.25	66.79
+ ID2= 2 (2260):	711.57	24.987	6.25	78.44
ID = 3 (1261):	1059.69	44.883	5.25	74.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0261)	Area (ha)= 53.92
ID= 1 DT=15.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	45.83	8.09
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	599.56	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	39.09
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	5.17	0.52	5.593 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	73.00	85.36
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.82	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1256)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0261):	53.92	5.593	5.25	85.36
+ ID2= 2 (1261):	1059.69	44.883	5.25	74.62
ID = 3 (1256):	1113.61	50.476	5.25	75.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5256)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5256.0) ---------->

Distance	Elevation	Manning	
0.00	169.02	0.1110	
20.27	168.76	0.1110	
52.65	169.09	0.1110	
62.64	168.83	0.1110	
71.51	165.89	0.1110	
80.77	164.57	0.1110	
89.62	164.27	0.1110 /0.0490	Main Channel
90.94	164.26	0.0490	Main Channel

95.82	164.32	0.0490	Main Channel
100.45	164.36	0.0490 /0.1110	Main Channel
108.74	168.86	0.1110	
132.94	169.64	0.1110	
157.62	169.90	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.01	164.27	.329E+01	0.0	0.07	75.11
0.26	164.52	.997E+03	2.1	0.66	7.75
0.51	164.77	.258E+04	8.6	1.02	5.02
0.76	165.02	.435E+04	18.4	1.31	3.93
1.01	165.27	.629E+04	31.4	1.54	3.34
1.26	165.52	.840E+04	47.4	1.74	2.95
1.51	165.77	.107E+05	66.3	1.91	2.68
1.76	166.02	.131E+05	88.5	2.08	2.47
2.01	166.27	.157E+05	113.9	2.24	2.29
2.26	166.52	.183E+05	142.1	2.39	2.15
2.51	166.77	.210E+05	173.0	2.54	2.02
2.76	167.02	.238E+05	206.6	2.67	1.92
3.01	167.27	.268E+05	242.9	2.80	1.84
3.26	167.52	.298E+05	281.9	2.92	1.76
3.51	167.77	.329E+05	323.6	3.03	1.69
3.76	168.02	.361E+05	367.9	3.14	1.63
4.01	168.27	.393E+05	414.8	3.25	1.58
4.26	168.52	.427E+05	464.5	3.35	1.53
4.51	168.77	.462E+05	509.4	3.40	1.51

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1256)	1113.61	50.48	5.25	75.14	1.30	1.76
OUTFLOW: ID= 1 (5256)	1113.61	49.94	5.25	75.14	1.29	1.76

CALIB
STANDHYD (0256)	Area (ha)= 20.70
ID= 1 DT=15.0 min	Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	15.94	4.76
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	371.48	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	38.51
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	43.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	1.80	0.36	2.135 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	87.54	70.94	83.72
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.80	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2256)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0256):		20.70	2.135	5.25	83.72
+ ID2= 2 (5256):		1113.61	49.943	5.25	75.14
ID = 3 (2256):		1134.31	52.078	5.25	75.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****) / ID= 1 DT=15.0 min	Area (ha)= 116.17 Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00	IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	85.97	30.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.60
Length	(m)=	880.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=	over (min)	40.71	37.89
		15.00	30.00
Storage Coeff. (min)=		14.40 (ii)	85.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	9.63 1.50 10.472 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	87.54 68.95 82.71
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.78 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****) / ID= 1 DT=15.0 min	Area (ha)= 0.11 Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00	IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.08	0.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.60
Length	(m)=	27.08	40.00

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=	over (min)	40.71	37.89
		15.00	30.00
Storage Coeff. (min)=		14.40 (ii)	85.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	0.01 0.00 0.010 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	87.54 68.95 82.30
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.78 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0367)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):		116.17	10.472	5.25	82.71
+ ID2= 2 (****):		0.11	0.010	5.25	82.30
ID = 3 (0367):		116.28	10.482	5.25	82.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1247)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0367):		116.28	10.482	5.25	82.71
+ ID2= 2 (2256):		1134.31	52.078	5.25	75.29
ID = 3 (1247):		1250.59	62.560	5.25	75.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5247) / IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5247.0) ------>

Distance	Elevation	Manning	
0.00	164.49	0.1110	
96.53	159.50	0.1110	
96.60	159.50	0.1110	
98.32	159.15	0.1110	
99.07	159.00	0.1110 /0.0490	Main Channel
101.36	158.57	0.0490	Main Channel
101.75	158.00	0.0490	Main Channel
102.83	158.00	0.0490	Main Channel

104.82	158.00	0.0490 Main Channel
105.65	158.66	0.0490 Main Channel
107.41	159.00	0.0490 /0.1110 Main Channel
109.23	159.35	0.1110
110.01	159.50	0.1110
111.19	159.56	0.1110
111.57	159.58	0.1110
121.33	160.00	0.1110
148.53	160.00	0.1110
158.08	161.00	0.1110
169.93	164.43	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	158.33	.750E+03	0.9	0.78	14.16
0.67	158.67	.166E+04	2.7	1.09	10.15
1.00	159.00	.311E+04	5.5	1.18	9.36
1.34	159.34	.538E+04	12.3	1.52	7.28
1.68	159.68	.874E+04	21.6	1.64	6.76
2.02	160.02	.154E+05	34.0	1.46	7.54
2.36	160.36	.305E+05	57.4	1.25	8.85
2.70	160.70	.478E+05	90.5	1.26	8.79
3.04	161.04	.673E+05	133.4	1.31	8.40
3.38	161.38	.887E+05	186.9	1.40	7.91
3.71	161.71	.112E+06	250.3	1.48	7.45
4.05	162.05	.137E+06	323.8	1.57	7.04
4.39	162.39	.163E+06	407.4	1.65	6.68
4.73	162.73	.192E+06	501.6	1.73	6.37
5.07	163.07	.222E+06	606.4	1.81	6.10
5.41	163.41	.254E+06	722.2	1.89	5.86
5.75	163.75	.287E+06	849.3	1.96	5.64
6.09	164.09	.323E+06	987.9	2.03	5.45
6.43	164.43	.360E+06	1138.4	2.10	5.27

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1247)	1250.59	62.56	5.25	75.98	2.41	1.25
OUTFLOW: ID= 1 (5247)	1250.59	57.87	5.25	75.98	2.37	1.25

CALIB / STANDHYD (0247) / ID= 1 DT=15.0 min	Area (ha)= 38.02 Total Imp(%)= 64.00 Dir. Conn.(%)= 64.00	IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.33	13.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.50
Length	(m)=	503.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=	over (min)	40.71	36.56
		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	45.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	2.75 0.92 3.597 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25

RUNOFF VOLUME	(mm)=	87.54	65.17 79.49
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.74 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2247)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0247):		38.02	3.597	5.25	79.49
+ ID2= 2 (5247):		1250.59	57.874	5.25	75.98
ID = 3 (2247):		1288.61	61.471	5.25	76.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1226)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2213):		9039.96	104.138	8.75	51.15
+ ID2= 2 (2247):		1288.61	61.471	5.25	76.08
ID = 3 (1226):		10328.57	135.052	6.50	54.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5226) / IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5226.0) ------>

Distance	Elevation	Manning	
0.00	167.48	0.1110	
4.33	163.54	0.1110	
26.47	158.00	0.1110	
57.29	157.00	0.1110	
63.27	155.78	0.1110	
63.95	155.50	0.1110 /0.0490	Main Channel
64.81	155.10	0.0490	Main Channel
74.07	155.10	0.0490	Main Channel
75.37	155.50	0.0490 /0.1110	Main Channel
81.00	157.00	0.1110	
137.94	159.50	0.1110	
171.75	168.01	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	155.50	.560E+04	3.0	0.72	31.36
1.03	156.13	.172E+05	16.4	1.29	17.55

1.66	156.76	.334E+05	38.9	1.58	14.28
2.29	157.39	.588E+05	70.0	1.61	14.02
2.92	158.02	.111E+06	119.9	1.46	15.48
3.55	158.65	.185E+06	198.8	1.45	15.52
4.18	159.28	.273E+06	304.3	1.51	14.97
4.81	159.91	.374E+06	443.6	1.61	14.04
5.44	160.54	.479E+06	613.0	1.73	13.02
6.07	161.17	.588E+06	808.3	1.86	12.13
6.71	161.81	.702E+06	1028.8	1.98	11.38
7.34	162.44	.820E+06	1274.3	2.10	10.73
7.97	163.07	.943E+06	1544.4	2.22	10.18
8.60	163.70	.107E+07	1841.5	2.33	9.68
9.23	164.33	.120E+07	2170.2	2.45	9.21
9.86	164.96	.133E+07	2522.8	2.57	8.80
10.49	165.59	.147E+07	2898.9	2.68	8.44
11.12	166.22	.161E+07	3298.4	2.78	8.11
11.75	166.85	.175E+07	3721.0	2.89	7.82

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->			<-pipe / channel->	
INFLOW : ID= 2 (1226) *******		135.05	6.50	54.26	3.04	1.46
OUTFLOW: ID= 1 (5226) *******		133.42	6.75	54.26	3.03	1.46

CALIB			
STANDHYD (0226)	Area (ha)= 128.50		
ID= 1 DT=15.0 min	Total Imp(%)= 50.00	Dir. Conn.(%)= 50.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.25	64.25
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.40
Length	(m)=	925.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	33.72
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	7.25	3.16 9.653 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	87.54	58.35 72.94
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.66 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2226)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0226):	128.50	9.653	5.25	72.94
+ ID2= 2 (5226):	10328.57	133.422	6.75	54.26
ID = 3 (2226):	10457.07	136.954	6.75	54.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5237)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5237.0) ------>

Distance	Elevation	Manning	
0.00	158.00	0.1110	
14.00	155.00	0.1110	
15.00	154.50	0.1110	
45.00	154.00	0.1110	
65.00	153.50	0.1110	
97.00	153.50	0.1110	
101.00	154.00	0.1110	
102.00	154.00	0.1110	
105.00	153.50	0.1110	
120.00	153.00	0.1110	
121.00	152.50	0.1110 /0.0490	Main Channel
122.00	151.40	0.0490	Main Channel
134.00	151.40	0.0490	Main Channel
135.00	152.50	0.0490 /0.1110	Main Channel
144.00	153.50	0.1110	
146.00	154.00	0.1110	
160.00	164.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	151.67	.218E+04	1.7	0.51	21.12
0.55	151.95	.446E+04	5.4	0.79	13.63
0.83	152.22	.682E+04	10.7	1.01	10.64
1.10	152.50	.927E+04	17.2	1.20	8.97
1.47	152.87	.131E+05	28.8	1.43	7.56
1.83	153.23	.183E+05	43.3	1.53	7.05
2.20	153.60	.290E+05	61.9	1.39	7.79
2.57	153.97	.497E+05	90.9	1.18	9.12
2.93	154.33	.759E+05	130.0	1.11	9.73
3.30	154.70	.107E+06	183.2	1.11	9.71
3.67	155.07	.138E+06	249.6	1.17	9.23
4.03	155.43	.170E+06	325.8	1.24	8.71
4.40	155.80	.203E+06	411.6	1.31	8.22
4.77	156.17	.236E+06	506.6	1.39	7.77
5.13	156.53	.270E+06	610.4	1.47	7.36
5.50	156.90	.304E+06	722.7	1.54	7.01
5.87	157.27	.339E+06	843.4	1.61	6.69
6.23	157.63	.374E+06	972.3	1.69	6.41
6.60	158.00	.410E+06	1109.3	1.76	6.15

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->			<-pipe / channel->	
INFLOW : ID= 2 (2226) *******		136.95	6.75	54.49	2.98	1.11
OUTFLOW: ID= 1 (5237) *******		136.46	7.00	54.49	2.97	1.11

CALIB			
STANDHYD (0237)	Area (ha)= 15.48		
ID= 1 DT=15.0 min	Total Imp(%)= 25.00	Dir. Conn.(%)= 25.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	11.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.30
Length	(m)=	321.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.14
over (min)		15.00	15.00
Storage Coeff. (min)=		5.40 (ii)	32.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04
			TOTALS
PEAK FLOW	(cms)=	0.44	0.70 1.137 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	87.54	50.94 60.09
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.58 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2237)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0237):	15.48	1.137	5.25	60.09
+ ID2= 2 (5237):	10457.07	136.460	7.00	54.49
ID = 3 (2237):	10472.55	136.757	7.00	54.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0447)	Area (ha)= 106.74	Curve Number (CN)= 79.0	
ID= 1 DT=15.0 min	Ia (mm)= 6.80	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.58		

Unit Hyd Qpeak (cms)= 6.969

PEAK FLOW	(cms)=	5.478 (i)
TIME TO PEAK	(hrs)=	5.500
RUNOFF VOLUME	(mm)=	44.670
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.505

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5024)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5024.0) ------>

Distance	Elevation	Manning	
0.00	247.19	0.1000	
52.21	246.15	0.1000	
62.95	246.38	0.1000	
94.83	245.47	0.1000	
131.08	245.92	0.1000	
263.16	244.86	0.1000	
320.30	244.93	0.1000	
355.96	243.82	0.1000	
398.49	243.50	0.1000	
420.89	243.19	0.1000 /0.0440	Main Channel
421.43	243.14	0.0440	Main Channel
424.25	243.19	0.0440 /0.1000	Main Channel
502.84	245.16	0.1000	
552.79	245.54	0.1000	
669.65	247.85	0.1000	
770.08	247.29	0.1000	
869.85	249.34	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	243.19	.204E+03	0.0	0.13	310.61
0.26	243.40	.796E+04	0.8	0.25	159.47
0.47	243.61	.287E+05	3.6	0.31	131.52
0.68	243.82	.673E+05	9.9	0.36	112.91
0.89	244.03	.119E+06	21.9	0.45	90.72
1.10	244.24	.178E+06	38.5	0.52	77.32
1.31	244.45	.246E+06	59.9	0.59	68.34
1.52	244.66	.321E+06	86.4	0.65	61.83
1.73	244.87	.403E+06	112.5	0.68	59.76
1.94	245.08	.527E+06	138.2	0.64	63.51
2.16	245.30	.673E+06	183.9	0.66	60.98
2.37	245.51	.846E+06	238.8	0.69	59.06
2.58	245.72	.105E+07	306.9	0.71	57.14
2.79	245.93	.129E+07	393.3	0.74	54.65
3.00	246.14	.155E+07	515.2	0.81	50.02
3.21	246.35	.182E+07	640.6	0.86	47.28
3.42	246.56	.210E+07	791.7	0.91	44.30
3.63	246.77	.240E+07	960.6	0.97	41.68
3.84	246.98	.271E+07	1145.3	1.03	39.46

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->			<-pipe / channel->	
INFLOW : ID= 2 (0447)	106.74	5.48	5.50	44.67	0.53	0.32
OUTFLOW: ID= 1 (5024)	106.74	2.44	6.50	44.65	0.38	0.28

CALIB			
NASHYD (0024)	Area (ha)= 140.14	Curve Number (CN)= 76.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.10	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.56		

Unit Hyd Qpeak (cms)= 9.610

```
PEAK FLOW      (cms)=   6.566 (i)
TIME TO PEAK   (hrs)=   5.500
RUNOFF VOLUME   (mm)=  40.175
TOTAL RAINFALL  (mm)=  88.540
RUNOFF COEFFICIENT  =   0.454

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2024)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0024):	140.14	6.566	5.50	40.18
	+ ID2= 2 (5024):	106.74	2.442	6.50	44.65
	ID = 3 (2024):	246.88	8.087	5.50	42.11

```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ROUTE CHN (5045)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5045.0) ------>

Distance	Elevation	Manning	
0.00	245.32	0.1000	
48.84	244.35	0.1000	
66.83	244.49	0.1000	
77.60	244.28	0.1000	
92.37	244.53	0.1000	
148.98	243.76	0.1000	
202.60	243.77	0.1000	
250.13	244.20	0.1000	
292.80	243.79	0.1000	
323.01	243.86	0.1000	
373.16	242.22	0.1000 /0.0440	Main Channel
377.19	242.15	0.0440	Main Channel
382.31	242.13	0.0440	Main Channel
387.43	242.26	0.0440 /0.1000	Main Channel
438.88	244.46	0.1000	
489.19	244.67	0.1000	
537.88	243.99	0.1000	
580.30	244.40	0.1000	
602.74	244.26	0.1000	
764.27	245.55	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.00	242.22	.178E+03	0.3	0.43	9.82
0.25	242.38	.901E+03	3.2	0.90	4.65
0.42	242.55	.199E+04	9.0	1.14	3.67
0.58	242.71	.343E+04	17.7	1.29	3.24
0.74	242.87	.524E+04	29.4	1.41	2.97
0.91	243.04	.741E+04	44.5	1.51	2.78
1.07	243.20	.994E+04	63.0	1.59	2.63
1.23	243.36	.128E+05	85.3	1.67	2.51
1.40	243.53	.161E+05	111.5	1.74	2.40
1.56	243.69	.197E+05	141.8	1.81	2.31

1.72	243.85	.252E+05	158.6	1.58	2.65
1.88	244.01	.348E+05	205.5	1.48	2.82
2.05	244.18	.472E+05	259.7	1.38	3.03
2.21	244.34	.626E+05	336.4	1.35	3.10
2.37	244.50	.822E+05	430.4	1.31	3.18
2.54	244.67	.106E+06	568.2	1.34	3.11
2.70	244.83	.132E+06	747.9	1.42	2.94
2.86	244.99	.159E+06	953.9	1.50	2.78
3.03	245.16	.188E+06	1185.5	1.59	2.64

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2024)		246.88	8.09	5.50	42.11	0.39	1.09
OUTFLOW: ID= 1 (5045)		246.88	8.08	5.50	42.11	0.39	1.09

CALIB			
NASHYD (0045)	Area (ha)=	69.60	Curve Number (CN)= 78.0
ID= 1 DT=15.0 min	Ia (mm)=	7.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.59	

```
Unit Hyd Qpeak  (cms)=   4.483

PEAK FLOW       (cms)=   3.430 (i)
TIME TO PEAK    (hrs)=   5.500
RUNOFF VOLUME    (mm)=  43.240
TOTAL RAINFALL   (mm)=  88.540
RUNOFF COEFFICIENT   =   0.488

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2045)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0045):	69.60	3.430	5.50	43.24
	+ ID2= 2 (5045):	246.88	8.077	5.50	42.11
	ID = 3 (2045):	316.48	11.507	5.50	42.36

```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

CALIB			
NASHYD (0016)	Area (ha)=	208.86	Curve Number (CN)= 79.0
ID= 1 DT=15.0 min	Ia (mm)=	6.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.80	

```
Unit Hyd Qpeak  (cms)=   9.972

PEAK FLOW       (cms)=   9.033 (i)
TIME TO PEAK    (hrs)=   5.750
RUNOFF VOLUME    (mm)=  44.895
TOTAL RAINFALL   (mm)=  88.540
RUNOFF COEFFICIENT   =   0.507

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```


ADD HYD (1048)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	208.86	9.033	5.75	44.90
	+ ID2= 2 (2045):	316.48	11.507	5.50	42.36
	ID = 3 (1048):	525.34	20.312	5.50	43.37

```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ROUTE CHN (5048)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5048.0) ------>

Distance	Elevation	Manning	
0.00	243.03	0.1000	
359.76	240.13	0.1000	
503.08	241.12	0.1000	
509.36	239.75	0.1000	
547.35	239.09	0.1000	
550.14	239.02	0.1000	
571.65	237.24	0.1000 /0.0440	Main Channel
573.01	237.04	0.0440	Main Channel
575.59	237.59	0.0440 /0.1000	Main Channel
588.26	239.41	0.1000	
637.64	239.34	0.1000	
713.38	240.34	0.1000	
773.29	240.09	0.1000	
817.41	241.38	0.1000	
880.91	240.96	0.1000	
1218.10	243.31	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	237.24	.152E+03	0.0	0.15	75.62
0.50	237.54	.113E+04	0.4	0.23	46.91
0.81	237.85	.318E+04	1.4	0.30	36.85
1.11	238.15	.640E+04	3.3	0.34	32.68
1.42	238.46	.108E+05	6.0	0.37	29.97
1.72	238.76	.163E+05	9.8	0.39	27.86
2.03	239.07	.231E+05	14.5	0.41	26.52
2.33	239.37	.328E+05	18.1	0.36	30.17
2.64	239.68	.585E+05	28.4	0.32	34.30
2.94	239.98	.918E+05	46.9	0.34	32.63
3.25	240.29	.136E+06	61.5	0.30	36.76
3.55	240.59	.208E+06	94.6	0.30	36.68
3.86	240.90	.300E+06	146.5	0.32	34.13
4.16	241.20	.416E+06	204.2	0.32	33.93
4.47	241.51	.561E+06	293.7	0.35	31.81
4.77	241.81	.724E+06	413.2	0.38	29.19
5.08	242.12	.903E+06	556.1	0.41	27.06
5.38	242.42	.110E+07	723.7	0.43	25.30
5.69	242.73	.131E+07	917.4	0.46	23.82

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)

		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1048)		525.34	20.31	5.50	43.37	2.40	0.35
OUTFLOW: ID= 1 (5048)		525.34	16.78	6.00	43.37	2.23	0.38

CALIB			
STANDHYD (0048)	Area (ha)=	61.81	
ID= 1 DT=15.0 min	Total Imp(%)=	29.00	Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.92	43.89
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	641.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	33.64
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.60	2.16 3.230 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	87.54	52.84 60.82
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.60 0.69

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (2048)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0048):	61.81	3.230	5.25	60.82
	+ ID2= 2 (5048):	525.34	16.777	6.00	43.37
	ID = 3 (2048):	587.15	19.399	6.00	45.20

```
NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ROUTE CHN (5046)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5046.0) ------>

Distance	Elevation	Manning
0.00	242.13	0.1000
21.95	242.56	0.1000
73.65	242.53	0.1000
129.75	241.36	0.1000
150.90	241.54	0.1000

175.31	240.19	0.1000		
191.36	239.80	0.1000		
206.39	238.06	0.1000		
242.75	238.88	0.1000		
260.87	237.01	0.1000 /0.0440	Main Channel	
262.52	236.94	0.0440	Main Channel	
262.96	236.99	0.0440 /0.1000	Main Channel	
316.06	239.46	0.1000		
411.45	238.61	0.1000		
755.24	241.81	0.1000		
768.93	242.79	0.1000		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	236.99	.275E+02	0.0	0.13	85.24
0.32	237.26	.115E+04	0.6	0.36	31.89
0.59	237.53	.383E+04	2.5	0.44	25.54
0.86	237.80	.806E+04	6.2	0.52	21.83
1.13	238.07	.138E+05	11.9	0.58	19.41
1.40	238.34	.226E+05	19.8	0.59	19.09
1.67	238.61	.356E+05	32.4	0.62	18.28
1.94	238.88	.583E+05	45.2	0.53	21.51
2.21	239.15	.948E+05	78.6	0.56	20.10
2.48	239.42	.144E+06	129.6	0.61	18.49
2.76	239.70	.203E+06	205.8	0.69	16.41
3.03	239.97	.268E+06	297.8	0.76	14.98
3.30	240.24	.340E+06	408.5	0.82	13.86
3.57	240.51	.419E+06	544.6	0.88	12.81
3.84	240.78	.504E+06	702.1	0.95	11.96
4.11	241.05	.595E+06	882.1	1.01	11.25
4.38	241.32	.693E+06	1085.3	1.07	10.64
4.65	241.59	.800E+06	1271.2	1.08	10.48
4.92	241.86	.916E+06	1530.3	1.14	9.98

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2048)	587.15	19.40	6.00	45.20	1.39	0.59
OUTFLOW: ID= 1 (5046)	587.15	18.59	6.25	45.20	1.36	0.59

CALIB	
STANDHYD (0046)	Area (ha)= 117.70
ID= 1 DT=15.0 min	Total Imp(%)= 37.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.55	74.15
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.20
Length	(m)=	885.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	35.48
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW (cms)=		3.97	3.40 6.033 (iii)
TIME TO PEAK (hrs)=		5.25	6.25 5.25

RUNOFF VOLUME (mm)=	87.54	54.76	64.59
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.62	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2046)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0046):	117.70	6.033	5.25	64.59
	+ ID2= 2 (5046):	587.15	18.593	6.25	45.20
	ID = 3 (2046):	704.85	23.152	6.25	48.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0058)	Area (ha)= 66.21
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.10	33.10
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	664.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	43.82
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW (cms)=		2.91	2.18 4.607 (iii)
TIME TO PEAK (hrs)=		5.25	5.75 5.25
RUNOFF VOLUME (mm)=		87.54	63.96 73.16
TOTAL RAINFALL (mm)=		88.54	88.54 88.54
RUNOFF COEFFICIENT =		0.99	0.72 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1065)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3					

ID1= 1 (0058):	66.21	4.607	5.25	73.16
+ ID2= 2 (2046):	704.85	23.152	6.25	48.44
ID = 3 (1065):	771.06	25.940	6.25	50.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5065)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5065.0) ------>

Distance	Elevation	Manning		
0.00	239.31	0.1000		
5.58	239.49	0.1000		
15.91	238.39	0.1000		
40.00	238.08	0.1000		
49.46	237.62	0.1000		
60.68	238.23	0.1000		
78.72	234.07	0.1000		
80.23	233.37	0.1000 /0.0440	Main Channel	
81.64	232.65	0.0440	Main Channel	
82.98	233.25	0.0440 /0.1000	Main Channel	
90.42	235.93	0.1000		
96.97	235.80	0.1000		
141.98	236.43	0.1000		
154.34	236.80	0.1000		
162.27	236.56	0.1000		
167.80	237.32	0.1000		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	232.95	.996E+02	0.1	0.73	12.12
0.60	233.25	.399E+03	0.9	1.15	7.63
0.97	233.62	.106E+04	3.4	1.71	5.16
1.33	233.98	.207E+04	7.8	1.98	4.44
1.70	234.35	.347E+04	14.0	2.13	4.14
2.07	234.72	.538E+04	22.5	2.21	3.98
2.44	235.09	.780E+04	33.7	2.28	3.86
2.80	235.45	.107E+05	47.7	2.35	3.74
3.17	235.82	.142E+05	63.0	2.35	3.75
3.54	236.19	.220E+05	81.7	1.97	4.48
3.90	236.55	.352E+05	120.0	1.80	4.89
4.27	236.92	.528E+05	176.3	1.76	4.99
4.64	237.29	.723E+05	258.3	1.89	4.67
5.00	237.65	.925E+05	357.0	2.04	4.32
5.37	238.02	.115E+06	459.2	2.12	4.16
5.74	238.39	.141E+06	584.5	2.19	4.02
6.11	238.76	.171E+06	760.2	2.35	3.74
6.47	239.12	.201E+06	958.4	2.52	3.50
6.84	239.49	.233E+06	1168.1	2.65	3.32

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1065)	771.06	25.94	6.25	50.56	2.18	2.23
OUTFLOW: ID= 1 (5065)	771.06	25.92	6.25	50.56	2.18	2.23

CALIB	
STANDHYD (0065)	Area (ha)= 10.36
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.91	4.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.40
Length	(m)=	262.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	38.40
over (min)		15.00	15.00
Storage Coeff. (min)=		4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04
			TOTALS
PEAK FLOW (cms)=		0.62	0.39 1.010 (iii)
TIME TO PEAK (hrs)=		5.25	5.25 5.25
RUNOFF VOLUME (mm)=		87.54	61.81 75.44
TOTAL RAINFALL (mm)=		88.54	88.54 88.54
RUNOFF COEFFICIENT =		0.99	0.70 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2065)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0065):	10.36	1.010	5.25	75.44
	+ ID2= 2 (5065):	771.06	25.916	6.25	50.56
	ID = 3 (2065):	781.42	26.270	6.25	50.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0734)	Area (ha)= 28.31 Curve Number (CN)= 80.0
ID= 1 DT=15.0 min	Ia (mm)= 9.50 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.30

Unit Hyd Qpeak (cms)= 3.653

PEAK FLOW	(cms)=	1.890 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	42.634
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.482

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB                |
| STANDHYD  (0545)     |   Area    (ha)=   6.45
|ID= 1 DT=15.0 min     |   Total Imp(%)=  53.00   Dir. Conn.(%)=  42.00
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.42	3.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	207.36	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	45.83
over (min)	15.00	15.00
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

	TOTALS
PEAK FLOW (cms)=	0.31	0.32	0.631 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	67.26	75.78
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.76	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| DUHYD     (9130)     |
| Inlet Cap.=0.009     |
| #of Inlets=    1     |
| Total(cms)=  0.0     |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	6.45	0.63	5.25	75.78
MAJOR SYS.(ID= 2):	5.98	0.62	5.25	75.78
MINOR SYS.(ID= 3):	0.47	0.01	2.50	75.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| RESERVOIR (6130)     |
| IN= 2---> OUT= 1     |
| DT= 15.0 min         |
```

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0090	0.0800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9130)	0.475	0.009	2.50	75.78
OUTFLOW: ID= 1 (6130)	0.475	0.003	12.75	71.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.55
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.0285


```
| ADD HYD   (4130)     |
|   1 +  2 =  3        |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6130):	0.47	0.003	12.75	71.07
+ ID2= 2 (9130):	5.98	0.622	5.25	75.78
ID = 3 (4130):	6.45	0.623	5.25	75.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (2734)     |
|   1 +  2 =  3        |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0734):	28.31	1.890	5.25	42.63
+ ID2= 2 (4130):	6.45	0.623	5.25	75.43
ID = 3 (2734):	34.76	2.513	5.25	48.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB                |
| STANDHYD  (0741)     |   Area    (ha)=   3.39
|ID= 1 DT=15.0 min     |   Total Imp(%)=  47.00   Dir. Conn.(%)=  44.00
```

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.59	1.80
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.50
Length (m)=	150.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	25.71
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	19.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06

	TOTALS
PEAK FLOW (cms)=	0.17	0.11	0.283 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	40.30	61.08
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.46	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (2741)     |
```



```
|   1 +  2 =  3        |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0741):	3.39	0.283	5.25	61.08
+ ID2= 2 (2734):	34.76	2.513	5.25	48.72
ID = 3 (2741):	38.15	2.796	5.25	49.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB                |
| NASHYD    (0041)     |   Area    (ha)= 263.00   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min     |   Ia      (mm)=   8.90   # of Linear Res.(N)= 3.00
|                      |   U.H. Tp(hrs)=   0.52
```

Unit Hyd Qpeak (cms)= 19.468

PEAK FLOW (cms)= 11.742 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 37.428
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.423

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (2041)     |
|   1 +  2 =  3        |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0041):	263.00	11.742	5.50	37.43
+ ID2= 2 (2741):	38.15	2.796	5.25	49.82
ID = 3 (2041):	301.15	14.309	5.25	39.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| DUHYD     (9001)     |
| Inlet Cap.=0.000     |
| #of Inlets=    1     |
| Total(cms)=  0.0     |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	301.15	14.31	5.25	39.00
MAJOR SYS.(ID= 2):	301.15	14.31	5.25	39.00
MINOR SYS.(ID= 3):	0.00	0.00	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB                |
| NASHYD    (0064)     |   Area    (ha)=  67.94   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min     |   Ia      (mm)=   8.50   # of Linear Res.(N)= 3.00
|                      |   U.H. Tp(hrs)=   0.37
```

Unit Hyd Qpeak (cms)= 7.071

PEAK FLOW (cms)= 3.744 (i)

TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 38.412
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.434

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (1068)     |
|   1 +  2 =  3        |
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0064):	67.94	3.744	5.25	38.41
+ ID2= 2 (9001):	301.15	14.309	5.25	39.00
ID = 3 (1068):	369.09	18.053	5.25	38.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ROUTE CHN (5068)     |
| IN= 2---> OUT= 1     |     Routing time step (min)'= 15.00
```

<------ DATA FOR SECTION (5068.0) ------>

Distance	Elevation	Manning	
0.00	243.69	0.1000	
1.05	244.22	0.1000	
19.37	243.89	0.1000	
41.05	239.31	0.1000	
42.39	239.06	0.1000	
54.90	238.66	0.1000	
104.87	239.47	0.1000	
187.22	239.06	0.1000	
198.63	238.28	0.1000	
214.93	233.81	0.1000 /0.0440	Main Channel
224.74	232.68	0.0440	Main Channel
234.23	233.89	0.0440 /0.1000	Main Channel
244.57	237.42	0.1000	
253.16	237.28	0.1000	
264.49	238.25	0.1000	
303.31	239.05	0.1000	
336.23	238.84	0.1000	
370.20	238.82	0.1000	
618.04	242.11	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.57	233.24	.503E+04	2.0	0.75	42.17
1.13	233.81	.201E+05	12.6	1.20	26.56
1.74	234.42	.447E+05	43.5	1.86	17.13
2.35	235.03	.741E+05	90.1	2.32	13.71
2.97	235.65	.108E+06	151.2	2.67	11.92
3.58	236.26	.147E+06	226.7	2.95	10.80
4.19	236.87	.190E+06	316.7	3.18	10.02
4.80	237.48	.241E+06	415.4	3.29	9.67
5.42	238.10	.310E+06	540.6	3.33	9.55
6.03	238.71	.399E+06	666.7	3.19	9.97
6.64	239.32	.651E+06	821.2	2.41	13.21
7.25	239.93	.110E+07	1176.4	2.04	15.63
7.87	240.55	.162E+07	1669.2	1.97	16.15

8.48	241.16	.219E+07	2289.5	2.00	15.94
9.09	241.77	.282E+07	3040.5	2.06	15.45
9.70	242.38	.350E+07	3971.5	2.17	14.69
10.32	243.00	.419E+07	5093.0	2.32	13.72
10.93	243.61	.489E+07	6341.8	2.48	12.85
11.54	244.22	.560E+07	7596.9	2.59	12.28

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1068)	369.09	18.05	5.25	38.89	1.24	1.28
OUTFLOW: ID= 1 (5068)	369.09	15.20	5.75	38.89	1.18	1.23

CALIB
STANDHYD (0068) | Area (ha)= 67.87
ID= 1 DT=15.0 min | Total Imp(%)= 24.00 Dir. Conn.(%)= 22.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.29	51.58
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	672.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	29.82
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	56.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.69	2.28	3.389 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	48.90	57.40
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.55	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2068)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0068):	67.87	3.389	5.25	57.40
+ ID2= 2 (5068):	369.09	15.199	5.75	38.89
ID = 3 (2068):	436.96	18.014	5.75	41.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

STANDHYD (0075) | Area (ha)= 90.63
ID= 1 DT=15.0 min | Total Imp(%)= 59.00 Dir. Conn.(%)= 54.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	53.47	37.16
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	777.30	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	38.17
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	5.52	2.07	7.094 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	59.27	74.53
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.67	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1074)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0075):	90.63	7.094	5.25	74.53
+ ID2= 2 (2068):	436.96	18.014	5.75	41.76
ID = 3 (1074):	527.59	22.436	5.50	47.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5074)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5074.0) ------>

Distance	Elevation	Manning	
0.00	237.79	0.1000	
113.79	235.41	0.1000	
164.89	228.84	0.1000 /0.0440	Main Channel
166.86	228.66	0.0440	Main Channel
168.93	229.03	0.0440 /0.1000	Main Channel
184.89	232.46	0.1000	
190.40	232.85	0.1000	
196.98	234.94	0.1000	
215.36	235.65	0.1000	
232.15	237.32	0.1000	
254.34	236.11	0.1000	
290.72	237.19	0.1000	
335.58	237.37	0.1000	

355.30	236.87	0.1000	
416.53	238.54	0.1000	
454.71	237.66	0.1000	
532.81	237.74	0.1000	
585.25	238.79	0.1000	
633.15	238.27	0.1000	
651.47	238.62	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	228.84	.883E+02	0.1	0.42	13.12
0.70	229.36	.119E+04	3.7	1.03	5.33
1.23	229.89	.342E+04	13.1	1.26	4.34
1.75	230.41	.677E+04	29.3	1.43	3.85
2.27	230.93	.112E+05	53.3	1.56	3.51
2.80	231.46	.168E+05	86.4	1.69	3.25
3.32	231.98	.236E+05	129.4	1.81	3.04
3.85	232.51	.314E+05	182.7	1.92	2.87
4.37	233.03	.408E+05	246.6	1.99	2.76
4.89	233.55	.514E+05	329.5	2.11	2.60
5.42	234.08	.630E+05	426.4	2.23	2.46
5.94	234.60	.756E+05	537.9	2.34	2.34
6.46	235.12	.893E+05	650.4	2.40	2.29
6.99	235.65	.106E+06	732.6	2.28	2.41
7.51	236.17	.128E+06	845.2	2.17	2.53
8.04	236.70	.158E+06	973.3	2.02	2.71
8.56	237.22	.200E+06	1148.0	1.89	2.90
9.08	237.74	.263E+06	1390.2	1.74	3.15
9.61	238.27	.349E+06	1932.2	1.82	3.01

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1074)	527.59	22.44	5.50	47.39	1.53	1.35
OUTFLOW: ID= 1 (5074)	527.59	22.94	5.50	47.39	1.55	1.36

CALIB
STANDHYD (0074) | Area (ha)= 22.67
ID= 1 DT=15.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 40.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.34	11.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	388.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	42.23
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.03	0.90	1.848 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	62.14	72.30
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.70	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2074)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0074):	22.67	1.848	5.25	72.30
+ ID2= 2 (5074):	527.59	22.942	5.50	47.39
ID = 3 (2074):	550.26	24.219	5.50	48.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1073)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2065):	781.42	26.270	6.25	50.89
+ ID2= 2 (2074):	550.26	24.219	5.50	48.42
ID = 3 (1073):	1331.68	47.390	6.00	49.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0073) | Area (ha)= 52.49
ID= 1 DT=15.0 min | Total Imp(%)= 52.00 Dir. Conn.(%)= 44.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.29	25.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	591.55	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	39.32
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.61	1.59	3.848 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	58.64	71.36
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.66	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2073)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0073):		52.49	3.848	5.25	71.36
+ ID2= 2 (1073):		1331.68	47.390	6.00	49.87
ID = 3 (2073):		1384.17	49.687	6.00	50.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9013)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		1384.17	49.69	6.00	50.69
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		1384.17	49.69	6.00	50.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6013)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	3.8550	10.8920
		0.0000	0.0000	4.2540	12.9360
		0.0400	0.8560	4.6190	15.0330
		0.1500	1.7950	4.9570	17.1840
		0.5660	2.8160	5.2730	19.3870
		0.7780	3.9200	5.6900	20.1320
		0.9440	5.1060	9.2940	23.1620
		1.1480	6.9760	13.1840	25.4880
		1.3740	7.6130	17.8240	27.8720
		3.1710	8.9050	0.0000	0.0000
		3.5640	9.5610	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9013)	1384.170	49.687	6.00	50.69
OUTFLOW: ID= 1 (6013)	1384.170	22.732	8.00	50.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 45.75
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 35.5656

ADD HYD (4013)	

1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6013):	1384.17	22.732	8.00	50.68
+ ID2= 2 (9013):	0.00	0.000	0.00	0.00
ID = 3 (4013):	1384.17	22.732	8.00	50.68

*** W A R N I N G : HYDROGRAPH 9013 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5081)		
IN= 2---> OUT= 1	Routing time step (min)'= 15.00	
	<----- DATA FOR SECTION (5081.0) ------>	
	Distance	Elevation	Manning
	0.00	225.82	0.1000
	5.97	224.62	0.1000
	29.57	222.64	0.1000
	40.42	222.57	0.1000
	76.56	222.70	0.1000
	80.13	222.70	0.1000
	86.10	222.50	0.1000
	92.53	222.61	0.1000
	98.56	222.41	0.1000
	98.87	222.40	0.1000
	105.10	222.00	0.1000 /0.0440 Main Channel
	110.31	221.50	0.0440 Main Channel
	112.61	221.67	0.0440 Main Channel
	114.64	221.50	0.0440 Main Channel
	114.83	221.49	0.0440 Main Channel
	116.29	222.00	0.0440 /0.1000 Main Channel
	119.94	222.25	0.1000
	167.66	226.18	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.17	221.66	.987E+03	0.2	0.35	87.86
0.34	221.83	.345E+04	1.2	0.65	47.66
0.51	222.00	.662E+04	3.1	0.86	35.87
0.75	222.24	.132E+05	8.0	1.12	27.52
0.99	222.48	.229E+05	15.2	1.23	25.11
1.23	222.72	.475E+05	25.7	1.00	30.83
1.46	222.95	.917E+05	46.2	0.94	33.04
1.70	223.19	.138E+06	74.5	1.00	30.96
1.94	223.43	.188E+06	109.8	1.08	28.50
2.18	223.67	.240E+06	151.7	1.17	26.33
2.42	223.91	.294E+06	200.1	1.26	24.49
2.66	224.15	.351E+06	254.8	1.35	22.95
2.90	224.39	.410E+06	316.0	1.43	21.64
3.14	224.63	.472E+06	383.6	1.51	20.52
3.37	224.86	.537E+06	460.0	1.59	19.44
3.61	225.10	.603E+06	542.8	1.67	18.50
3.85	225.34	.670E+06	632.0	1.75	17.68
4.09	225.58	.740E+06	727.6	1.82	16.95
4.33	225.82	.811E+06	829.6	1.90	16.30

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX VEL

		AREA	QPEAK	TPEAK	R.V.		
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (4013)		1384.17	22.73	8.00	50.68	1.16	1.06
OUTFLOW: ID= 1 (5081)		1384.17	22.24	8.75	50.68	1.15	1.07

CALIB			
STANDHYD (0081)	Area (ha)= 131.60		
ID= 1 DT=15.0 min	Total Imp(%)= 44.00	Dir. Conn.(%)= 36.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.90	73.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	936.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	39.80
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	69.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	5.33	4.14 7.985 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	87.54	61.16 70.65
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.69 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2081)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0081):		131.60	7.985	5.25	70.65
+ ID2= 2 (5081):		1384.17	22.244	8.75	50.68
ID = 3 (2081):		1515.77	24.133	8.25	52.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5446)			
IN= 2---> OUT= 1	Routing time step (min)'= 15.00		
	<------ DATA FOR SECTION (5446.0) ------>		
	Distance	Elevation	Manning
	0.00	217.81	0.1000
	11.08	216.00	0.1000
	36.54	215.00	0.1000
	55.05	214.88	0.1000
	57.65	214.50	0.1000

65.88	212.00	0.1000 /0.0440	Main Channel				
65.89	212.00	0.0440	Main Channel				
68.31	211.78	0.0440	Main Channel				
71.62	211.62	0.0440	Main Channel				
74.08	211.60	0.0440	Main Channel				
82.25	211.66	0.0440	Main Channel				
86.11	212.00	0.0440	Main Channel				
86.23	212.02	0.0440 /0.1000	Main Channel				
94.33	213.50	0.1000					
134.71	215.48	0.1000					
170.10	216.00	0.1000					
190.26	216.67	0.1000					

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.20	211.80	.388E+04	1.2	0.50	56.18
0.40	212.00	.994E+04	4.7	0.79	35.45
0.67	212.27	.199E+05	14.2	1.20	23.33
0.95	212.55	.309E+05	27.8	1.52	18.54
1.22	212.82	.431E+05	45.1	1.77	15.91
1.50	213.10	.564E+05	66.1	1.98	14.22
1.77	213.37	.708E+05	90.5	2.16	13.03
2.05	213.65	.865E+05	118.0	2.30	12.23
2.32	213.92	.105E+06	149.2	2.39	11.75
2.60	214.20	.127E+06	184.8	2.46	11.43
2.87	214.47	.151E+06	224.9	2.51	11.22
3.15	214.75	.179E+06	269.4	2.53	11.09
3.42	215.02	.213E+06	313.7	2.48	11.31
3.70	215.30	.257E+06	372.2	2.44	11.52
3.97	215.57	.308E+06	435.1	2.38	11.79
4.25	215.85	.369E+06	503.4	2.30	12.21
4.52	216.12	.441E+06	588.7	2.25	12.48
4.80	216.40	.519E+06	690.4	2.24	12.53
5.07	216.67	.602E+06	802.7	2.25	12.49

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2081)	1515.77	24.13	8.25	52.42	0.88	1.42
OUTFLOW: ID= 1 (5446)	1515.77	24.04	8.50	52.42	0.87	1.41

CALIB			
STANDHYD (0446)	Area (ha)= 124.88		
ID= 1 DT=15.0 min	Total Imp(%)= 35.00	Dir. Conn.(%)= 28.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.71	81.17
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	912.43	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	36.08
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	3.94	4.17 7.082 (iii)

TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	56.09	64.89
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.63	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2446)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0446):	124.88	7.082	5.25	64.89
	+ ID2= 2 (5446):	1515.77	24.044	8.50	52.42
	ID = 3 (2446):	1640.65	25.911	8.25	53.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5110)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5110.0) ------>

Distance	Elevation	Manning	
0.00	210.19	0.1000	
21.36	209.50	0.1000	
46.49	206.88	0.1000	
52.44	205.50	0.1000 /0.0440	Main Channel
56.57	203.68	0.0440	Main Channel
58.67	203.50	0.0440	Main Channel
62.44	203.66	0.0440	Main Channel
67.42	205.50	0.0440 /0.1000	Main Channel
71.31	206.50	0.1000	
89.08	207.50	0.1000	
149.36	207.99	0.1000	
149.52	208.00	0.1000	
155.13	208.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.75	.141E+04	0.6	0.64	36.91
0.50	204.00	.384E+04	3.0	1.10	21.46
0.75	204.25	.672E+04	6.8	1.43	16.47
1.00	204.50	.100E+05	12.1	1.71	13.82
1.25	204.75	.138E+05	19.0	1.94	12.13
1.50	205.00	.180E+05	27.5	2.16	10.93
1.75	205.25	.226E+05	37.7	2.36	10.01
2.00	205.50	.277E+05	49.8	2.54	9.28
2.27	205.77	.339E+05	68.3	2.85	8.28
2.55	206.05	.410E+05	89.4	3.09	7.64
2.82	206.32	.489E+05	113.3	3.27	7.20
3.09	206.59	.578E+05	139.7	3.42	6.90
3.36	206.86	.687E+05	169.1	3.48	6.77

3.64	207.14	.822E+05	201.9	3.48	6.78
3.91	207.41	.985E+05	239.1	3.44	6.86
4.18	207.68	.120E+06	277.9	3.27	7.20
4.45	207.95	.155E+06	326.8	2.98	7.91
4.73	208.23	.200E+06	392.5	2.78	8.48
5.00	208.50	.247E+06	469.4	2.69	8.75

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (2446)	1640.65	25.91	8.25	53.37	1.45	2.12
OUTFLOW:	ID= 1 (5110)	1640.65	25.86	8.25	53.37	1.45	2.11

CALIB	
STANDHYD (0110)	Area (ha)= 86.93
ID= 1 DT=15.0 min	Total Imp(%)= 36.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.29	55.64
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	761.27	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	37.71
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.94	3.09	5.310 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	60.25	68.44
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.68	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2110)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0110):	86.93	5.310	5.25	68.44
	+ ID2= 2 (5110):	1640.65	25.855	8.25	53.37
	ID = 3 (2110):	1727.58	27.257	8.25	54.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5721)

IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5721.0) ------>

Distance	Elevation	Manning	
0.00	199.53	0.1000	
12.53	199.00	0.1000	
12.61	199.00	0.1000	
22.51	197.82	0.1000 /0.0440	Main Channel
24.05	197.50	0.0440	Main Channel
30.35	196.57	0.0440	Main Channel
32.97	196.00	0.0440	Main Channel
34.58	195.50	0.0440	Main Channel
38.37	195.83	0.0440	Main Channel
39.72	196.22	0.0440	Main Channel
45.13	197.31	0.0440	Main Channel
49.32	197.68	0.0440 /0.1000	Main Channel
62.29	198.50	0.1000	
76.95	199.00	0.1000	
82.76	199.28	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	195.70	.369E+03	0.1	0.46	46.56
0.40	195.90	.145E+04	0.9	0.77	27.85
0.59	196.09	.297E+04	2.4	1.05	20.39
0.79	196.29	.489E+04	4.8	1.25	17.02
0.99	196.49	.727E+04	8.1	1.43	14.94
1.19	196.69	.102E+05	12.5	1.57	13.56
1.39	196.89	.136E+05	18.2	1.71	12.49
1.59	197.09	.177E+05	25.5	1.84	11.56
1.78	197.28	.223E+05	34.5	1.98	10.77
1.98	197.48	.277E+05	44.4	2.05	10.38
2.18	197.68	.339E+05	57.1	2.15	9.90
2.38	197.88	.411E+05	76.1	2.37	9.00
2.58	198.08	.495E+05	99.1	2.56	8.33
2.78	198.28	.592E+05	125.0	2.70	7.89
2.98	198.48	.701E+05	153.9	2.81	7.59
3.18	198.68	.825E+05	185.7	2.88	7.40
3.38	198.88	.968E+05	221.1	2.92	7.30
3.58	199.08	.113E+06	260.2	2.94	7.24
3.78	199.28	.132E+06	303.3	2.95	7.23

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (2110)	1727.58	27.26	8.25	54.12	1.62	1.87
OUTFLOW:	ID= 1 (5721)	1727.58	27.24	8.25	54.12	1.62	1.86

CALIB	
STANDHYD (0721)	Area (ha)= 44.92
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 31.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.07	27.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	547.24	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	39.25	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	

		TOTALS
PEAK FLOW	(cms)=	1.57	1.79	2.995 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	62.17	70.03
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.70	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2721)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0721):	44.92	2.995	5.25	70.03
	+ ID2= 2 (5721):	1727.58	27.242	8.25	54.12
	ID = 3 (2721):	1772.50	27.928	8.00	54.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0699)	Area (ha)= 49.10	Curve Number (CN)= 77.0	
ID= 1 DT=15.0 min	Ia (mm)= 7.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.37		

Unit Hyd Qpeak (cms)= 5.138

PEAK FLOW	(cms)=	2.916 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	41.248
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.466

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0540)	Area (ha)= 11.06
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	4.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	271.54	40.00
Mannings n	=	0.013	0.250

```
Max.Eff.Inten.(mm/hr)=      40.71        45.33
           over (min)       15.00        30.00
Storage Coeff.  (min)=       6.60 (ii)   39.00 (ii)
Unit Hyd. Tpeak (min)=      15.00        45.00
Unit Hyd. peak  (cms)=       0.10         0.03
                                          *TOTALS*
PEAK FLOW       (cms)=       0.56         0.44          0.977 (iii)
TIME TO PEAK    (hrs)=       5.25         5.50          5.25
RUNOFF VOLUME    (mm)=      87.54        67.10         76.29
TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
RUNOFF COEFFICIENT   =       0.99         0.76          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9214) |
| Inlet Cap.=0.031 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  11.06      0.98      5.25   76.29
     ================================================
     MAJOR SYS.(ID= 2):   9.51      0.95      5.25   76.29
     MINOR SYS.(ID= 3):   1.55      0.03      2.50   76.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6214) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0280      0.3760
                          0.0230     0.2300   |   0.0290      0.4150
                          0.0240     0.2640   |   0.0300      0.4560
                          0.0260     0.3000   |   0.0310      0.4990
                          0.0270     0.3370   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9214)      1.547     0.031      2.50      76.29
     OUTFLOW: ID= 1 (6214)      1.547     0.010     12.75      74.67

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.69
                    TIME SHIFT OF PEAK FLOW         (min)=615.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0952

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--------------------
| ADD HYD   (4214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (6214):     1.55   0.010    12.75    74.67
        + ID2= 2 (9214):     9.51   0.946     5.25    76.29
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          ==============================================
          ID = 3 (4214):    11.06   0.950     5.25    76.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0539)  |   Area    (ha)=  12.31
|ID= 1 DT=15.0 min  |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.52         5.79
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         7.20
     Length            (m)=     286.47        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        34.44
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       4.80 (ii)   27.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                               *TOTALS*
     PEAK FLOW       (cms)=       0.74         0.44          1.178 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        59.97         74.58
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.68          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  88.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9381) |
| Inlet Cap.=1.587 |
| #of Inlets=    1 |
| Total(cms)=  1.6 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  12.31      1.18      5.25   74.58
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  12.31      1.18      5.25   74.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6381) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0140      0.4484
                          0.0100     0.1881   |   0.1560      0.5370
                          0.0110     0.2208   |   0.7460      0.6320
                          0.0120     0.2905   |   1.5870      0.7334
                          0.0130     0.3662   |   0.0000      0.0000
```



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                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9381)     12.310     1.178      5.25      74.58
     OUTFLOW: ID= 1 (6381)     12.310     0.427      6.25      74.19

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.23
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.5808

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--------------------
| ADD HYD   (4381) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9381 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6381):    12.31   0.427     6.25    74.19
        + ID2= 2 (9381):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4381):    12.31   0.427     6.25    74.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1699) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4214):    11.06   0.950     5.25    76.07
        + ID2= 2 (4381):    12.31   0.427     6.25    74.19
          ================================================
          ID = 3 (1699):    23.37   0.998     5.25    75.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2699) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0699):    49.10   2.916     5.25    41.25
        + ID2= 2 (1699):    23.37   0.998     5.25    75.08
          ================================================
          ID = 3 (2699):    72.47   3.914     5.25    52.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0535)  |   Area    (ha)=  43.13
|ID= 1 DT=15.0 min  |   Total Imp(%)=  58.00   Dir. Conn.(%)=  49.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.02        18.11
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.60
     Length            (m)=     536.22        40.00
```



```
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        42.09
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       7.20 (ii)   41.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                               *TOTALS*
     PEAK FLOW       (cms)=       2.39         1.42          3.688 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      87.54        60.91         73.96
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.69          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  86.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9282) |
| Inlet Cap.=5.313 |
| #of Inlets=    1 |
| Total(cms)=  5.3 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.13      3.69      5.25   73.96
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.13      3.69      5.25   73.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6282) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0900      0.5455
                          0.0350     0.1299   |   0.6640      0.6004
                          0.0540     0.2338   |   1.8780      0.6553
                          0.0680     0.3377   |   3.4510      0.7101
                          0.0800     0.4416   |   5.3130      0.7650

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9282)     43.130     3.688      5.25      73.96
     OUTFLOW: ID= 1 (6282)     43.130     3.581      5.25      73.94

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.09
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.7187

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4282) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
*** W A R N I N G :  HYDROGRAPH 9282 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6282):    43.13   3.581     5.25    73.94
        + ID2= 2 (9282):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4282):    43.13   3.581     5.25    73.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB                |
| STANDHYD  (0541)  |   Area    (ha)=  35.37
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  41.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.39        16.98
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00        11.30
     Length            (m)=     485.59        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        44.92
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.40 (ii)   33.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.64         1.64          3.279 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        65.63         74.61
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.74          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
--------------------
| DUHYD     (9281) |
| Inlet Cap.=7.470 |
| #of Inlets=    1 |
| Total(cms)=  7.5 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  35.37      3.28      5.25   74.61
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  35.37      3.28      5.25   74.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| RESERVOIR (6281) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```



```
                          0.0000     0.0000   |   0.2800      0.5448
                          0.0200     0.8450   |   0.7000      0.6092
                          0.0300     0.2238   |   2.1800      0.6713
                          0.0400     0.3704   |   4.5300      0.7352
                          0.0500     0.4902   |   7.4700      0.8009

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9281)     35.370      3.279      5.25      74.61
     OUTFLOW: ID= 1 (6281)     35.370      6.190      5.50      74.31

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=188.79
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6622

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
     **** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.
------------------------------------------------------------------------------

--------------------
| ADD HYD   (4281) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9281 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6281):    35.37   6.190     5.50    74.31
        + ID2= 2 (9281):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4281):    35.37   6.190     5.50    74.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2535) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4281):    35.37   6.190     5.50    74.31
        + ID2= 2 (4282):    43.13   3.581     5.25    73.94
          ================================================
          ID = 3 (2535):    78.50   9.105     5.50    74.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2541) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2535):    78.50   9.105     5.50    74.11
        + ID2= 2 (2699):    72.47   3.914     5.25    52.16
          ================================================
          ID = 3 (2541):   150.97  12.337     5.50    63.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1130) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2541):   150.97  12.337     5.50    63.57
        + ID2= 2 (9001):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (1130):   150.97  12.337     5.50    63.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB                |
| STANDHYD  (0532)  |   Area    (ha)=   8.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  21.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.35         6.34
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.30
     Length            (m)=     240.69        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.82
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.40 (ii)   31.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.21         0.42          0.627 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        51.45         59.03
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.58          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------

--------------------
| ADD HYD   (2532) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0532):    8.69   0.627     5.25    59.03
        + ID2= 2 (1130):   150.97  12.337     5.50    63.57
          ================================================
          ID = 3 (2532):   159.66  12.819     5.50    63.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| DUHYD     (9000) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=**** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
```



```
     TOTAL HYD.(ID= 1): 159.66     12.82      5.50   63.32
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 159.66     12.82      5.50   63.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| RESERVOIR (6000) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.5300     11.9290
                          0.6800     2.1800   |   1.8100     17.4390
                          1.1800     6.8490   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                     (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9000)    159.660     12.819      5.50      63.32
     OUTFLOW: ID= 1 (6000)    159.660      1.103      8.50      63.32

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.60
                    TIME SHIFT OF PEAK FLOW         (min)=180.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  6.1297

------------------------------------------------------------------------------

--------------------
| ADD HYD   (4000) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9000 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6000):   159.66   1.103     8.50    63.32
        + ID2= 2 (9000):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4000):   159.66   1.103     8.50    63.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB                |
| NASHYD    (0542)  |   Area    (ha)=   5.19   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

     Unit Hyd Qpeak  (cms)=   1.153

     PEAK FLOW       (cms)=   0.315 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  36.167
     TOTAL RAINFALL   (mm)=  88.540
     RUNOFF COEFFICIENT   =   0.408

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------

--------------------
| ADD HYD   (2542) |
```

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0542):	5.19	0.315	5.25	36.17
+ ID2= 2 (4000):	159.66	1.103	8.50	63.32
ID = 3 (2542):	164.85	1.135	8.25	62.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0130) / ID= 1 DT=15.0 min	Area (ha)= 99.94	Total Imp(%)= 47.00	Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	46.97	52.97
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.50
Length (m)=	816.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	40.94
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	4.29	3.37	6.918 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	61.63	71.48
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.70	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2130) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0130):	99.94	6.918	5.25	71.48
+ ID2= 2 (2542):	164.85	1.135	8.25	62.46
ID = 3 (2130):	264.79	7.922	5.25	65.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5550) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5550.0) ------>

Distance	Elevation	Manning
0.00	209.58	0.1000

3.56	209.62	0.1000
42.74	208.52	0.1000
77.30	208.87	0.1000
107.41	207.79	0.1000
124.03	207.40	0.1000 /0.0440 Main Channel
150.79	206.87	0.0440 Main Channel
152.45	206.85	0.0440 Main Channel
162.04	206.90	0.0440 Main Channel
164.71	206.92	0.0440 Main Channel
184.43	207.42	0.0440 Main Channel
186.09	207.46	0.0440 /0.1000 Main Channel
213.15	208.26	0.1000
241.57	209.72	0.1000
256.40	208.62	0.1000
290.72	210.48	0.1000
292.65	210.48	0.1000
306.25	210.74	0.1000
413.63	210.84	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	206.99	.251E+04	0.8	0.39	55.21
0.28	207.13	.762E+04	3.6	0.61	35.24
0.41	207.26	.149E+05	9.0	0.78	27.54
0.55	207.40	.244E+05	17.6	0.93	23.15
0.70	207.55	.368E+05	32.8	1.15	18.69
0.84	207.69	.512E+05	52.9	1.34	16.15
0.99	207.84	.677E+05	77.2	1.48	14.61
1.13	207.98	.860E+05	106.0	1.60	13.53
1.28	208.13	.106E+06	139.0	1.70	12.71
1.42	208.27	.128E+06	176.2	1.79	12.07
1.57	208.42	.151E+06	218.0	1.87	11.52
1.71	208.56	.175E+06	262.8	1.94	11.12
1.86	208.71	.204E+06	310.0	1.97	10.97
2.00	208.85	.239E+06	363.7	1.97	10.94
2.15	209.00	.278E+06	426.8	1.99	10.85
2.29	209.14	.319E+06	496.3	2.01	10.72
2.44	209.29	.363E+06	571.9	2.04	10.58
2.58	209.43	.409E+06	653.6	2.07	10.44
2.73	209.58	.458E+06	741.6	2.10	10.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2130)	264.79	7.92	5.25	65.86	0.38	0.74
OUTFLOW: ID= 1 (5550)	264.79	6.45	5.50	65.86	0.35	0.69

CALIB / STANDHYD (0550) / ID= 1 DT=15.0 min	Area (ha)= 48.26	Total Imp(%)= 34.00	Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.41	31.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	567.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	34.10

over (min)	15.00	30.00		
Storage Coeff. (min)=	7.80 (ii)	47.40 (ii)		
Unit Hyd. Tpeak (min)=	15.00	45.00		
Unit Hyd. peak (cms)=	0.10	0.02		
			TOTALS	
PEAK FLOW (cms)=	1.64	1.85	3.289 (iii)	
TIME TO PEAK (hrs)=	5.25	5.50	5.25	
RUNOFF VOLUME (mm)=	87.54	55.11	64.84	
TOTAL RAINFALL (mm)=	88.54	88.54	88.54	
RUNOFF COEFFICIENT =	0.99	0.62	0.73	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2550) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0550):	48.26	3.289	5.25	64.84
+ ID2= 2 (5550):	264.79	6.450	5.50	65.86
ID = 3 (2550):	313.05	9.365	5.25	65.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5144) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5144.0) ------>

Distance	Elevation	Manning	
0.00	208.27	0.1000	
28.32	207.87	0.1000	
28.56	207.85	0.1000	
31.58	206.89	0.1000	
40.26	204.20	0.1000 /0.0440	Main Channel
43.45	203.21	0.0440	Main Channel
48.11	205.04	0.0440 /0.1000	Main Channel
55.33	207.89	0.1000	
67.35	208.20	0.1000	
92.04	207.79	0.1000	
193.51	208.52	0.1000	
218.35	209.53	0.1000	
291.67	210.56	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.46	.100E+03	0.0	0.24	39.00
0.50	203.71	.402E+03	0.3	0.39	24.57
0.74	203.95	.904E+03	0.8	0.51	18.75
0.99	204.20	.161E+04	1.7	0.61	15.48
1.26	204.47	.261E+04	3.5	0.75	12.60
1.53	204.74	.385E+04	5.8	0.85	11.12
1.80	205.01	.534E+04	8.7	0.93	10.18

2.08	205.29	.706E+04	12.9	1.04	9.13
2.35	205.56	.903E+04	17.9	1.12	8.43
2.62	205.83	.112E+05	23.6	1.19	7.94
2.89	206.10	.137E+05	30.2	1.25	7.56
3.16	206.37	.164E+05	37.5	1.30	7.27
3.43	206.64	.193E+05	45.8	1.35	7.03
3.70	206.91	.225E+05	54.8	1.39	6.83
3.97	207.18	.259E+05	64.8	1.42	6.66
4.25	207.46	.295E+05	75.7	1.46	6.51
4.52	207.73	.334E+05	87.5	1.49	6.37
4.79	208.00	.405E+05	93.1	1.31	7.25
5.06	208.27	.594E+05	108.4	1.04	9.14

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2550)	313.05	9.37	5.25	65.71	1.84	0.95
OUTFLOW: ID= 1 (5144)	313.05	9.08	5.50	65.71	1.83	0.94

CALIB / STANDHYD (0144) / ID= 1 DT=15.0 min	Area (ha)= 57.15	Total Imp(%)= 78.00	Dir. Conn.(%)= 77.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	44.58	12.57
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	617.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	39.82
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	58.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	4.97	0.82	5.633 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	69.67	83.43
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.79	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2144) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0144):	57.15	5.633	5.25	83.43
+ ID2= 2 (5144):	313.05	9.077	5.50	65.71
ID = 3 (2144):	370.20	14.111	5.25	68.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0133)	Area (ha)= 124.55
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	64.77	59.78	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.40	
Length	(m)=	911.23	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	44.04	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.01	
				TOTALS
PEAK FLOW	(cms)=	5.88	3.61	8.215 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	65.32	74.65
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.74	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0157)	Area (ha)= 123.16
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 46.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	67.74	55.42	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	1.90	
Length	(m)=	906.13	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	43.68	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.80 (ii)	82.20 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.01	
				TOTALS
PEAK FLOW	(cms)=	6.35	3.21	8.423 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	65.19	75.47
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.74	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2157)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0133):	124.55	8.215	5.25	74.65
	+ ID2= 2 (0157):	123.16	8.423	5.25	75.47
	ID = 3 (2157):	247.71	16.638	5.25	75.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0156)	Area (ha)= 110.69
ID= 1 DT=15.0 min	Total Imp(%)= 64.00 Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	70.84	39.85	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	1.80	
Length	(m)=	859.03	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	46.01	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.01	
				TOTALS
PEAK FLOW	(cms)=	6.95	2.51	8.608 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	68.71	79.25
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.78	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2156)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0156):	110.69	8.608	5.25	79.25
	+ ID2= 2 (2157):	247.71	16.638	5.25	75.06
	ID = 3 (2156):	358.40	25.246	5.25	76.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5166)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5166.0) ------>

Distance	Elevation	Manning	
0.00	217.55	0.1000	
11.14	217.28	0.1000	
32.85	217.25	0.1000	
39.83	217.02	0.1000	
53.80	215.11	0.1000	
167.72	214.15	0.1000	
197.58	214.84	0.1000	
250.68	213.38	0.1000 /0.0440	Main Channel
255.86	213.24	0.0440	Main Channel
258.84	213.31	0.0440	Main Channel
259.52	213.31	0.0440	Main Channel
265.88	213.29	0.0440	Main Channel
268.98	213.36	0.0440 /0.1000	Main Channel
364.18	213.80	0.1000	
385.22	213.65	0.1000	
407.72	214.38	0.1000	
418.33	214.17	0.1000	
471.33	215.45	0.1000	
543.86	215.79	0.1000	
581.28	217.51	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	213.36	.284E+03	0.2	0.18	24.77
0.34	213.58	.297E+04	3.3	0.30	15.16
0.56	213.80	.944E+04	11.3	0.33	13.96
0.78	214.02	.190E+05	28.3	0.40	11.22
0.99	214.23	.297E+05	51.0	0.47	9.71
1.21	214.45	.438E+05	81.1	0.50	9.01
1.43	214.67	.613E+05	123.3	0.55	8.28
1.65	214.89	.818E+05	176.9	0.59	7.71
1.87	215.11	.105E+06	243.4	0.63	7.17
2.09	215.33	.129E+06	325.5	0.69	6.61
2.30	215.54	.154E+06	409.3	0.72	6.28
2.52	215.76	.182E+06	496.1	0.74	6.11
2.74	215.98	.211E+06	620.0	0.80	5.68
2.96	216.20	.241E+06	759.1	0.86	5.30
3.18	216.42	.272E+06	910.1	0.91	4.97
3.40	216.64	.302E+06	1072.7	0.97	4.70
3.61	216.85	.333E+06	1246.5	1.02	4.46
3.83	217.07	.365E+06	1429.4	1.07	4.25
4.05	217.29	.397E+06	1584.2	1.09	4.18

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (2156)	358.40	25.25	5.25	76.35	0.74	0.39
OUTFLOW:	ID= 1 (5166)	358.40	23.96	5.25	76.35	0.72	0.38

CALIB	

STANDHYD (0166)	Area (ha)= 11.81
ID= 1 DT=15.0 min	Total Imp(%)= 83.00 Dir. Conn.(%)= 83.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	9.80	2.01	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.50	
Length	(m)=	280.59	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	37.89	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.60 (ii)	37.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.10	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.11	0.15	1.252 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	68.95	84.38
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.78	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2166)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0166):	11.81	1.252	5.25	84.38
	+ ID2= 2 (5166):	358.40	23.963	5.25	76.35
	ID = 3 (2166):	370.21	25.215	5.25	76.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5160)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5160.0) ------>

Distance	Elevation	Manning	
0.00	220.97	0.1000	
17.68	215.64	0.1000	
29.90	215.85	0.1000	
34.23	215.87	0.1000	
296.26	212.66	0.1000	
299.34	211.63	0.1000 /0.0440	Main Channel
304.29	210.00	0.0440	Main Channel
306.02	209.43	0.0440	Main Channel
310.37	211.42	0.0440 /0.1000	Main Channel
313.87	213.06	0.1000	
653.61	215.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	209.71	.349E+02	0.1	0.37	7.47
0.57	210.00	.139E+03	0.5	0.59	4.70
0.85	210.28	.314E+03	1.5	0.77	3.59
1.14	210.57	.558E+03	3.1	0.93	2.96
1.42	210.85	.872E+03	5.7	1.08	2.55
1.71	211.14	.126E+04	9.3	1.22	2.26
1.99	211.42	.171E+04	14.0	1.35	2.04
2.30	211.73	.229E+04	21.6	1.56	1.77
2.62	212.05	.295E+04	31.5	1.76	1.56
2.93	212.36	.370E+04	43.1	1.92	1.43
3.24	212.67	.453E+04	56.3	2.05	1.34
3.56	212.99	.614E+04	71.7	1.93	1.43
3.87	213.30	.985E+04	92.0	1.54	1.79
4.18	213.61	.174E+05	125.0	1.19	2.32
4.50	213.93	.289E+05	175.6	1.00	2.75
4.81	214.24	.443E+05	248.2	0.93	2.98
5.12	214.55	.637E+05	346.9	0.90	3.06
5.44	214.87	.870E+05	475.7	0.90	3.05
5.75	215.18	.114E+06	638.0	0.92	2.98

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2166)	370.21	25.21	5.25	76.61	2.42	1.63
OUTFLOW: ID= 1 (5160)	370.21	25.00	5.25	76.61	2.42	1.62

CALIB	
STANDHYD (0160)	Area (ha)= 41.13
ID= 1 DT=15.0 min	Total Imp(%)= 62.00 Dir. Conn.(%)= 62.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.50	15.63
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.70
Length (m)=	523.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	35.87
over (min)	15.00	15.00
Storage Coeff. (min)=	7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	2.88	1.04 3.842 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	87.54	63.38 78.36
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.72 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2160)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0160):	41.13	3.842	5.25	78.36
+ ID2= 2 (5160):	370.21	25.003	5.25	76.61
ID = 3 (2160):	411.34	28.845	5.25	76.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5164)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5164.0) ------>

Distance	Elevation	Manning	
0.00	212.78	0.1000	
18.70	212.77	0.1000	
200.84	210.24	0.1000	
234.88	210.16	0.1000	
258.11	210.46	0.1000	
258.43	210.47	0.1000	
263.50	208.74	0.1000 /0.0440	Main Channel
269.32	206.81	0.0440	Main Channel
277.54	208.63	0.0440 /0.1000	Main Channel
291.76	210.46	0.1000	
323.24	210.56	0.1000	
387.30	209.40	0.1000	
387.95	209.38	0.1000	
408.71	210.26	0.1000	
538.36	212.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	207.07	.240E+03	0.1	0.34	45.94
0.52	207.33	.959E+03	0.6	0.54	28.94
0.78	207.59	.216E+04	1.6	0.71	22.08
1.04	207.85	.384E+04	3.5	0.86	18.23
1.30	208.11	.600E+04	6.4	1.00	15.71
1.56	208.37	.863E+04	10.3	1.13	13.91
1.82	208.63	.118E+05	15.6	1.25	12.55
2.12	208.93	.160E+05	24.8	1.46	10.76
2.41	209.22	.212E+05	36.3	1.62	9.71
2.71	209.52	.278E+05	49.7	1.68	9.33
3.00	209.81	.409E+05	66.9	1.54	10.19
3.30	210.11	.613E+05	89.7	1.38	11.40
3.60	210.41	.993E+05	119.8	1.14	13.82
3.89	210.70	.165E+06	166.6	0.95	16.52
4.19	211.00	.246E+06	238.9	0.91	17.18
4.48	211.29	.339E+06	330.8	0.92	17.08
4.78	211.59	.443E+06	443.5	0.94	16.66
5.07	211.88	.559E+06	578.0	0.97	16.12
5.37	212.18	.686E+06	735.6	1.01	15.55

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2160)	411.34	28.84	5.25	76.78	2.22	1.51
OUTFLOW: ID= 1 (5164)	411.34	27.60	5.25	76.78	2.19	1.49

CALIB	
STANDHYD (0164)	Area (ha)= 45.17
ID= 1 DT=15.0 min	Total Imp(%)= 69.00 Dir. Conn.(%)= 69.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	31.17	14.00
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.20
Length (m)=	548.76	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	37.24
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	3.52	0.95 4.391 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	87.54	67.03 81.18
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.76 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2164)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0164):	45.17	4.391	5.25	81.18
+ ID2= 2 (5164):	411.34	27.601	5.25	76.78
ID = 3 (2164):	456.51	31.992	5.25	77.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0154)	Area (ha)= 31.75
ID= 1 DT=15.0 min	Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	19.37	12.38
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.90
Length (m)=	460.07	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	36.56
over (min)	15.00	30.00

Storage Coeff. (min)=	7.20 (ii)	41.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	2.19	0.86 2.986 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	87.54	65.17 78.82
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.74 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1159)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0154):	31.75	2.986	5.25	78.82
+ ID2= 2 (2164):	456.51	31.992	5.25	77.22
ID = 3 (1159):	488.26	34.978	5.25	77.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5159)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5159.0) ------>

Distance	Elevation	Manning	
0.00	214.26	0.1000	
15.15	209.75	0.1000	
214.62	207.44	0.1000	
237.60	208.06	0.1000	
238.63	207.69	0.1000 /0.0440	Main Channel
243.51	206.03	0.0440	Main Channel
248.17	207.75	0.0440 /0.1000	Main Channel
253.75	209.16	0.1000	
368.44	208.65	0.1000	
396.47	209.34	0.1000	
401.21	210.91	0.1000	
408.62	210.88	0.1000	
414.76	209.90	0.1000	
416.35	209.56	0.1000	
419.98	210.43	0.1000	
428.66	212.47	0.1000	
428.84	212.42	0.1000	
434.05	211.02	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	206.27	.421E+02	0.1	0.36	12.23
0.47	206.50	.169E+03	0.4	0.57	7.71
0.71	206.74	.379E+03	1.1	0.75	5.88

0.95	206.98	.674E+03	2.3	0.91	4.85
1.19	207.22	.105E+04	4.2	1.06	4.18
1.42	207.45	.152E+04	6.8	1.19	3.71
1.66	207.69	.309E+04	11.0	0.94	4.70
1.94	207.97	.738E+04	21.4	0.77	5.74
2.21	208.24	.141E+05	39.7	0.74	5.94
2.49	208.52	.228E+05	66.4	0.77	5.72
2.77	208.80	.341E+05	102.4	0.80	5.55
3.05	209.08	.521E+05	154.2	0.79	5.63
3.32	209.35	.762E+05	230.1	0.80	5.52
3.60	209.63	.103E+06	330.8	0.85	5.17
3.88	209.91	.131E+06	461.9	0.94	4.72
4.16	210.19	.159E+06	620.4	1.03	4.28
4.43	210.46	.188E+06	798.9	1.12	3.93
4.71	210.74	.218E+06	996.5	1.21	3.64
4.99	211.02	.248E+06	1205.6	1.29	3.42

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1159)	488.26	34.98	5.25	77.32	2.14	0.75
OUTFLOW: ID= 1 (5159)	488.26	33.25	5.25	77.32	2.12	0.75

CALIB	
STANDHYD (0159)	Area (ha)= 10.94
ID= 1 DT=15.0 min	Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.42	2.52
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.10
Length (m)=	270.06	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	38.51
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.95	0.21 1.163 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	70.94 83.72
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.80 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2159)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0159):	10.94	1.163	5.25	83.72	
+ ID2= 2 (5159):	488.26	33.249	5.25	77.32	
ID = 3 (2159):	499.20	34.413	5.25	77.46	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1151)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2144):	370.20	14.111	5.25	68.44
+ ID2= 2 (2159):	499.20	34.413	5.25	77.46
ID = 3 (1151):	869.40	48.523	5.25	73.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5151)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5151.0) ------>

Distance	Elevation	Manning	
0.00	212.00	0.1000	
50.00	204.31	0.1000	
134.63	203.45	0.1000	
205.73	202.20	0.1000	
253.61	202.65	0.1000	
253.97	202.65	0.1000	
254.84	202.67	0.1000	
258.44	201.10	0.1000 /0.0160	Main Channel
264.70	199.68	0.0160	Main Channel
267.15	200.66	0.0160 /0.1000	Main Channel
273.37	202.49	0.1000	
291.37	202.23	0.1000	
375.68	203.79	0.1000	
411.05	210.16	0.1000	
440.50	211.13	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	200.17	.139E+04	1.8	2.11	13.18
0.98	200.66	.554E+04	11.1	3.36	8.30
1.60	201.28	.149E+05	43.4	4.85	5.74
2.21	201.89	.283E+05	101.2	5.98	4.65
2.83	202.51	.660E+05	179.5	4.54	6.13
3.44	203.12	.221E+06	329.9	2.50	11.15
4.06	203.74	.451E+06	567.3	2.10	13.24
4.68	204.36	.760E+06	929.7	2.04	13.63
5.29	204.97	.110E+07	1451.7	2.20	12.66
5.91	205.59	.145E+07	2082.2	2.39	11.63
6.52	206.20	.181E+07	2813.7	2.60	10.73
7.14	206.82	.218E+07	3641.2	2.80	9.96
7.75	207.43	.255E+07	4561.1	2.99	9.32
8.37	208.05	.293E+07	5570.6	3.18	8.77
8.99	208.67	.332E+07	6667.7	3.36	8.29
9.60	209.28	.371E+07	7850.6	3.53	7.89
10.22	209.90	.412E+07	9118.1	3.70	7.53

10.83	210.51	.453E+07	10363.7	3.82	7.29
11.45	211.13	.497E+07	11638.8	3.91	7.11

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1151)	869.40	48.52	5.25	73.62	1.65	4.94
OUTFLOW: ID= 1 (5151)	869.40	47.49	5.50	73.62	1.64	4.92

CALIB	
STANDHYD (0151)	Area (ha)= 74.96
ID= 1 DT=15.0 min	Total Imp(%)= 72.00 Dir. Conn.(%)= 72.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	53.97	20.99
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.60
Length (m)=	706.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	37.24
over (min)	15.00	30.00
Storage Coeff. (min)=	10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	6.09	1.20 7.041 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	87.54	67.03 81.80
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.76 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2151)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0151):	74.96	7.041	5.25	81.80
+ ID2= 2 (5151):	869.40	47.488	5.50	73.62
ID = 3 (2151):	944.36	54.125	5.25	74.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0093)	Area (ha)= 175.48
ID= 1 DT=15.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)

Surface Area (ha)=	89.49	85.99	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.30	
Length (m)=	1081.60	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	42.27	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.20 (ii)	77.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
			TOTALS
PEAK FLOW (cms)=	8.28	4.92	11.430 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	87.54	63.38	73.53
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5549)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5549.0) ------>

Distance	Elevation	Manning	
0.00	227.98	0.1000	
41.86	226.96	0.1000	
67.38	227.16	0.1000	
115.79	225.66	0.1000	
158.71	225.52	0.1000	
214.74	223.93	0.1000	
246.25	223.89	0.1000	
247.96	223.81	0.1000	
263.08	220.73	0.1000 /0.0160	Main Channel
265.84	219.85	0.0160	Main Channel
269.95	220.94	0.0160 /0.1000	Main Channel
278.51	223.27	0.1000	
327.48	223.31	0.1000	
332.73	223.20	0.1000	
383.18	224.76	0.1000	
395.33	224.82	0.1000	
445.70	224.10	0.1000	
465.54	224.23	0.1000	
609.26	227.27	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	220.14	.215E+03	0.4	1.20	10.10
0.59	220.44	.862E+03	2.3	1.90	6.36
0.88	220.73	.194E+04	6.7	2.49	4.86
1.29	221.14	.426E+04	19.9	3.38	3.57
1.70	221.55	.763E+04	40.6	3.86	3.13
2.11	221.96	.120E+05	67.6	4.07	2.97
2.51	222.36	.175E+05	100.9	4.18	2.89

2.92	222.77	.240E+05	140.3	4.24	2.85
3.33	223.18	.315E+05	186.1	4.28	2.82
3.74	223.59	.537E+05	239.9	3.24	3.73
4.15	224.00	.867E+05	307.4	2.57	4.70
4.56	224.41	.141E+06	403.2	2.08	5.81
4.97	224.82	.218E+06	536.2	1.78	6.79
5.38	225.23	.315E+06	732.9	1.69	7.17
5.78	225.63	.423E+06	952.6	1.63	7.41
6.19	226.04	.551E+06	1248.0	1.64	7.36
6.60	226.45	.689E+06	1596.8	1.68	7.19
7.01	226.86	.836E+06	1995.8	1.73	6.98
7.42	227.27	.998E+06	2405.0	1.75	6.91

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0093)	175.48	11.43	5.25	73.53	1.03	2.75
OUTFLOW: ID= 1 (5549)	175.48	11.20	5.25	73.53	1.02	2.74

CALIB	
STANDHYD (0549)	Area (ha)= 32.18
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 40.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.09	16.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	463.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	43.68
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	45.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.02

		TOTALS
PEAK FLOW	(cms)=	1.46	1.29	2.638 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	65.19	74.13
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.74	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2549)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0549):	32.18	2.638	5.25	74.13
+ ID2= 2 (5549):	175.48	11.202	5.25	73.53
ID = 3 (2549):	207.66	13.840	5.25	73.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0531)	Area (ha)= 79.42
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 29.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.80	51.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.20
Length	(m)=	727.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	36.91
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	57.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.60	2.96	4.896 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	58.70	67.06
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.66	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1123)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0531):	79.42	4.896	5.25	67.06
+ ID2= 2 (2549):	207.66	13.840	5.25	73.62
ID = 3 (1123):	287.08	18.736	5.25	71.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5123)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5123.0) ------>

Distance	Elevation	Manning	
0.00	221.63	0.1000	
49.32	221.56	0.1000	
108.94	221.01	0.1000	
120.64	220.69	0.1000	
151.95	218.35	0.1000	
162.10	216.92	0.1000	
166.38	215.80	0.1000 /0.0160	Main Channel

169.01	215.15	0.0160	Main Channel
172.24	215.79	0.0160 /0.1000	Main Channel
191.35	219.36	0.1000	
202.67	220.68	0.1000	
243.44	220.80	0.1000	
288.84	220.47	0.1000	
300.34	220.10	0.1000	
334.49	221.22	0.1000	
348.80	221.25	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	215.47	.344E+03	0.9	2.00	6.15
0.64	215.79	.138E+04	5.9	3.18	3.87
0.96	216.11	.311E+04	19.0	4.52	2.72
1.28	216.43	.554E+04	38.2	5.09	2.42
1.60	216.75	.867E+04	63.0	5.37	2.29
1.92	217.07	.125E+05	93.3	5.51	2.24
2.25	217.40	.173E+05	129.4	5.53	2.23
2.57	217.72	.230E+05	171.5	5.50	2.24
2.89	218.04	.297E+05	219.7	5.47	2.25
3.21	218.36	.373E+05	274.3	5.43	2.27
3.53	218.68	.461E+05	334.3	5.35	2.30
3.85	219.00	.564E+05	402.0	5.27	2.34
4.17	219.32	.681E+05	477.6	5.18	2.38
4.49	219.64	.813E+05	560.0	5.09	2.42
4.82	219.97	.961E+05	651.4	5.01	2.46
5.14	220.29	.113E+06	734.6	4.78	2.57
5.46	220.61	.138E+06	824.5	4.43	2.78
5.78	220.93	.180E+06	935.3	3.84	3.20
6.10	221.25	.235E+06	1080.9	3.40	3.62

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1123)	287.08	18.74	5.25	71.81	0.95	4.48
OUTFLOW: ID= 1 (5123)	287.08	18.43	5.25	71.81	0.95	4.43

CALIB	
STANDHYD (0123)	Area (ha)= 21.65
ID= 1 DT=15.0 min	Total Imp(%)= 42.00 Dir. Conn.(%)= 33.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.09	12.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	379.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	40.32
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	40.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.81	0.95	1.678 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	61.37	70.01
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54

RUNOFF COEFFICIENT	=	0.99	0.69	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2123)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0123):	21.65	1.678	5.25	70.01
+ ID2= 2 (5123):	287.08	18.429	5.25	71.81
ID = 3 (2123):	308.73	20.107	5.25	71.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5445)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5445.0) ------>

Distance	Elevation	Manning	
0.00	217.15	0.1000	
23.77	216.85	0.1000	
57.10	215.44	0.1000	
113.41	215.01	0.1000	
116.54	215.05	0.1000	
139.11	215.26	0.1000	
185.92	215.20	0.1000	
230.25	214.45	0.1000	
235.73	214.29	0.1000	
267.98	213.04	0.1000 /0.0160	Main Channel
269.89	212.75	0.0160	Main Channel
271.26	212.92	0.0160 /0.1000	Main Channel
292.87	215.83	0.1000	
310.23	215.75	0.1000	
315.65	215.41	0.1000	
331.32	215.86	0.1000	
358.01	217.44	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	212.92	.531E+02	0.3	1.32	3.16
0.39	213.14	.305E+03	2.6	2.17	1.93
0.62	213.37	.935E+03	7.7	2.06	2.03
0.84	213.59	.198E+04	15.6	1.97	2.12
1.06	213.81	.343E+04	26.6	1.94	2.15
1.28	214.03	.530E+04	41.0	1.94	2.16
1.51	214.26	.758E+04	59.2	1.96	2.14
1.73	214.48	.103E+05	80.7	1.96	2.13
1.95	214.70	.138E+05	105.6	1.93	2.17
2.17	214.92	.180E+05	136.9	1.90	2.20
2.40	215.15	.237E+05	164.7	1.75	2.39
2.62	215.37	.341E+05	206.2	1.52	2.75

2.84	215.59	.473E+05	280.9	1.49	2.81
3.06	215.81	.617E+05	372.5	1.51	2.76
3.29	216.04	.777E+05	494.0	1.60	2.62
3.51	216.26	.942E+05	634.4	1.69	2.48
3.73	216.48	.111E+06	791.6	1.79	2.34
3.95	216.70	.129E+06	965.2	1.88	2.22
4.18	216.93	.147E+06	1146.8	1.96	2.13

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2123)	308.73	20.11	5.25	71.68	0.93	1.96
OUTFLOW: ID= 1 (5445)	308.73	19.75	5.25	71.68	0.92	1.96

CALIB			
STANDHYD (0445)	Area (ha)=	47.14	
ID= 1 DT=15.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.98	22.16
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	560.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	46.51
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	2.24	1.85 3.931 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	87.54	68.86 76.71
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.78 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2445)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0445):	47.14	3.931	5.25	76.71
+ ID2= 2 (5445):	308.73	19.751	5.25	71.68
ID = 3 (2445):	355.87	23.682	5.25	72.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5121)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5121.0) ------>

Distance	Elevation	Manning	
0.00	209.51	0.1000	
18.50	208.32	0.1000	
51.25	205.70	0.1000	
100.36	204.89	0.1000	
124.00	203.76	0.1000	
172.44	203.13	0.1000	
180.24	202.88	0.1000	
186.88	202.01	0.1000 /0.0440	Main Channel
194.59	201.00	0.0440	Main Channel
200.49	202.11	0.0440 /0.1000	Main Channel
208.49	203.60	0.1000	
211.23	203.87	0.1000	
250.29	205.16	0.1000	
290.65	205.13	0.1000	
356.36	205.76	0.1000	
385.25	205.85	0.1000	
434.54	206.45	0.1000	
484.26	205.90	0.1000	
505.84	206.94	0.1000	
561.50	207.35	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	201.25	.658E+03	0.2	0.57	46.37
0.50	201.50	.263E+04	1.5	0.91	29.21
0.76	201.76	.592E+04	4.4	1.19	22.29
1.01	202.01	.105E+05	9.5	1.44	18.40
1.37	202.37	.193E+05	23.3	1.93	13.76
1.72	202.72	.306E+05	43.1	2.25	11.83
2.08	203.08	.453E+05	68.5	2.41	11.03
2.43	203.43	.703E+05	101.3	2.30	11.58
2.79	203.79	.112E+06	147.5	2.10	12.65
3.15	204.15	.166E+06	211.7	2.04	13.05
3.50	204.50	.230E+06	293.6	2.04	13.04
3.86	204.86	.304E+06	394.5	2.07	12.85
4.21	205.21	.397E+06	489.6	1.97	13.52
4.57	205.57	.538E+06	637.4	1.89	14.06
4.93	205.93	.714E+06	835.4	1.87	14.24
5.28	206.28	.931E+06	1091.8	1.87	14.21
5.64	206.64	.118E+07	1428.0	1.92	13.83
5.99	206.99	.145E+07	1832.3	2.02	13.18
6.35	207.35	.174E+07	2254.3	2.07	12.83

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2445)	355.87	23.68	5.25	72.35	1.37	1.94
OUTFLOW: ID= 1 (5121)	355.87	22.65	5.50	72.35	1.35	1.90

CALIB			
STANDHYD (0121)	Area (ha)=	133.85	
ID= 1 DT=15.0 min	Total Imp(%)=	55.00	Dir. Conn.(%)= 49.00

	IMPERVIOUS	PERVIOUS (i)

Surface Area (ha)=	73.62	60.23	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.00	
Length (m)=	944.63	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	41.55	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.60 (ii)	73.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	7.38	3.52	9.673 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	87.54	65.75	76.43
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.74	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2121)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0121):	133.85	9.673	5.25	76.43
+ ID2= 2 (5121):	355.87	22.645	5.50	72.35
ID = 3 (2121):	489.72	32.032	5.25	73.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5136)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5136.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.816E+02	0.0	0.27	52.78
0.20	195.20	.326E+03	0.2	0.42	33.25
0.29	195.29	.734E+03	0.5	0.56	25.37
0.39	195.39	.130E+04	1.0	0.68	20.88
0.49	195.49	.203E+04	1.9	0.79	17.97
0.61	195.61	.310E+04	3.6	0.99	14.22
0.74	195.74	.428E+04	5.9	1.16	12.15
0.86	195.86	.557E+04	8.6	1.31	10.82
0.98	195.98	.698E+04	12.0	1.46	9.68
1.11	196.11	.865E+04	16.0	1.57	9.01
1.23	196.23	.108E+05	20.6	1.62	8.74
1.35	196.35	.134E+05	25.9	1.64	8.63
1.48	196.48	.166E+05	32.0	1.64	8.61
1.60	196.60	.202E+05	38.9	1.64	8.63
1.73	196.73	.245E+05	46.4	1.61	8.80
1.85	196.85	.299E+05	55.2	1.57	9.02
1.97	196.97	.362E+05	65.3	1.53	9.25
2.10	197.10	.436E+05	76.7	1.49	9.48
2.22	197.22	.521E+05	89.7	1.46	9.68

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2121)	489.72	32.03	5.25	73.46	1.48	1.64
OUTFLOW: ID= 1 (5136)	489.72	30.54	5.50	73.46	1.45	1.64

CALIB			
STANDHYD (0136)	Area (ha)=	79.16	
ID= 1 DT=15.0 min	Total Imp(%)=	52.00	Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	41.16	38.00
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	726.45	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	43.85
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	3.84	2.44 5.455 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	87.54	66.59 75.60
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.75 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2136)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0136):		79.16	5.455	5.25	75.60
+ ID2= 2 (5136):		489.72	30.542	5.50	73.46
ID = 3 (2136):		568.88	34.945	5.25	73.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1149)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2136):		568.88	34.945	5.25	73.76
+ ID2= 2 (2151):		944.36	54.125	5.25	74.27
ID = 3 (1149):		1513.24	89.069	5.25	74.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5149) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5149.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.366E+02	0.0	0.27	23.37
0.20	195.20	.146E+03	0.2	0.43	14.72
0.29	195.29	.329E+03	0.5	0.56	11.24
0.39	195.39	.585E+03	1.1	0.68	9.25
0.49	195.49	.911E+03	1.9	0.80	7.96
0.61	195.61	.139E+04	3.7	1.01	6.30
0.74	195.74	.192E+04	5.9	1.18	5.38
0.86	195.86	.250E+04	8.7	1.32	4.79
0.98	195.98	.313E+04	12.2	1.48	4.29
1.11	196.11	.388E+04	16.2	1.59	3.99

1.23	196.23	.485E+04	20.9	1.64	3.87
1.35	196.35	.603E+04	26.3	1.66	3.82
1.48	196.48	.742E+04	32.4	1.66	3.81
1.60	196.60	.904E+04	39.4	1.66	3.82
1.73	196.73	.110E+05	47.0	1.63	3.90
1.85	196.85	.134E+05	55.9	1.59	3.90
1.97	196.97	.163E+05	66.1	1.55	4.10
2.10	197.10	.196E+05	77.7	1.51	4.20
2.22	197.22	.234E+05	90.9	1.48	4.29

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1149)	1513.24	89.07	5.25	74.08	2.20	1.48
OUTFLOW: ID= 1 (5149)	1513.24	87.71	5.50	74.08	2.19	1.48

STANDHYD (0149)	Area (ha)= 3.06	
ID= 1 DT=15.0 min	Total Imp(%)= 34.00	Dir. Conn.(%)= 29.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.04	2.02
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.80
Length	(m)=	142.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	35.47
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.10	0.18	0.285 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	56.88	65.77
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.64	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2149)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0149):		3.06	0.285	5.25	65.77
+ ID2= 2 (5149):		1513.24	87.707	5.50	74.08
ID = 3 (2149):		1516.30	87.849	5.50	74.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1150)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2149):		1516.30	87.849	5.50	74.06
+ ID2= 2 (2721):		1772.50	27.928	8.00	54.53
ID = 3 (1150):		3288.80	108.001	5.50	63.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5150) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5150.0) ------>

Distance	Elevation	Manning	
0.00	193.23	0.1000	
0.00	194.50	0.1000	
210.65	190.50	0.1000	
223.18	188.00	0.1000 /0.0440	Main Channel
226.63	187.00	0.0440	Main Channel
230.00	186.50	0.0440	Main Channel
233.00	186.50	0.0440	Main Channel
237.18	187.00	0.0440	Main Channel
241.05	188.00	0.0440 /0.1000	Main Channel
252.73	190.50	0.1000	
267.79	191.00	0.1000	
282.60	194.00	0.1000	
291.93	194.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	186.80	.773E+03	0.9	0.58	14.02
0.60	187.10	.219E+04	4.0	0.89	9.18
0.90	187.40	.401E+04	9.6	1.18	6.93
1.20	187.70	.615E+04	17.8	1.41	5.78
1.50	188.00	.862E+04	28.5	1.62	5.04
1.87	188.37	.122E+05	48.8	1.96	4.17
2.25	188.75	.165E+05	73.9	2.20	3.71
2.62	189.12	.214E+05	104.0	2.38	3.43
2.99	189.49	.270E+05	139.0	2.52	3.24
3.37	189.87	.332E+05	179.2	2.64	3.09
3.74	190.24	.401E+05	224.6	2.74	2.98
4.11	190.61	.479E+05	271.1	2.77	2.95
4.49	190.99	.602E+05	323.8	2.63	3.10
4.86	191.36	.773E+05	394.7	2.50	3.26
5.24	191.74	.984E+05	479.5	2.39	3.42
5.61	192.11	.123E+06	579.5	2.30	3.55
5.98	192.48	.152E+06	696.2	2.24	3.65
6.36	192.86	.185E+06	830.9	2.20	3.71
6.73	193.23	.222E+06	985.0	2.17	3.75

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1150)	3288.80	108.00	5.50	63.53	2.66	2.39
OUTFLOW: ID= 1 (5150)	3288.80	108.66	5.50	63.53	2.67	2.40

CALIB			
STANDHYD (0150)	Area (ha)= 55.43		
ID= 1 DT=15.0 min	Total Imp(%)= 73.00	Dir. Conn.(%)= 73.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.46	14.97
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	607.89	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	37.24
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	57.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.57	0.91	5.297 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	67.03	82.00
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.76	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2150)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0150):		55.43	5.297	5.25	82.00
+ ID2= 2 (5150):		3288.80	108.658	5.50	63.53
ID = 3 (2150):		3344.23	111.494	5.50	63.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5175) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5175.0) ------>

Distance	Elevation	Manning	
0.00	190.19	0.1000	
183.72	188.50	0.1000	
199.34	185.08	0.1000	
204.64	184.92	0.1000	
226.50	184.89	0.1000	
232.59	184.66	0.1000	
236.19	184.34	0.1000	
237.52	184.12	0.1000 /0.0440	Main Channel
237.54	182.90	0.0440	Main Channel

242.00	182.90	0.0440		Main Channel
242.55	184.03	0.0440	/0.1000	Main Channel
249.56	184.50	0.1000		
284.14	185.34	0.1000		
284.72	187.50	0.1000		
288.13	188.00	0.1000		
319.42	187.98	0.1000		
319.74	187.98	0.1000		
332.36	187.82	0.1000		
357.39	187.66	0.1000		
357.40	190.19	0.1000		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	183.28	.193E+04	1.5	0.87	21.55
0.75	183.65	.393E+04	4.5	1.27	14.71
1.13	184.03	.602E+04	8.3	1.56	12.03
1.52	184.41	.975E+04	14.2	1.63	11.46
1.90	184.80	.190E+05	23.1	1.36	13.72
2.29	185.19	.457E+05	41.1	1.01	18.50
2.67	185.57	.824E+05	76.1	1.04	18.03
3.06	185.96	.120E+06	124.9	1.17	16.07
3.44	186.34	.159E+06	184.9	1.30	14.36
3.83	186.73	.199E+06	255.1	1.44	13.00
4.21	187.11	.239E+06	335.0	1.57	11.92
4.60	187.50	.281E+06	424.1	1.70	11.04
4.98	187.88	.328E+06	465.5	1.60	11.73
5.37	188.27	.397E+06	553.5	1.56	11.97
5.75	188.65	.474E+06	659.3	1.56	11.98
6.14	189.04	.565E+06	767.5	1.53	12.27
6.52	189.42	.674E+06	931.4	1.55	12.07
6.91	189.81	.802E+06	1138.5	1.60	11.74
7.29	190.19	.947E+06	1387.0	1.64	11.38

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2150)	3344.23	111.49	5.50	63.84	2.95	1.13
OUTFLOW: ID= 1 (5175)	3344.23	105.22	5.75	63.84	2.90	1.11

CALIB	
STANDHYD (0175)	Area (ha)= 60.91
ID= 1 DT=15.0 min	Total Imp(%)= 69.00 Dir. Conn.(%)= 69.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	42.03	18.88
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	637.23	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	35.87
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	4.75	1.09	5.610 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25

RUNOFF VOLUME (mm)=	87.54	63.38	80.05
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2175)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0175):	60.91	5.610	5.25	80.05
	+ ID2= 2 (5175):	3344.23	105.221	5.75	63.84
	ID = 3 (2175):	3405.14	107.806	5.75	64.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0128)	Area (ha)= 191.08
ID= 1 DT=15.0 min	Total Imp(%)= 56.00 Dir. Conn.(%)= 49.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	107.00	84.08
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.90
Length (m)=	1128.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	43.33
over (min)	15.00	30.00
Storage Coeff. (min)=	15.60 (ii)	93.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW (cms)=	10.44	4.54	12.966 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	87.54	67.82	77.48
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.77	0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2128)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

ID1= 1 (0128):	191.08	12.966	5.25	77.48
+ ID2= 2 (2175):	3405.14	107.806	5.75	64.13
ID = 3 (2128):	3596.22	115.770	5.75	64.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 24.12
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.85	13.27
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.60
Length (m)=	401.00	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	34.44
over (min)	15.00	15.00
Storage Coeff. (min)=	5.40 (ii)	31.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	1.23	0.96	2.191 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	59.97	72.38
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.68	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9476)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=0.030					
#of Inlets= 1					
Total(cms)= 0.0		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		24.12	2.19	5.25	72.38
MAJOR SYS.(ID= 2):		22.43	2.16	5.25	72.38
MINOR SYS.(ID= 3):		1.69	0.03	2.50	72.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6476)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0300	0.1280

AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9476)	1.693	0.030	2.50	72.38
OUTFLOW: ID= 1 (6476)	1.693	0.018	12.75	71.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 60.24
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.0772

ADD HYD (4476)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6476):	1.69	0.018	12.75	71.74
	+ ID2= 2 (9476):	22.43	2.161	5.25	72.38
	ID = 3 (4476):	24.12	2.169	5.25	72.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1171)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2128):	3596.22	115.770	5.75	64.84
	+ ID2= 2 (4476):	24.12	2.169	5.25	72.33
	ID = 3 (1171):	3620.34	116.822	5.75	64.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5171)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5171.0) ------>

Distance	Elevation	Manning	
0.00	182.62	0.1000	
70.19	179.50	0.1000	
139.11	179.00	0.1000 /0.0440	Main Channel
140.08	178.61	0.0440	Main Channel
140.35	177.50	0.0440	Main Channel
146.00	177.50	0.0440	Main Channel
146.96	178.83	0.0440	Main Channel
148.70	178.92	0.0440	Main Channel
148.90	179.00	0.0440 /0.1000	Main Channel
169.23	179.25	0.1000	
181.85	182.00	0.1000	
283.06	182.00	0.1000	
330.41	180.56	0.1000	
373.02	181.50	0.1000	
398.28	181.61	0.1000	
428.84	182.54	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	177.75	.105E+04	0.9	0.61	19.95
0.50	178.00	.214E+04	2.7	0.92	13.14

0.75	178.25	.328E+04	5.2	1.16	10.44
1.00	178.50	.446E+04	8.3	1.36	8.93
1.25	178.75	.570E+04	11.7	1.50	8.08
1.50	179.00	.723E+04	14.6	1.46	8.27
1.77	179.27	.151E+05	23.2	1.12	10.82
2.04	179.54	.322E+05	39.5	0.89	13.61
2.32	179.82	.530E+05	65.3	0.90	13.52
2.59	180.09	.753E+05	98.9	0.95	12.69
2.86	180.36	.990E+05	139.6	1.03	11.81
3.13	180.63	.124E+06	184.2	1.08	11.25
3.41	180.91	.154E+06	232.9	1.10	11.03
3.68	181.18	.190E+06	294.7	1.13	10.73
3.95	181.45	.231E+06	368.9	1.16	10.44
4.22	181.72	.280E+06	452.1	1.17	10.33
4.50	182.00	.336E+06	559.3	1.21	10.02
4.77	182.27	.416E+06	668.9	1.17	10.36
5.04	182.54	.499E+06	833.8	1.21	9.97

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1171)	3620.34	116.82	5.75	64.89	2.71	0.98
OUTFLOW: ID= 1 (5171)	3620.34	113.66	6.00	64.89	2.69	0.98

CALIB	
STANDHYD (****)	Area (ha)= 0.65
ID= 1 DT=15.0 min	Total Imp(%)= 18.00 Dir. Conn.(%)= 18.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.12	0.53
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.50
Length	(m)=	65.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	30.14
over (min)		15.00	15.00
Storage Coeff. (min)	=	6.00 (ii)	35.40 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.01	0.03	0.044 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	50.94	57.50
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.58	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

STANDHYD (****)	Area (ha)= 11.04
ID= 1 DT=15.0 min	Total Imp(%)= 18.00 Dir. Conn.(%)= 18.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.99	9.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.50
Length	(m)=	271.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	30.14
over (min)		15.00	15.00
Storage Coeff. (min)	=	6.00 (ii)	35.40 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.22	0.53	0.751 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	50.94	57.53
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.58	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0339)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):		11.04	0.751	5.25	57.53
+ ID2= 2 (****):		0.65	0.044	5.25	57.50
ID = 3 (0339):		11.69	0.796	5.25	57.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 5.40
ID= 1 DT=15.0 min	Total Imp(%)= 18.00 Dir. Conn.(%)= 18.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.97	4.43
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.50
Length	(m)=	189.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	30.14
over (min)		15.00	15.00
Storage Coeff. (min)	=	6.00 (ii)	35.40 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.11	0.26	0.368 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	50.94	57.53
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.58	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0342)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0339):		11.69	0.796	5.25	57.53
+ ID2= 2 (****):		5.40	0.368	5.25	57.53
ID = 3 (0342):		17.09	1.163	5.25	57.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2171)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0342):		17.09	1.163	5.25	57.53
+ ID2= 2 (5171):		3620.34	113.655	6.00	64.89
ID = 3 (2171):		3637.43	114.303	6.00	64.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0659)	Area (ha)= 24.81
ID= 1 DT=15.0 min	Total Imp(%)= 47.00 Dir. Conn.(%)= 47.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.66	13.15
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.20
Length	(m)=	406.69	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	35.16
over (min)		15.00	15.00
Storage Coeff. (min)	=	6.00 (ii)	35.40 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.32	0.95	2.264 (iii)

TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	61.65	73.82
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.70	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9475)
Inlet Cap.=0.060
#of Inlets= 1
Total(cms)= 0.1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.81	2.26	5.25	73.82
MAJOR SYS.(ID= 2):	21.67	2.20	5.25	73.82
MINOR SYS.(ID= 3):	3.14	0.06	2.50	73.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6475)
IN= 2---> OUT= 1
DT= 15.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.2570

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9475)	3.139	0.060	2.50	73.82
OUTFLOW: ID= 1 (6475)	3.139	0.035	12.50	73.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 58.12
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.1497

ADD HYD (4475)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6475):		3.14	0.035	12.50	73.47
+ ID2= 2 (9475):		21.67	2.204	5.25	73.82
ID = 3 (4475):		24.81	2.219	5.25	73.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.70
ID= 1 DT=15.0 min	Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.43	0.27	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.90	
Length	(m)=	68.31	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	35.16	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.05	0.01	0.057 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	61.65	77.38
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.70	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 0.32
Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.20	0.12	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.90	
Length	(m)=	46.19	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	35.16	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.01	0.026 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	61.65	77.33
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.70	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 100.13
Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	61.08	39.05	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.90	
Length	(m)=	817.03	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	35.16	
over (min)		15.00	30.00	
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.02	
				TOTALS
PEAK FLOW	(cms)=	6.88	1.95	8.132 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	61.65	77.44
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.70	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0400)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	100.13	8.132	5.25	77.44
+ ID2= 2 (****):	0.32	0.026	5.25	77.33
ID = 3 (0400):	100.45	8.158	5.25	77.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0401)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0400):	100.45	8.158	5.25	77.44
+ ID2= 2 (****):	0.70	0.057	5.25	77.38
ID = 3 (0401):	101.15	8.214	5.25	77.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2655)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0401):	101.15	8.214	5.25	77.44

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (4475):	24.81	2.219	5.25	73.77
ID = 3 (2655):	125.96	10.433	5.25	76.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1179)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2171):	3637.43	114.303	6.00	64.85
+ ID2= 2 (2655):	125.96	10.433	5.25	76.72
ID = 3 (1179):	3763.39	119.303	5.75	65.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5179)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5179.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
19.81	179.88	0.1000	
80.23	175.31	0.1000	
87.64	175.00	0.1000	
94.94	174.57	0.1000	
96.72	174.50	0.1000 /0.0440	Main Channel
98.15	174.00	0.0440	Main Channel
106.22	174.15	0.0440	Main Channel
107.82	174.50	0.0440 /0.1000	Main Channel
109.71	175.00	0.1000	
183.40	175.01	0.1000	
204.12	175.50	0.1000	
218.61	176.50	0.1000	
246.72	177.50	0.1000	
258.61	177.66	0.1000	
277.61	177.68	0.1000	
284.71	177.58	0.1000	
296.45	177.54	0.1000	
401.58	180.45	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	174.25	.162E+04	0.6	0.40	44.60
0.50	174.50	.432E+04	2.7	0.67	26.29
0.82	174.82	.947E+04	8.1	0.91	19.51
1.15	175.15	.285E+05	17.9	0.67	26.63
1.47	175.47	.682E+05	40.2	0.63	28.27
1.79	175.79	.113E+06	74.8	0.70	25.16
2.12	176.12	.161E+06	119.9	0.79	22.34
2.44	176.44	.212E+06	175.1	0.88	20.14
2.76	176.76	.266E+06	237.8	0.95	18.64
3.09	177.09	.325E+06	310.2	1.01	17.47
3.41	177.41	.389E+06	393.0	1.07	16.49
3.74	177.74	.463E+06	442.2	1.01	17.46
4.06	178.06	.554E+06	559.8	1.07	16.48
4.38	178.38	.650E+06	692.2	1.13	15.64

4.71	178.71	.751E+06	839.8	1.19	14.91
5.03	179.03	.858E+06	1002.8	1.24	14.26
5.35	179.35	.971E+06	1181.8	1.29	13.69
5.68	179.68	.109E+07	1377.0	1.34	13.18
6.00	180.00	.121E+07	1555.4	1.36	13.00

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1179)	3763.39	119.30	5.75	65.25	2.11	0.79
OUTFLOW: ID= 1 (5179)	3763.39	114.16	6.25	65.25	2.08	0.78

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 1.25
Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.38	0.87	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.70	
Length	(m)=	91.29	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	30.84	
over (min)		15.00	30.00	
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.09	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.04	0.04	0.082 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	52.33	62.87
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.59	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 0.98
Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.29	0.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	80.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.84
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00

```
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.04         0.065 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      87.54        52.33         62.86
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.59          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0347) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):     1.25   0.082     5.25    62.87
        + ID2= 2 (****):     0.98   0.065     5.25    62.86
          ==================================================
          ID = 3 (0347):     2.23   0.147     5.25    62.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  37.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      11.40        26.59
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.70
     Length            (m)=     503.26        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.84
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       8.40 (ii)   48.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.29         1.37         2.501 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      87.54        52.33         62.90
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.59          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0345) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0347):     2.23   0.147     5.25    62.87
        + ID2= 2 (****):    37.99   2.501     5.25    62.90
          ==================================================
          ID = 3 (0345):    40.22   2.648     5.25    62.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (2179) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0345):    40.22   2.648     5.25    62.89
        + ID2= 2 (5179):  3763.39 114.155     6.25    65.25
          ==================================================
          ID = 3 (2179):  3803.61 115.644     6.25    65.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5429) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5429.0) ------>
               Distance      Elevation       Manning
                   0.00       173.91        0.1110
                   0.00       176.00        0.1110
                   9.53       173.50        0.1110
                  25.59       171.50        0.1110
                  90.97       171.00        0.1110
                  96.91       170.58        0.1110
                  97.41       170.50        0.1110
                  98.56       170.14    0.1110 /0.0490  Main Channel
                  99.04       169.50        0.0490      Main Channel
                 103.00       169.50        0.0490      Main Channel
                 103.89       170.28    0.0490 /0.1110  Main Channel
                 105.84       170.39        0.1110
                 106.34       170.41        0.1110
                 106.80       170.50        0.1110
                 128.20       170.89        0.1110
                 130.65       171.00        0.1110
                 148.78       175.86        0.1110

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.32   169.82   .693E+03       1.0          0.72       11.79
       0.64   170.14   .148E+04       3.1          1.07        7.94
       0.98   170.48   .268E+04       6.9          1.31        6.45
       1.33   170.83   .614E+04      13.2          1.09        7.74
       1.67   171.17   .138E+05      25.1          0.92        9.19
       2.02   171.52   .289E+05      47.4          0.83       10.16
       2.36   171.86   .480E+05      85.7          0.91        9.34
       2.71   172.21   .678E+05     135.8          1.02        8.32
       3.05   172.55   .884E+05     196.7          1.13        7.49
       3.40   172.90   .110E+06     267.9          1.24        6.82
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       3.74   173.24   .132E+06     348.8          1.35        6.29
       4.09   173.59   .154E+06     440.0          1.45        5.84
       4.43   173.93   .177E+06     542.4          1.55        5.45
       4.78   174.28   .201E+06     653.2          1.65        5.13
       5.12   174.62   .225E+06     772.9          1.74        4.85
       5.47   174.97   .250E+06     901.1          1.83        4.62
       5.81   175.31   .275E+06    1037.8          1.92        4.41
       6.16   175.66   .300E+06    1183.0          2.00        4.23
       6.50   176.00   .326E+06    1339.1          2.09        4.06

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2179) 3803.61   115.64    6.25  65.23      2.57      0.97
     OUTFLOW: ID= 1 (5429) 3803.61   115.41    6.25  65.23      2.57      0.97


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--------------------
| CALIB            |
| STANDHYD  (0429) |   Area    (ha)=  13.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  54.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.51         6.39
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.80
     Length            (m)=     304.41        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        34.44
                over (min)       15.00        15.00
     Storage Coeff.  (min)=       5.40 (ii)   32.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.85         0.46         1.310 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        59.97         74.86
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.68          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2429) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0429):    13.90   1.310     5.25    74.86
        + ID2= 2 (5429):  3803.61 115.408     6.25    65.23
          ==================================================
          ID = 3 (2429):  3817.51 115.895     6.25    65.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  91.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.35        39.49
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     782.47        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        35.87
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.89         1.99         7.176 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      87.54        63.38         77.15
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.72          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.44
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.82         0.62
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=      97.98        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        35.87
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.03         0.113 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      87.54        63.38         77.13
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.72          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 6.59
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 57.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	3.76	2.83	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.70	
Length (m)=	209.60	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	35.87	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	0.42	0.14	0.515 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	87.54	63.38	77.15
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0408)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	6.59	0.515	5.25	77.15
+	ID2= 2 (****):	1.44	0.113	5.25	77.13
	ID = 3 (0408):	8.03	0.627	5.25	77.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0409)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0408):	8.03	0.627	5.25	77.14
+	ID2= 2 (****):	91.84	7.176	5.25	77.15
	ID = 3 (0409):	99.87	7.803	5.25	77.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1443)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0409):	99.87	7.803	5.25	77.15
+	ID2= 2 (2429):	3817.51	115.895	6.25	65.26
	ID = 3 (1443):	3917.38	119.882	6.25	65.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5443)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---- DATA FOR SECTION (5443.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1110	
17.61	172.50	0.1110	
27.53	170.50	0.1110	
72.93	169.50	0.1110	
74.99	169.29	0.1110	
75.21	169.27	0.1110	
79.81	168.50	0.1110 /0.0490	Main Channel
79.88	168.48	0.0490	Main Channel
80.70	168.00	0.0490	Main Channel
82.05	167.90	0.0490	Main Channel
83.55	167.90	0.0490	Main Channel
85.02	168.50	0.0490 /0.1110	Main Channel
86.14	168.83	0.1110	
86.71	168.98	0.1110	
119.24	170.00	0.1110	
133.40	171.00	0.1110	
147.56	173.96	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	168.10	.106E+03	0.5	0.95	3.31
0.40	168.30	.254E+03	2.0	1.46	2.15
0.60	168.50	.434E+03	4.2	1.84	1.71
0.91	168.81	.828E+03	10.5	2.40	1.31
1.23	169.13	.145E+04	19.6	2.54	1.24
1.54	169.44	.271E+04	33.2	2.31	1.36
1.85	169.75	.495E+04	53.2	2.03	1.55
2.16	170.06	.859E+04	85.8	1.89	1.67
2.48	170.38	.134E+05	134.7	1.89	1.66
2.79	170.69	.192E+05	203.3	2.00	1.58
3.10	171.00	.255E+05	290.7	2.16	1.46
3.41	171.31	.319E+05	397.9	2.35	1.34
3.73	171.63	.386E+05	520.4	2.55	1.24
4.04	171.94	.455E+05	657.6	2.73	1.15
4.35	172.25	.525E+05	809.1	2.91	1.08
4.66	172.56	.597E+05	971.5	3.07	1.02
4.98	172.88	.672E+05	1136.3	3.19	0.99
5.29	173.19	.752E+05	1316.7	3.31	0.95
5.60	173.50	.836E+05	1513.2	3.42	0.92

	<---- hydrograph ---->			<-pipe / channel->	
AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

INFLOW : ID= 2 (1443)	3917.38	119.88	6.25	65.56	2.38	1.89
OUTFLOW: ID= 1 (5443)	3917.38	119.59	6.25	65.56	2.38	1.89

CALIB	
STANDHYD (****)	Area (ha)= 58.41
ID= 1 DT=15.0 min	Total Imp(%)= 59.00 Dir. Conn.(%)= 59.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	34.46	23.95	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.40	
Length (m)=	624.02	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	35.87	
over (min)	15.00	30.00	
Storage Coeff. (min)=	11.40 (ii)	65.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	3.88	1.29	4.884 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	63.38	77.63
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.93
ID= 1 DT=15.0 min	Total Imp(%)= 59.00 Dir. Conn.(%)= 59.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.55	0.38	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.40	
Length (m)=	78.74	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	35.87	
over (min)	15.00	30.00	
Storage Coeff. (min)=	11.40 (ii)	65.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	0.06	0.02	0.078 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	63.38	77.60
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 11.27
ID= 1 DT=15.0 min	Total Imp(%)= 59.00 Dir. Conn.(%)= 59.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	6.65	4.62	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.40	
Length (m)=	274.10	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	35.87	
over (min)	15.00	30.00	
Storage Coeff. (min)=	11.40 (ii)	65.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	0.75	0.25	0.942 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	63.38	77.63
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0386)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	11.27	0.942	5.25	77.63
+	ID2= 2 (****):	0.93	0.078	5.25	77.60
	ID = 3 (0386):	12.20	1.020	5.25	77.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0385)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0386):	12.20	1.020	5.25	77.63
+	ID2= 2 (****):	58.41	4.884	5.25	77.63
	ID = 3 (0385):	70.61	5.904	5.25	77.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2443)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0385):	70.61	5.904	5.25	77.63
	+ ID2= 2 (5443):	3917.38	119.586	6.25	65.56
	ID = 3 (2443):	3987.99	122.330	6.25	65.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5181)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5181.0) ------>

Distance	Elevation	Manning	
0.00	171.99	0.1110	
16.11	168.50	0.1110	
29.63	167.81	0.1110	
33.91	167.00	0.1110 /0.0490	Main Channel
34.47	166.92	0.0490	Main Channel
35.37	166.79	0.0490	Main Channel
35.56	166.82	0.0490	Main Channel
36.36	167.00	0.0490 /0.1110	Main Channel
41.32	168.00	0.1110	
66.08	168.05	0.1110	
107.13	169.00	0.1110	
117.25	169.50	0.1110	
126.27	171.00	0.1110	
127.87	171.44	0.1110	
128.10	171.50	0.1110	
132.70	172.29	0.1110	
134.72	172.50	0.1110	
136.24	172.85	0.1110	
136.87	173.00	0.1110	
136.98	173.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	167.00	.227E+03	0.1	0.31	46.72
0.47	167.26	.109E+04	0.7	0.55	26.16
0.74	167.53	.256E+04	1.9	0.65	22.33
1.00	167.79	.465E+04	3.8	0.71	20.28
1.26	168.05	.824E+04	5.8	0.61	23.67
1.52	168.31	.195E+05	11.8	0.53	27.45
1.79	168.58	.344E+05	21.9	0.55	26.25
2.05	168.84	.524E+05	36.5	0.60	23.97
2.31	169.10	.732E+05	56.1	0.66	21.75
2.57	169.36	.957E+05	81.2	0.73	19.66
2.84	169.63	.120E+06	111.6	0.81	17.87
3.10	169.89	.144E+06	147.4	0.88	16.31
3.36	170.15	.170E+06	187.6	0.96	15.06
3.62	170.41	.196E+06	232.1	1.03	14.04
3.89	170.68	.222E+06	280.8	1.09	13.18
4.15	170.94	.249E+06	333.6	1.16	12.45

4.41	171.20	.277E+06	391.3	1.22	11.80
4.67	171.46	.305E+06	453.4	1.28	11.22
4.94	171.73	.334E+06	518.3	1.34	10.75

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2443)	3987.99	122.33	6.25	65.78	2.92	0.83
OUTFLOW: ID= 1 (5181)	3987.99	119.45	6.50	65.78	2.89	0.82

CALIB	
STANDHYD (0181)	Area (ha)= 136.82
ID= 1 DT=15.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	97.14	39.68
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	955.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	36.56
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	82.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	10.90	1.88 11.927 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	87.54	65.17 81.05
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.74 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2181)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0181):	136.82	11.927	5.25	81.05
	+ ID2= 2 (5181):	3987.99	119.447	6.50	65.78
	ID = 3 (2181):	4124.81	123.493	6.50	66.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5204)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5204.0) ------>

Distance	Elevation	Manning	
0.00	172.00	0.1110	
11.08	169.71	0.1110	
48.53	169.00	0.1110	
90.99	164.50	0.1110	
111.26	164.00	0.1110	
133.15	164.00	0.1110	
142.64	163.50	0.1110	
145.01	162.66	0.1110	
145.24	162.50	0.1110 /0.0490	Main Channel
146.03	161.80	0.0490	Main Channel
152.91	161.80	0.0490	Main Channel
153.42	162.68	0.0490 /0.1110	Main Channel
153.67	162.73	0.1110	
154.07	163.00	0.1110	
155.88	163.50	0.1110	
178.24	164.14	0.1110	
184.53	164.50	0.1110	
207.67	165.50	0.1110	
224.19	166.50	0.1110	
245.67	169.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	162.15	.121E+04	2.5	1.00	8.01
0.70	162.50	.253E+04	8.0	1.52	5.29
1.11	162.91	.426E+04	18.0	2.03	3.96
1.52	163.32	.641E+04	31.6	2.38	3.38
1.94	163.74	.971E+04	48.9	2.43	3.31
2.35	164.15	.187E+05	74.3	1.91	4.20
2.76	164.56	.356E+05	120.7	1.64	4.92
3.17	164.97	.559E+05	188.5	1.63	4.94
3.58	165.38	.789E+05	276.4	1.69	4.76
3.99	165.79	.104E+06	386.3	1.79	4.50
4.41	166.21	.132E+06	517.4	1.89	4.25
4.82	166.62	.162E+06	671.3	2.00	4.02
5.23	167.03	.193E+06	850.6	2.13	3.78
5.64	167.44	.226E+06	1051.0	2.25	3.58
6.05	167.85	.260E+06	1272.3	2.36	3.40
6.46	168.26	.295E+06	1514.8	2.48	3.25
6.88	168.68	.332E+06	1778.5	2.59	3.11
7.29	169.09	.370E+06	2042.5	2.66	3.02
7.70	169.50	.412E+06	2268.8	2.66	3.03

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2181)	4124.81	123.49	6.50	66.28	2.78	1.64
OUTFLOW: ID= 1 (5204)	4124.81	122.37	6.50	66.28	2.77	1.64

CALIB	
STANDHYD (0204)	Area (ha)= 12.60
ID= 1 DT=15.0 min	Total Imp(%)= 25.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.15	9.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.10
Length	(m)=	289.83	40.00

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	28.75
over (min)		15.00	15.00
Storage Coeff. (min)=		4.80 (ii)	28.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04
			TOTALS
PEAK FLOW	(cms)=	0.36	0.56 0.920 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	87.54	48.28 58.09
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.55 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2204)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	12.60	0.920	5.25	58.09
	+ ID2= 2 (5204):	4124.81	122.369	6.50	66.28
	ID = 3 (2204):	4137.41	122.676	6.50	66.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0742)	Area (ha)= 13.26
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.97	7.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	297.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.27
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	0.67	0.47 1.143 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	87.54	55.25 69.78
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.62 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9607)				
Inlet Cap.=0.144				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	13.26	1.14	5.25	69.78
MAJOR SYS.(ID= 2):	8.01	1.00	5.25	69.78
MINOR SYS.(ID= 3):	5.25	0.14	3.50	69.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6607)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1440	0.6200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9607)	5.250	0.144	3.50	69.78
OUTFLOW: ID= 1 (6607)	5.250	0.057	9.50	69.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.26
TIME SHIFT OF PEAK FLOW (min)=360.00
MAXIMUM STORAGE USED (ha.m.)= 0.2437

ADD HYD (4607)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6607):	5.25	0.057	9.50	69.57
+ ID2= 2 (9607):	8.01	0.999	5.25	69.78
ID = 3 (4607):	13.26	1.026	5.25	69.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2742)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2204):	4137.41	122.676	6.50	66.26
+ ID2= 2 (4607):	13.26	1.026	5.25	69.70
ID = 3 (2742):	4150.67	122.911	6.50	66.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0636)	Area (ha)= 167.13		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.21	91.92
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.40
Length (m)=	1055.56	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	30.14
over (min)	15.00	30.00
Storage Coeff. (min)=	16.80 (ii)	99.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW	(cms)= 8.35	3.00 9.598 (iii)
TIME TO PEAK	(hrs)= 5.25	6.75 5.25
RUNOFF VOLUME	(mm)= 87.54	50.94 67.41
TOTAL RAINFALL	(mm)= 88.54	88.54 88.54
RUNOFF COEFFICIENT	= 0.99	0.58 0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9605)				
Inlet Cap.=0.240				
#of Inlets= 1				
Total(cms)= 0.2	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	167.13	9.60	5.25	67.41
MAJOR SYS.(ID= 2):	149.85	9.36	5.25	67.41
MINOR SYS.(ID= 3):	17.28	0.24	2.50	67.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6605)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2400	1.9400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9605)	17.277	0.240	2.50	67.41
OUTFLOW: ID= 1 (6605)	17.277	0.102	15.00	67.29

PEAK FLOW REDUCTION [Qout/Qin](%)= 42.52
TIME SHIFT OF PEAK FLOW (min)=750.00
MAXIMUM STORAGE USED (ha.m.)= 0.8251

ADD HYD (4605)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6605):	17.28	0.102	15.00	67.29
+ ID2= 2 (9605):	149.85	9.358	5.25	67.41
ID = 3 (4605):	167.13	9.392	5.25	67.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0641)	Area (ha)= 7.45		
ID= 1 DT=15.0 min	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.71	5.74
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.00
Length (m)=	222.86	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	28.75
over (min)	15.00	15.00
Storage Coeff. (min)=	4.80 (ii)	26.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW	(cms)= 0.19	0.35 0.544 (iii)
TIME TO PEAK	(hrs)= 5.25	5.25 5.25
RUNOFF VOLUME	(mm)= 87.54	48.28 57.31
TOTAL RAINFALL	(mm)= 88.54	88.54 88.54
RUNOFF COEFFICIENT	= 0.99	0.55 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2641)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0641):	7.45	0.544	5.25	57.31
+ ID2= 2 (4605):	167.13	9.392	5.25	67.40
ID = 3 (2641):	174.58	9.936	5.25	66.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1206)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2641):	174.58	9.936	5.25	66.97
+ ID2= 2 (2742):	4150.67	122.911	6.50	66.27
ID = 3 (1206):	4325.25	127.697	6.50	66.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5206)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5206.0) ------>

Distance	Elevation	Manning	
0.00	168.00	0.1110	
93.40	167.00	0.1110	
125.20	166.00	0.1110	
131.90	165.50	0.1110	
147.90	162.50	0.1110	
154.70	162.00	0.1110	
156.80	162.00	0.1110	
159.70	162.50	0.1110	
181.80	162.50	0.1110	
197.10	161.50	0.1110	
254.30	160.00	0.1110	
256.80	159.00	0.1110 /0.0490	Main Channel
257.00	158.60	0.0490	Main Channel
266.00	158.60	0.0490	Main Channel
266.30	159.00	0.0490 /0.1110	Main Channel
270.90	160.00	0.1110	
308.40	162.00	0.1110	
338.30	168.50	0.1110	
351.00	169.00	0.1110	
400.10	169.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	159.00	.108E+04	3.3	0.88	5.51
0.87	159.47	.263E+04	12.5	1.39	3.49
1.35	159.95	.464E+04	26.9	1.70	2.87
1.82	160.42	.840E+04	46.9	1.63	2.98
2.29	160.89	.159E+05	79.2	1.46	3.34
2.77	161.37	.271E+05	128.0	1.38	3.53
3.24	161.84	.416E+05	199.3	1.40	3.48
3.72	162.32	.587E+05	291.2	1.45	3.36
4.19	162.79	.800E+05	403.7	1.47	3.30
4.66	163.26	.103E+06	565.2	1.60	3.04
5.14	163.74	.127E+06	752.2	1.73	2.82
5.61	164.21	.152E+06	963.8	1.86	2.62
6.08	164.68	.177E+06	1199.2	1.98	2.46
6.56	165.16	.203E+06	1457.9	2.10	2.32
7.03	165.63	.229E+06	1734.7	2.21	2.20
7.51	166.11	.257E+06	2012.4	2.29	2.13
7.98	166.58	.286E+06	2284.4	2.33	2.09
8.45	167.05	.318E+06	2571.2	2.36	2.06
8.93	167.53	.355E+06	2790.7	2.29	2.12

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1206)	4325.25	127.70	6.50	66.30	2.77	1.38

OUTFLOW: ID= 1 (5206) 4325.25 127.10 6.75 66.30 2.76 1.38

CALIB					
STANDHYD (0206)	Area (ha)= 4.99				
ID= 1 DT=15.0 min	Total Imp(%)= 14.00	Dir. Conn.(%)= 14.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	4.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.50
Length	(m)=	182.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	28.07
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.08	0.30	0.375 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	47.00	52.67
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.53	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2206)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0206):	4.99	0.375	5.25	52.67
	+ ID2= 2 (5206):	4325.25	127.097	6.75	66.30
	ID = 3 (2206):	4330.24	127.180	6.75	66.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0638)	Area (ha)= 51.20				
ID= 1 DT=15.0 min	Total Imp(%)= 84.00	Dir. Conn.(%)= 84.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.01	8.19
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80
Length	(m)=	584.24	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	39.09		
over (min)	15.00	30.00		
Storage Coeff. (min)=	10.80 (ii)	64.80 (ii)		
Unit Hyd. Tpeak (min)=	15.00	60.00		
Unit Hyd. peak (cms)=	0.09	0.02		

				TOTALS
PEAK FLOW	(cms)=	4.85	0.51	5.271 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	73.00	85.21
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.82	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1635)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0638):	51.20	5.271	5.25	85.21
	+ ID2= 2 (2206):	4330.24	127.180	6.75	66.28
	ID = 3 (1635):	4381.44	128.325	6.75	66.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0642)	Area (ha)= 81.09				
ID= 1 DT=15.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	47.03	34.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	735.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	35.16
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

				TOTALS
PEAK FLOW	(cms)=	5.30	1.76	6.654 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	61.65	76.66
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.70	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9609)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)= 14.1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	81.09	6.65	5.25	76.66
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	81.09	6.65	5.25	76.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6609)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3680	1.3972
	0.1520	0.0433	2.7440	1.7980
	0.2370	0.2233	9.7830	2.5193
	0.2980	0.5550	12.8700	3.3070
	0.3490	1.1433	14.0910	3.8116

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	INFLOW : ID= 2 (9609)	81.090	6.654	5.25	76.66
	OUTFLOW: ID= 1 (6609)	81.090	5.259	5.50	76.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 79.03
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 2.1056

ADD HYD (4609)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6609):	81.09	5.259	5.50	76.66
	+ ID2= 2 (9609):	0.00	0.000	0.00	0.00
	ID = 3 (4609):	81.09	5.259	5.50	76.66

*** W A R N I N G : HYDROGRAPH 9609 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2642)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (1635):	4381.44	128.325	6.75	66.50
	+ ID2= 2 (4609):	81.09	5.259	5.50	76.66

ID = 3 (2642):	4462.53	131.030	6.50	66.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5635)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5635.0) ------>

Distance	Elevation	Manning	
0.00	162.99	0.1110	
23.31	157.07	0.1110	
32.56	156.00	0.1110	
59.26	155.00	0.1110	
62.94	154.00	0.1110	
63.09	153.97	0.1110	
63.13	153.97	0.1110	
63.76	153.82	0.1110 /0.0490	Main Channel
63.87	153.50	0.0490	Main Channel
66.42	153.50	0.0490	Main Channel
67.30	153.81	0.0490 /0.1110	Main Channel
68.02	153.82	0.1110	
68.09	153.82	0.1110	
71.13	155.00	0.1110	
91.29	155.00	0.1110	
108.35	155.11	0.1110	
126.23	155.50	0.1110	
133.49	156.00	0.1110	
156.41	161.00	0.1110	
158.20	161.50	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	153.81	.112E+04	0.7	0.77	25.85
0.71	154.21	.384E+04	3.7	1.13	17.50
1.12	154.62	.780E+04	8.8	1.34	14.81
1.52	155.02	.136E+05	14.9	1.30	15.22
1.93	155.43	.423E+05	32.3	0.91	21.79
2.33	155.83	.835E+05	67.6	0.96	20.59
2.74	156.24	.132E+06	122.0	1.10	18.03
3.14	156.64	.183E+06	193.8	1.26	15.76
3.55	157.05	.237E+06	280.8	1.41	14.09
3.95	157.45	.294E+06	384.2	1.56	12.73
4.36	157.86	.351E+06	501.9	1.70	11.67
4.76	158.26	.411E+06	633.4	1.83	10.81
5.17	158.67	.472E+06	778.3	1.96	10.11
5.57	159.07	.535E+06	936.5	2.08	9.52
5.98	159.48	.599E+06	1107.8	2.20	9.02
6.38	159.88	.666E+06	1292.3	2.31	8.58
6.79	160.29	.733E+06	1489.8	2.42	8.20
7.19	160.69	.803E+06	1700.4	2.52	7.87
7.60	161.10	.874E+06	1924.8	2.62	7.57

		AREA (ha)	QPEAK (cms)	<---- hydrograph ----> TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
	INFLOW : ID= 2 (2642)	4462.53	131.03	6.50	66.69	2.79	1.12
	OUTFLOW: ID= 1 (5635)	4462.53	128.79	6.75	66.69	2.78	1.11

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| CALIB                |
| STANDHYD  (0635) |   Area    (ha)=  73.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  39.00   Dir. Conn.(%)=  39.00
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      28.47        44.54
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     697.66        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.84
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.80 (ii)   63.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.21         1.97          4.678 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      87.54        52.33         66.06
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.59          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2635) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0635):    73.01   4.678     5.25    66.06
       + ID2= 2 (5635):  4462.53 128.786     6.75    66.69
         ==========================================
         ID = 3 (2635):  4535.54 130.788     6.75    66.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB                |
| STANDHYD  (0186) |   Area    (ha)= 388.73
|ID= 1 DT=15.0 min |   Total Imp(%)=  44.00   Dir. Conn.(%)=  44.00
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     171.04       217.69
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.10
     Length            (m)=    1609.82        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.84
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      19.20 (ii)  112.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00       105.00
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     Unit Hyd. peak  (cms)=       0.06         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=      18.80         6.87         21.622 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.75          5.25
     RUNOFF VOLUME    (mm)=      87.54        52.33         67.82
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.59          0.77

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (9611) |
| Inlet Cap.=1.944 |
| #of Inlets=    1 |
| Total(cms)=  1.9 |      AREA     QPEAK     TPEAK    R.V.
                          (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 388.73     21.62      5.25   67.82
     ==================================================
     MAJOR SYS.(ID= 2): 272.35     19.68      5.25   67.82
     MINOR SYS.(ID= 3): 116.38      1.94      2.75   67.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (6611) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                          (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.9440     8.4000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9611)    116.380     1.944      2.75      67.82
     OUTFLOW: ID= 1 (6611)    116.380     1.092     12.75      67.82

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 56.20
                TIME SHIFT OF PEAK FLOW       (min)=600.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  4.7217

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| ADD HYD   (4611) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6611):   116.38   1.092    12.75    67.82
       + ID2= 2 (9611):   272.35  19.678     5.25    67.82
         ==========================================
         ID = 3 (4611):   388.73  20.104     5.25    67.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1637) |
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|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2635):  4535.54 130.788     6.75    66.68
       + ID2= 2 (4611):   388.73  20.104     5.25    67.82
         ==========================================
         ID = 3 (1637):  4924.27 139.912     6.75    66.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5637) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00

                <----- DATA FOR SECTION (5637.0) ------>
                Distance      Elevation       Manning
                   0.00         159.54        0.1110
                  26.71         153.00        0.1110
                  28.32         152.50        0.1110
                  28.88         152.18        0.1110
                  29.32         152.00        0.1110
                  29.68         151.83        0.1110
                  31.21         151.87    0.1110 /0.0490  Main Channel
                  31.97         151.50        0.0490      Main Channel
                  36.66         151.50        0.0490      Main Channel
                  36.81         151.73        0.0490      Main Channel
                  37.62         151.95    0.0490 /0.1110  Main Channel
                  37.67         151.96        0.1110
                  37.83         152.00        0.1110
                  38.03         152.07        0.1110
                  39.32         152.50        0.1110
                  39.70         152.62        0.1110
                  40.47         152.84        0.1110
                  41.06         153.00        0.1110
                  66.35         154.00        0.1110
                  91.54         159.93        0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.37   151.87    .213E+04        1.2         0.59      30.61
       0.77   152.27    .599E+04        4.8         0.87      20.60
       1.18   152.68    .107E+05       10.8         1.08      16.65
       1.58   153.08    .167E+05       18.7         1.20      14.91
       1.98   153.48    .266E+05       29.4         1.19      15.07
       2.39   153.89    .416E+05       44.4         1.15      15.58
       2.79   154.29    .607E+05       65.7         1.16      15.41
       3.20   154.70    .815E+05       92.5         1.22      14.69
       3.60   155.10    .104E+06      124.2         1.29      13.93
       4.00   155.50    .128E+06      160.9         1.36      13.21
       4.41   155.91    .153E+06      202.4         1.43      12.57
       4.81   156.31    .179E+06      249.0         1.49      12.00
       5.21   156.71    .207E+06      300.6         1.56      11.50
       5.62   157.12    .237E+06      357.3         1.62      11.05
       6.02   157.52    .268E+06      419.3         1.68      10.65
       6.43   157.93    .300E+06      486.5         1.74      10.29
       6.83   158.33    .334E+06      559.2         1.80       9.97
       7.23   158.73    .370E+06      637.5         1.86       9.67
       7.64   159.14    .407E+06      721.3         1.91       9.40

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
```



```
     INFLOW : ID= 2 (1637) 4924.27   139.91    6.75  66.77      3.77      1.32
     OUTFLOW: ID= 1 (5637) 4924.27   138.39    7.00  66.77      3.76      1.31

--------------------------------------------------------------------------------

| CALIB                |
| STANDHYD  (0637) |   Area    (ha)=  30.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  16.00   Dir. Conn.(%)=  16.00
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.89        25.70
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         7.50
     Length            (m)=     451.59        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        28.07
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       6.00 (ii)   36.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.55         1.37          1.910 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      87.54        47.00         53.49
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.53          0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2637) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0637):    30.59   1.910     5.25    53.49
       + ID2= 2 (5637):  4924.27 138.394     7.00    66.77
         ==========================================
         ID = 3 (2637):  4954.86 138.982     7.00    66.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1717) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2237): 10472.55 136.757     7.00    54.50
       + ID2= 2 (2637):  4954.86 138.982     7.00    66.69
         ==========================================
         ID = 3 (1717): 15427.41 275.739     7.00    58.41
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5717)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5717.0) ------>

Distance	Elevation	Manning	
0.00	159.92	0.1110	
16.17	156.24	0.1110	
31.63	155.13	0.1110	
53.62	154.50	0.1110	
65.20	152.50	0.1110	
91.81	150.00	0.1110	
110.61	150.00	0.1110	
111.90	149.13	0.1110 /0.0490	Main Channel
112.55	148.60	0.0490	Main Channel
125.01	148.60	0.0490	Main Channel
125.79	149.17	0.0490 /0.1110	Main Channel
127.48	149.50	0.1110	
210.24	149.92	0.1110	
212.41	150.00	0.1110	
224.55	150.00	0.1110	
334.54	151.50	0.1110	
364.54	157.50	0.1110	
384.84	164.02	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	149.13	.527E+04	4.4	0.63	19.84
1.10	149.70	.148E+05	16.1	0.82	15.33
1.67	150.27	.628E+05	47.3	0.57	22.13
2.23	150.83	.140E+06	112.6	0.61	20.66
2.80	151.40	.237E+06	212.9	0.68	18.54
3.37	151.97	.349E+06	364.8	0.79	15.94
3.94	152.54	.465E+06	556.7	0.90	13.92
4.51	153.11	.584E+06	785.4	1.02	12.40
5.07	153.67	.706E+06	1047.1	1.12	11.24
5.64	154.24	.831E+06	1340.6	1.22	10.33
6.21	154.81	.959E+06	1648.4	1.30	9.70
6.78	155.38	.110E+07	1991.0	1.37	9.17
7.34	155.94	.124E+07	2379.5	1.45	8.67
7.91	156.51	.138E+07	2806.9	1.53	8.22
8.48	157.08	.153E+07	3272.6	1.61	7.81
9.05	157.65	.168E+07	3771.6	1.69	7.45
9.62	158.22	.184E+07	4307.0	1.77	7.11
10.18	158.78	.199E+07	4873.0	1.85	6.82
10.75	159.35	.215E+07	5469.0	1.92	6.55

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1717) *******	275.74	7.00	58.41		3.04	0.72
OUTFLOW: ID= 1 (5717) *******	272.13	7.25	58.41		3.02	0.72

CALIB	
STANDHYD (0717)	Area (ha)= 33.60
ID= 1 DT=15.0 min	Total Imp(%)= 17.00 Dir. Conn.(%)= 17.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.71	27.89
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.70
Length (m)=	473.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	27.40
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	36.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)= 0.65	1.44 2.064 (iii)
TIME TO PEAK	(hrs)= 5.25	5.50 5.25
RUNOFF VOLUME	(mm)= 87.54	45.76 52.86
TOTAL RAINFALL	(mm)= 88.54	88.54 88.54
RUNOFF COEFFICIENT	= 0.99	0.52 0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2717)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0717):	33.60	2.064	5.25	52.86
+ ID2= 2 (5717):	15427.41	272.134	7.25	58.41
ID = 3 (2717):	15461.01	272.712	7.25	58.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0257)	Area (ha)= 75.57
ID= 1 DT=15.0 min	Total Imp(%)= 83.00 Dir. Conn.(%)= 83.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	62.72	12.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.50
Length (m)=	709.79	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	38.51
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW	(cms)= 7.05	0.71 7.521 (iii)

TIME TO PEAK	(hrs)= 5.25	6.00 5.25
RUNOFF VOLUME	(mm)= 87.54	70.94 84.72
TOTAL RAINFALL	(mm)= 88.54	88.54 88.54
RUNOFF COEFFICIENT	= 0.99	0.80 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2257)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0257):	75.57	7.521	5.25	84.72
+ ID2= 2 (2717):	15461.01	272.712	7.25	58.40
ID = 3 (2257):	15536.58	274.287	7.25	58.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5240)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5240.0) ------>

Distance	Elevation	Manning	
0.00	156.50	0.1110	
20.51	149.00	0.1110	
31.95	149.00	0.1110	
39.82	148.00	0.1110	
48.42	148.00	0.1110	
51.87	147.50	0.1110	
73.08	147.00	0.1110	
76.22	146.00	0.1110 /0.0490	Main Channel
77.04	145.00	0.0490	Main Channel
87.93	145.00	0.0490	Main Channel
88.30	146.00	0.0490 /0.1110	Main Channel
89.26	146.52	0.1110	
90.21	147.00	0.1110	
114.82	147.00	0.1110	
123.73	146.85	0.1110	
126.70	147.00	0.1110	
143.61	152.00	0.1110	
155.99	159.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	145.50	.727E+04	5.6	1.01	21.49
1.00	146.00	.149E+05	17.6	1.53	14.15
1.62	146.62	.259E+05	40.8	2.05	10.57
2.24	147.24	.531E+05	74.9	1.83	11.81
2.85	147.85	.113E+06	140.3	1.61	13.45
3.47	148.47	.186E+06	235.4	1.65	13.14
4.09	149.09	.266E+06	354.8	1.73	12.51
4.71	149.71	.359E+06	517.8	1.87	11.55

5.32	150.32	.455E+06	710.3	2.03	10.67
5.94	150.94	.553E+06	930.7	2.19	9.91
6.56	151.56	.655E+06	1178.2	2.34	9.26
7.18	152.18	.760E+06	1453.5	2.49	8.71
7.79	152.79	.867E+06	1758.1	2.64	8.22
8.41	153.41	.976E+06	2087.9	2.78	7.79
9.03	154.03	.109E+07	2442.5	2.92	7.42
9.65	154.65	.120E+07	2821.5	3.05	7.10
10.26	155.26	.132E+07	3224.5	3.18	6.81
10.88	155.88	.144E+07	3651.5	3.30	6.55
11.50	156.50	.156E+07	4102.3	3.42	6.32

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2257) *******	274.29	7.25	58.53		3.67	1.67
OUTFLOW: ID= 1 (5240) *******	272.30	7.50	58.53		3.65	1.67

CALIB	
STANDHYD (0240)	Area (ha)= 49.43
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 35.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.30	32.13
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.70
Length (m)=	574.05	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	29.44
over (min)	15.00	15.00
Storage Coeff. (min)=	6.60 (ii)	39.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW	(cms)= 1.96	1.69 3.467 (iii)
TIME TO PEAK	(hrs)= 5.25	5.50 5.25
RUNOFF VOLUME	(mm)= 87.54	49.59 62.87
TOTAL RAINFALL	(mm)= 88.54	88.54 88.54
RUNOFF COEFFICIENT	= 0.99	0.56 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2240)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0240):	49.43	3.467	5.25	62.87
+ ID2= 2 (5240):	15536.58	272.299	7.50	58.53
ID = 3 (2240):	15586.01	273.056	7.50	58.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0634)	Area (ha)= 320.52		
ID= 1 DT=15.0 min	Total Imp(%)= 36.00	Dir. Conn.(%)= 36.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	115.39	205.13	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.10	
Length (m)=	1461.78	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	29.44	
over (min)	15.00	30.00	
Storage Coeff. (min)=	18.00 (ii)	106.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	105.00	
Unit Hyd. peak (cms)=	0.06	0.01	
		TOTALS	
PEAK FLOW (cms)=	12.75	6.28	15.308 (iii)
TIME TO PEAK (hrs)=	5.25	6.75	5.25
RUNOFF VOLUME (mm)=	87.54	49.59	63.25
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.56	0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9604)					
Inlet Cap.=1.303					
#of Inlets= 1					
Total(cms)= 1.3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	320.52	15.31	5.25	63.25	
MAJOR SYS.(ID= 2):	233.99	14.01	5.25	63.25	
MINOR SYS.(ID= 3):	86.53	1.30	2.75	63.25	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6604)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.3030	5.6300

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9604)	86.533	1.303	2.75	63.25
OUTFLOW: ID= 1 (6604)	86.533	0.750	13.00	63.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 57.57
TIME SHIFT OF PEAK FLOW (min)=615.00

MAXIMUM STORAGE USED (ha.m.)= 3.2427

ADD HYD (4604)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (6604):	86.53	0.750	13.00	63.24	
+ ID2= 2 (9604):	233.99	14.005	5.25	63.25	
ID = 3 (4604):	320.52	14.292	5.25	63.25	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1264)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2240):	15586.01	273.056	7.50	58.54	
+ ID2= 2 (4604):	320.52	14.292	5.25	63.25	
ID = 3 (1264):	15906.53	279.203	7.50	58.64	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5264)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5264.0) ------>

Distance	Elevation	Manning	
0.00	159.01	0.1110	
18.68	154.00	0.1110	
32.14	153.50	0.1110	
59.08	147.50	0.1110	
71.63	147.50	0.1110	
77.74	146.50	0.1110	
81.24	145.00	0.1110 /0.0490	Main Channel
81.73	143.80	0.0490	Main Channel
88.41	143.80	0.0490	Main Channel
89.20	145.00	0.0490 /0.1110	Main Channel
101.11	147.50	0.1110	
105.58	148.00	0.1110	
134.97	150.00	0.1110	
141.87	151.00	0.1110	
157.92	151.30	0.1110	
158.71	151.50	0.1110	
160.99	151.50	0.1110	
169.62	154.50	0.1110	
171.70	155.00	0.1110	
177.64	156.04	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	144.40	.305E+04	3.2	0.77	15.68
1.20	145.00	.637E+04	10.0	1.14	10.64
1.85	145.65	.112E+05	21.9	1.42	8.51
2.50	146.30	.182E+05	38.8	1.55	7.83

3.15	146.95	.277E+05	61.0	1.60	7.56
3.80	147.60	.413E+05	88.5	1.55	7.78
4.45	148.25	.639E+05	129.3	1.47	8.24
5.10	148.90	.920E+05	183.3	1.44	8.37
5.75	149.55	.126E+06	252.5	1.45	8.32
6.40	150.20	.166E+06	339.8	1.49	8.13
7.04	150.84	.210E+06	447.2	1.55	7.81
7.69	151.49	.260E+06	556.6	1.55	7.80
8.34	152.14	.318E+06	709.7	1.62	7.47
8.99	152.79	.378E+06	886.6	1.70	7.10
9.64	153.44	.440E+06	1083.6	1.79	6.77
10.29	154.09	.507E+06	1263.9	1.81	6.69
10.94	154.74	.579E+06	1512.2	1.90	6.38
11.59	155.39	.653E+06	1776.3	1.97	6.13
12.24	156.04	.730E+06	2060.1	2.05	5.91

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1264) *******	279.20	7.50	58.64		5.94	1.46
OUTFLOW: ID= 1 (5264) *******	278.12	7.50	58.64		5.94	1.46

CALIB			
STANDHYD (0264)	Area (ha)= 37.54		
ID= 1 DT=15.0 min	Total Imp(%)= 21.00	Dir. Conn.(%)= 21.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	7.88	29.66	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	6.60	
Length (m)=	500.27	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	26.74	
over (min)	15.00	15.00	
Storage Coeff. (min)=	6.60 (ii)	39.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.03	
		TOTALS	
PEAK FLOW (cms)=	0.89	1.38	2.118 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	87.54	44.55	53.58
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.50	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2264)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0264):	37.54	2.118	5.25	53.58	

+ ID2= 2 (5264):	15906.53	278.123	7.50	58.64
ID = 3 (2264):	15944.07	278.693	7.50	58.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0631)	Area (ha)= 49.79		
ID= 1 DT=15.0 min	Total Imp(%)= 18.00	Dir. Conn.(%)= 18.00	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	8.96	40.83	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	4.70	
Length (m)=	576.14	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	26.10	
over (min)	15.00	30.00	
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.09	0.02	
		TOTALS	
PEAK FLOW (cms)=	1.01	1.71	2.497 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	43.38	51.33
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.49	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9606)					
Inlet Cap.=0.099					
#of Inlets= 1					
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	49.79	2.50	5.25	51.33	
MAJOR SYS.(ID= 2):	42.17	2.40	5.25	51.33	
MINOR SYS.(ID= 3):	7.62	0.10	2.50	51.33	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6606)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0990	0.4270

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9606)	7.625	0.099	2.50	51.33
OUTFLOW: ID= 1 (6606)	7.625	0.057	15.25	51.19

PEAK FLOW REDUCTION [Qout/Qin](%)= 57.78
TIME SHIFT OF PEAK FLOW (min)=615.00
MAXIMUM STORAGE USED (ha.m.)= 0.2470

ADD HYD (4606)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6606):	7.62	0.057	12.75	51.19
+ ID2= 2 (9606):	42.17	2.398	5.25	51.33
ID = 3 (4606):	49.79	2.420	5.25	51.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3264)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2264):	15944.07	278.693	7.50	58.62
+ ID2= 2 (4606):	49.79	2.420	5.25	51.31
ID = 3 (3264):	15993.86	279.439	7.50	58.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0276) | Area (ha)= 265.62
ID= 1 DT=15.0 min | Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	204.53	61.09
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	1330.71	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	37.24
over (min)	15.00	30.00
Storage Coeff. (min)=	16.80 (ii)	97.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	22.71 2.70 23.989 (iii)
TIME TO PEAK	(hrs)=	5.25 6.50 5.25
RUNOFF VOLUME	(mm)=	87.54 67.03 82.82
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.76 0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0438) | Area (ha)= 65.06
ID= 1 DT=15.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	48.79	16.26
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	658.58	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	36.56
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	67.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	5.50 0.89 6.194 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	87.54 65.17 81.95
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.74 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1435)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0276):	265.62	23.989	5.25	82.82
+ ID2= 2 (0438):	65.06	6.194	5.25	81.95
ID = 3 (1435):	330.68	30.184	5.25	82.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0435) | Area (ha)= 78.03
ID= 1 DT=15.0 min | Total Imp(%)= 72.00 Dir. Conn.(%)= 72.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	56.18	21.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.90
Length (m)=	721.25	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	35.87		
over (min)	15.00	30.00		
Storage Coeff. (min)=	12.00 (ii)	72.00 (ii)		
Unit Hyd. Tpeak (min)=	15.00	75.00		
Unit Hyd. peak (cms)=	0.08	0.02		
			TOTALS	
PEAK FLOW	(cms)=	6.33	1.10	7.031 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	63.38	80.78
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.72	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2435)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0435):	78.03	7.031	5.25	80.78
+ ID2= 2 (1435):	330.68	30.184	5.25	82.65
ID = 3 (2435):	408.71	37.215	5.25	82.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1616)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2435):	408.71	37.215	5.25	82.29
+ ID2= 2 (3264):	15993.86	279.439	7.50	58.60
ID = 3 (1616):	16402.57	286.696	7.50	59.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0632) | Area (ha)= 43.94
ID= 1 DT=15.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.23	34.71
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	541.23	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	28.75
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00

Unit Hyd. peak (cms)=	0.09	0.02		
			TOTALS	
PEAK FLOW	(cms)=	1.04	1.52	2.183 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	48.28	56.52
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.55	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9603)
Inlet Cap.=***** |
#of Inlets= 1 |
Total(cms)=***** |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	43.94	2.18	5.25	56.52
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	43.94	2.18	5.25	56.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6603)
IN= 2---> OUT= 1 |

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.7000	2.4800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9603)	43.940	2.183	5.25	56.52
OUTFLOW: ID= 1 (6603)	43.940	0.469	8.50	56.50

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.47
TIME SHIFT OF PEAK FLOW (min)=195.00
MAXIMUM STORAGE USED (ha.m.)= 1.6612

ADD HYD (4603)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9603 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6603):	43.94	0.469	8.50	56.50
+ ID2= 2 (9603):	0.00	0.000	0.00	0.00
ID = 3 (4603):	43.94	0.469	8.50	56.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| STANDHYD  (0633) |   Area    (ha)=  19.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      3.88         15.50
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          3.60
     Length            (m)=    359.44         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     40.71         30.84
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      6.60 (ii)    39.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         45.00
     Unit Hyd. peak  (cms)=      0.10          0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.44          0.87          1.222 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=     87.54         52.33         59.37
     TOTAL RAINFALL   (mm)=     88.54         88.54         88.54
     RUNOFF COEFFICIENT   =      0.99          0.59          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (9602) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  19.38      1.22      5.25   59.37
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  19.38      1.22      5.25   59.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (6602) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.8000      0.4900

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9602)     19.380      1.222      5.25      59.37
     OUTFLOW: ID= 1 (6602)     19.380      0.653      6.50      59.37

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.47
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                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.4028

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| ADD HYD   (4602) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9602 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6602):    19.38   0.653     6.50    59.37
        + ID2= 2 (9602):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4602):    19.38   0.653     6.50    59.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| STANDHYD  (0630) |   Area    (ha)= 120.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  27.00
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                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     32.57         88.07
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          2.60
     Length            (m)=    896.81         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     40.71         30.84
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     12.60 (ii)    74.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00         75.00
     Unit Hyd. peak  (cms)=      0.08          0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=      3.66          3.53          5.784 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.25          5.25
     RUNOFF VOLUME    (mm)=     87.54         52.33         61.84
     TOTAL RAINFALL   (mm)=     88.54         88.54         88.54
     RUNOFF COEFFICIENT   =      0.99          0.59          0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (9601) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 120.64      5.78      5.25   61.84
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 120.64      5.78      5.25   61.84
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (6601) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   2.0000      3.5700
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9601)    120.640      5.784      5.25      61.84
     OUTFLOW: ID= 1 (6601)    120.640      2.133      8.00      61.84

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.88
                    TIME SHIFT OF PEAK FLOW         (min)=165.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  3.8117

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--------------------
| ADD HYD   (4601) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9601 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6601):   120.64   2.133     8.00    61.84
        + ID2= 2 (9601):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4601):   120.64   2.133     8.00    61.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2601) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4601):   120.64   2.133     8.00    61.84
        + ID2= 2 (4602):    19.38   0.653     6.50    59.37
          ================================================
          ID = 3 (2601):   140.02   2.661     7.50    61.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1602) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2601):   140.02   2.661     7.50    61.49
        + ID2= 2 (4603):    43.94   0.469     8.50    56.50
          ================================================
          ID = 3 (1602):   183.96   3.109     7.50    60.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (1603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1602):   183.96   3.109     7.50    60.30
        + ID2= 2 (1616): 16402.57 286.696     7.50    59.19
          ================================================
          ID = 3 (1603): 16586.53 289.805     7.50    59.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5616) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5616.0) ------>
             Distance      Elevation       Manning
                 0.00         155.00        0.1110
                50.69         148.87        0.1110
                67.28         145.00        0.1110
                75.68         144.20        0.1110
                78.03         143.38        0.1110
                78.57         143.00    0.1110 /0.0490  Main Channel
                78.71         141.40        0.0490      Main Channel
                91.20         141.40        0.0490      Main Channel
                92.33         143.00    0.0490 /0.1110  Main Channel
                93.98         143.50        0.1110
               211.31         144.60        0.1110
               232.18         145.00        0.1110
               242.93         145.50        0.1110
               278.58         153.02        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.53   141.93    .821E+04        4.9         0.72      27.93
      1.07   142.47    .167E+05       15.1         1.10      18.40
      1.60   143.00    .254E+05       29.0         1.38      14.62
      2.23   143.63    .380E+05       51.7         1.64      12.28
      2.85   144.25    .869E+05       87.9         1.22      16.49
      3.48   144.88    .187E+06      155.9         1.01      20.03
      4.10   145.50    .316E+06      268.0         1.03      19.65
      4.73   146.13    .453E+06      422.4         1.13      17.87
      5.36   146.76    .594E+06      610.6         1.24      16.22
      5.98   147.38    .740E+06      830.5         1.36      14.85
      6.61   148.01    .890E+06     1080.9         1.47      13.72
      7.24   148.64    .104E+07     1361.0         1.58      12.79
      7.86   149.26    .120E+07     1667.3         1.68      12.02
      8.49   149.89    .137E+07     2001.7         1.77      11.39
      9.11   150.51    .154E+07     2366.3         1.86      10.84
      9.74   151.14    .172E+07     2760.9         1.95      10.36
     10.37   151.77    .190E+07     3185.8         2.03       9.94
     10.99   152.39    .209E+07     3641.0         2.11       9.56
     11.62   153.02    .229E+07     4127.0         2.19       9.23

                                   <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1603) ******   289.80     7.50   59.20      4.19       1.04
     OUTFLOW: ID= 1 (5616) *******  285.09     7.75   59.20      4.17       1.04
```

```
--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0616)   |   Area    (ha)= 105.56
|ID= 1 DT=15.0 min   |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      55.95        49.61
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.00
     Length            (m)=     838.89        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.99
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   55.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       6.32         2.54          8.272 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      87.54        56.77         73.08
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.64          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2616) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0616):   105.56   8.272     5.25    73.08
       + ID2= 2 (5616): 16586.53 285.092     7.75    59.20
         ================================================
         ID = 3 (2616): 16692.09 286.738     7.75    59.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0293)   |   Area    (ha)= 152.56
|ID= 1 DT=15.0 min   |   Total Imp(%)=  79.00   Dir. Conn.(%)=  79.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     120.52        32.04
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.40
     Length            (m)=    1008.50        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        37.24
               over (min)        15.00        30.00
```



```
     Storage Coeff.  (min)=      13.80 (ii)   81.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=      13.52         1.61         14.560 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      87.54        67.03         83.23
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.76          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0293):   152.56  14.560     5.25    83.23
       + ID2= 2 (2616): 16692.09 286.738     7.75    59.29
         ================================================
         ID = 3 (1300): 16844.65 288.971     7.75    59.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5300) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5300.0) ------>
              Distance      Elevation       Manning
                  0.00         144.96        0.1110
                 34.18         134.00        0.1110
                 50.16         133.00        0.1110
                 68.52         132.51        0.1110
                 90.08         132.00        0.1110
                110.50         131.00        0.1110
                111.48         131.00    0.1110 /0.0490  Main Channel
                114.14         130.50        0.0490      Main Channel
                123.12         130.50        0.0490      Main Channel
                124.57         131.00    0.0490 /0.1110  Main Channel
                124.89         131.00        0.1110
                133.94         145.00        0.1110
                152.13         145.00        0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.50   131.00    .181E+05       4.0          0.73      75.07
       1.23   131.73    .716E+05      23.7          1.09      50.39
       1.97   132.47    .170E+06      60.5          1.17      46.89
       2.70   133.20    .337E+06     124.6          1.21      45.12
       3.44   133.94    .544E+06     220.9          1.33      41.04
       4.17   134.67    .770E+06     352.8          1.51      36.40
       4.91   135.41    .100E+07     512.5          1.68      32.64
       5.64   136.14    .124E+07     697.6          1.84      29.71
```



```
       6.38   136.88    .149E+07     907.0          2.00      27.38
       7.11   137.61    .174E+07    1139.9          2.15      25.49
       7.85   138.35    .200E+07    1395.8          2.29      23.92
       8.58   139.08    .227E+07    1674.1          2.42      22.60
       9.32   139.82    .254E+07    1974.6          2.55      21.47
      10.05   140.55    .282E+07    2297.1          2.67      20.49
      10.79   141.29    .311E+07    2641.3          2.79      19.63
      11.52   142.02    .340E+07    3007.1          2.90      18.86
      12.26   142.76    .370E+07    3394.4          3.01      18.18
      12.99   143.49    .401E+07    3803.3          3.12      17.57
      13.73   144.23    .432E+07    4233.6          3.22      17.02

                              <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1300) *******   288.97   7.75  59.51      3.82      1.42
     OUTFLOW: ID= 1 (5300) *******   278.21   8.25  59.51      3.76      1.40


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--------------------
| CALIB              |
| STANDHYD  (0300)   |   Area    (ha)= 140.00
|ID= 1 DT=15.0 min   |   Total Imp(%)=  39.00   Dir. Conn.(%)=  36.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      54.60        85.40
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         8.20
     Length            (m)=     966.09        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.17
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   54.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       5.69         4.21          8.878 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      87.54        52.07         64.84
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.59          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2300) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0300):   140.00   8.878     5.25    64.84
       + ID2= 2 (5300): 16844.65 278.207     8.25    59.51
         ================================================
         ID = 3 (2300): 16984.65 280.086     8.25    59.55
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0614)   |   Area    (ha)=  16.47
|ID= 1 DT=15.0 min   |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.00         2.47
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.30
     Length            (m)=     331.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        38.51
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       7.20 (ii)   42.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.58         0.19          1.756 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      87.54        70.94         85.05
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.80          0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9614) |
| Inlet Cap.=4.124 |
| #of Inlets=   1  |
| Total(cms)=  4.1 |      AREA     QPEAK     TPEAK    R.V.
--------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  16.47      1.76      5.25   85.05
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  16.47      1.76      5.25   85.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0728)   |   Area    (ha)=  12.10
|ID= 1 DT=15.0 min   |   Total Imp(%)=  68.00   Dir. Conn.(%)=  68.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.23         3.87
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.10
     Length            (m)=     284.02        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        36.56
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```
                over (min)       15.00         15.00
     Storage Coeff.  (min)=       5.40 (ii)   33.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.93          0.30          1.234 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      87.54         65.17          80.38
     TOTAL RAINFALL   (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT   =       0.99          0.74           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2728) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0728):    12.10   1.234     5.25    80.38
       + ID2= 2 (9614):    16.47   1.756     5.25    85.05
         ================================================
         ID = 3 (2728):    28.57   2.990     5.25    83.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| DUHYD     (9270) |
| Inlet Cap.=8.836 |
| #of Inlets=    1 |
| Total(cms)=  8.8 |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  28.57      2.99      5.25   83.07
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  28.57      2.99      5.25   83.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6270) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |   3.5480     0.8200
                          0.0870     0.6030   |   4.3140     0.8520
                          0.2750     0.6330   |   5.1300     0.8840
                          0.6180     0.6640   |   5.9920     0.9160
                          1.0600     0.6950   |   6.8990     0.9480
                          1.5840     0.7260   |   7.8470     0.9800
                          2.1780     0.7570   |   8.8360     1.0120
                          2.8350     0.7890   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
```



```
     INFLOW : ID= 2 (9270)     28.570      2.990      5.25      83.07
     OUTFLOW: ID= 1 (6270)     28.570      2.948      5.25      83.01

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.59
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7958

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (4270) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9270 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6270):    28.57   2.948     5.25    83.01
       + ID2= 2 (9270):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4270):    28.57   2.948     5.25    83.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1427) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2300): 16984.65 280.086     8.25    59.55
       + ID2= 2 (4270):    28.57   2.948     5.25    83.01
         ================================================
         ID = 3 (1427): 17013.22 280.404     8.25    59.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0606) |   Area    (ha)=  53.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  55.00   Dir. Conn.(%)=  55.00
-------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       29.20         23.89
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          3.80
     Length            (m)=      594.98         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         33.72
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       9.00 (ii)    52.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.30          1.34          4.493 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      87.54         58.35          74.40
     TOTAL RAINFALL   (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT   =       0.99          0.66           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| DUHYD     (9269) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  53.10      4.49      5.25   74.40
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  53.10      4.49      5.25   74.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (6269) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)    (ha.m.)
                          0.0000     0.0000   |   0.3230     1.1320
                          0.0860     0.3350   |   3.0230     1.4270
                          0.1240     0.6920   |   8.0750     1.7920
                          0.1530     1.0380   |   9.7660     1.9010

                               AREA     QPEAK     TPEAK      R.V.
                               (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9269)     53.100      4.493      5.25      74.40
     OUTFLOW: ID= 1 (6269)     53.100      3.561      5.50      74.38

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 79.25
                   TIME SHIFT OF PEAK FLOW         (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.5038

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-------------------
| ADD HYD   (4269) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9269 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6269):    53.10   3.561     5.50    74.38
       + ID2= 2 (9269):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4269):    53.10   3.561     5.50    74.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (2606) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1427): 17013.22 280.404     8.25    59.59
```



```
       + ID2= 2 (4269):    53.10   3.561     5.50    74.38
         ================================================
         ID = 3 (2606): 17066.32 281.138     8.25    59.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5427) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

                <------ DATA FOR SECTION (5427.0) ------>
                Distance      Elevation       Manning
                    0.00         130.04        0.1110
                   10.57         125.00        0.1110
                   81.38         125.00        0.1110
                  102.44         125.68        0.1110
                  131.41         124.00        0.1110
                  136.25         123.00        0.1110
                  143.40         123.00   0.1110 /0.0490  Main Channel
                  144.00         122.20        0.0490      Main Channel
                  150.83         122.20        0.0490      Main Channel
                  153.56         123.00   0.0490 /0.1110  Main Channel
                  154.90         123.00        0.1110
                  156.48         124.00        0.1110
                  164.24         125.00        0.1110
                  200.91         125.50        0.1110
                  246.89         125.00        0.1110
                  283.84         125.00        0.1110
                  303.71         126.00        0.1110
                  334.11         130.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)      (min)
       0.40    122.60    .199E+04         2.1          0.69      15.73
       0.80    123.00    .441E+04         7.0          1.02      10.56
       1.21    123.41    .975E+04        16.7          1.11       9.71
       1.62    123.82    .150E+05        30.7          1.26       8.56
       2.04    124.24    .229E+05        47.9          1.36       7.96
       2.45    124.65    .325E+05        69.8          1.39       7.77
       2.86    125.06    .493E+05        86.0          1.13       9.55
       3.27    125.47    .108E+06       147.0          0.88      12.25
       3.68    125.88    .184E+06       253.0          0.89      12.15
       4.09    126.29    .263E+06       398.4          0.98      11.02
       4.51    126.71    .344E+06       576.0          1.09       9.94
       4.92    127.12    .425E+06       782.8          1.20       9.04
       5.33    127.53    .507E+06      1017.2          1.30       8.31
       5.74    127.94    .591E+06      1277.8          1.40       7.70
       6.15    128.35    .675E+06      1563.6          1.50       7.19
       6.56    128.76    .760E+06      1873.9          1.60       6.76
       6.98    129.18    .847E+06      2207.9          1.69       6.39
       7.39    129.59    .935E+06      2565.3          1.78       6.07
       7.80    130.00    .102E+07      2945.4          1.87       5.79

                                  <---- hydrograph ---->   <-pipe / channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2606) *******   281.14    8.25  59.64      3.76      0.91
     OUTFLOW: ID= 1 (5427) *******   280.37    8.50  59.64      3.75      0.91

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| CALIB              |
| STANDHYD  (0427)   |   Area    (ha)=  22.52
|ID= 1 DT=15.0 min   |   Total Imp(%)=  17.00   Dir. Conn.(%)=  14.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      3.83         18.69
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          5.60
     Length            (m)=    387.47         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     40.71         27.50
               over (min)       15.00         15.00
     Storage Coeff.  (min)=      6.00 (ii)    36.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         30.00
     Unit Hyd. peak  (cms)=      0.10          0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.36          0.97          1.311 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=     87.54         44.24         50.30
     TOTAL RAINFALL   (mm)=     88.54         88.54         88.54
     RUNOFF COEFFICIENT   =      0.99          0.50          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  76.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2427) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0427):    22.52   1.311     5.25    50.30
      + ID2= 2 (5427): 17066.32 280.371     8.50    59.64
        ================================================
        ID = 3 (2427): 17088.85 280.547     8.50    59.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0312)   |   Area    (ha)= 233.87
|ID= 1 DT=15.0 min   |   Total Imp(%)=  46.00   Dir. Conn.(%)=  38.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    107.58        126.29
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          2.90
     Length            (m)=   1248.65         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     40.71         39.28
               over (min)       15.00         30.00
     Storage Coeff.  (min)=     15.00 (ii)    88.20 (ii)
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     Unit Hyd. Tpeak (min)=     15.00         90.00
     Unit Hyd. peak  (cms)=      0.07          0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=      9.93          6.05         13.116 (iii)
     TIME TO PEAK    (hrs)=      5.25          6.25          5.25
     RUNOFF VOLUME    (mm)=     87.54         59.75         70.31
     TOTAL RAINFALL   (mm)=     88.54         88.54         88.54
     RUNOFF COEFFICIENT   =      0.99          0.67          0.79

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1341) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0312):   233.87  13.116     5.25    70.31
      + ID2= 2 (2427): 17088.85 280.547     8.50    59.63
        ================================================
        ID = 3 (1341): 17322.71 284.282     8.50    59.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5341) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------

              <------ DATA FOR SECTION (5341.0) ------>
             Distance      Elevation       Manning
                 0.00         129.00        0.1110
                19.97         122.00        0.1110
                43.39         121.83        0.1110
                70.95         121.00        0.1110
                78.38         122.00        0.1110
               110.84         122.00        0.1110
               127.33         120.00        0.1110
               127.83         120.00    0.1110 /0.0490  Main Channel
               128.71         118.60        0.0490      Main Channel
               147.85         118.60        0.0490      Main Channel
               147.86         120.00    0.0490 /0.1110  Main Channel
               148.30         120.00        0.1110
               149.10         120.67        0.1110
               154.79         121.69        0.1110
               172.71         122.26        0.1110
               194.33         126.00        0.1110
               343.54         129.42        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.47   119.07    .628E+04       3.7          0.41      28.15
      0.93   119.53    .127E+05      11.6          0.64      18.23
      1.40   120.00    .191E+05      22.3          0.81      14.29
      1.96   120.56    .284E+05      39.9          0.98      11.86
      2.53   121.12    .403E+05      62.0          1.07      10.83
      3.09   121.69    .615E+05      90.7          1.03      11.29
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      3.65   122.25    .106E+06     130.5          0.86      13.58
      4.21   122.81    .167E+06     196.4          0.82      14.21
      4.78   123.38    .231E+06     279.4          0.85      13.75
      5.34   123.94    .296E+06     378.0          0.89      13.03
      5.90   124.50    .362E+06     491.4          0.95      12.29
      6.46   125.06    .431E+06     619.1          1.00      11.61
      7.03   125.63    .502E+06     760.5          1.06      11.00
      7.59   126.19    .575E+06     906.8          1.10      10.57
      8.15   126.75    .656E+06    1059.7          1.13      10.32
      8.71   127.31    .748E+06    1236.5          1.15      10.08
      9.28   127.88    .850E+06    1435.7          1.18       9.87
      9.84   128.44    .962E+06    1657.4          1.20       9.68
     10.40   129.00    .108E+07    1902.7          1.22       9.50

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1341) *******   284.28    8.50  59.77      4.80      0.85
     OUTFLOW: ID= 1 (5341) *******   279.56    8.75  59.77      4.78      0.85

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--------------------
| CALIB              |
| STANDHYD  (0341)   |   Area    (ha)=  71.87
|ID= 1 DT=15.0 min   |   Total Imp(%)=  39.00   Dir. Conn.(%)=  32.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     28.03         43.84
     Dep. Storage     (mm)=      1.00          4.00
     Average Slope     (%)=      1.00          4.00
     Length            (m)=    692.19         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     40.71         36.38
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      9.60 (ii)    55.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00         60.00
     Unit Hyd. peak  (cms)=      0.09          0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.60          2.47          4.498 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.75          5.25
     RUNOFF VOLUME    (mm)=     87.54         56.23         66.25
     TOTAL RAINFALL   (mm)=     88.54         88.54         88.54
     RUNOFF COEFFICIENT   =      0.99          0.64          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2341) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0341):    71.87   4.498     5.25    66.25
      + ID2= 2 (5341): 17322.71 279.558     8.75    59.77
        ================================================
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        ID = 3 (2341): 17394.59 280.295     8.75    59.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION (5328.0) ------>
             Distance      Elevation       Manning
                 0.00         122.83        0.1110
                38.42         122.00        0.1110
                76.21         122.00        0.1110
                99.10         119.00        0.1110
               111.79         118.00        0.1110
               116.05         117.00        0.1110
               120.04         117.00    0.1110 /0.0490  Main Channel
               121.01         116.40        0.0490      Main Channel
               129.65         116.40        0.0490      Main Channel
               129.67         117.00    0.0490 /0.1110  Main Channel
               130.14         117.00        0.1110
               130.87         118.00        0.1110
               139.94         119.00        0.1110
               157.92         118.89        0.1110
               175.26         119.00        0.1110
               192.73         119.00        0.1110
               216.81         119.91        0.1110
               239.98         121.57        0.1110
               256.21         122.00        0.1110
               324.25         122.00        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   116.60    .235E+04       1.2          0.66      33.87
      0.40   116.80    .478E+04       3.6          1.01      21.95
      0.60   117.00    .731E+04       7.1          1.29      17.19
      0.91   117.31    .135E+05      15.3          1.51      14.73
      1.22   117.62    .204E+05      26.4          1.73      12.86
      1.54   117.94    .278E+05      40.1          1.92      11.57
      1.85   118.25    .367E+05      55.9          2.03      10.94
      2.16   118.56    .483E+05      75.3          2.08      10.70
      2.47   118.87    .628E+05      98.7          2.10      10.60
      2.79   119.19    .962E+05     129.5          1.80      12.38
      3.10   119.50    .140E+06     176.6          1.68      13.22
      3.41   119.81    .188E+06     235.3          1.67      13.34
      3.72   120.12    .241E+06     306.8          1.70      13.08
      4.04   120.44    .296E+06     390.4          1.76      12.64
      4.35   120.75    .354E+06     485.2          1.83      12.17
      4.66   121.06    .415E+06     591.3          1.90      11.70
      4.97   121.37    .479E+06     708.7          1.97      11.26
      5.29   121.69    .546E+06     831.7          2.03      10.93
      5.60   122.00    .618E+06     958.2          2.07      10.74

                              <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2341) *******   280.29    8.75  59.80      3.61      1.69
     OUTFLOW: ID= 1 (5328) *******   279.26    9.00  59.80      3.60      1.69

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| CALIB           |
| STANDHYD  (0328) |   Area    (ha)= 240.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  49.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    134.40       105.60
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.80
     Length            (m)=   1264.91        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        41.22
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     15.00 (ii)   88.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        90.00
     Unit Hyd. peak  (cms)=      0.07         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=     13.14         5.39        16.043 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25         5.25
     RUNOFF VOLUME    (mm)=     87.54        62.97         75.01
     TOTAL RAINFALL   (mm)=     88.54        88.54         88.54
     RUNOFF COEFFICIENT   =      0.99         0.71          0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2328) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0328):   240.00  16.043     5.25    75.01
       + ID2= 2 (5328): 17394.59 279.257     9.00    59.80
         ================================================
         ID = 3 (2328): 17634.58 282.098     9.00    60.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (0274) |   Area    (ha)=  98.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     57.32        41.50
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.50
     Length            (m)=    811.66        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        34.44
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   70.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                      *TOTALS*
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     PEAK FLOW       (cms)=      6.45         1.98          7.701 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     87.54        59.97         75.96
     TOTAL RAINFALL   (mm)=     88.54        88.54         88.54
     RUNOFF COEFFICIENT   =      0.99         0.68          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (0287) |   Area    (ha)= 145.43
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  51.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     74.17        71.26
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.40
     Length            (m)=    984.65        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        31.55
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     13.80 (ii)   80.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=      8.32         2.84         10.016 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25          5.25
     RUNOFF VOLUME    (mm)=     87.54        53.77         70.99
     TOTAL RAINFALL   (mm)=     88.54        88.54         88.54
     RUNOFF COEFFICIENT   =      0.99         0.61          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (1301) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0274):    98.82   7.701     5.25    75.96
       + ID2= 2 (0287):   145.43  10.016     5.25    70.99
         ================================================
         ID = 3 (1301):   244.25  17.717     5.25    73.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
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| STANDHYD  (0301) |   Area    (ha)=  32.30
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  17.00
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                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.78        25.52
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.90
     Length            (m)=    464.04        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        30.81
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.80 (ii)   44.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.62         1.34          1.809 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=     87.54        49.46         55.93
     TOTAL RAINFALL   (mm)=     88.54        88.54         88.54
     RUNOFF COEFFICIENT   =      0.99         0.56          0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2301) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0301):    32.30   1.809     5.25    55.93
       + ID2= 2 (1301):   244.25  17.717     5.25    73.00
         ================================================
         ID = 3 (2301):   276.55  19.526     5.25    71.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
| STANDHYD  (0683) |   Area    (ha)=  98.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  56.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     55.86        42.14
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.10
     Length            (m)=    808.29        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        36.15
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.40 (ii)   66.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.08         0.02
```



```
                                                      *TOTALS*
     PEAK FLOW       (cms)=      6.19         2.24          7.916 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     87.54        62.11         76.35
     TOTAL RAINFALL   (mm)=     88.54        88.54         88.54
     RUNOFF COEFFICIENT   =      0.99         0.70          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (0263) |   Area    (ha)= 112.72
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  16.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     22.54        90.18
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         5.20
     Length            (m)=    866.87        40.00
     Mannings n          =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        30.08
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     10.20 (ii)   59.40 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.04         3.92          4.936 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     87.54        48.17         54.47
     TOTAL RAINFALL   (mm)=     88.54        88.54         88.54
     RUNOFF COEFFICIENT   =      0.99         0.54          0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2263) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0263):   112.72   4.936     5.25    54.47
       + ID2= 2 (0683):    98.00   7.916     5.25    76.35
         ================================================
         ID = 3 (2263):   210.72  12.852     5.25    64.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

ADD HYD (1428)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2263):		210.72	12.852	5.25	64.65
+ ID2= 2 (2301):		276.55	19.526	5.25	71.01
ID = 3 (1428):		487.27	32.378	5.25	68.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5428)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5428.0) ------>

Distance	Elevation	Manning	
0.00	138.98	0.1110	
32.39	138.00	0.1110	
48.96	135.08	0.1110	
48.99	135.08	0.1110	
49.39	135.00	0.1110	
58.21	134.38	0.1110	
80.35	133.30	0.1110 /0.0490	Main Channel
85.70	132.80	0.0490	Main Channel
88.03	132.80	0.0490	Main Channel
90.50	133.26	0.0490 /0.1110	Main Channel
97.60	134.00	0.1110	
112.23	135.00	0.1110	
113.23	135.00	0.1110	
127.46	137.03	0.1110	
133.90	137.78	0.1110	
136.01	138.00	0.1110	
139.38	138.17	0.1110	
153.22	139.00	0.1110	
157.75	139.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	133.03	.593E+03	0.3	0.31	33.11
0.46	133.26	.171E+04	1.3	0.46	22.49
0.80	133.60	.470E+04	4.9	0.64	16.06
1.13	133.93	.980E+04	11.1	0.70	14.66
1.47	134.27	.171E+05	20.4	0.74	13.98
1.81	134.61	.268E+05	33.4	0.77	13.36
2.14	134.94	.385E+05	50.4	0.81	12.73
2.48	135.28	.520E+05	72.5	0.86	11.95
2.82	135.62	.664E+05	99.1	0.92	11.16
3.15	135.95	.817E+05	129.9	0.98	10.48
3.49	136.29	.979E+05	164.7	1.04	9.91
3.82	136.62	.115E+06	203.6	1.09	9.41
4.16	136.96	.133E+06	246.6	1.14	8.99
4.50	137.30	.152E+06	293.4	1.19	8.63
4.83	137.63	.172E+06	344.5	1.24	8.31
5.17	137.97	.193E+06	399.7	1.28	8.03
5.51	138.31	.216E+06	441.5	1.26	8.14
5.84	138.64	.242E+06	492.5	1.25	8.20
6.18	138.98	.272E+06	553.1	1.25	8.20

100.02	131.00	0.1110		
103.43	130.00	0.1110 /0.0490	Main Channel	
105.04	128.50	0.0490	Main Channel	
106.10	128.50	0.0490	Main Channel	
107.39	130.00	0.0490 /0.1110	Main Channel	
107.67	130.05	0.1110		
111.76	131.00	0.1110		
120.80	132.00	0.1110		
120.87	132.00	0.1110		
133.03	133.00	0.1110		
148.52	134.00	0.1110		
172.34	134.99	0.1110		
172.97	134.99	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	128.80	.529E+03	0.2	0.59	37.05
0.60	129.10	.129E+04	0.8	0.83	26.15
0.90	129.40	.227E+04	1.8	1.02	21.39
1.20	129.70	.348E+04	3.1	1.18	18.51
1.50	130.00	.492E+04	5.0	1.32	16.50
1.86	130.36	.743E+04	8.6	1.51	14.46
2.21	130.71	.112E+05	13.4	1.55	14.02
2.57	131.07	.163E+05	19.5	1.56	13.97
2.93	131.43	.237E+05	27.3	1.50	14.49
3.28	131.78	.339E+05	37.6	1.45	14.99
3.64	132.14	.475E+05	49.5	1.36	16.01
4.00	132.50	.688E+05	67.2	1.28	17.08
4.35	132.85	.970E+05	91.4	1.23	17.70
4.71	133.21	.132E+06	122.7	1.21	17.95
5.06	133.56	.175E+06	162.7	1.22	17.90
5.42	133.92	.225E+06	212.7	1.24	17.62
5.78	134.28	.283E+06	271.6	1.26	17.34
6.13	134.63	.349E+06	343.0	1.28	16.98
6.49	134.99	.425E+06	427.8	1.32	16.56

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2428)	530.52	33.21	5.25	68.87	3.13	1.47
OUTFLOW: ID= 1 (5309)	530.52	30.38	5.50	68.87	3.03	1.49

CALIB	
STANDHYD (0309)	Area (ha)= 68.51
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.83	37.68
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	675.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	41.46
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1428)	487.27	32.38	5.25	68.26	1.78	0.77
OUTFLOW: ID= 1 (5428)	487.27	29.66	5.25	68.26	1.71	0.76

CALIB	
STANDHYD (0428)	Area (ha)= 43.25
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.92	20.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.20
Length	(m)=	536.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	45.83
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	51.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.05	1.64	3.553 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	67.26	75.78
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.76	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2428)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0428):		43.25	3.553	5.25	75.78
+ ID2= 2 (5428):		487.27	29.659	5.25	68.26
ID = 3 (2428):		530.52	33.213	5.25	68.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5309)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5309.0) ------>

Distance	Elevation	Manning
0.00	135.01	0.1110
88.30	132.00	0.1110
91.73	132.10	0.1110

PEAK FLOW	(cms)=	2.71	2.50	4.675 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	61.84	70.83
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.70	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2309)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0309):		68.51	4.675	5.25	70.83
+ ID2= 2 (5309):		530.52	30.380	5.50	68.87
ID = 3 (2309):		599.03	33.895	5.50	69.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5615)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5615.0) ------>

Distance	Elevation	Manning	
0.00	126.00	0.1110	
5.19	124.23	0.1110	
5.94	124.00	0.1110	
8.92	123.00	0.1110	
9.88	122.62	0.1110	
11.32	122.00	0.1110	
12.54	122.00	0.1110 /0.0490	Main Channel
13.18	121.10	0.0490	Main Channel
14.84	121.10	0.0490	Main Channel
15.91	122.00	0.0490 /0.1110	Main Channel
20.85	123.00	0.1110	
21.91	123.56	0.1110	
25.11	125.00	0.1110	
26.34	125.69	0.1110	
28.50	126.85	0.1110	
28.61	126.92	0.1110	
30.55	128.00	0.1110	
32.32	128.23	0.1110	
34.17	128.53	0.1110	
36.76	129.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	121.33	.431E+03	0.3	0.79	21.69
0.45	121.55	.960E+03	1.1	1.14	14.94
0.67	121.77	.159E+04	2.2	1.40	12.17
0.90	122.00	.231E+04	3.7	1.61	10.55
1.17	122.27	.383E+04	6.6	1.76	9.69

1.43	122.53	.587E+04	10.5	1.83	9.28
1.70	122.80	.845E+04	15.6	1.89	9.01
1.97	123.07	.116E+05	22.0	1.94	8.77
2.23	123.33	.151E+05	29.7	2.01	8.46
2.50	123.60	.189E+05	38.7	2.09	8.15
2.77	123.87	.232E+05	49.1	2.16	7.87
3.03	124.13	.278E+05	60.8	2.23	7.62
3.30	124.40	.328E+05	74.0	2.30	7.39
3.57	124.67	.382E+05	88.7	2.37	7.18
3.83	124.93	.440E+05	105.0	2.44	6.98
4.10	125.20	.501E+05	123.0	2.51	6.79
4.37	125.47	.566E+05	142.7	2.58	6.61
4.63	125.73	.634E+05	164.1	2.65	6.44
4.90	126.00	.706E+05	187.1	2.71	6.29

	<---- hydrograph ---->			<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2309)	599.03	33.90	5.50	69.09	2.36	2.05
OUTFLOW: ID= 1 (5615)	599.03	33.70	5.50	69.09	2.35	2.05

CALIB	
STANDHYD (0615)	Area (ha)= 31.22
ID= 1 DT=15.0 min	Total Imp(%)= 34.00 Dir. Conn.(%)= 27.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.61	20.61
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.40
Length (m)=	456.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	36.01
over (min)	15.00	15.00
Storage Coeff. (min)=	6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.95	1.39	2.222 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	87.54	56.05	64.55
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.63	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2615)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0615):	31.22	2.222	5.25	64.55
+ ID2= 2 (5615):	599.03	33.696	5.50	69.09

ID = 3 (2615):	630.25	35.427	5.50	68.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1335)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2328):	17634.58	282.098	9.00	60.00
+ ID2= 2 (2615):	630.25	35.427	5.50	68.87
ID = 3 (1335):	18264.83	290.311	8.75	60.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5335)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5335.0) ------>

Distance	Elevation	Manning	
0.00	125.00	0.1110	
40.36	116.00	0.1110	
71.40	114.00	0.1110	
88.94	113.71	0.1110	
106.14	114.00	0.1110	
116.89	114.00	0.1110	
122.13	112.00	0.1110	
122.45	112.00	0.1110	
122.47	112.00	0.1110 /0.0490	Main Channel
122.55	111.50	0.0490	Main Channel
131.77	111.50	0.0490	Main Channel
131.80	112.00	0.0490 /0.1110	Main Channel
132.16	112.00	0.1110	
134.04	113.00	0.1110	
155.71	114.00	0.1110	
250.45	117.00	0.1110	
599.03	117.00	0.1110	
740.01	120.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	111.75	.868E+03	1.2	0.54	11.65
0.50	112.00	.174E+04	3.8	0.83	7.57
0.97	112.47	.370E+04	11.8	1.20	5.21
1.44	112.94	.603E+04	23.5	1.46	4.27
1.91	113.41	.937E+04	38.9	1.56	4.02
2.38	113.88	.154E+05	58.7	1.43	4.37
2.85	114.35	.305E+05	94.5	1.16	5.38
3.32	114.82	.503E+05	150.1	1.12	5.59
3.79	115.29	.740E+05	225.3	1.14	5.47
4.26	115.76	.102E+06	321.5	1.19	5.27
4.74	116.24	.133E+06	443.1	1.25	5.00
5.21	116.71	.168E+06	591.2	1.32	4.72
5.68	117.18	.228E+06	663.8	1.09	5.73
6.15	117.65	.331E+06	985.9	1.12	5.60
6.62	118.12	.439E+06	1389.2	1.19	5.27
7.09	118.59	.551E+06	1868.4	1.27	4.91

7.56	119.06	.667E+06	2420.4	1.36	4.59
8.03	119.53	.787E+06	3043.6	1.45	4.31
8.50	120.00	.912E+06	3736.8	1.54	4.07

	<---- hydrograph ---->			<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1335)	*******	290.31	8.75	60.31	4.11	1.17
OUTFLOW: ID= 1 (5335)	*******	290.05	9.00	60.31	4.10	1.17

CALIB	
STANDHYD (0335)	Area (ha)= 17.42
ID= 1 DT=15.0 min	Total Imp(%)= 43.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	7.49	9.93
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.90
Length (m)=	340.78	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	37.46
over (min)	15.00	15.00
Storage Coeff. (min)=	5.40 (ii)	32.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04
		TOTALS
PEAK FLOW (cms)=	0.71	0.77	1.480 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	57.82	68.52
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.65	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2335)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0335):	17.42	1.480	5.25	68.52
+ ID2= 2 (5335):	18264.83	290.046	9.00	60.31
ID = 3 (2335):	18282.25	290.147	9.00	60.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0672)	Area (ha)= 420.75
ID= 1 DT=15.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 52.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	252.45	168.30
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	1674.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	44.39
over (min)	15.00	30.00
Storage Coeff. (min)=	18.00 (ii)	106.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01
		TOTALS
PEAK FLOW (cms)=	24.18	8.46	28.163 (iii)
TIME TO PEAK (hrs)=	5.25	6.50	5.25
RUNOFF VOLUME (mm)=	87.54	66.78	77.57
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.75	0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9672)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	420.75	28.16	5.25	77.57
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	420.75	28.16	5.25	77.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6672)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.0660	11.8000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9672)	420.750	28.163	5.25	77.57
OUTFLOW: ID= 1 (6672)	420.750	5.435	9.00	77.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.30
TIME SHIFT OF PEAK FLOW (min)=225.00
MAXIMUM STORAGE USED (ha.m.)= 20.9212

ADD HYD (4672)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

```
                              (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9672 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6672):   420.75   5.435     9.00    77.57
       + ID2= 2 (9672):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4672):   420.75   5.435     9.00    77.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0322) |   Area    (ha)= 139.97
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  46.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      78.38        61.59
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.50
     Length            (m)=     965.99        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        45.54
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      13.20 (ii)   79.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=       7.23         3.85          9.750 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      87.54        67.17         76.54
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.76          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2322) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0322):   139.97   9.750     5.25    76.54
       + ID2= 2 (4672):   420.75   5.435     9.00    77.57
         ================================================
         ID = 3 (2322):   560.72  12.535     5.25    77.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```



```
         ID1= 1 (2322):   560.72  12.535     5.25    77.31
       + ID2= 2 (2335): 18282.25 290.147     9.00    60.32
         ================================================
         ID = 3 (1346): 18842.97 297.326     8.75    60.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5346) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5346.0) ------>
                Distance      Elevation       Manning
                    0.00         119.00        0.1110
                    0.00         117.00        0.1110
                   13.24         112.00        0.1110
                   20.29         111.00        0.1110
                   39.56         110.00        0.1110
                   39.81         110.00        0.1110
                   44.05         109.55        0.1110
                   47.94         109.01        0.1110
                   47.99         109.00        0.1110
                   48.77         109.00    0.1110 /0.0490  Main Channel
                   50.01         108.50        0.0490      Main Channel
                   66.15         108.50        0.0490      Main Channel
                   68.59         109.00    0.0490 /0.1110  Main Channel
                   68.90         109.00        0.1110
                   70.88         110.00        0.1110
                   80.34         116.00        0.1110
                   82.24         117.02        0.1110
                   82.27         117.04        0.1110
                   86.00         118.64        0.1110
                   86.92         119.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   109.00    .644E+04       12.3          1.37       8.73
       1.03   109.53    .152E+05       45.2          2.13       5.61
       1.55   110.05    .261E+05       95.1          2.61       4.57
       2.08   110.58    .403E+05      162.3          2.88       4.14
       2.61   111.11    .587E+05      250.2          3.05       3.91
       3.13   111.63    .796E+05      361.0          3.25       3.68
       3.66   112.16    .102E+06      492.6          3.46       3.46
       4.18   112.68    .126E+06      645.9          3.68       3.24
       4.71   113.21    .150E+06      817.9          3.90       3.06
       5.24   113.74    .175E+06     1008.2          4.12       2.90
       5.76   114.26    .202E+06     1216.4          4.32       2.76
       6.29   114.79    .228E+06     1442.2          4.52       2.64
       6.82   115.32    .256E+06     1685.5          4.71       2.53
       7.34   115.84    .285E+06     1946.1          4.89       2.44
       7.87   116.37    .314E+06     2223.6          5.07       2.36
       8.39   116.89    .345E+06     2518.3          5.23       2.28
       8.92   117.42    .376E+06     2837.9          5.41       2.21
       9.45   117.95    .407E+06     3175.6          5.58       2.14
       9.97   118.47    .439E+06     3529.2          5.75       2.08

                                 <---- hydrograph ---->   <-pipe / channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (1346) *******   297.33    8.75  60.82      2.83      3.13
    OUTFLOW: ID= 1 (5346) *******   297.42    9.00  60.82      2.83      3.13
```



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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0346) |   Area    (ha)=  29.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  68.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.98         9.40
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.40
     Length            (m)=     442.57        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        34.44
                over (min)       15.00        15.00
     Storage Coeff.  (min)=       6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.26         0.61          2.820 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      87.54        59.97         78.72
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.68          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0346):    29.38   2.820     5.25    78.72
       + ID2= 2 (5346): 18842.97 297.419     9.00    60.82
         ================================================
         ID = 3 (2346): 18872.35 297.593     9.00    60.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0356) |   Area    (ha)=  67.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.34        16.78
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     668.93        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        37.24
                over (min)       15.00        30.00
```



```
     Storage Coeff.  (min)=       9.60 (ii)   57.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       5.69         1.02          6.500 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      87.54        67.03         82.41
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.76          0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1355) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):    67.12   6.500     5.25    82.41
       + ID2= 2 (2346): 18872.35 297.593     9.00    60.85
         ================================================
         ID = 3 (1355): 18939.47 298.053     9.00    60.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5355) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5355.0) ------>
                Distance      Elevation       Manning
                    0.00         113.00        0.1110
                   27.22         105.00        0.1110
                   79.42         103.00        0.1110
                   81.02         102.67    0.1110 /0.0490  Main Channel
                   84.17         102.00        0.0490      Main Channel
                   84.81         102.00        0.0490      Main Channel
                   87.18         101.40        0.0490      Main Channel
                   94.91         101.40        0.0490      Main Channel
                   97.82         102.00        0.0490      Main Channel
                   98.24         102.00        0.0490      Main Channel
                   98.77         103.00    0.0490 /0.1110  Main Channel
                  100.12         106.88        0.1110
                  100.16         107.00        0.1110
                  108.13         108.00        0.1110
                  111.00         109.00        0.1110
                  115.64         112.00        0.1110
                  133.82         113.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.42   101.82    .720E+04        3.0          0.73      40.33
       0.85   102.25    .175E+05       10.6          1.08      27.37
       1.27   102.67    .298E+05       23.5          1.40      21.16
       1.92   103.32    .538E+05       55.5          1.83      16.16
```

2.56	103.96	.953E+05	102.9	1.92	15.44
3.21	104.61	.156E+06	169.3	1.92	15.39
3.85	105.25	.236E+06	260.4	1.96	15.08
4.50	105.90	.321E+06	378.0	2.09	14.15
5.14	106.54	.409E+06	516.3	2.24	13.20
5.79	107.19	.500E+06	674.0	2.39	12.36
6.44	107.84	.598E+06	851.6	2.53	11.70
7.08	108.48	.703E+06	1050.5	2.65	11.16
7.73	109.13	.813E+06	1270.1	2.77	10.67
8.37	109.77	.927E+06	1510.1	2.89	10.24
9.02	110.42	.105E+07	1769.8	3.00	9.84
9.66	111.06	.117E+07	2049.2	3.12	9.49
10.31	111.71	.129E+07	2348.2	3.22	9.17
10.95	112.35	.142E+07	2654.6	3.31	8.93
11.60	113.00	.157E+07	2983.1	3.38	8.76

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1355) *******	298.95	9.00	60.93	4.06	2.00	
OUTFLOW: ID= 1 (5355) *******	296.74	9.25	60.93	4.05	2.00	

CALIB	
STANDHYD (0355)	Area (ha)= 83.93
ID= 1 DT=15.0 min	Total Imp(%)= 56.00 Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	47.00	36.93
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.50
Length	(m)=	748.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.27
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	5.31 1.96 7.056 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	87.54 55.25 73.33
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.62 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2355)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0355):	83.93	7.056	5.25	73.33

Average Slope	(%)=	1.00	3.30
Length	(m)=	689.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	33.08
over (min)		15.00	30.00
Storage Coeff. (min)=		16.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.07	0.02

		TOTALS
PEAK FLOW	(cms)=	2.14 2.28 3.841 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	87.54 50.67 60.62
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.57 0.68

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9153)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	71.22	3.84	5.25	60.62
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	71.22	3.84	5.25	60.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6153)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	7.2100	0.1500
	3.5200	0.0800	9.2000	0.2500
	5.8400	0.1100	12.9500	0.3500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9153)	71.220	3.841	5.25	60.62
OUTFLOW: ID= 1 (6153)	71.220	3.720	5.25	60.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 96.84
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0880

ADD HYD (4153)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 9153 <ID= 2> IS DRY.

+ ID2= 2 (5355):	18939.47	296.737	9.25	60.93
ID = 3 (2355):	19023.40	297.262	9.25	60.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0314)	Area (ha)= 515.06
ID= 1 DT=15.0 min	Total Imp(%)= 62.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	319.34	195.72
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	1853.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	37.40
over (min)		15.00	30.00
Storage Coeff. (min)=		18.00 (ii)	104.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.06	0.01

		TOTALS
PEAK FLOW	(cms)=	34.15 8.16 37.848 (iii)
TIME TO PEAK	(hrs)=	5.25 6.50 5.25
RUNOFF VOLUME	(mm)=	87.54 62.68 77.60
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.71 0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2314)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 9614 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (0314):	515.06	37.848	5.25	77.60
+ ID2= 2 (9614):	0.00	0.000	0.00	0.00
ID = 3 (2314):	515.06	37.848	5.25	77.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0675)	Area (ha)= 71.22
ID= 1 DT=15.0 min	Total Imp(%)= 34.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.21	47.01
Dep. Storage	(mm)=	1.00	4.00

*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6153):	71.22	3.720	5.25	60.62
+ ID2= 2 (9153):	0.00	0.000	0.00	0.00
ID = 3 (4153):	71.22	3.720	5.25	60.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9152)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	71.22	3.72	5.25	60.62
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	71.22	3.72	5.25	60.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6152)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.0000	1.1800
	0.8000	0.3000	1.9000	1.4000
	0.9000	0.7000	3.5000	1.9100

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9152)	71.220	3.720	5.25	60.62
OUTFLOW: ID= 1 (6152)	71.220	2.230	6.75	60.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.94
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 1.5103

ADD HYD (4152)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 9152 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

ID1= 1 (6152):	71.22	2.230	6.75	60.62
+ ID2= 2 (9152):	0.00	0.000	0.00	0.00
ID = 3 (4152):	71.22	2.230	6.75	60.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1314)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

```
                        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2314):   515.06  37.848     5.25    77.60
       + ID2= 2 (4152):    71.22   2.230     6.75    60.62
         ================================================
         ID = 3 (1314):   586.28  38.768     5.25    75.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0670) |   Area    (ha)=  43.66
|ID= 1 DT=15.0 min |   Total Imp(%)=  70.00   Dir. Conn.(%)=  70.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.56        13.10
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.40
     Length            (m)=     539.51        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        37.24
               over (min)       15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   56.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.45         0.80         4.095 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=      87.54        67.03         81.39
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.76          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (8607) |
| Inlet Cap.=5.000 |
| #of Inlets=    1 |
| Total(cms)=  5.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.66      4.10      5.25   81.39
     ====================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.66      4.10      5.25   81.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  68.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.63        35.01
```



```
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     676.46        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        35.16
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.78         1.67         4.841 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      87.54        61.65         74.33
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.70          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  85.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.43         2.37
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     324.55        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        35.16
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.51         0.11         1.582 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=      87.54        61.65         83.65
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.70          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
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| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.80      1.58      5.25   83.65
     ====================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.80      1.58      5.25   83.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.6600      1.5800

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     15.800      1.582      5.25      83.65
     OUTFLOW: ID= 1 (****)     15.800      0.341      6.75      83.62

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.57
                TIME SHIFT OF PEAK FLOW          (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8172

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (****):    15.80   0.341     6.75    83.62
       + ID2= 2 (****):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (****):    15.80   0.341     6.75    83.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  44.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.99         6.70
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     545.83        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        35.16
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.27         0.32         4.475 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
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     RUNOFF VOLUME    (mm)=      87.54        61.65          83.66
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.70           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  44.69      4.48      5.25   83.66
     ====================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  44.69      4.48      5.25   83.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.8800      4.4690

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     44.690      4.475      5.25      83.66
     OUTFLOW: ID= 1 (****)     44.690      0.970      6.75      83.64

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.68
                TIME SHIFT OF PEAK FLOW          (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.3070

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (****):    44.69   0.970     6.75    83.64
       + ID2= 2 (****):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (****):    44.69   0.970     6.75    83.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
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1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	15.80	0.341	6.75	83.62
+ ID2= 2 (****):	44.69	0.970	6.75	83.64
ID = 3 (****):	60.49	1.312	6.75	83.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	68.64	4.841	5.25	74.33
+ ID2= 2 (****):	60.49	1.312	6.75	83.64
ID = 3 (****):	129.13	5.857	5.25	78.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2599)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (8607):	43.66	4.095	5.25	81.39
+ ID2= 2 (****):	129.13	5.857	5.25	78.69
ID = 3 (2599):	172.79	9.952	5.25	79.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9964)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	172.79	9.95	5.25	79.37
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	172.79	9.95	5.25	79.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6964)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3000	2.2107
0.0400	0.1758	0.3200	2.4327
0.0700	0.3516	0.3400	2.6546
0.1100	0.5274	0.3500	2.8766
0.1500	0.7032	0.3700	3.0985
0.1800	0.8790	0.3800	3.3711
0.2000	1.1010	0.3900	3.6437
0.2300	1.3229	0.7400	3.9163

0.2500	1.5449	0.7600	4.1889
0.2700	1.7668	0.0000	0.0000
0.2900	1.9888	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9964)	172.790	9.952	5.25	79.37
OUTFLOW: ID= 1 (6964)	172.790	1.501	10.25	79.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.08
TIME SHIFT OF PEAK FLOW (min)=300.00
MAXIMUM STORAGE USED (ha.m.)= 8.2717

ADD HYD (4964)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9964 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6964):	172.79	1.501	10.25	79.37
+ ID2= 2 (9964):	0.00	0.000	0.00	0.00
ID = 3 (4964):	172.79	1.501	10.25	79.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 72.09
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	39.65
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	693.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	34.44
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW (cms)=		3.66	2.01	5.201 (iii)
TIME TO PEAK (hrs)=		5.25	5.75	5.25
RUNOFF VOLUME (mm)=		87.54	59.97	72.38
TOTAL RAINFALL (mm)=		88.54	88.54	88.54
RUNOFF COEFFICIENT =		0.99	0.68	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 26.85
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.82	4.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	423.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	34.44
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW (cms)=		2.57	0.20	2.731 (iii)
TIME TO PEAK (hrs)=		5.25	5.75	5.25
RUNOFF VOLUME (mm)=		87.54	59.97	83.40
TOTAL RAINFALL (mm)=		88.54	88.54	88.54
RUNOFF COEFFICIENT =		0.99	0.68	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	26.85	2.73	5.25	83.40
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	26.85	2.73	5.25	83.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.1300	2.6850

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	26.850	2.731	5.25	83.40
OUTFLOW: ID= 1 (****)	26.850	0.587	6.75	83.38

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.50
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 1.3963

ADD HYD (****)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH **** <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (****):	26.85	0.587	6.75	83.38
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	26.85	0.587	6.75	83.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	72.09	5.201	5.25	72.38
+ ID2= 2 (****):	26.85	0.587	6.75	83.38
ID = 3 (****):	98.94	5.664	5.25	75.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9963)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	98.94	5.66	5.25	75.36
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	98.94	5.66	5.25	75.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6963)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1600	1.2340
0.0200	0.0978	0.1700	1.3620
0.0400	0.1956	0.1800	1.6181
0.0600	0.2934	0.1900	1.7409
0.0800	0.3911	0.2000	1.9865
0.0900	0.4889	0.4400	2.1093
0.1100	0.5867	0.4600	2.3550
0.1200	0.6845	0.4700	2.5275
0.1300	0.7823	0.4800	2.7000
0.1400	0.8801	0.0000	0.0000
0.1500	1.1059	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9963)	98.940	5.664	5.25	75.36
OUTFLOW: ID= 1 (6963)	98.940	0.837	10.00	75.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.78
TIME SHIFT OF PEAK FLOW (min)=285.00
MAXIMUM STORAGE USED (ha.m.)= 4.7093

ADD HYD (4963)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6963):	98.94	0.837	10.00	75.35
+ ID2= 2 (9963):	0.00	0.000	0.00	0.00
ID = 3 (4963):	98.94	0.837	10.00	75.35

*** W A R N I N G : HYDROGRAPH 9963 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1598)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4963):	98.94	0.837	10.00	75.35
+ ID2= 2 (4964):	172.79	1.501	10.25	79.37
ID = 3 (1598):	271.73	2.337	10.25	77.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5598)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5598.0) ------>

Distance	Elevation	Manning	
0.00	178.57	0.1110	
19.93	178.35	0.1110	
22.69	178.35	0.1110	
34.83	178.58	0.1110	
49.82	178.60	0.1110	
87.96	179.03	0.1110	
96.42	177.27	0.1110 /0.0490	Main Channel
97.49	177.31	0.0490	Main Channel
109.98	177.60	0.0490 /0.1110	Main Channel
112.52	177.61	0.1110	
121.23	177.69	0.1110	
124.63	177.56	0.1110	
134.04	178.00	0.1110	
155.00	178.79	0.1110	
163.70	178.63	0.1110	
200.02	178.57	0.1110	
211.27	178.56	0.1110	
222.53	178.69	0.1110	

241.93	178.51	0.1110
275.14	178.54	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	177.36	.149E+03	0.0	0.20	80.33
0.19	177.46	.675E+03	0.2	0.32	48.76
0.28	177.55	.159E+04	0.7	0.43	36.60
0.37	177.64	.314E+04	1.7	0.52	30.31
0.46	177.73	.586E+04	3.5	0.56	27.95
0.56	177.83	.896E+04	6.0	0.63	25.06
0.65	177.92	.123E+05	9.0	0.70	22.66
0.74	178.01	.158E+05	12.7	0.76	20.79
0.83	178.10	.195E+05	16.8	0.81	19.37
0.93	178.20	.236E+05	21.6	0.86	18.22
1.02	178.29	.278E+05	26.9	0.91	17.27
1.11	178.38	.325E+05	32.1	0.94	16.85
1.20	178.47	.385E+05	38.5	0.95	16.65
1.30	178.57	.474E+05	40.9	0.82	19.32
1.39	178.66	.642E+05	49.0	0.72	21.84
1.48	178.75	.849E+05	63.4	0.71	22.32
1.57	178.84	.107E+06	81.3	0.72	21.95
1.67	178.94	.130E+06	102.1	0.74	21.22
1.76	179.03	.154E+06	125.6	0.77	20.41

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1598)	271.73	2.34	10.25	77.90	0.40	0.53
OUTFLOW: ID= 1 (5598)	271.73	2.33	10.75	77.90	0.40	0.53

CALIB
STANDHYD (0598)
ID= 1 DT=15.0 min

Area (ha)= 75.95
Total Imp(%)= 52.00 Dir. Conn.(%)= 52.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.49	36.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.90
Length	(m)=	711.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.99
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.46	2.00	6.245 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	87.54	56.77	72.77
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.64	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2598)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0598):	75.95	6.245	5.25	72.77
+ ID2= 2 (5598):	271.73	2.332	10.75	77.90
ID = 3 (2598):	347.68	6.802	5.25	76.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5299)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5299.0) ------>

Distance	Elevation	Manning	
0.00	161.64	0.1110	
34.74	161.51	0.1110	
56.59	160.87	0.1110	
67.95	160.99	0.1110	
90.67	160.84	0.1110	
101.14	160.42	0.1110	
118.03	158.89	0.1110	
128.87	156.59	0.1110 /0.0490	Main Channel
130.10	156.35	0.0490	Main Channel
133.94	156.82	0.0490 /0.1110	Main Channel
146.85	159.32	0.1110	
163.58	161.17	0.1110	
166.21	161.74	0.1110	
176.37	161.83	0.1110	
182.39	161.67	0.1110	
190.74	162.12	0.1110	
232.24	162.94	0.1110	
274.39	164.95	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	156.59	.282E+03	0.2	0.58	21.17
0.51	156.86	.124E+04	1.7	0.99	12.45
0.77	157.12	.278E+04	5.0	1.34	9.20
1.04	157.39	.482E+04	10.1	1.55	7.95
1.30	157.65	.739E+04	17.0	1.70	7.24
1.57	157.92	.105E+05	25.8	1.82	6.76
1.83	158.18	.141E+05	36.6	1.92	6.40
2.10	158.45	.182E+05	49.5	2.01	6.11
2.37	158.72	.228E+05	64.7	2.10	5.87
2.63	158.98	.279E+05	81.8	2.16	5.69
2.90	159.25	.339E+05	100.9	2.20	5.59
3.16	159.51	.407E+05	122.6	2.22	5.53
3.43	159.78	.486E+05	147.6	2.24	5.48
3.70	160.05	.575E+05	176.6	2.27	5.43
3.96	160.31	.674E+05	209.6	2.29	5.36
4.23	160.58	.786E+05	244.4	2.29	5.36
4.49	160.84	.914E+05	283.0	2.28	5.38
4.76	161.11	.111E+06	309.9	2.06	5.96

5.02	161.37	.134E+06	376.8	2.07	5.94

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2598)	347.68	6.80	5.25	76.78	0.86	1.40
OUTFLOW: ID= 1 (5299)	347.68	6.50	5.25	76.78	0.85	1.39

CALIB
STANDHYD (0299)
ID= 1 DT=15.0 min

Area (ha)= 97.19
Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.86	23.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	804.94	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	37.89
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	70.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	8.32	1.30	9.185 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	87.54	68.95	83.08
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.78	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2299)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0299):	97.19	9.185	5.25	83.08
+ ID2= 2 (5299):	347.68	6.503	5.25	76.78
ID = 3 (2299):	444.87	15.688	5.25	78.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5303)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5303.0) ------>

Distance	Elevation	Manning
0.00	153.79	0.1110

19.01	151.85	0.1110	
37.34	151.82	0.1110	
41.85	151.52	0.1110	
47.90	151.66	0.1110	
87.41	151.69	0.1110	
105.06	149.50	0.1110	
125.35	148.50	0.1110	
125.85	148.42	0.1110 /0.0490	Main Channel
127.68	148.13	0.0490	Main Channel
128.23	147.30	0.0490	Main Channel
130.21	147.30	0.0490	Main Channel
131.55	148.23	0.0490	Main Channel
132.42	148.32	0.0490 /0.1110	Main Channel
137.58	148.90	0.1110	
138.78	149.00	0.1110	
150.21	149.50	0.1110	
156.60	150.50	0.1110	
175.54	151.00	0.1110	
263.18	153.41	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	147.56	.857E+03	0.5	0.81	30.68
0.51	147.81	.192E+04	1.5	1.18	21.08
0.77	148.07	.318E+04	3.1	1.45	17.13
1.02	148.32	.486E+04	4.6	1.42	17.54
1.36	148.66	.944E+04	10.5	1.66	14.97
1.70	149.00	.187E+05	20.4	1.62	15.34
2.04	149.34	.344E+05	35.2	1.53	16.26
2.38	149.68	.568E+05	58.3	1.53	16.23
2.72	150.02	.822E+05	89.6	1.63	15.29
3.06	150.36	.110E+06	128.2	1.74	14.32
3.40	150.70	.141E+06	169.5	1.79	13.91
3.73	151.03	.180E+06	219.3	1.82	13.69
4.07	151.37	.227E+06	281.8	1.86	13.40
4.41	151.71	.285E+06	310.6	1.63	15.27
4.75	152.05	.377E+06	412.0	1.63	15.26
5.09	152.39	.481E+06	550.2	1.71	14.57
5.43	152.73	.593E+06	713.3	1.80	13.85
5.77	153.07	.712E+06	901.5	1.89	13.17
6.11	153.41	.840E+06	1115.6	1.99	12.55

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2299)	444.87	15.69	5.25	78.16	1.54	1.64
OUTFLOW: ID= 1 (5303)	444.87	14.51	5.25	78.16	1.50	1.65

CALIB
STANDHYD (0303)
ID= 1 DT=15.0 min

Area (ha)= 227.30
Total Imp(%)= 65.00 Dir. Conn.(%)= 65.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	147.75	79.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.00
Length	(m)=	1230.99	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	35.87	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.60 (ii)	73.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	16.62	3.94	19.147 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	87.54	63.38	79.08
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2303)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0303):	227.30	19.147	5.25	79.08
+ ID2= 2 (5303):	444.87	14.508	5.25	78.16
ID = 3 (2303):	672.17	33.655	5.25	78.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5306)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5306.0) ------>

Distance	Elevation	Manning	
0.00	145.38	0.1110	
57.12	144.00	0.1110	
73.05	143.00	0.1110	
79.09	141.50	0.1110	
80.80	140.20	0.1110 /0.0490	Main Channel
81.66	139.77	0.0490	Main Channel
83.06	139.50	0.0490	Main Channel
84.74	139.32	0.0490	Main Channel
85.03	139.00	0.0490	Main Channel
85.78	139.00	0.0490	Main Channel
87.80	139.39	0.0490	Main Channel
89.94	139.50	0.0490	Main Channel
94.17	140.00	0.0490 /0.1110	Main Channel
97.58	140.50	0.1110	
127.69	142.00	0.1110	
132.10	144.00	0.1110	
141.18	144.50	0.1110	
164.76	144.55	0.1110	
191.51	145.00	0.1110	
226.92	145.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.25	139.25	.425E+03	0.2	0.50	37.48
0.50	139.50	.153E+04	0.8	0.57	32.75
0.75	139.75	.394E+04	2.9	0.83	22.69
1.00	140.00	.722E+04	6.8	1.06	17.70
1.33	140.33	.126E+05	16.0	1.43	13.15
1.67	140.67	.193E+05	28.8	1.68	11.15
2.00	141.00	.284E+05	45.5	1.80	10.41
2.33	141.33	.402E+05	66.5	1.86	10.08
2.67	141.67	.547E+05	92.2	1.90	9.89
3.00	142.00	.722E+05	123.3	1.92	9.76
3.33	142.33	.915E+05	162.2	1.99	9.40
3.67	142.67	.112E+06	206.6	2.08	9.01
4.00	143.00	.133E+06	256.3	2.17	8.62
4.33	143.33	.155E+06	310.0	2.25	8.34
4.67	143.67	.180E+06	370.0	2.32	8.10
5.00	144.00	.207E+06	436.4	2.37	7.90
5.33	144.33	.239E+06	495.1	2.33	8.03
5.67	144.67	.282E+06	525.8	2.10	8.93
6.00	145.00	.341E+06	609.9	2.01	9.33

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2303)	672.17	33.66	5.25	78.47	1.76	1.71
OUTFLOW: ID= 1 (5306)	672.17	32.40	5.25	78.47	1.74	1.71

CALIB
STANDHYD (0306)
ID= 1 DT=15.0 min

Area (ha)= 195.25
Total Imp(%)= 79.00 Dir. Conn.(%)= 79.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	154.25	41.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	1140.91	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	37.89	
over (min)	15.00	30.00	
Storage Coeff. (min)=	14.40 (ii)	84.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	90.00	
Unit Hyd. peak (cms)=	0.07	0.01	
			TOTALS
PEAK FLOW (cms)=	17.27	2.04	18.425 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	87.54	68.95	83.64
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.78	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2306)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0306):	195.25	18.425	5.25	83.64
+ ID2= 2 (5306):	672.17	32.404	5.25	78.47
ID = 3 (2306):	867.42	50.829	5.25	79.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5314)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5314.0) ------>

Distance	Elevation	Manning	
0.00	140.46	0.1110	
17.34	140.00	0.1110	
23.79	140.00	0.1110	
36.31	139.52	0.1110	
67.27	139.06	0.1110	
99.03	138.86	0.1110	
131.93	136.23	0.1110 /0.0490	Main Channel
135.37	135.79	0.0490	Main Channel
137.27	135.30	0.0490	Main Channel
139.14	135.30	0.0490	Main Channel
143.23	135.76	0.0490	Main Channel
147.44	136.00	0.0490 /0.1110	Main Channel
161.11	136.74	0.1110	
190.39	137.50	0.1110	
204.58	137.50	0.1110	
211.94	139.50	0.1110	
219.37	139.79	0.1110	
272.20	138.00	0.1110	
297.42	138.00	0.1110	
390.77	140.46	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	135.53	.686E+03	0.4	0.52	28.15
0.47	135.77	.198E+04	1.7	0.76	19.22
0.70	136.00	.418E+04	4.1	0.86	16.87
0.98	136.28	.842E+04	10.9	1.13	12.91
1.26	136.56	.147E+05	21.8	1.30	11.18
1.54	136.84	.231E+05	36.7	1.39	10.49
1.81	137.11	.347E+05	56.1	1.42	10.30
2.09	137.39	.498E+05	81.3	1.43	10.21
2.37	137.67	.700E+05	112.5	1.41	10.37
2.65	137.95	.928E+05	155.2	1.46	9.96
2.93	138.23	.123E+06	195.9	1.39	10.50
3.21	138.51	.161E+06	255.7	1.39	10.47
3.49	138.79	.204E+06	327.5	1.41	10.36
3.77	139.07	.255E+06	399.4	1.37	10.64
4.04	139.34	.318E+06	500.8	1.38	10.59
4.32	139.62	.391E+06	621.2	1.39	10.49
4.60	139.90	.472E+06	768.9	1.43	10.23
4.88	140.18	.559E+06	940.3	1.47	9.91
5.16	140.46	.652E+06	1136.8	1.53	9.55

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2306)	867.42	50.83	5.25	79.63	1.74	1.41
OUTFLOW: ID= 1 (5314)	867.42	48.10	5.25	79.63	1.70	1.41

ADD HYD (3314)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1314):	586.28	38.768	5.25	75.53
+ ID2= 2 (5314):	867.42	48.104	5.25	79.63
ID = 3 (3314):	1453.70	86.872	5.25	77.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5349) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5349.0) ------>

Distance	Elevation	Manning	
0.00	136.55	0.1110	
0.00	135.00	0.1110	
31.90	134.50	0.1110	
37.07	134.28	0.1110	
50.37	134.19	0.1110	
65.47	134.50	0.1110	
85.81	134.00	0.1110	
128.41	131.00	0.1110	
135.25	130.00	0.1110	
136.03	129.98	0.1110 /0.0490	Main Channel
139.71	129.30	0.0490	Main Channel
144.95	129.30	0.0490	Main Channel
145.11	129.76	0.0490 /0.1110	Main Channel
150.30	130.50	0.1110	
165.12	134.00	0.1110	
169.18	134.50	0.1110	
187.64	135.50	0.1110	
226.77	135.49	0.1110	
233.13	135.35	0.1110	
285.67	136.55	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	129.53	.178E+04	0.6	0.41	52.79
0.46	129.76	.396E+04	1.9	0.62	35.44
0.86	130.16	.958E+04	6.3	0.86	25.49
1.26	130.56	.182E+05	13.9	1.00	21.93
1.66	130.96	.294E+05	24.6	1.10	19.93
2.06	131.36	.435E+05	38.4	1.16	18.89
2.46	131.76	.615E+05	56.1	1.20	18.27
2.86	132.16	.834E+05	78.2	1.23	17.77
3.26	132.56	.109E+06	105.0	1.26	17.31
3.66	132.96	.139E+06	137.0	1.30	16.87
4.05	133.35	.172E+06	174.4	1.33	16.44
4.45	133.75	.209E+06	217.8	1.37	16.02
4.85	134.15	.251E+06	263.1	1.38	15.89

5.25	134.55	.312E+06	297.4	1.25	17.51
5.65	134.95	.395E+06	363.3	1.21	18.13
6.05	135.35	.490E+06	459.6	1.23	17.78
6.45	135.75	.609E+06	550.5	1.19	18.43
6.85	136.15	.745E+06	696.6	1.23	17.82
7.25	136.55	.890E+06	863.1	1.27	17.19

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3314)	1453.70	86.87	5.25	77.98	2.99	1.24
OUTFLOW: ID= 1 (5349)	1453.70	77.09	5.50	77.98	2.84	1.23

CALIB | STANDHYD (0349) | Area (ha)= 324.03 | ID= 1 DT=15.0 min | Total Imp(%)= 44.00 Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	142.57	181.46	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.30	
Length	(m)=	1469.76	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	37.55	
over (min)		15.00	30.00	
Storage Coeff. (min)=		16.20 (ii)	93.60 (ii)	
Unit Hyd. Tpeak (min)=		15.00	90.00	
Unit Hyd. peak (cms)=		0.07	0.01	
				TOTALS
PEAK FLOW	(cms)=	13.35	7.99	17.454 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	87.54	57.86	68.84
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.65	0.78

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2349)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0349):	324.03	17.454	5.25	68.84
+ ID2= 2 (5349):	1453.70	77.095	5.50	77.98
ID = 3 (2349):	1777.73	93.270	5.25	76.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5364) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5364.0) ------>

Distance	Elevation	Manning	
0.00	131.00	0.1110	
136.00	129.99	0.1110	
155.89	129.00	0.1110	
172.09	127.83	0.1110	
181.41	127.29	0.1110	
190.94	127.00	0.1110	
195.38	127.00	0.1110	
195.81	126.76	0.1110	
198.20	126.00	0.1110 /0.0490	Main Channel
200.00	125.00	0.0490	Main Channel
207.00	125.00	0.0490	Main Channel
207.99	126.00	0.0490 /0.1110	Main Channel
210.39	126.42	0.1110	
214.18	126.91	0.1110	
215.71	127.00	0.1110	
249.46	127.00	0.1110	
263.00	128.00	0.1110	
269.13	129.00	0.1110	
275.81	129.51	0.1110	
283.52	130.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	125.25	.202E+04	1.0	0.57	32.17
0.50	125.50	.422E+04	3.3	0.87	21.07
0.75	125.75	.662E+04	6.6	1.10	16.62
1.00	126.00	.922E+04	10.9	1.29	14.13
1.27	126.27	.124E+05	17.1	1.51	12.10
1.53	126.53	.163E+05	24.7	1.66	11.04
1.80	126.80	.211E+05	33.6	1.75	10.45
2.07	127.07	.296E+05	43.4	1.61	11.37
2.33	127.33	.494E+05	60.0	1.33	13.74
2.60	127.60	.721E+05	82.1	1.25	14.64
2.87	127.87	.971E+05	109.3	1.23	14.82
3.13	128.13	.124E+06	142.1	1.25	14.58
3.40	128.40	.153E+06	180.5	1.29	14.15
3.67	128.67	.184E+06	223.9	1.34	13.67
3.93	128.93	.216E+06	272.5	1.39	13.19
4.20	129.20	.249E+06	323.7	1.42	12.85
4.47	129.47	.286E+06	379.6	1.46	12.55
4.73	129.73	.325E+06	440.5	1.49	12.29
5.00	130.00	.367E+06	506.2	1.52	12.08

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2349)	1777.73	93.27	5.25	76.31	2.71	1.24
OUTFLOW: ID= 1 (5364)	1777.73	85.69	5.50	76.31	2.64	1.25

CALIB | STANDHYD (0364) | Area (ha)= 187.80 | ID= 1 DT=15.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	93.90	93.90
Dep. Storage	(mm)=	1.00	4.00

Average Slope	(%)=	1.00	2.90
Length	(m)=	1118.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	41.38
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	82.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	8.64	4.95 11.300 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	87.54	61.80 72.36
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.70 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2364)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0364):	187.80	11.300	5.25	72.36
+ ID2= 2 (5364):	1777.73	85.692	5.50	76.31
ID = 3 (2364):	1965.53	93.678	5.50	75.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5361) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5361.0) ------>

Distance	Elevation	Manning	
0.00	129.00	0.1110	
0.38	129.00	0.1110	
13.51	128.00	0.1110	
18.25	127.00	0.1110	
41.14	126.00	0.1110	
49.43	125.20	0.1110	
51.30	125.00	0.1110	
54.61	124.00	0.1110	
56.73	124.00	0.1110 /0.0490	Main Channel
61.39	123.80	0.0490	Main Channel
63.13	123.80	0.0490	Main Channel
64.17	124.00	0.0490 /0.1110	Main Channel
65.93	124.00	0.1110	
70.09	124.99	0.1110	
70.11	124.99	0.1110	
70.14	125.00	0.1110	
73.16	125.00	0.1110	
79.53	125.23	0.1110	
104.69	126.00	0.1110	

114.76 128.97 0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	124.00	.961E+03	0.4	0.42	41.30
0.46	124.26	.433E+04	2.9	0.71	24.65
0.72	124.52	.823E+04	7.3	0.93	18.67
0.98	124.78	.127E+05	13.5	1.11	15.69
1.25	125.05	.178E+05	20.6	1.21	14.43
1.51	125.31	.256E+05	30.0	1.22	14.25
1.77	125.57	.364E+05	42.4	1.22	14.31
2.03	125.83	.503E+05	58.5	1.22	14.32
2.29	126.09	.672E+05	79.0	1.23	14.16
2.55	126.35	.862E+05	104.9	1.27	13.69
2.82	126.62	.107E+06	135.5	1.32	13.16
3.08	126.88	.130E+06	171.1	1.38	12.65
3.34	127.14	.154E+06	212.9	1.44	12.08
3.60	127.40	.179E+06	260.6	1.52	11.48
3.86	127.66	.205E+06	312.9	1.60	10.93
4.12	127.92	.232E+06	369.6	1.67	10.45
4.39	128.19	.259E+06	428.4	1.73	10.06
4.65	128.45	.287E+06	490.9	1.79	9.74
4.91	128.71	.316E+06	558.1	1.85	9.45

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2364)	1965.53	93.68	5.50	75.94	2.44	1.26
OUTFLOW: ID= 1 (5361)	1965.53	90.99	5.75	75.94	2.41	1.25

CALIB STANDHYD (0361) ID= 1 DT=15.0 min	Area (ha)= 35.90	Total Imp(%)= 46.00	Dir. Conn.(%)= 37.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.51	19.39
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.40
Length (m)=	489.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	30.54
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	47.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	1.50	0.96	2.337 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	87.54	43.73	59.94
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.49	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2361) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0361):	35.90	2.337	5.25	59.94
+ ID2= 2 (5361):	1965.53	90.992	5.75	75.94
ID = 3 (2361):	2001.43	92.403	5.75	75.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5357) IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (5357.0) ------>

Distance	Elevation	Manning	
0.00	123.98	0.1110	
7.26	122.14	0.1110	
10.93	121.00	0.1110	
13.86	120.00	0.1110	
18.79	119.00	0.1110	
24.81	118.00	0.1110	
26.76	117.00	0.1110	
28.16	117.00	0.1110 /0.0490	Main Channel
29.00	116.20	0.0490	Main Channel
34.00	116.20	0.0490	Main Channel
34.48	117.00	0.0490 /0.1110	Main Channel
36.38	117.00	0.1110	
39.42	118.00	0.1110	
44.78	119.00	0.1110	
47.65	120.00	0.1110	
50.41	121.00	0.1110	
57.87	121.95	0.1110	
58.40	122.00	0.1110	
58.65	122.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	116.47	.174E+04	0.9	0.64	32.42
0.53	116.73	.363E+04	2.8	0.97	21.46
0.80	117.00	.566E+04	5.5	1.22	17.09
1.11	117.31	.973E+04	10.5	1.35	15.49
1.42	117.62	.144E+05	17.0	1.48	14.11
1.74	117.94	.197E+05	25.1	1.59	13.07
2.05	118.25	.258E+05	34.5	1.67	12.49
2.36	118.56	.334E+05	45.7	1.72	12.15
2.67	118.87	.423E+05	59.1	1.75	11.91
2.99	119.19	.525E+05	75.1	1.79	11.65
3.30	119.50	.637E+05	93.5	1.84	11.35
3.61	119.81	.759E+05	114.3	1.88	11.06
3.92	120.12	.889E+05	137.6	1.94	10.77
4.24	120.44	.103E+06	163.7	1.99	10.46
4.55	120.75	.117E+06	192.3	2.05	10.17
4.86	121.06	.133E+06	222.6	2.10	9.92
5.17	121.37	.149E+06	253.5	2.13	9.79
5.49	121.69	.167E+06	287.6	2.16	9.66

5.80 122.00 .186E+06 324.8 2.19 9.53

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2361)	2001.43	92.40	5.75	75.65	3.28	1.83
OUTFLOW: ID= 1 (5357)	2001.43	91.02	6.00	75.65	3.26	1.83

CALIB STANDHYD (0357) ID= 1 DT=15.0 min	Area (ha)= 135.25	Total Imp(%)= 57.00	Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	77.09	58.16
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.10
Length (m)=	949.56	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	37.66
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	7.61	2.92	9.409 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	87.54	55.78	71.66
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.63	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2357) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0357):	135.25	9.409	5.25	71.66
+ ID2= 2 (5357):	2001.43	91.022	6.00	75.65
ID = 3 (2357):	2136.68	96.255	6.00	75.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5363) IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (5363.0) ------>

Distance	Elevation	Manning
0.00	116.00	0.1110

3.24	115.00	0.1110
7.85	114.00	0.1110
11.35	113.00	0.1110
15.57	112.00	0.1110
15.63	111.99	0.1110
15.65	111.98	0.1110
20.70	111.00	0.1110
22.85	111.00	0.1110 /0.0490 Main Channel
26.11	110.00	0.0490 Main Channel
29.00	110.00	0.0490 Main Channel
29.19	111.00	0.0490 /0.1110 Main Channel
32.26	111.00	0.1110
35.40	112.00	0.1110
37.70	112.15	0.1110
53.24	113.00	0.1110
53.72	113.00	0.1110
79.32	114.00	0.1110
92.95	115.00	0.1110
115.26	115.98	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	110.25	.368E+03	0.8	0.92	8.07
0.50	110.50	.833E+03	2.5	1.34	5.51
0.75	110.75	.139E+04	5.2	1.66	4.46
1.00	111.00	.205E+04	8.9	1.92	3.85
1.33	111.33	.395E+04	17.7	1.98	3.73
1.66	111.66	.627E+04	29.9	2.12	3.49
2.00	112.00	.898E+04	45.6	2.26	3.28
2.33	112.33	.124E+05	64.0	2.29	3.23
2.66	112.66	.169E+05	87.7	2.31	3.21
2.99	112.99	.225E+05	117.5	2.32	3.19
3.32	113.32	.294E+05	153.2	2.31	3.20
3.66	113.66	.377E+05	197.3	2.32	3.19
3.99	113.99	.475E+05	250.6	2.34	3.16
4.32	114.32	.584E+05	316.2	2.40	3.08
4.65	114.65	.703E+05	391.6	2.47	2.99
4.98	114.98	.830E+05	476.9	2.55	2.90
5.32	115.32	.968E+05	568.4	2.61	2.84
5.65	115.65	.112E+06	671.3	2.66	2.78
5.98	115.98	.128E+06	786.6	2.72	2.72

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2357)	2136.68	96.25	6.00	75.40	2.76	2.31
OUTFLOW: ID= 1 (5363)	2136.68	96.20	6.00	75.40	2.76	2.31

CALIB STANDHYD (0363) ID= 1 DT=15.0 min	Area (ha)= 99.54	Total Imp(%)= 71.00	Dir. Conn.(%)= 68.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	70.67	28.87
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	814.62	40.00
Mannings n =	0.013	0.250

407 TWY 3 - Etobicoke - 12hr AES (EX)

Max.Eff.Inten.(mm/hr)=	40.71	39.57	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.60 (ii)	74.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	7.61	1.58	8.628 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	87.54	63.60	79.88
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2363)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0363):	99.54	8.628	5.25	79.88
+ ID2= 2 (5363):	2136.68	96.200	6.00	75.40
ID = 3 (2363):	2236.22	100.094	6.00	75.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5368)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5368.0) ------>

Distance	Elevation	Manning	
0.00	109.72	0.1110	
5.88	105.92	0.1110	
7.79	105.00	0.1110	
12.32	103.17	0.1110	
12.72	103.00	0.1110	
26.16	103.00	0.1110	
40.07	102.16	0.1110	
41.21	102.13	0.1110	
42.95	102.00	0.1110	
44.48	102.00	0.1110 /0.0490	Main Channel
46.98	101.70	0.0490	Main Channel
51.64	101.70	0.0490	Main Channel
52.36	102.00	0.0490 /0.1110	Main Channel
52.69	102.00	0.1110	
54.36	102.70	0.1110	
55.02	103.00	0.1110	
55.44	103.16	0.1110	
57.25	104.00	0.1110	
67.26	109.40	0.1110	
68.34	109.93	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

407 TWY 3 - Etobicoke - 12hr AES (EX)

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.30	102.00	.139E+04	1.7	0.91	13.57
0.71	102.41	.548E+04	9.9	1.33	9.25
1.11	102.81	.119E+05	25.0	1.55	7.96
1.52	103.22	.226E+05	48.0	1.57	7.85
1.93	103.63	.359E+05	85.5	1.76	7.00
2.33	104.03	.498E+05	132.8	1.97	6.24
2.74	104.44	.641E+05	189.4	2.18	5.64
3.14	104.84	.791E+05	254.7	2.38	5.17
3.55	105.25	.945E+05	328.7	2.57	4.79
3.96	105.66	.110E+06	411.1	2.75	4.48
4.36	106.06	.127E+06	501.8	2.92	4.21
4.77	106.47	.144E+06	600.9	3.09	3.98
5.18	106.88	.161E+06	707.8	3.25	3.79
5.58	107.28	.179E+06	822.5	3.40	3.62
5.99	107.69	.197E+06	944.7	3.55	3.47
6.39	108.09	.215E+06	1074.5	3.69	3.34
6.80	108.50	.234E+06	1211.9	3.82	3.22
7.21	108.91	.253E+06	1356.7	3.95	3.11
7.61	109.31	.273E+06	1509.1	4.08	3.02

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2363)	2236.22	100.09	6.00	75.60	2.05	1.82
OUTFLOW: ID= 1 (5368)	2236.22	99.41	6.25	75.60	2.04	1.81

CALIB
STANDHYD (0368)
ID= 1 DT=15.0 min | Area (ha)= 23.76 Total Imp(%)= 64.00 Dir. Conn.(%)= 64.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	15.21	8.55
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	8.50
Length (m)=	397.99	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	32.99	
over (min)	15.00	15.00	
Storage Coeff. (min)=	5.40 (ii)	31.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.11	0.04	
			TOTALS
PEAK FLOW (cms)=	1.72	0.59	2.305 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	56.77	76.46
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.64	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---

407 TWY 3 - Etobicoke - 12hr AES (EX)

ADD HYD (2368)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0368):	23.76	2.305	5.25	76.46
+ ID2= 2 (5368):	2236.22	99.410	6.25	75.60
ID = 3 (2368):	2259.98	100.211	6.25	75.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1365)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2355):	19023.40	297.262	9.25	60.98
+ ID2= 2 (2368):	2259.98	100.211	6.25	75.60
ID = 3 (1365):	21283.38	334.427	8.75	62.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5365)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5365.0) ------>

Distance	Elevation	Manning	
0.00	110.00	0.1110	
7.40	110.00	0.1110	
15.33	109.51	0.1110	
47.93	98.00	0.1110	
65.73	98.00	0.1110	
114.24	97.34	0.1110	
131.22	97.00	0.1110	
141.72	95.00	0.1110 /0.0490	Main Channel
142.05	94.60	0.0490	Main Channel
155.43	94.60	0.0490	Main Channel
155.44	95.00	0.0490 /0.1110	Main Channel
161.18	95.00	0.1110	
168.95	96.00	0.1110	
203.06	97.00	0.1110	
211.77	97.00	0.1110	
222.30	108.79	0.1110	
223.07	109.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	95.00	.538E+04	4.5	0.83	19.81
1.14	95.74	.231E+05	29.7	1.27	12.99
1.87	96.47	.508E+05	74.2	1.45	11.41
2.61	97.21	.101E+06	146.9	1.45	11.44
3.35	97.95	.186E+06	275.5	1.47	11.23
4.08	98.68	.306E+06	482.4	1.56	10.57
4.82	99.42	.429E+06	757.2	1.75	9.45
5.56	100.16	.555E+06	1088.0	1.95	8.50
6.29	100.89	.682E+06	1470.4	2.14	7.73
7.03	101.63	.811E+06	1901.3	2.33	7.11
7.77	102.37	.943E+06	2378.5	2.50	6.61

407 TWY 3 - Etobicoke - 12hr AES (EX)

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
8.51	103.11	.108E+07	2900.2	2.68	6.18
9.24	103.84	.121E+07	3465.1	2.84	5.83
9.98	104.58	.135E+07	4071.9	3.00	5.52
10.72	105.32	.149E+07	4719.8	3.15	5.26
11.45	106.05	.163E+07	5407.9	3.29	5.02
12.19	106.79	.177E+07	6135.7	3.43	4.82
12.93	107.53	.192E+07	6902.4	3.57	4.63
13.66	108.26	.207E+07	7707.8	3.70	4.47

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1365)	*******	334.43	8.75	62.53	3.56	1.50
OUTFLOW: ID= 1 (5365)	*******	333.58	9.00	62.53	3.55	1.50

CALIB
STANDHYD (0365)
ID= 1 DT=15.0 min | Area (ha)= 165.69 Total Imp(%)= 59.00 Dir. Conn.(%)= 56.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.76	67.93
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	1051.00	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	33.89	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	71.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
			TOTALS
PEAK FLOW (cms)=	10.45	3.07	12.329 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	87.54	53.97	72.77
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.61	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2365)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0365):	165.69	12.329	5.25	72.77
+ ID2= 2 (5365):	21283.38	333.579	9.00	62.53
ID = 3 (2365):	21449.08	335.038	9.00	62.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0671)  |   Area    (ha)= 266.27
|ID= 1 DT=15.0 min  |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    213.02        53.25
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.70
     Length            (m)=   1332.34        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        35.87
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     14.40 (ii)   84.60 (ii)
     Unit Hyd. Tpeak (min)=     15.00        90.00
     Unit Hyd. peak  (cms)=      0.07         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=     23.85         2.42     25.159 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.25      5.25
     RUNOFF VOLUME    (mm)=     87.54        63.38     82.71
     TOTAL RAINFALL   (mm)=     88.54        88.54     88.54
     RUNOFF COEFFICIENT   =      0.99         0.72      0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| DUHYD     (9671)  |
| Inlet Cap.=*****  |
| #of Inlets=    1  |
| Total(cms)=*****  |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 266.27     25.16      5.25   82.71
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 266.27     25.16      5.25   82.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (6671)  |
| IN= 2---> OUT= 1  |
| DT= 15.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000      0.0000   |  3.4020      9.4300
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9671)    266.270     25.159      5.25      82.71
     OUTFLOW: ID= 1 (6671)    266.270      5.007      7.50      82.71

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.90
                TIME SHIFT OF PEAK FLOW         (min)=135.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 13.9043
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-------------------
| ADD HYD   (4671)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9671 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6671):   266.27   5.007     7.50    82.71
       + ID2= 2 (9671):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4671):   266.27   5.007     7.50    82.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1372)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2365): 21449.08 335.038     9.00    62.61
       + ID2= 2 (4671):   266.27   5.007     7.50    82.71
         ================================================
         ID = 3 (1372): 21715.35 339.714     9.00    62.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5372)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (5372.0) ------>
               Distance      Elevation       Manning
                   0.00         105.00        0.1110
                  20.51          95.49        0.1110
                  91.87          93.94        0.1110
                  96.84          93.74        0.1110
                 105.67          92.57        0.1110
                 106.66          92.00    0.1110 /0.0490  Main Channel
                 109.09          90.50        0.0490      Main Channel
                 122.15          90.50        0.0490      Main Channel
                 123.13          92.00    0.0490 /0.1110  Main Channel
                 127.73          92.00        0.1110
                 158.37          93.00        0.1110
                 213.54          94.00        0.1110
                 217.83          95.00        0.1110
                 233.02         105.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
       0.75     91.25    .531E+04        25.0         2.40        3.53
       1.50     92.00    .113E+05        79.9         3.61        2.35
       2.26     92.76    .243E+05       179.6         3.75        2.26
       3.03     93.53    .500E+05       338.8         3.44        2.46
       3.79     94.29    .949E+05       604.9         3.24        2.62
       4.56     95.06    .157E+06      1023.9         3.33        2.55
       5.32     95.82    .231E+06      1611.1         3.54        2.39
       6.09     96.59    .310E+06      2362.5         3.88        2.18
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```
       6.85     97.35    .389E+06      3246.6         4.25        2.00
       7.62     98.12    .469E+06      4254.1         4.61        1.84
       8.38     98.88    .550E+06      5378.1         4.97        1.71
       9.15     99.65    .633E+06      6613.7         5.32        1.59
       9.91    100.41    .716E+06      7956.7         5.65        1.50
      10.68    101.18    .801E+06      9403.9         5.97        1.42
      11.44    101.94    .887E+06     10952.7         6.28        1.35
      12.21    102.71    .974E+06     12600.7         6.58        1.29
      12.97    103.47    .106E+07     14346.0         6.88        1.23
      13.74    104.24    .115E+07     16186.9         7.16        1.18
      14.50    105.00    .124E+07     18122.2         7.43        1.14

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1372) *******   339.71    9.00  62.86      3.03      3.44
     OUTFLOW: ID= 1 (5372) *******   339.74    9.00  62.86      3.03      3.45


-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0372)  |   Area    (ha)=  47.90
|ID= 1 DT=15.0 min  |   Total Imp(%)=  49.00   Dir. Conn.(%)=  41.00
-------------------

                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.47        24.43
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         5.50
     Length            (m)=    565.10        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        34.43
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      7.20 (ii)   43.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.22         1.45      3.512 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50      5.25
     RUNOFF VOLUME    (mm)=     87.54        50.46     65.67
     TOTAL RAINFALL   (mm)=     88.54        88.54     88.54
     RUNOFF COEFFICIENT   =      0.99         0.57      0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (2372)  |
|   1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0372):    47.90   3.512     5.25    65.67
       + ID2= 2 (5372): 21715.35 339.738     9.00    62.86
         ================================================
         ID = 3 (2372): 21763.24 340.054     9.00    62.87
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5373)  |
| IN= 2---> OUT= 1  |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (5373.0) ------>
               Distance      Elevation       Manning
                   0.00         101.00        0.1110
                  12.77          94.00        0.1110
                  32.99          89.39        0.1110
                  76.52          87.19        0.1110
                  79.48          87.00        0.1110
                  80.86          86.13        0.1110
                  81.09          86.00        0.1110
                  81.97          86.00    0.1110 /0.0490  Main Channel
                  82.61          85.50        0.0490      Main Channel
                  88.00          85.50        0.0490      Main Channel
                  89.14          86.00    0.0490 /0.1110  Main Channel
                  95.90          86.00        0.1110
                 106.27          87.00        0.1110
                 106.34          87.01        0.1110
                 117.67          87.86        0.1110
                 158.30          88.14        0.1110
                 158.41          88.15        0.1110
                 185.29         101.86        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)        (m/s)       (min)
       0.50     86.00    .231E+04         2.5         0.81       15.12
       1.29     86.79    .137E+05        18.4         0.99       12.36
       2.08     87.58    .328E+05        49.8         1.12       11.00
       2.87     88.37    .764E+05       104.1         1.00       12.24
       3.66     89.16    .143E+06       224.2         1.16       10.62
       4.45     89.95    .217E+06       398.3         1.35        9.10
       5.24     90.74    .295E+06       619.7         1.55        7.94
       6.03     91.53    .376E+06       883.1         1.73        7.10
       6.82     92.32    .460E+06      1187.0         1.90        6.45
       7.61     93.11    .546E+06      1530.0         2.06        5.95
       8.39     93.89    .636E+06      1911.6         2.21        5.54
       9.18     94.68    .728E+06      2340.7         2.37        5.18
       9.97     95.47    .821E+06      2808.2         2.52        4.87
      10.76     96.26    .917E+06      3312.0         2.66        4.61
      11.55     97.05    .101E+07      3851.3         2.80        4.39
      12.34     97.84    .111E+07      4425.6         2.93        4.19
      13.13     98.63    .121E+07      5034.5         3.05        4.02
      13.92     99.42    .132E+07      5677.8         3.18        3.86
      14.71    100.21    .142E+07      6355.0         3.30        3.72

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2372) *******   340.05    9.00  62.87      4.18      1.28
     OUTFLOW: ID= 1 (5373) *******   339.45    9.00  62.87      4.17      1.27


-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0373)  |   Area    (ha)=  86.20
|ID= 1 DT=15.0 min  |   Total Imp(%)=  35.00   Dir. Conn.(%)=  28.00
-------------------
```

```
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       30.17         56.03
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.10
     Length            (m)=      758.07         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       40.71         26.97
               over (min)         15.00         30.00
     Storage Coeff.  (min)=      10.20 (ii)    58.20 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.09          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=        2.72          2.15          4.269 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=       87.54         40.39         53.59
     TOTAL RAINFALL   (mm)=       88.54         88.54         88.54
     RUNOFF COEFFICIENT   =        0.99          0.46          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  71.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2373) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0373):    86.20   4.269     5.25     53.59
       + ID2= 2 (5373): 21763.24 339.446     9.00     62.87
         ================================================
         ID = 3 (2373): 21849.45 340.116     9.00     62.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5374) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5374.0) ------>
               Distance      Elevation       Manning
                   0.00         98.97        0.1110
                  36.91         86.49        0.1110
                 134.42         84.00    0.1110 /0.0490  Main Channel
                 141.69         83.20        0.0490      Main Channel
                 152.50         83.20        0.0490      Main Channel
                 159.42         84.00    0.0490 /0.1110  Main Channel
                 175.53         98.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40    83.60    .239E+04       4.2          0.73       9.54
       0.80    84.00    .596E+04      15.3          1.07       6.49
       1.62    84.82    .202E+05      72.8          1.50       4.63
       2.45    85.65    .459E+05     179.3          1.63       4.26
```



```
      3.27    86.47    .829E+05     344.5          1.73       4.01
      4.09    87.29    .126E+06     593.4          1.95       3.55
      4.92    88.12    .171E+06     902.7          2.20       3.16
      5.74    88.94    .217E+06    1267.1          2.43       2.85
      6.56    89.76    .264E+06    1683.7          2.66       2.61
      7.39    90.59    .312E+06    2150.3          2.87       2.42
      8.21    91.41    .362E+06    2665.3          3.07       2.26
      9.04    92.24    .412E+06    3227.6          3.26       2.13
      9.86    93.06    .464E+06    3836.1          3.44       2.01
     10.68    93.88    .516E+06    4490.2          3.62       1.92
     11.51    94.71    .570E+06    5189.2          3.79       1.83
     12.33    95.53    .626E+06    5932.8          3.95       1.76
     13.15    96.35    .682E+06    6720.5          4.10       1.69
     13.98    97.18    .739E+06    7552.1          4.25       1.63
     14.80    98.00    .798E+06    8427.5          4.40       1.58

                                <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2373) *******   340.12    9.00  62.83      3.25      1.73
     OUTFLOW: ID= 1 (5374) *******   340.12    9.25  62.83      3.25      1.73


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0673) |   Area    (ha)= 211.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      137.64         74.11
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          1.60
     Length            (m)=     1188.14         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       40.71         41.49
               over (min)         15.00         30.00
     Storage Coeff.  (min)=      17.40 (ii)   103.20 (ii)
     Unit Hyd. Tpeak (min)=       15.00        105.00
     Unit Hyd. peak  (cms)=        0.07          0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=       13.61          3.42         15.143 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.50          5.25
     RUNOFF VOLUME    (mm)=       87.54         60.67         76.25
     TOTAL RAINFALL   (mm)=       88.54         88.54         88.54
     RUNOFF COEFFICIENT   =        0.99          0.69          0.86


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9673) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 211.75     15.14      5.25   76.25
```



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     ========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 211.75     15.14      5.25   76.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6673) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  1.7310      6.2000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9673)    211.750    15.143      5.25      76.25
     OUTFLOW: ID= 1 (6673)    211.750     2.865      8.50      76.25

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.92
               TIME SHIFT OF PEAK FLOW         (min)=195.00
               MAXIMUM  STORAGE   USED       (ha.m.)= 10.2665

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (4673) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9673 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6673):   211.75   2.865     8.50     76.25
       + ID2= 2 (9673):     0.00   0.000     0.00      0.00
         ================================================
         ID = 3 (4673):   211.75   2.865     8.50     76.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1374) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (4673):   211.75   2.865     8.50     76.25
       + ID2= 2 (5374): 21849.45 340.116     9.25     62.83
         ================================================
         ID = 3 (1374): 22061.20 342.958     9.25     62.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0374) |   Area    (ha)=  32.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       14.69         17.95
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.80
```



```
     Length            (m)=      466.48         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       40.71         35.46
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       7.20 (ii)    42.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         45.00
     Unit Hyd. peak  (cms)=        0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.29          1.12          2.293 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=       87.54         50.96         63.76
     TOTAL RAINFALL   (mm)=       88.54         88.54         88.54
     RUNOFF COEFFICIENT   =        0.99          0.58          0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2374) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0374):    32.64   2.293     5.25     63.76
       + ID2= 2 (1374): 22061.20 342.958     9.25     62.96
         ================================================
         ID = 3 (2374): 22093.83 343.153     9.25     62.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5396.0) ------>
               Distance      Elevation       Manning
                   0.00         97.95        0.1110
                  17.75         83.00        0.1110
                  23.72         82.08        0.1110
                  24.22         82.00        0.1110
                  25.33         82.00    0.1110 /0.0490  Main Channel
                  26.00         81.40        0.0490      Main Channel
                  33.68         81.40        0.0490      Main Channel
                  35.87         82.00    0.0490 /0.1110  Main Channel
                  43.42         82.00        0.1110
                  69.25         82.98        0.1110
                 140.88         83.00        0.1110
                 166.30         97.94        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.60    82.00    .162E+04       6.3          1.16       4.27
       1.44    82.84    .981E+04      41.2          1.24       3.97
       2.28    83.68    .373E+05     147.1          1.17       4.23
       3.12    84.52    .687E+05     348.9          1.50       3.28
```

3.96	85.36	.101E+06	621.1	1.83	2.70
4.79	86.19	.133E+06	955.6	2.12	2.32
5.63	87.03	.167E+06	1347.8	2.40	2.06
6.47	87.87	.200E+06	1794.3	2.65	1.86
7.31	88.71	.235E+06	2292.7	2.89	1.71
8.15	89.55	.270E+06	2841.1	3.12	1.58
8.99	90.39	.305E+06	3438.9	3.34	1.48
9.83	91.23	.342E+06	4082.2	3.54	1.39
10.67	92.07	.378E+06	4772.8	3.74	1.32
11.51	92.91	.416E+06	5508.8	3.93	1.26
12.35	93.75	.454E+06	6289.6	4.11	1.20
13.18	94.58	.492E+06	7114.7	4.28	1.15
14.02	95.42	.532E+06	7983.6	4.45	1.11
14.86	96.26	.571E+06	8895.9	4.61	1.07
15.70	97.10	.612E+06	9851.2	4.77	1.04

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2374) *******		343.15	9.25	62.96	3.09	1.49
OUTFLOW: ID= 1 (5396) *******		343.39	9.25	62.96	3.09	1.49

CALIB	
STANDHYD (0396)	Area (ha)= 4.65
ID= 1 DT=15.0 min	Total Imp(%)= 17.00 Dir. Conn.(%)= 15.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.79	3.86
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	16.10
Length	(m)=	176.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	23.90
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	0.313 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	45.87
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2396)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0396):	4.65	0.313	5.25	45.87
+ ID2= 2 (5396):	22093.83	343.388	9.25	62.96
ID = 3 (2396):	22098.48	343.405	9.25	62.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0375)	Area (ha)= 52.21
ID= 1 DT=15.0 min	Total Imp(%)= 20.00 Dir. Conn.(%)= 16.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.44	41.77
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.30
Length	(m)=	589.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	19.75
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	46.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.02

		TOTALS
PEAK FLOW	(cms)=	2.030 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	39.89
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1376)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0375):	52.21	2.030	5.25	39.89
+ ID2= 2 (2396):	22098.48	343.405	9.25	62.96
ID = 3 (1376):	22150.69	343.658	9.25	62.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5376)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5376.0) ---------->

Distance	Elevation	Manning

Distance	Elevation	Manning
0.00	85.02	0.1110
7.10	80.04	0.1110
61.55	79.68	0.1110
116.38	79.93	0.1110
143.52	79.00	0.1110
158.92	78.00	0.1110
166.66	76.00	0.1110
167.10	75.50	0.0490 Main Channel
200.00	75.50	0.0490 Main Channel
202.57	76.00	0.0490 /0.1110 Main Channel
207.88	78.85	0.1110
214.22	80.17	0.1110
238.13	81.00	0.1110
277.55	82.00	0.1110
278.31	83.03	0.1110
282.09	84.00	0.1110
288.47	83.19	0.1110
296.01	84.00	0.1110
384.91	84.00	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	75.95	.696E+04	12.6	0.82	9.22
0.89	76.39	.145E+05	41.2	1.30	5.84
1.34	76.84	.225E+05	82.6	1.67	4.54
1.79	77.29	.310E+05	135.2	1.98	3.83
2.24	77.74	.401E+05	198.5	2.25	3.37
2.68	78.18	.498E+05	271.2	2.48	3.06
3.13	78.63	.608E+05	354.3	2.65	2.86
3.58	79.08	.735E+05	448.2	2.77	2.73
4.03	79.53	.888E+05	553.5	2.83	2.68
4.47	79.97	.114E+06	661.9	2.63	2.88
4.92	80.42	.157E+06	829.0	2.40	3.15
5.37	80.87	.202E+06	1031.7	2.32	3.26
5.82	81.32	.250E+06	1266.7	2.30	3.29
6.26	81.76	.302E+06	1534.7	2.31	3.28
6.71	82.21	.357E+06	1840.9	2.35	3.23
7.16	82.66	.412E+06	2183.9	2.41	3.15
7.61	83.11	.468E+06	2556.2	2.48	3.05
8.05	83.55	.525E+06	2944.5	2.55	2.97
8.50	84.00	.584E+06	3359.5	2.61	2.90

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1376) *******		343.66	9.25	62.90	3.07	2.62
OUTFLOW: ID= 1 (5376) *******		343.80	9.25	62.90	3.07	2.62

CALIB	
STANDHYD (0376)	Area (ha)= 61.67
ID= 1 DT=15.0 min	Total Imp(%)= 39.00 Dir. Conn.(%)= 33.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.05	37.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.30
Length	(m)=	641.20	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	31.33	
over (min)	15.00	30.00	
Storage Coeff. (min)=	7.80 (ii)	46.80 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.10	0.02	

		TOTALS
PEAK FLOW	(cms)=	4.020 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	61.06
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2376)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0376):	61.67	4.020	5.25	61.06
+ ID2= 2 (5376):	22150.69	343.800	9.25	62.90
ID = 3 (2376):	22212.36	344.181	9.25	62.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5395)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5395.0) ---------->

Distance	Elevation	Manning
0.00	80.00	0.0700
23.38	80.00	0.0700
28.10	79.57	0.0700
49.96	79.59	0.0700
59.82	79.36	0.0700
73.05	78.62	0.0700
86.41	78.00	0.0700
92.93	77.00	0.0700
131.54	76.00	0.0700
223.71	75.98	0.0700 /0.0490 Main Channel
232.74	74.00	0.0490 Main Channel
260.75	74.00	0.0490 Main Channel
263.06	76.00	0.0490 /0.0700 Main Channel
265.52	76.00	0.0700
297.15	77.04	0.0700
323.06	78.00	0.0700
327.20	79.00	0.0700
341.44	79.37	0.0700
370.62	80.00	0.0700

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.28	74.28	.496E+04	7.0	0.86	11.77
0.57	74.57	.102E+05	22.5	1.34	7.56
0.85	74.85	.157E+05	44.5	1.72	5.88
1.13	75.13	.215E+05	72.6	2.05	4.93
1.41	75.41	.276E+05	106.4	2.35	4.32
1.70	75.70	.339E+05	145.6	2.61	3.88
1.98	75.98	.405E+05	190.4	2.86	3.55
2.31	76.31	.693E+05	278.8	2.45	4.14
2.65	76.65	.103E+06	406.6	2.39	4.24
2.98	76.98	.142E+06	571.0	2.44	4.15
3.32	77.32	.185E+06	780.5	2.57	3.94
3.65	77.65	.229E+06	1027.4	2.72	3.72
3.99	77.99	.276E+06	1310.5	2.88	3.51
4.32	78.32	.325E+06	1625.0	3.04	3.34
4.66	78.66	.376E+06	1974.5	3.19	3.17
4.99	78.99	.428E+06	2362.2	3.35	3.02
5.33	79.33	.483E+06	2754.4	3.46	2.93
5.66	79.66	.544E+06	3054.6	3.41	2.97
6.00	80.00	.613E+06	3561.5	3.53	2.87

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2376) *******		344.18	9.25	62.90	2.49	2.42
OUTFLOW: ID= 1 (5395) *******		343.99	9.25	62.90	2.48	2.42

CALIB STANDHYD (0395)	Area (ha)= 36.20
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	12.67	23.53
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.90
Length (m)=	491.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	34.05
over (min)	15.00	30.00
Storage Coeff. (min)=	7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	1.23	1.40	2.487 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	87.54	54.05	64.09
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.61	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2395)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0395):	36.20	2.487	5.25	64.09
+ ID2= 2 (5395):	22212.36	343.988	9.25	62.90
ID = 3 (2395):	22248.56	344.219	9.25	62.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 7 **
****

READ STORM	Filename: C:\Users\P006437C\AppData\Local\Temp\9f309ab1-fec3-4607-958c-354f894587d2\6563652d
Ptotal=114.00 mm	Comments: 350 Year - 12hr AES Design Storm 15 Min

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	19.38	6.75	7.98	10.00	1.15
0.50	1.15	3.75	19.38	7.00	7.98	10.25	1.15
0.75	1.15	4.00	19.38	7.25	7.98	10.50	1.15
1.00	1.15	4.25	19.38	7.50	4.56	10.75	1.15
1.25	1.15	4.50	52.42	7.75	4.56	11.00	1.15
1.50	1.15	4.75	52.42	8.00	4.56	11.25	1.15
1.75	1.15	5.00	52.42	8.25	4.56	11.50	1.15
2.00	1.15	5.25	52.42	8.50	2.28	11.75	1.15
2.25	1.15	5.50	14.82	8.75	2.28	12.00	1.15
2.50	6.84	5.75	14.82	9.00	2.28	12.25	1.15
2.75	6.84	6.00	14.82	9.25	2.28		
3.00	6.84	6.25	14.82	9.50	1.15		
3.25	6.84	6.50	7.98	9.75	1.15		

CALIB NASHYD (0176)	Area (ha)= 121.04 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.37

Unit Hyd Qpeak (cms)= 3.387

PEAK FLOW (cms)= 4.649 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 54.948
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.482

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0168)	Area (ha)= 103.55 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.80 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.38

Unit Hyd Qpeak (cms)= 2.868

PEAK FLOW (cms)= 3.839 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 53.489
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.469

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0170)	Area (ha)= 31.80 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.10

Unit Hyd Qpeak (cms)= 1.100

PEAK FLOW (cms)= 1.345 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 53.560
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.470

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2176)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0168):	103.55	3.839	6.50	53.49
+ ID2= 2 (0170):	31.80	1.345	6.25	53.56
ID = 3 (2176):	135.35	5.139	6.50	53.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1167)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0176):	121.04	4.649	6.50	54.95
+ ID2= 2 (2176):	135.35	5.139	6.50	53.51
ID = 3 (1167):	256.39	9.788	6.50	54.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5167)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5167.0) ------>

Distance	Elevation	Manning
0.00	262.16	0.0930
17.98	262.04	0.0930
21.42	262.78	0.0930

45.50	262.15	0.0930	
50.47	262.37	0.0930	
76.45	262.32	0.0930	
82.50	261.71	0.0930	
84.15	261.00	0.0930 /0.0410	Main Channel
85.06	260.58	0.0410	Main Channel
85.95	260.18	0.0410	Main Channel
87.25	260.94	0.0410 /0.0930	Main Channel
88.72	261.80	0.0930	
126.19	262.11	0.0930	
151.18	262.60	0.0930	
158.48	262.60	0.0930	
162.67	262.66	0.0930	
162.97	262.66	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	260.31	.213E+02	0.0	0.09	118.24
0.25	260.43	.850E+02	0.0	0.15	74.49
0.38	260.56	.191E+03	0.1	0.20	56.84
0.51	260.69	.340E+03	0.1	0.24	46.86
0.63	260.81	.530E+03	0.2	0.28	40.37
0.76	260.94	.763E+03	0.4	0.31	35.75
0.90	261.08	.107E+04	0.6	0.37	30.02
1.04	261.22	.144E+04	0.9	0.42	26.45
1.18	261.36	.185E+04	1.3	0.46	24.26
1.33	261.51	.233E+04	1.7	0.49	22.76
1.47	261.65	.285E+04	2.2	0.52	21.67
1.61	261.79	.345E+04	2.7	0.53	21.01
1.75	261.93	.488E+04	3.3	0.46	24.35
1.89	262.07	.813E+04	4.3	0.35	31.78
2.03	262.21	.143E+05	5.9	0.28	40.27
2.18	262.36	.227E+05	8.3	0.25	45.66
2.32	262.50	.347E+05	12.1	0.23	47.80
2.46	262.64	.483E+05	16.8	0.23	47.89
2.60	262.78	.635E+05	23.6	0.25	44.82

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1167)	256.39	9.79	6.50	54.19	2.23	0.24
OUTFLOW: ID= 1 (5167)	256.39	8.07	7.25	54.18	2.17	0.25

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB NASHYD (0167)	Area (ha)= 45.12 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 9.10 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.67

Unit Hyd Qpeak (cms)= 2.588

PEAK FLOW (cms)= 2.741 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 56.609
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.497

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (2167) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0167):    45.12   2.741     5.50     56.61
      + ID2= 2 (5167):   256.39   8.074     7.25     54.18
        ================================================
        ID = 3 (2167):   301.51   9.260     6.75     54.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| NASHYD    (0147) |   Area    (ha)=  71.89   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.38

    Unit Hyd Qpeak  (cms)=   1.996

    PEAK FLOW       (cms)=   2.689 (i)
    TIME TO PEAK    (hrs)=   6.500
    RUNOFF VOLUME    (mm)=  53.870
    TOTAL RAINFALL   (mm)= 114.001
    RUNOFF COEFFICIENT   =   0.473

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (1153) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0147):    71.89   2.689     6.50     53.87
      + ID2= 2 (2167):   301.51   9.260     6.75     54.55
        ================================================
        ID = 3 (1153):   373.40  11.909     6.75     54.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5153) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5153.0) ------>
              Distance      Elevation       Manning
                  0.00         265.12        0.0930
                 61.22         264.43        0.0930
                 92.80         264.46        0.0930
                229.62         263.26        0.0930
                264.40         263.29        0.0930
                313.73         261.28        0.0930
                323.84         261.53        0.0930
                325.29         261.12    0.0930 /0.0410  Main Channel
                327.44         260.56        0.0410      Main Channel
                330.20         261.79    0.0410 /0.0930  Main Channel
                418.41         263.95        0.0930
                464.80         264.28        0.0930
                495.72         265.14        0.0930
```



```
      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.19   260.75    .661E+02        0.1         0.53      19.62
       0.37   260.93    .265E+03        0.4         0.84      12.36
       0.56   261.12    .595E+03        1.1         1.10       9.43
       0.81   261.37    .140E+04        3.0         1.33       7.83
       1.06   261.62    .434E+04        7.3         1.04       9.96
       1.31   261.87    .875E+04       15.4         1.10       9.47
       1.56   262.12    .154E+05       28.4         1.15       9.00
       1.81   262.37    .245E+05       47.4         1.21       8.62
       2.06   262.62    .362E+05       73.6         1.27       8.21
       2.31   262.87    .505E+05      108.0         1.33       7.79
       2.56   263.12    .673E+05      151.7         1.41       7.39
       2.81   263.37    .891E+05      180.7         1.27       8.22
       3.06   263.62    .120E+06      251.0         1.31       7.96
       3.31   263.87    .157E+06      341.6         1.36       7.64
       3.56   264.12    .200E+06      442.6         1.38       7.54
       3.81   264.37    .254E+06      578.1         1.42       7.31
       4.06   264.62    .317E+06      738.9         1.45       7.15
       4.31   264.87    .387E+06      966.8         1.56       6.67
       4.56   265.12    .462E+06     1227.8         1.66       6.27

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1153)  373.40   11.91    6.75  54.42      1.20      1.07
    OUTFLOW: ID= 1 (5153)  373.40   11.85    7.00  54.42      1.20      1.07

--------------------
| CALIB            |
| NASHYD    (0153) |   Area    (ha)=  34.14   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.72

    Unit Hyd Qpeak  (cms)=   1.809

    PEAK FLOW       (cms)=   1.843 (i)
    TIME TO PEAK    (hrs)=   5.500
    RUNOFF VOLUME    (mm)=  53.443
    TOTAL RAINFALL   (mm)= 114.001
    RUNOFF COEFFICIENT   =   0.469

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (2153) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0153):    34.14   1.843     5.50     53.44
      + ID2= 2 (5153):   373.40  11.853     7.00     54.42
        ================================================
        ID = 3 (2153):   407.54  12.935     6.75     54.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD    (0140) |   Area    (ha)= 157.95   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.60

    Unit Hyd Qpeak  (cms)=   3.782

    PEAK FLOW       (cms)=   5.480 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  54.872
    TOTAL RAINFALL   (mm)= 114.001
    RUNOFF COEFFICIENT   =   0.481

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (1132) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0140):   157.95   5.480     6.75     54.87
      + ID2= 2 (2153):   407.54  12.935     6.75     54.33
        ================================================
        ID = 3 (1132):   565.49  18.415     6.75     54.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ROUTE CHN (5132) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5132.0) ------>
              Distance      Elevation       Manning
                  0.00         265.71        0.0930
                157.54         260.12    0.0930 /0.0410  Main Channel
                162.96         260.04        0.0410      Main Channel
                165.46         260.06    0.0410 /0.0930  Main Channel
                230.27         261.15        0.0930
                271.12         261.23        0.0930
                301.57         261.74        0.0930
                340.02         262.22        0.0930
                355.40         262.69        0.0930
                390.99         263.30        0.0930

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.02   260.06    .461E+02        0.0         0.04     507.91
       0.19   260.23    .275E+04        0.4         0.17     118.51
       0.36   260.40    .859E+04        1.6         0.22      91.47
       0.53   260.57    .175E+05        3.7         0.25      79.15
       0.70   260.74    .294E+05        6.9         0.28      71.09
       0.87   260.91    .444E+05       11.4         0.31      65.09
       1.04   261.08    .624E+05       17.2         0.33      60.33
       1.21   261.25    .862E+05       22.8         0.32      63.13
       1.38   261.42    .118E+06       33.6         0.34      58.33
       1.55   261.59    .152E+06       46.8         0.37      54.18
       1.73   261.77    .190E+06       62.3         0.39      50.75
       1.90   261.94    .231E+06       79.9         0.41      48.16
       2.07   262.11    .276E+06      100.2         0.43      45.88
       2.24   262.28    .324E+06      124.0         0.46      43.60
```



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       2.41   262.45    .375E+06      152.0         0.48      41.16
       2.58   262.62    .428E+06      182.8         0.51      39.06
       2.75   262.79    .484E+06      215.5         0.53      37.42
       2.92   262.96    .542E+06      250.3         0.55      36.09
       3.09   263.13    .603E+06      288.3         0.57      34.89

                                <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)  (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1132)  565.49   18.41    6.75  54.48      1.08      0.33
    OUTFLOW: ID= 1 (5132)  565.49   15.87    7.75  54.48      1.00      0.32

--------------------
| CALIB            |
| NASHYD    (0132) |   Area    (ha)=  78.02   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.87

    Unit Hyd Qpeak  (cms)=   3.421

    PEAK FLOW       (cms)=   3.812 (i)
    TIME TO PEAK    (hrs)=   5.750
    RUNOFF VOLUME    (mm)=  53.622
    TOTAL RAINFALL   (mm)= 114.001
    RUNOFF COEFFICIENT   =   0.470

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ADD HYD   (2132) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0132):    78.02   3.812     5.75     53.62
      + ID2= 2 (5132):   565.49  15.871     7.75     54.48
        ================================================
        ID = 3 (2132):   643.51  17.685     7.50     54.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| CALIB            |
| NASHYD    (0108) |   Area    (ha)=  82.89   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min |   Ia      (mm)=  10.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.34

    Unit Hyd Qpeak  (cms)=   2.368

    PEAK FLOW       (cms)=   3.091 (i)
    TIME TO PEAK    (hrs)=   6.500
    RUNOFF VOLUME    (mm)=  52.802
    TOTAL RAINFALL   (mm)= 114.001
    RUNOFF COEFFICIENT   =   0.463

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| ROUTE CHN (5118) |
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| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5118.0) ---------->

Distance	Elevation	Manning	
0.00	264.29	0.0930	
54.59	264.08	0.0930	
195.91	262.32	0.0930	
196.76	262.30	0.0930	
198.83	261.60	0.0930 /0.0410	Main Channel
200.27	261.11	0.0410	Main Channel
204.45	262.14	0.0410 /0.0930	Main Channel
207.10	262.78	0.0930	
228.84	263.27	0.0930	
329.55	263.73	0.0930	
365.52	264.37	0.0930	
372.71	264.35	0.0930	
402.90	265.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	261.27	.156E+03	0.0	0.29	97.17
0.33	261.44	.623E+03	0.2	0.45	61.21
0.49	261.60	.140E+04	0.5	0.60	46.71
0.66	261.77	.253E+04	1.1	0.75	37.05
0.83	261.94	.399E+04	2.1	0.86	32.23
0.99	262.10	.578E+04	3.3	0.96	29.09
1.16	262.27	.790E+04	5.1	1.09	25.62
1.33	262.44	.115E+05	7.3	1.07	26.06
1.50	262.61	.189E+05	10.6	0.93	29.70
1.67	262.78	.304E+05	15.2	0.84	33.30
1.83	262.94	.467E+05	21.4	0.77	36.32
2.00	263.11	.689E+05	30.1	0.73	38.19
2.17	263.28	.970E+05	41.4	0.71	39.04
2.34	263.45	.136E+06	55.7	0.69	40.59
2.51	263.62	.188E+06	75.6	0.67	41.55
2.68	263.79	.255E+06	102.5	0.67	41.44
2.84	263.95	.329E+06	137.5	0.70	39.94
3.01	264.12	.411E+06	176.5	0.72	38.78
3.18	264.29	.505E+06	217.3	0.72	38.70

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0108)	82.89	3.09	6.50	52.80	0.96	0.94
OUTFLOW: ID= 1 (5118)	82.89	2.92	7.00	52.80	0.94	0.92

CALIB	
NASHYD (0118)	Area (ha)= 127.26 Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.42

Unit Hyd Qpeak (cms)= 3.416

PEAK FLOW (cms)= 4.508 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 52.286
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.459

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2118)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0118):	127.26	4.508	6.50	52.29
	+ ID2= 2 (5118):	82.89	2.922	7.00	52.80
	ID = 3 (2118):	210.15	7.385	6.75	52.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1125)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2118):	210.15	7.385	6.75	52.49
	+ ID2= 2 (2132):	643.51	17.685	7.50	54.38
	ID = 3 (1125):	853.66	24.578	7.25	53.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5125)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5125.0) ---------->

Distance	Elevation	Manning	
0.00	261.06	0.0930	
112.10	260.66	0.0930	
128.23	260.37	0.0930	
184.04	259.72	0.0930	
217.53	259.61	0.0930	
253.86	259.67	0.0930	
268.78	259.50	0.0930	
310.66	258.59	0.0930	
323.55	258.45	0.0930 /0.0410	Main Channel
324.18	258.37	0.0410	Main Channel
328.71	257.57	0.0410	Main Channel
330.84	258.63	0.0410 /0.0930	Main Channel
332.23	258.70	0.0930	
402.29	261.32	0.0930	
415.98	261.42	0.0930	
435.71	261.26	0.0930	
609.12	263.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	257.75	.817E+02	0.0	0.15	77.13
0.35	257.92	.327E+03	0.1	0.24	48.59
0.53	258.10	.735E+03	0.3	0.31	37.08
0.70	258.27	.131E+04	0.7	0.37	30.61
0.88	258.45	.205E+04	1.3	0.43	26.77
1.07	258.64	.402E+04	2.4	0.41	28.11
1.25	258.82	.772E+04	4.3	0.38	30.28

1.44	259.01	.131E+05	7.0	0.36	31.41
1.63	259.20	.203E+05	10.7	0.36	31.50
1.81	259.38	.292E+05	15.7	0.37	30.98
2.00	259.57	.399E+05	21.8	0.38	30.52
2.19	259.76	.579E+05	27.1	0.32	35.56
2.37	259.94	.822E+05	40.1	0.33	34.21
2.56	260.13	.109E+06	56.1	0.35	32.46
2.74	260.31	.139E+06	75.4	0.37	30.73
2.93	260.50	.171E+06	98.6	0.40	28.93
3.12	260.69	.205E+06	124.1	0.42	27.59
3.30	260.87	.245E+06	146.5	0.41	27.88
3.49	261.06	.292E+06	175.3	0.41	27.76

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1125)	853.66	24.58	7.25	53.91	2.10	0.35
OUTFLOW: ID= 1 (5125)	853.66	22.90	7.75	53.91	2.04	0.36

CALIB	
NASHYD (0125)	Area (ha)= 52.22 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 10.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.95

Unit Hyd Qpeak (cms)= 2.093

PEAK FLOW (cms)= 2.378 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 52.866
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.464

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2125)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0125):	52.22	2.378	6.00	52.87
	+ ID2= 2 (5125):	853.66	22.898	7.75	53.91
	ID = 3 (2125):	905.88	24.123	7.50	53.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5107)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---------- DATA FOR SECTION (5107.0) ---------->

Distance	Elevation	Manning
0.00	259.47	0.0930
7.84	259.44	0.0930
11.25	259.57	0.0930
21.80	259.34	0.0930
32.98	259.22	0.0930
41.05	258.44	0.0930

73.72	258.37	0.0930	
80.66	257.81	0.0930	
83.82	256.91	0.0930 /0.0410	Main Channel
85.86	256.34	0.0410	Main Channel
86.32	256.46	0.0410	Main Channel
88.86	257.10	0.0410 /0.0930	Main Channel
114.39	257.69	0.0930	
138.64	257.87	0.0930	
178.64	259.30	0.0930	
197.11	259.23	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	256.48	.737E+02	0.0	0.20	79.74
0.29	256.62	.296E+03	0.1	0.32	50.29
0.43	256.77	.669E+03	0.3	0.43	38.35
0.57	256.91	.119E+04	0.6	0.52	31.64
0.75	257.09	.205E+04	1.3	0.64	25.38
0.92	257.26	.366E+04	2.5	0.68	24.06
1.10	257.44	.671E+04	4.3	0.63	25.84
1.28	257.62	.112E+05	6.9	0.60	27.04
1.46	257.80	.176E+05	10.1	0.56	29.00
1.63	257.97	.276E+05	15.3	0.54	30.14
1.81	258.15	.392E+05	22.5	0.56	29.03
1.99	258.33	.520E+05	31.4	0.59	27.60
2.17	258.51	.691E+05	41.5	0.59	27.75
2.34	258.68	.898E+05	55.9	0.61	26.80
2.52	258.86	.112E+06	72.8	0.64	25.56
2.70	259.04	.135E+06	92.4	0.67	24.32
2.88	259.22	.159E+06	114.5	0.70	23.15
3.05	259.39	.188E+06	130.8	0.68	23.93
3.23	259.57	.220E+06	159.7	0.71	23.02

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2125)	905.88	24.12	7.50	53.85	1.84	0.57
OUTFLOW: ID= 1 (5107)	905.88	23.50	8.25	53.85	1.83	0.56

CALIB	
NASHYD (0107)	Area (ha)= 121.76 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 9.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.34

Unit Hyd Qpeak (cms)= 3.460

PEAK FLOW (cms)= 4.361 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 51.032
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.448

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2107)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3					

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0107):	121.76	4.361	6.50	51.03
+ ID2= 2 (5107):	905.88	23.502	8.25	53.85
ID = 3 (2107):	1027.64	26.431	8.00	53.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0090)	Area (ha)=	67.74	Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)=	9.40	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.85	

Unit Hyd Qpeak (cms)= 3.040

PEAK FLOW (cms)= 3.460 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 55.081
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.483

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5089)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5089.0) ------>

Distance	Elevation	Manning	
0.00	283.61	0.0930	
12.80	283.54	0.0930	
26.10	283.37	0.0930	
32.61	283.02	0.0930	
52.71	281.44	0.0930	
67.48	281.01	0.0930	
83.85	280.06	0.0930	
102.23	279.31	0.0930	
113.08	279.11	0.0930	
117.61	279.05	0.0930 /0.0410	Main Channel
120.37	279.02	0.0410	Main Channel
123.67	277.63	0.0410	Main Channel
124.68	277.19	0.0410	Main Channel
129.65	278.99	0.0410 /0.0930	Main Channel
171.25	280.63	0.0930	
243.68	281.45	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	277.39	.318E+03	0.0	0.35	149.46
0.40	277.59	.127E+04	0.2	0.56	94.15
0.60	277.79	.286E+04	0.7	0.73	71.97
0.80	277.99	.510E+04	1.4	0.88	59.43
1.00	278.19	.798E+04	2.6	1.02	51.20
1.20	278.39	.115E+05	4.2	1.16	45.33
1.40	278.59	.157E+05	6.4	1.28	40.89
1.60	278.79	.205E+05	9.1	1.40	37.40
1.80	278.99	.260E+05	12.5	1.51	34.57
2.00	279.19	.368E+05	16.1	1.37	38.23
2.25	279.44	.637E+05	25.9	1.28	41.02

2.49	279.68	.101E+06	39.5	1.23	42.56
2.74	279.93	.147E+06	57.1	1.22	42.98
2.98	280.17	.203E+06	79.5	1.23	42.60
3.23	280.42	.267E+06	106.9	1.26	41.68
3.48	280.67	.340E+06	138.7	1.28	40.84
3.72	280.91	.428E+06	173.5	1.27	41.10
3.97	281.16	.537E+06	215.6	1.26	41.49
4.21	281.40	.668E+06	266.4	1.25	41.82

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0090)	67.74	3.46	5.75	55.08	1.11	1.09
OUTFLOW: ID= 1 (5089)	67.74	2.78	6.50	55.07	1.02	1.04

CALIB			
NASHYD (0089)	Area (ha)=	167.93	Curve Number (CN)= 67.0
ID= 1 DT=15.0 min	Ia (mm)=	8.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.40	

Unit Hyd Qpeak (cms)= 4.572

PEAK FLOW (cms)= 5.501 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 48.192
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.423

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2089)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0089):	167.93	5.501	6.50	48.19
+ ID2= 2 (5089):	67.74	2.778	6.50	55.07
ID = 3 (2089):	235.67	8.279	6.50	50.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5097)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5097.0) ------>

Distance	Elevation	Manning	
0.00	264.00	0.0930	
43.72	263.34	0.0930	
75.36	263.31	0.0930	
120.67	262.08	0.0930	
120.80	262.07	0.0930	
122.58	262.15	0.0930 /0.0410	Main Channel
122.81	262.14	0.0410	Main Channel
125.62	261.93	0.0410	Main Channel
127.06	261.90	0.0410	Main Channel
128.23	262.19	0.0410 /0.0930	Main Channel

129.33	262.51	0.0930	
202.64	264.26	0.0930	
234.87	264.54	0.0930	
274.19	264.72	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	261.98	.109E+03	0.0	0.27	51.95
0.17	262.07	.333E+03	0.2	0.41	33.66
0.25	262.15	.799E+03	0.4	0.44	31.23
0.37	262.27	.199E+04	1.3	0.53	25.99
0.48	262.38	.362E+04	2.6	0.60	23.06
0.60	262.50	.570E+04	4.5	0.66	21.17
0.71	262.61	.840E+04	6.9	0.69	20.19
0.83	262.73	.120E+05	10.2	0.71	19.65
0.94	262.84	.164E+05	14.3	0.72	19.19
1.06	262.96	.218E+05	19.4	0.74	18.70
1.17	263.07	.280E+05	25.6	0.76	18.19
1.29	263.19	.350E+05	33.1	0.79	17.66
1.41	263.31	.430E+05	41.8	0.81	17.14
1.52	263.42	.544E+05	47.8	0.73	18.94
1.64	263.54	.674E+05	61.5	0.76	18.26
1.75	263.65	.817E+05	77.4	0.79	17.59
1.87	263.77	.971E+05	95.5	0.82	16.95
1.98	263.88	.114E+06	116.0	0.85	16.35
2.10	264.00	.132E+06	139.0	0.88	15.78

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2089)	235.67	8.28	6.50	50.17	0.76	0.70
OUTFLOW: ID= 1 (5097)	235.67	8.00	6.75	50.17	0.75	0.69

CALIB			
NASHYD (0097)	Area (ha)=	49.25	Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)=	9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.39	

Unit Hyd Qpeak (cms)= 1.350

PEAK FLOW (cms)= 2.071 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 60.458
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.530

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2097)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0097):	49.25	2.071	6.50	60.46
+ ID2= 2 (5097):	235.67	7.995	6.75	50.17
ID = 3 (2097):	284.92	10.034	6.75	51.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0104)	Area (ha)=	41.86	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.07	

Unit Hyd Qpeak (cms)= 1.491

PEAK FLOW (cms)= 1.740 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 51.904
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.455

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1102)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0104):	41.86	1.740	6.00	51.90
+ ID2= 2 (2097):	284.92	10.034	6.75	51.95
ID = 3 (1102):	326.78	11.587	6.75	51.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5102)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5102.0) ------>

Distance	Elevation	Manning	
0.00	261.12	0.0930	
11.14	260.51	0.0930	
18.45	260.84	0.0930	
41.57	260.07	0.0930	
52.25	260.01	0.0930	
73.74	260.12	0.0930	
117.88	258.92	0.0930	
139.95	258.90	0.0930	
184.09	258.61	0.0930	
194.98	258.41	0.0930	
203.59	258.36	0.0930	
209.59	258.28	0.0930 /0.0410	Main Channel
214.07	258.22	0.0410	Main Channel
217.86	258.29	0.0410 /0.0930	Main Channel
325.90	260.68	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	258.28	.441E+02	0.0	0.10	31.73
0.19	258.41	.434E+03	0.4	0.19	16.32
0.31	258.53	.126E+04	1.5	0.23	13.61
0.44	258.66	.240E+04	3.3	0.26	12.17
0.57	258.79	.409E+04	5.9	0.28	11.51

0.69	258.91	.640E+04	9.5	0.28	11.24
0.82	259.04	.958E+04	15.5	0.31	10.33
0.94	259.16	.130E+05	23.3	0.34	9.32
1.07	259.29	.167E+05	32.7	0.37	8.52
1.20	259.42	.207E+05	43.8	0.40	7.87
1.32	259.54	.248E+05	56.4	0.43	7.34
1.45	259.67	.293E+05	70.7	0.46	6.91
1.58	259.80	.340E+05	86.6	0.48	6.54
1.70	259.92	.389E+05	104.3	0.51	6.22
1.83	260.05	.441E+05	119.1	0.51	6.18
1.95	260.17	.503E+05	136.4	0.52	6.14
2.08	260.30	.567E+05	161.7	0.54	5.85
2.21	260.43	.634E+05	189.1	0.57	5.59
2.33	260.55	.704E+05	217.9	0.59	5.38

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1102)	326.78	11.59	6.75	51.94	0.74	0.29
OUTFLOW: ID= 1 (5102)	326.78	11.41	7.00	51.94	0.73	0.29

CALIB			
NASHYD (0102)	Area	(ha)= 2.11	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia	(mm)= 7.80	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.29		

Unit Hyd Qpeak (cms)= 0.279

PEAK FLOW (cms)= 0.173 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 53.389
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.468

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2102)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	2.11	0.173	5.25	53.39
+ ID2= 2 (5102):	326.78	11.413	7.00	51.94
ID = 3 (2102):	328.89	11.448	7.00	51.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0085)	Area	(ha)= 100.60	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia	(mm)= 9.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.58		

Unit Hyd Qpeak (cms)= 2.433

PEAK FLOW (cms)= 3.434 (i)
TIME TO PEAK (hrs)= 6.750

RUNOFF VOLUME (mm)= 53.719
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.471

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1103)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0085):	100.60	3.434	6.75	53.72
+ ID2= 2 (2102):	328.89	11.448	7.00	51.95
ID = 3 (1103):	429.49	14.859	6.75	52.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5103)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5103.0) ------>

Distance	Elevation	Manning	
0.00	260.43	0.0930	
64.92	259.80	0.0930	
159.89	259.49	0.0930	
194.21	259.11	0.0930	
200.68	257.93	0.0930	
217.06	258.25	0.0930	
225.28	257.72	0.0930 /0.0410	Main Channel
227.17	257.59	0.0410	Main Channel
228.54	257.71	0.0410 /0.0930	Main Channel
244.04	258.74	0.0930	
267.54	258.84	0.0930	
274.63	259.13	0.0930	
295.89	259.48	0.0930	
310.06	259.61	0.0930	
344.18	260.28	0.0930	
358.34	260.35	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	257.71	.574E+02	0.1	0.27	18.86
0.26	257.85	.281E+03	0.4	0.46	11.20
0.40	257.99	.715E+03	1.2	0.50	10.30
0.54	258.13	.161E+04	2.5	0.48	10.65
0.68	258.27	.302E+04	4.8	0.49	10.40
0.81	258.40	.471E+04	8.5	0.56	9.23
0.95	258.54	.651E+04	13.2	0.62	8.23
1.09	258.68	.844E+04	18.9	0.69	7.46
1.23	258.82	.107E+05	24.0	0.69	7.43
1.37	258.96	.138E+05	32.7	0.73	7.05
1.51	259.10	.172E+05	43.2	0.77	6.61
1.65	259.24	.209E+05	50.6	0.74	6.90
1.79	259.38	.256E+05	61.0	0.73	6.99
1.93	259.52	.312E+05	72.8	0.72	7.14
2.07	259.66	.387E+05	85.1	0.68	7.58
2.20	259.79	.485E+05	106.4	0.67	7.59
2.34	259.93	.598E+05	138.3	0.71	7.20

2.48	260.07	.720E+05	175.6	0.75	6.83
2.62	260.21	.851E+05	218.1	0.79	6.50

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1103)	429.49	14.86	6.75	52.36	0.99	0.64
OUTFLOW: ID= 1 (5103)	429.49	14.88	7.00	52.36	1.00	0.64

CALIB			
NASHYD (0103)	Area	(ha)= 13.80	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia	(mm)= 9.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.83		

Unit Hyd Qpeak (cms)= 0.638

PEAK FLOW (cms)= 0.675 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 52.111
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.457

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2103)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0103):	13.80	0.675	5.75	52.11
+ ID2= 2 (5103):	429.49	14.881	7.00	52.36
ID = 3 (2103):	443.29	15.294	7.00	52.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1105)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2103):	443.29	15.294	7.00	52.36
+ ID2= 2 (2107):	1027.64	26.431	8.00	53.52
ID = 3 (1105):	1470.93	40.429	7.50	53.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5105)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5105.0) ------>

Distance	Elevation	Manning
0.00	259.38	0.0930
16.48	258.87	0.0930
29.77	258.00	0.0930

35.97	256.26	0.0930			
47.95	256.26	0.0930			
63.19	256.50	0.0930			
68.45	254.59	0.0930 /0.0410	Main Channel		
69.33	254.24	0.0410	Main Channel		
70.76	254.71	0.0410 /0.0930	Main Channel		
75.24	256.29	0.0930			
93.49	256.07	0.0930			
111.29	256.77	0.0930			
123.23	257.87	0.0930			
136.75	258.67	0.0930			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	254.42	.190E+03	0.0	0.17	113.66
0.35	254.59	.401E+03	0.1	0.27	71.60
0.59	254.83	.115E+04	0.4	0.42	46.70
0.83	255.07	.227E+04	1.0	0.51	38.69
1.07	255.31	.378E+04	1.8	0.56	35.01
1.31	255.55	.566E+04	2.9	0.60	32.70
1.55	255.79	.792E+04	4.3	0.63	30.99
1.79	256.03	.106E+05	5.9	0.66	29.62
2.03	256.27	.163E+05	6.9	0.50	39.36
2.27	256.51	.329E+05	11.3	0.41	48.37
2.51	256.75	.535E+05	18.8	0.41	47.54
2.75	256.99	.757E+05	28.9	0.45	43.75
2.99	257.23	.989E+05	41.2	0.49	40.05
3.23	257.47	.123E+06	55.6	0.53	36.92
3.47	257.71	.148E+06	72.0	0.57	34.30
3.71	257.95	.174E+06	90.3	0.61	32.19
3.95	258.19	.202E+06	108.9	0.63	30.93
4.19	258.43	.232E+06	129.4	0.66	29.87
4.43	258.67	.264E+06	152.4	0.68	28.87

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1105)	1470.93	40.43	7.50	53.17	2.98	0.49
OUTFLOW: ID= 1 (5105)	1470.93	37.55	8.00	53.17	2.92	0.48

CALIB			
NASHYD (0105)	Area	(ha)= 54.33	Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia	(mm)= 10.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.72		

Unit Hyd Qpeak (cms)= 2.866

PEAK FLOW (cms)= 2.888 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 52.834
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.463

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2105)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0105):	54.33	2.888	5.50	52.83
+ ID2= 2 (5105):	1470.93	37.548	8.00	53.17
ID = 3 (2105):	1525.26	38.371	8.00	53.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0072) ID= 1 DT=15.0 min			
	Area (ha)=	66.00	Curve Number (CN)= 70.0
	Ia (mm)=	9.70	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.00	

Unit Hyd Qpeak (cms)= 2.508

PEAK FLOW (cms)= 2.806 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 51.023
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.448

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0062) ID= 1 DT=15.0 min			
	Area (ha)=	194.37	Curve Number (CN)= 70.0
	Ia (mm)=	8.30	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.33	

Unit Hyd Qpeak (cms)= 5.578

PEAK FLOW (cms)= 7.145 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 52.069
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.457

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1086)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0062):	194.37	7.145	6.50	52.07
+ ID2= 2 (0072):	66.00	2.806	6.00	51.02
ID = 3 (1086):	260.37	9.822	6.25	51.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5086) IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5086.0) ------>

Distance	Elevation	Manning
0.00	261.31	0.0930
3.21	261.36	0.0930
28.01	261.03	0.0930
42.51	261.07	0.0930
53.44	260.90	0.0930
62.26	260.66	0.0930
107.79	260.30	0.0930
123.86	260.33	0.0930
139.15	260.06	0.0930
156.49	259.39	0.0930
173.83	258.81	0.0930 /0.0410 Main Channel
179.12	258.67	0.0410 Main Channel
180.66	258.74	0.0410 /0.0930 Main Channel
197.95	259.63	0.0930
205.72	259.81	0.0930
209.98	259.78	0.0930
318.53	261.21	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.07	258.74	.375E+03	0.0	0.20	216.58
0.21	258.88	.320E+04	0.5	0.43	98.91
0.35	259.02	.847E+04	1.8	0.55	77.87
0.48	259.15	.161E+05	3.9	0.62	69.08
0.62	259.29	.262E+05	6.9	0.67	63.50
0.76	259.43	.387E+05	10.9	0.72	59.26
0.90	259.57	.534E+05	16.0	0.77	55.68
1.04	259.71	.705E+05	22.0	0.80	53.32
1.17	259.84	.917E+05	28.6	0.80	53.38
1.31	259.98	.119E+06	37.8	0.81	52.42
1.45	260.12	.151E+06	48.6	0.82	51.84
1.59	260.26	.190E+06	61.3	0.83	51.51
1.72	260.39	.239E+06	73.2	0.78	54.43
1.86	260.53	.301E+06	93.0	0.79	53.89
2.00	260.67	.372E+06	117.3	0.81	52.88
2.14	260.81	.451E+06	148.5	0.84	50.63
2.28	260.95	.535E+06	183.6	0.88	48.60
2.41	261.08	.628E+06	216.3	0.88	48.38
2.55	261.22	.732E+06	261.9	0.92	46.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1086)	260.37	9.82	6.25	51.80	0.72	0.71
OUTFLOW: ID= 1 (5086)	260.37	8.04	7.25	51.80	0.66	0.68

CALIB NASHYD (0086) ID= 1 DT=15.0 min			
	Area (ha)=	85.32	Curve Number (CN)= 72.0
	Ia (mm)=	10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.35	

Unit Hyd Qpeak (cms)= 2.416

PEAK FLOW (cms)= 3.197 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 53.336
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.468

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2086)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0086):	85.32	3.197	6.50	53.34
+ ID2= 2 (5086):	260.37	8.036	7.25	51.80
ID = 3 (2086):	345.69	10.954	7.00	52.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0082) ID= 1 DT=15.0 min			
	Area (ha)=	127.96	Curve Number (CN)= 72.0
	Ia (mm)=	9.60	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.59	

Unit Hyd Qpeak (cms)= 3.070

PEAK FLOW (cms)= 4.338 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 53.643
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.471

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0070) ID= 1 DT=15.0 min			
	Area (ha)=	60.11	Curve Number (CN)= 71.0
	Ia (mm)=	10.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.23	

Unit Hyd Qpeak (cms)= 1.871

PEAK FLOW (cms)= 2.318 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 51.983
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.456

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1080)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0070):	60.11	2.318	6.25	51.98
+ ID2= 2 (0082):	127.96	4.338	6.75	53.64
ID = 3 (1080):	188.07	6.567	6.50	53.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5080) IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5080.0) ------>

Distance	Elevation	Manning
0.00	265.31	0.0930
3.12	265.35	0.0930
51.72	263.31	0.0930
63.25	263.22	0.0930
83.29	262.44	0.0930
98.72	261.99	0.0930 /0.0410 Main Channel
107.79	261.84	0.0410 Main Channel
112.42	261.99	0.0410 /0.0930 Main Channel
182.31	264.06	0.0930
207.12	264.23	0.0930
208.20	264.24	0.0930
230.04	264.24	0.0930
257.09	264.08	0.0930
287.23	264.25	0.0930
339.24	265.08	0.0930

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	261.99	.747E+03	0.3	0.32	38.02
0.33	262.17	.328E+04	2.6	0.58	20.78
0.50	262.34	.737E+04	7.0	0.70	17.43
0.68	262.52	.130E+05	13.8	0.77	15.68
0.86	262.70	.200E+05	23.1	0.84	14.43
1.03	262.87	.283E+05	35.0	0.90	13.48
1.21	263.05	.380E+05	49.8	0.95	12.72
1.39	263.23	.491E+05	67.4	1.00	12.12
1.56	263.40	.624E+05	87.5	1.02	11.89
1.74	263.58	.773E+05	113.3	1.07	11.37
1.92	263.76	.935E+05	143.0	1.11	10.90
2.10	263.94	.111E+06	176.6	1.16	10.47
2.27	264.11	.130E+06	206.5	1.15	10.49
2.45	264.29	.158E+06	233.3	1.07	11.29
2.63	264.47	.193E+06	291.6	1.10	11.01
2.80	264.64	.229E+06	357.8	1.14	10.67
2.98	264.82	.268E+06	431.9	1.17	10.33
3.16	265.00	.308E+06	514.1	1.21	9.99
3.33	265.17	.350E+06	608.3	1.26	9.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1080)	188.07	6.57	6.50	53.11	0.48	0.68
OUTFLOW: ID= 1 (5080)	188.07	6.48	6.75	53.11	0.48	0.68

CALIB NASHYD (0080) ID= 1 DT=15.0 min			
	Area (ha)=	26.18	Curve Number (CN)= 73.0
	Ia (mm)=	8.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.78	

Unit Hyd Qpeak (cms)= 1.287

PEAK FLOW (cms)= 1.421 (i)
TIME TO PEAK (hrs)= 5.750

RUNOFF VOLUME (mm)= 55.768
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.489

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2080)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0080):	26.18	1.421	5.75	55.77
	+	ID2= 2 (5080):	188.07	6.477	6.75	53.11
		ID = 3 (2080):	214.25	7.402	6.75	53.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1087)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (2080):	214.25	7.402	6.75	53.44
	+	ID2= 2 (2086):	345.69	10.954	7.00	52.18
		ID = 3 (1087):	559.94	18.211	7.00	52.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5087)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5087.0) ------>

Distance	Elevation	Manning	
0.00	258.88	0.0930	
8.99	258.76	0.0930	
19.29	256.36	0.0930	
40.77	256.43	0.0930	
45.90	256.36	0.0930	
56.95	256.44	0.0930	
62.65	256.35	0.0930	
72.79	255.95	0.0930 /0.0410	Main Channel
73.78	255.91	0.0410	Main Channel
74.08	256.02	0.0410 /0.0930	Main Channel
84.33	259.59	0.0930	
121.64	260.15	0.0930	
126.24	260.09	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.04	255.95	.134E+02	0.0	0.13	77.23
0.26	256.17	.580E+03	0.3	0.33	30.32
0.48	256.39	.217E+04	1.1	0.31	32.40
0.70	256.61	.951E+04	6.0	0.38	26.63
0.92	256.83	.174E+05	15.0	0.53	19.29
1.15	257.06	.254E+05	27.3	0.65	15.51
1.37	257.28	.337E+05	42.6	0.77	13.18

1.59	257.50	.422E+05	60.7	0.88	11.60
1.81	257.72	.509E+05	81.4	0.97	10.43
2.03	257.94	.599E+05	104.6	1.06	9.54
2.25	258.16	.690E+05	130.3	1.15	8.82
2.47	258.38	.783E+05	158.5	1.23	8.24
2.69	258.60	.879E+05	189.0	1.31	7.75
2.91	258.82	.978E+05	213.5	1.33	7.63
3.13	259.04	.109E+06	244.8	1.37	7.41
3.36	259.27	.120E+06	286.5	1.45	6.98
3.58	259.49	.131E+06	330.9	1.54	6.61
3.80	259.71	.143E+06	372.2	1.59	6.40
4.02	259.93	.156E+06	418.6	1.63	6.22

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1087)	559.94	18.21	7.00	52.66	0.98	0.55
OUTFLOW:	ID= 1 (5087)	559.94	18.02	7.00	52.66	0.98	0.55

CALIB	NASHYD (0087)	ID= 1 DT=15.0 min	Area (ha)= 11.14	Ia (mm)= 10.00	U.H. Tp(hrs)= 0.56	Curve Number (CN)= 69.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 0.761

PEAK FLOW (cms)= 0.639 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 49.465
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.434

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2087)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0087):	11.14	0.639	5.50	49.46
	+	ID2= 2 (5087):	559.94	18.021	7.00	52.66
		ID = 3 (2087):	571.08	18.260	7.00	52.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (2087):	571.08	18.260	7.00	52.60
	+	ID2= 2 (2105):	1525.26	38.371	8.00	53.15
		ID = 3 (1084):	2096.34	55.149	7.75	53.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5084)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5084.0) ------>

Distance	Elevation	Manning	
0.00	259.35	0.0930	
3.22	259.33	0.0930	
19.62	255.67	0.0930	
53.75	255.23	0.0930	
140.86	255.25	0.0930	
146.73	253.99	0.0930 /0.0410	Main Channel
148.19	253.66	0.0410	Main Channel
148.47	253.71	0.0410	Main Channel
151.58	254.18	0.0410 /0.0930	Main Channel
159.61	255.34	0.0930	
161.63	255.50	0.0930	
175.11	259.05	0.0930	
185.75	258.95	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	253.83	.358E+02	0.0	0.30	13.95
0.33	253.99	.147E+03	0.3	0.48	8.74
0.62	254.28	.530E+03	1.6	0.78	5.37
0.91	254.57	.116E+04	4.5	0.96	4.33
1.21	254.87	.203E+04	8.7	1.07	3.90
1.50	255.16	.315E+04	14.5	1.15	3.63
1.79	255.45	.953E+04	25.6	0.67	6.20
2.08	255.74	.194E+05	52.8	0.68	6.14
2.37	256.03	.300E+05	93.7	0.78	5.33
2.66	256.32	.407E+05	145.5	0.89	4.67
2.96	256.62	.516E+05	207.0	1.00	4.16
3.25	256.91	.627E+05	277.8	1.11	3.76
3.54	257.20	.740E+05	357.4	1.21	3.45
3.83	257.49	.854E+05	445.5	1.31	3.19
4.12	257.78	.970E+05	541.8	1.40	2.98
4.41	258.07	.109E+06	646.1	1.49	2.81
4.71	258.37	.121E+06	758.3	1.57	2.65
5.00	258.66	.133E+06	878.1	1.65	2.52
5.29	258.95	.145E+06	1005.6	1.73	2.41

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1084)	2096.34	55.15	7.75	53.00	2.10	0.68
OUTFLOW:	ID= 1 (5084)	2096.34	55.05	7.75	53.00	2.10	0.68

CALIB	NASHYD (0084)	ID= 1 DT=15.0 min	Area (ha)= 19.87	Ia (mm)= 8.40	U.H. Tp(hrs)= 0.53	Curve Number (CN)= 73.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 1.435

PEAK FLOW (cms)= 1.312 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 55.711

TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.489

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2084)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0084):	19.87	1.312	5.50	55.71
	+	ID2= 2 (5084):	2096.34	55.053	7.75	53.00
		ID = 3 (2084):	2116.21	55.340	7.75	53.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0083)	ID= 1 DT=15.0 min	Area (ha)= 50.78	Ia (mm)= 9.90	U.H. Tp(hrs)= 1.05	Curve Number (CN)= 69.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 1.852

PEAK FLOW (cms)= 2.043 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 49.651
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.436

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1076)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0083):	50.78	2.043	6.00	49.65
	+	ID2= 2 (2084):	2116.21	55.340	7.75	53.03
		ID = 3 (1076):	2166.99	56.496	7.75	52.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5076)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5076.0) ------>

Distance	Elevation	Manning	
0.00	260.17	0.0930	
14.24	259.77	0.0930	
43.01	255.21	0.0930	
58.26	254.66	0.0930 /0.0410	Main Channel
63.42	253.10	0.0410	Main Channel
66.04	253.09	0.0410	Main Channel
70.21	254.56	0.0410 /0.0930	Main Channel
123.72	254.97	0.0930	

148.22	259.84	0.0930
150.20	260.01	0.0930

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	253.38	.521E+03	0.3	0.33	26.27
0.59	253.68	.132E+04	1.2	0.48	17.88
0.88	253.97	.240E+04	2.8	0.60	14.31
1.18	254.27	.374E+04	5.1	0.70	12.19
1.47	254.56	.536E+04	8.3	0.80	10.75
1.86	254.95	.134E+05	16.5	0.63	13.59
2.25	255.34	.293E+05	33.0	0.58	14.78
2.64	255.73	.464E+05	57.0	0.63	13.58
3.03	256.12	.644E+05	87.3	0.70	12.31
3.42	256.51	.833E+05	123.5	0.76	11.24
3.81	256.90	.103E+06	165.6	0.83	10.38
4.19	257.28	.124E+06	213.3	0.89	9.67
4.58	257.67	.145E+06	266.7	0.94	9.08
4.97	258.06	.168E+06	325.6	1.00	8.59
5.36	258.45	.191E+06	390.2	1.05	8.16
5.75	258.84	.215E+06	460.3	1.10	7.79
6.14	259.23	.240E+06	536.1	1.15	7.47
6.53	259.62	.266E+06	617.6	1.19	7.19
6.92	260.01	.294E+06	691.2	1.21	7.08

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1076)	2166.99	56.50	7.75	52.95	2.63	0.63
OUTFLOW: ID= 1 (5076)	2166.99	55.74	8.00	52.95	2.62	0.63

CALIB	
NASHYD (0076)	Area (ha)= 22.96 Curve Number (CN)= 69.0
ID= 1 DT=15.0 min	Ia (mm)= 10.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.44

Unit Hyd Qpeak (cms)= 2.011

PEAK FLOW (cms)= 1.470 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 48.834
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.428

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2076)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0076):	22.96	1.470	5.25	48.83
	+ ID2= 2 (5076):	2166.99	55.736	8.00	52.95
	ID = 3 (2076):	2189.95	55.975	8.00	52.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0071)	Area (ha)= 79.26 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 9.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.35

Unit Hyd Qpeak (cms)= 2.247

PEAK FLOW (cms)= 2.990 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 53.641
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.471

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1063)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0071):	79.26	2.990	6.50	53.64
	+ ID2= 2 (2076):	2189.95	55.975	8.00	52.91
	ID = 3 (1063):	2269.21	58.012	8.00	52.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5063)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5063.0) ------>

Distance	Elevation	Manning	
0.00	260.53	0.0930	
7.93	260.16	0.0930	
25.92	255.95	0.0930	
48.02	251.95	0.0930	
74.10	251.57	0.0930 /0.0410	Main Channel
75.60	250.50	0.0410	Main Channel
79.20	250.50	0.0410	Main Channel
81.24	251.63	0.0410 /0.0930	Main Channel
112.21	252.04	0.0930	
134.13	254.75	0.0930	
150.69	255.82	0.0930	
162.81	257.37	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	250.86	.284E+04	0.6	0.38	84.04
0.71	251.21	.647E+04	1.9	0.56	57.07
1.07	251.57	.109E+05	3.9	0.69	45.95
1.43	251.93	.310E+05	8.2	0.50	63.18
1.80	252.30	.758E+05	18.0	0.45	70.25
2.16	252.66	.125E+06	32.8	0.50	63.38
2.52	253.02	.177E+06	52.0	0.56	56.78
2.88	253.38	.233E+06	75.3	0.62	51.53
3.24	253.74	.292E+06	102.7	0.67	47.38
3.61	254.11	.355E+06	134.2	0.72	44.04

3.97	254.47	.421E+06	169.8	0.77	41.30
4.33	254.83	.490E+06	208.9	0.81	39.11
4.69	255.19	.565E+06	250.5	0.85	37.56
5.06	255.56	.644E+06	296.8	0.88	36.16
5.42	255.92	.729E+06	349.0	0.92	34.80
5.78	256.28	.817E+06	409.2	0.96	33.29
6.14	256.64	.909E+06	474.1	1.00	31.94
6.51	257.01	.100E+07	543.9	1.04	30.74
6.87	257.37	.110E+07	618.4	1.07	29.67

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1063)	2269.21	58.01	8.00	52.93	2.61	0.57
OUTFLOW: ID= 1 (5063)	2269.21	52.01	8.75	52.93	2.51	0.56

CALIB	
NASHYD (0063)	Area (ha)= 109.84 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 8.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.82

Unit Hyd Qpeak (cms)= 5.123

PEAK FLOW (cms)= 5.932 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 56.806
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.498

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2063)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0063):	109.84	5.932	5.75	56.81
	+ ID2= 2 (5063):	2269.21	52.011	8.75	52.93
	ID = 3 (2063):	2379.05	53.266	8.75	53.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0035)	Area (ha)= 49.86 Curve Number (CN)= 72.0
ID= 1 DT=15.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.90

Unit Hyd Qpeak (cms)= 2.121

PEAK FLOW (cms)= 2.371 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 53.319
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.468

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0018)	Area (ha)= 165.67 Curve Number (CN)= 70.0
ID= 1 DT=15.0 min	Ia (mm)= 8.30 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.18

Unit Hyd Qpeak (cms)= 5.349

PEAK FLOW (cms)= 6.542 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 52.066
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.457

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1055)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0018):	165.67	6.542	6.25	52.07
	+ ID2= 2 (0035):	49.86	2.371	5.75	53.32
	ID = 3 (1055):	215.53	8.774	6.25	52.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5055)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5055.0) ------>

Distance	Elevation	Manning	
0.00	280.19	0.0930	
87.50	278.82	0.0930	
98.89	278.56	0.0930	
123.84	277.27	0.0930	
130.09	276.61	0.0930 /0.0410	Main Channel
131.71	276.44	0.0410	Main Channel
141.16	276.65	0.0410 /0.0930	Main Channel
152.62	277.02	0.0930	
168.18	278.51	0.0930	
229.80	279.24	0.0930	
279.45	279.08	0.0930	
352.04	279.93	0.0930	
414.67	279.67	0.0930	
506.68	280.29	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	276.61	.333E+04	0.3	0.36	194.87
0.36	276.80	.142E+05	2.2	0.66	106.21
0.55	276.99	.311E+05	6.0	0.82	86.49
0.74	277.18	.531E+05	11.7	0.93	75.45
0.92	277.36	.783E+05	19.2	1.04	67.84
1.11	277.55	.108E+06	28.6	1.12	62.81
1.30	277.74	.142E+06	40.0	1.19	59.08

1.49	277.93	.180E+06	53.5	1.26	56.15
1.68	278.12	.223E+06	69.2	1.31	53.73
1.87	278.31	.270E+06	87.2	1.36	51.68
2.05	278.49	.322E+06	107.7	1.41	49.89
2.24	278.68	.384E+06	123.7	1.36	51.76
2.43	278.87	.465E+06	145.3	1.32	53.33
2.62	279.06	.567E+06	172.7	1.29	54.76
2.81	279.25	.716E+06	195.8	1.16	60.92
3.00	279.44	.913E+06	246.9	1.14	61.62
3.18	279.62	.113E+07	307.9	1.15	61.33
3.37	279.81	.139E+07	362.7	1.10	63.96
3.56	280.00	.173E+07	441.2	1.08	65.24

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (1055)	215.53	8.77	6.25	52.36	0.64	0.87
OUTFLOW: ID= 1 (5055)	215.53	6.42	7.25	52.35	0.56	0.82

CALIB			
NASHYD (0055)	Area (ha)= 149.76	Curve Number (CN)= 71.0	
ID= 1 DT=15.0 min	Ia (mm)= 10.20	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.53		

Unit Hyd Qpeak (cms)= 3.748

PEAK FLOW (cms)= 5.039 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 51.912
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.455

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2055)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0055):	149.76	5.039	6.75	51.91
+ ID2= 2 (5055):	215.53	6.415	7.25	52.35
ID = 3 (2055):	365.29	11.310	7.00	52.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0054)	Area (ha)= 59.63	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.40	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.14		

Unit Hyd Qpeak (cms)= 1.994

PEAK FLOW (cms)= 2.556 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 55.099
TOTAL RAINFALL (mm)= 114.001

RUNOFF COEFFICIENT = 0.483

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1053)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0054):	59.63	2.556	6.25	55.10
+ ID2= 2 (2055):	365.29	11.310	7.00	52.17
ID = 3 (1053):	424.92	13.482	6.75	52.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5053)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5053.0) ------>

Distance	Elevation	Manning	
0.00	259.86	0.0930	
30.23	255.77	0.0930 /0.0410	Main Channel
32.12	255.61	0.0410	Main Channel
33.86	255.81	0.0410 /0.0930	Main Channel
75.21	261.86	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	255.77	.644E+02	0.1	0.19	21.35
0.38	255.99	.322E+03	0.5	0.37	10.94
0.59	256.20	.742E+03	1.4	0.45	9.00
0.81	256.42	.132E+04	2.7	0.51	8.07
1.02	256.63	.207E+04	4.6	0.55	7.47
1.24	256.85	.297E+04	7.1	0.58	7.01
1.45	257.06	.404E+04	10.1	0.62	6.64
1.67	257.28	.527E+04	13.9	0.65	6.33
1.88	257.49	.666E+04	18.3	0.67	6.06
2.10	257.71	.821E+04	23.5	0.70	5.82
2.31	257.92	.992E+04	29.5	0.73	5.61
2.53	258.14	.118E+05	36.3	0.76	5.41
2.74	258.35	.138E+05	44.1	0.78	5.23
2.96	258.57	.160E+05	52.7	0.81	5.07
3.17	258.78	.184E+05	62.3	0.83	4.92
3.39	259.00	.209E+05	72.9	0.86	4.78
3.60	259.21	.236E+05	84.6	0.88	4.65
3.82	259.43	.264E+05	97.3	0.90	4.53
4.03	259.64	.295E+05	111.1	0.93	4.42

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (1053)	424.92	13.48	6.75	52.58	1.64	0.64
OUTFLOW: ID= 1 (5053)	424.92	13.46	7.00	52.58	1.64	0.64

CALIB	

NASHYD (0053)	Area (ha)= 5.96	Curve Number (CN)= 72.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.35		

Unit Hyd Qpeak (cms)= 0.652

PEAK FLOW (cms)= 0.460 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 52.616
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.462

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2053)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0053):	5.96	0.460	5.25	52.62
+ ID2= 2 (5053):	424.92	13.456	7.00	52.58
ID = 3 (2053):	430.88	13.560	7.00	52.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0020)	Area (ha)= 80.57	Curve Number (CN)= 71.0	
ID= 1 DT=15.0 min	Ia (mm)= 10.20	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.12		

Unit Hyd Qpeak (cms)= 2.738

PEAK FLOW (cms)= 3.269 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 51.906
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.455

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0011)	Area (ha)= 91.04	Curve Number (CN)= 73.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.60	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.42		

Unit Hyd Qpeak (cms)= 2.445

PEAK FLOW (cms)= 3.405 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 54.949
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.482

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1021)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0011):	91.04	3.405	6.50	54.95
+ ID2= 2 (0020):	80.57	3.269	6.25	51.91
ID = 3 (1021):	171.61	6.588	6.25	53.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5021)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5021.0) ------>

Distance	Elevation	Manning	
0.00	276.23	0.0930	
23.73	276.03	0.0930	
36.85	275.23	0.0930	
61.59	270.42	0.0930	
76.89	269.69	0.0930	
79.38	269.35	0.0930 /0.0410	Main Channel
82.08	268.91	0.0410	Main Channel
83.34	269.30	0.0410 /0.0930	Main Channel
84.93	269.79	0.0930	
98.02	269.97	0.0930	
107.38	271.99	0.0930	
117.80	275.64	0.0930	
136.41	276.14	0.0930	
138.19	276.38	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	269.11	.350E+03	0.1	0.48	67.98
0.39	269.30	.140E+04	0.5	0.77	42.82
0.80	269.71	.602E+04	3.9	1.29	25.50
1.21	270.12	.223E+05	12.1	1.07	30.66
1.61	270.52	.510E+05	30.1	1.16	28.18
2.02	270.93	.842E+05	58.1	1.36	24.18
2.43	271.34	.121E+06	94.6	1.54	21.28
2.84	271.75	.160E+06	139.5	1.71	19.16
3.24	272.15	.203E+06	193.4	1.87	17.51
3.65	272.56	.249E+06	256.5	2.03	16.17
4.06	272.97	.297E+06	328.1	2.17	15.08
4.47	273.38	.348E+06	408.4	2.31	14.19
4.87	273.78	.401E+06	497.5	2.44	13.44
5.28	274.19	.457E+06	595.6	2.56	12.79
5.69	274.60	.516E+06	702.7	2.68	12.23
6.10	275.01	.577E+06	819.1	2.79	11.74
6.50	275.41	.641E+06	934.0	2.87	11.44
6.91	275.82	.712E+06	1009.8	2.79	11.76
7.32	276.23	.803E+06	1016.7	2.49	13.16

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (1021)	171.61	6.59	6.25	53.52	0.93	1.21
OUTFLOW: ID= 1 (5021)	171.61	6.22	6.75	53.52	0.91	1.22

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--------------------
| CALIB              |
| NASHYD    (0021)   |   Area    (ha)=  68.90   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min   |   Ia      (mm)=   7.20   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.75

     Unit Hyd Qpeak  (cms)=   3.490

     PEAK FLOW       (cms)=   4.394 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  63.873
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.560

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2021) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0021):    68.90   4.394     5.50    63.87
       + ID2= 2 (5021):   171.61   6.217     6.75    53.52
         ================================================
         ID = 3 (2021):   240.51   9.280     6.25    56.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0042)   |   Area    (ha)= 109.13   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min   |   Ia      (mm)=   9.40   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.32

     Unit Hyd Qpeak  (cms)=   3.160

     PEAK FLOW       (cms)=   4.288 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  55.103
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.483

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (1052) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0042):   109.13   4.288     6.50    55.10
       + ID2= 2 (2021):   240.51   9.280     6.25    56.48
         ================================================
         ID = 3 (1052):   349.64  13.535     6.25    56.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5052) |
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| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5052.0) ------>
             Distance      Elevation       Manning
                 0.00        266.73        0.0930
                17.65        266.70        0.0930
                30.84        260.87    0.0930 /0.0410  Main Channel
                33.16        260.30        0.0410      Main Channel
                33.54        260.21        0.0410      Main Channel
                34.62        260.23        0.0410      Main Channel
                40.02        260.43    0.0410 /0.0930  Main Channel
                79.73        260.97        0.0930
                92.56        266.14        0.0930
               101.74        266.11        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.22   260.43    .103E+04        0.4          0.49      40.73
      0.52   260.73    .781E+04        4.3          0.66      30.29
      0.82   261.03    .227E+05       14.6          0.77      25.83
      1.12   261.33    .405E+05       33.4          0.98      20.21
      1.42   261.63    .589E+05       58.5          1.18      16.79
      1.71   261.92    .778E+05       89.1          1.37      14.55
      2.01   262.22    .972E+05      125.0          1.53      12.95
      2.31   262.52    .117E+06      166.0          1.69      11.76
      2.61   262.82    .137E+06      211.7          1.84      10.82
      2.91   263.12    .158E+06      262.2          1.97      10.07
      3.21   263.42    .180E+06      317.2          2.11       9.44
      3.51   263.72    .202E+06      376.8          2.23       8.97
      3.81   264.02    .224E+06      440.8          2.35       8.47
      4.11   264.32    .247E+06      509.2          2.46       8.08
      4.41   264.62    .270E+06      582.0          2.57       7.74
      4.70   264.91    .294E+06      659.2          2.67       7.44
      5.00   265.21    .319E+06      740.6          2.77       7.17
      5.30   265.51    .344E+06      826.4          2.87       6.93
      5.60   265.81    .369E+06      916.5          2.96       6.71

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1052)  349.64   13.53    6.25  56.05      0.79      0.76
     OUTFLOW: ID= 1 (5052)  349.64   12.98    6.75  56.05      0.77      0.75


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--------------------
| CALIB              |
| NASHYD    (0052)   |   Area    (ha)=  37.91   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min   |   Ia      (mm)=   9.20   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.84

     Unit Hyd Qpeak  (cms)=   1.718

     PEAK FLOW       (cms)=   1.953 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  55.235
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.485

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2052) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0052):    37.91   1.953     5.75    55.23
       + ID2= 2 (5052):   349.64  12.977     6.75    56.05
         ================================================
         ID = 3 (2052):   387.55  14.370     6.75    55.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2052):   387.55  14.370     6.75    55.97
       + ID2= 2 (2053):   430.88  13.560     7.00    52.58
         ================================================
         ID = 3 (1050):   818.43  27.793     6.75    54.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5050) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5050.0) ------>
             Distance      Elevation       Manning
                 0.00        259.67        0.0930
                13.92        256.13        0.0930
                17.59        256.29        0.0930
                21.12        255.95        0.0930
                30.78        255.82        0.0930
                33.55        255.60        0.0930
                35.41        255.31        0.0930
                42.56        254.71    0.0930 /0.0410  Main Channel
                44.43        254.55        0.0410      Main Channel
                44.75        254.59        0.0410      Main Channel
                49.70        255.17    0.0410 /0.0930  Main Channel
                61.41        256.32        0.0930
                62.19        256.25        0.0930
                64.00        256.45        0.0930
                73.57        258.88        0.0930
                75.52        259.01        0.0930
                83.84        260.70        0.0930
                88.87        260.76        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.16   254.71    .591E+02        0.1          0.31      12.48
      0.42   254.97    .414E+03        1.0          0.56       6.87
      0.68   255.23    .109E+04        3.4          0.72       5.32
      0.94   255.49    .209E+04        8.0          0.89       4.32
      1.20   255.75    .336E+04       14.5          1.00       3.86
      1.47   256.02    .523E+04       22.5          0.99       3.87
      1.73   256.28    .775E+04       34.4          1.02       3.76
      1.99   256.54    .108E+05       51.1          1.09       3.52
      2.25   256.80    .140E+05       71.5          1.18       3.26
```



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      2.51   257.06    .173E+05       95.2          1.27       3.03
      2.77   257.32    .208E+05      122.0          1.36       2.84
      3.03   257.58    .243E+05      151.8          1.44       2.67
      3.29   257.84    .280E+05      184.5          1.52       2.53
      3.55   258.10    .318E+05      220.3          1.60       2.41
      3.81   258.36    .358E+05      259.0          1.67       2.30
      4.08   258.63    .398E+05      300.7          1.74       2.21
      4.34   258.89    .440E+05      345.1          1.81       2.13
      4.60   259.15    .484E+05      390.3          1.86       2.07
      4.86   259.41    .530E+05      441.0          1.92       2.00

                                <---- hydrograph ---->   <-pipe / channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                   (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1050)  818.43   27.79    6.75  54.19      1.58      1.01
     OUTFLOW: ID= 1 (5050)  818.43   27.71    6.75  54.19      1.58      1.01


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--------------------
| CALIB              |
| NASHYD    (0050)   |   Area    (ha)=   7.41   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min   |   Ia      (mm)=   9.80   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.46

     Unit Hyd Qpeak  (cms)=   0.615

     PEAK FLOW       (cms)=   0.505 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  53.209
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.467

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2050) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0050):     7.41   0.505     5.25    53.21
       + ID2= 2 (5050):   818.43  27.712     6.75    54.19
         ================================================
         ID = 3 (2050):   825.84  27.886     6.75    54.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| NASHYD    (0007)   |   Area    (ha)= 178.66   Curve Number   (CN)= 71.0
|ID= 1 DT=15.0 min   |   Ia      (mm)=  10.20   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.46

     Unit Hyd Qpeak  (cms)=   4.684

     PEAK FLOW       (cms)=   6.175 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  51.911
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.455
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5009)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5009.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
17.97	284.61	0.0930	
25.53	284.49	0.0930	
30.68	284.43	0.0930	
35.54	284.45	0.0930	
41.74	284.38	0.0930 /0.0410	Main Channel
43.34	284.37	0.0410	Main Channel
43.57	284.36	0.0410	Main Channel
43.90	284.36	0.0410	Main Channel
45.20	284.36	0.0410	Main Channel
47.00	284.36	0.0410 /0.0930	Main Channel
57.95	284.80	0.0930	
74.16	285.17	0.0930	
94.21	285.41	0.0930	
108.93	285.51	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	284.41	.601E+02	0.0	0.14	25.46
0.09	284.45	.195E+03	0.2	0.17	21.00
0.14	284.50	.428E+03	0.4	0.19	18.59
0.19	284.55	.706E+03	0.7	0.22	16.30
0.23	284.59	.103E+04	1.2	0.24	14.64
0.28	284.64	.138E+04	1.7	0.27	13.25
0.33	284.69	.177E+04	2.4	0.30	12.12
0.37	284.73	.217E+04	3.2	0.32	11.22
0.42	284.78	.261E+04	4.1	0.34	10.50
0.47	284.83	.307E+04	5.1	0.36	9.94
0.52	284.88	.356E+04	6.3	0.38	9.48
0.56	284.92	.409E+04	7.5	0.39	9.08
0.61	284.97	.465E+04	8.9	0.41	8.73
0.66	285.02	.524E+04	10.4	0.42	8.43
0.70	285.06	.587E+04	12.0	0.44	8.15
0.75	285.11	.653E+04	13.8	0.45	7.90
0.80	285.16	.723E+04	15.7	0.47	7.68
0.84	285.20	.796E+04	17.7	0.48	7.51
0.89	285.25	.875E+04	19.8	0.49	7.37

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0007)	178.66	6.17	6.50	51.91	0.51	0.38
OUTFLOW: ID= 1 (5009)	178.66	6.17	6.75	51.91	0.51	0.38

CALIB	
NASHYD (0009)	Area (ha)= 57.35 Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)= 8.90 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.98

Unit Hyd Qpeak (cms)= 2.228

PEAK FLOW (cms)= 2.775 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 56.823
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.498

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2009)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0009):	57.35	2.775	6.00	56.82
+ ID2= 2 (5009):	178.66	6.173	6.75	51.91
ID = 3 (2009):	236.01	8.593	6.50	53.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5012)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5012.0) ------>

Distance	Elevation	Manning	
0.00	288.59	0.0930	
7.35	286.54	0.0930	
182.68	282.59	0.0930 /0.0410	Main Channel
188.50	282.42	0.0410	Main Channel
196.35	282.37	0.0410	Main Channel
198.54	282.38	0.0410	Main Channel
198.86	282.39	0.0410	Main Channel
204.09	282.60	0.0410 /0.0930	Main Channel
220.42	283.20	0.0930	
227.76	283.19	0.0930	
249.45	283.60	0.0930	
276.70	284.52	0.0930	
280.20	284.62	0.0930	
338.90	285.99	0.0930	
430.49	286.70	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	282.59	.133E+05	1.7	0.54	133.55
0.43	282.80	.395E+05	7.7	0.85	85.15
0.64	283.01	.795E+05	18.1	0.99	73.15
0.85	283.22	.134E+06	32.8	1.06	68.25
1.06	283.43	.212E+06	53.6	1.10	65.80
1.27	283.64	.308E+06	81.1	1.14	63.31
1.48	283.85	.420E+06	116.0	1.20	60.37
1.69	284.06	.546E+06	158.0	1.26	57.61
1.90	284.27	.687E+06	207.6	1.31	55.13
2.11	284.48	.841E+06	265.1	1.37	52.91
2.33	284.70	.101E+07	329.9	1.42	51.07
2.54	284.91	.120E+07	402.8	1.46	49.51
2.75	285.12	.140E+07	485.2	1.51	48.06
2.96	285.33	.162E+07	577.5	1.55	46.71
3.17	285.54	.185E+07	680.1	1.59	45.45

3.38	285.75	.211E+07	793.5	1.63	44.27	
3.59	285.96	.238E+07	918.1	1.68	43.16	
3.80	286.17	.267E+07	1036.2	1.68	42.94	
4.01	286.38	.300E+07	1169.3	1.69	42.70	

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2009)	236.01	8.59	6.50	53.10	0.45	0.86
OUTFLOW: ID= 1 (5012)	236.01	6.35	7.50	53.10	0.38	0.75

CALIB	
NASHYD (0012)	Area (ha)= 183.34 Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)= 8.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.22

Unit Hyd Qpeak (cms)= 5.735

PEAK FLOW (cms)= 8.050 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 58.443
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.513

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2012)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0012):	183.34	8.050	6.25	58.44
+ ID2= 2 (5012):	236.01	6.352	7.50	53.10
ID = 3 (2012):	419.35	12.835	7.00	55.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0032)	Area (ha)= 49.09 Curve Number (CN)= 73.0
ID= 1 DT=15.0 min	Ia (mm)= 9.40 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.97

Unit Hyd Qpeak (cms)= 1.937

PEAK FLOW (cms)= 2.316 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 55.091
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.483

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1040)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0032):	49.09	2.316	6.00	55.09
+ ID2= 2 (2012):	419.35	12.835	7.00	55.44
ID = 3 (1040):	468.44	14.647	6.75	55.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5040)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5040.0) ------>

Distance	Elevation	Manning	
0.00	263.73	0.0930	
3.80	263.50	0.0930	
15.09	260.45	0.0930	
19.73	260.13	0.0930	
24.77	259.11	0.0930	
29.24	257.72	0.0930	
39.41	256.76	0.0930	
45.12	255.96	0.0930 /0.0410	Main Channel
45.71	255.95	0.0410	Main Channel
46.66	255.94	0.0410	Main Channel
47.79	255.93	0.0410	Main Channel
48.07	255.95	0.0410	Main Channel
49.01	256.02	0.0410	Main Channel
49.66	256.06	0.0410 /0.0930	Main Channel
50.09	256.08	0.0930	
66.82	257.59	0.0930	
68.76	257.78	0.0930	
85.17	263.07	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.03	255.96	.201E+02	0.0	0.13	49.56
0.40	256.33	.103E+04	2.0	0.75	8.68
0.78	256.71	.305E+04	7.5	0.95	6.80
1.15	257.08	.613E+04	16.9	1.07	6.03
1.53	257.46	.104E+05	31.3	1.17	5.53
1.90	257.83	.158E+05	52.0	1.28	5.06
2.28	258.21	.218E+05	80.4	1.43	4.52
2.65	258.58	.281E+05	114.3	1.58	4.10
3.02	258.95	.348E+05	153.7	1.72	3.78
3.40	259.33	.419E+05	197.9	1.84	3.53
3.77	259.70	.493E+05	247.2	1.95	3.33
4.15	260.08	.573E+05	302.2	2.05	3.16
4.52	260.45	.658E+05	356.5	2.11	3.08
4.89	260.82	.750E+05	426.3	2.21	2.93
5.27	261.20	.846E+05	502.3	2.31	2.81
5.64	261.57	.945E+05	584.5	2.41	2.69
6.02	261.95	.105E+06	673.1	2.50	2.60
6.39	262.32	.116E+06	768.0	2.59	2.51
6.77	262.70	.127E+06	869.4	2.67	2.43

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1040)	468.44	14.65	6.75	55.40	1.06	1.04
OUTFLOW: ID= 1 (5040)	468.44	14.62	6.75	55.40	1.06	1.04

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--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0040)  |   Area    (ha)=   5.95   Curve Number   (CN)= 74.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   8.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.28

     Unit Hyd Qpeak  (cms)=   0.797

     PEAK FLOW       (cms)=   0.510 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  55.141
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.484

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2040) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0040):     5.95   0.510     5.25    55.14
       + ID2= 2 (5040):   468.44  14.616     6.75    55.40
         ================================================
         ID = 3 (2040):   474.39  14.726     6.75    55.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1043) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2040):   474.39  14.726     6.75    55.40
       + ID2= 2 (2050):   825.84  27.886     6.75    54.18
         ================================================
         ID = 3 (1043):  1300.23  42.613     6.75    54.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5043) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (5043.0) ------>
               Distance      Elevation       Manning
                   0.00         258.27        0.0930
                   9.62         255.23        0.0930
                  22.15         254.22        0.0930
                  41.61         253.70    0.0930 /0.0410  Main Channel
                  42.11         253.67        0.0410      Main Channel
                  44.98         252.56        0.0410      Main Channel
                  45.13         252.60        0.0410      Main Channel
                  47.49         253.41    0.0410 /0.0930  Main Channel
                  50.17         253.96        0.0930
                  52.43         253.89        0.0930
                  55.10         253.86        0.0930
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                  58.88         253.98        0.0930
                  61.24         253.95        0.0930
                 105.33         254.48        0.0930
                 118.27         258.71        0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)         (m/s)      (min)
       0.28   252.84    .132E+03        0.1          0.25       38.42
       0.57   253.13    .519E+03        0.4          0.39       24.35
       0.85   253.41    .116E+04        1.0          0.51       18.63
       1.15   253.71    .219E+04        2.4          0.62       15.46
       1.46   254.02    .541E+04        5.0          0.53       17.97
       1.76   254.32    .150E+05       10.9          0.42       23.00
       2.06   254.62    .295E+05       22.1          0.43       22.31
       2.37   254.93    .454E+05       38.6          0.49       19.62
       2.67   255.23    .622E+05       59.5          0.55       17.40
       2.98   255.54    .795E+05       85.3          0.62       15.52
       3.28   255.84    .971E+05      115.1          0.68       14.06
       3.58   256.14    .115E+06      148.5          0.74       12.91
       3.89   256.45    .133E+06      185.5          0.80       11.98
       4.19   256.75    .152E+06      226.0          0.86       11.20
       4.49   257.05    .171E+06      269.9          0.91       10.55
       4.80   257.36    .190E+06      317.2          0.96        9.99
       5.10   257.66    .210E+06      367.7          1.01        9.51
       5.41   257.97    .230E+06      421.4          1.06        9.09
       5.71   258.27    .250E+06      478.3          1.10        8.71

                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1043) 1300.23    42.61    6.75  54.62      2.43      0.50
     OUTFLOW: ID= 1 (5043) 1300.23    41.51    7.25  54.62      2.41      0.50

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0043)  |   Area    (ha)=  12.70   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.20   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.41

     Unit Hyd Qpeak  (cms)=   1.195

     PEAK FLOW       (cms)=   0.955 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  54.792
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.481

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2043) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0043):    12.70   0.955     5.25    54.79
       + ID2= 2 (5043):  1300.23  41.513     7.25    54.62
         ================================================
         ID = 3 (2043):  1312.93  41.736     7.25    54.62
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (0014)  |   Area    (ha)=  82.92   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   8.60   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.27

     Unit Hyd Qpeak  (cms)=   2.502

     PEAK FLOW       (cms)=   3.555 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  58.444
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.513

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN (5013) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (5013.0) ------>
               Distance      Elevation       Manning
                   0.00         275.77        0.0930
                  14.35         275.60        0.0930
                  43.06         272.29        0.0930
                  99.28         270.53        0.0930
                 104.12         270.24        0.0930
                 107.91         270.08        0.0930
                 113.53         269.94    0.0930 /0.0410  Main Channel
                 117.24         269.85        0.0410      Main Channel
                 117.42         269.85        0.0410      Main Channel
                 122.48         269.97    0.0410 /0.0930  Main Channel
                 149.76         270.95        0.0930
                 171.23         275.18        0.0930
                 223.54         276.38        0.0930

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)         (m/s)      (min)
       0.09   269.94    .752E+03        0.1          0.29     124.05
       0.40   270.25    .123E+05        4.2          0.71      49.57
       0.70   270.55    .339E+05       14.4          0.90      39.14
       1.01   270.86    .661E+05       31.5          1.01      34.91
       1.32   271.17    .109E+06       58.4          1.14      31.11
       1.62   271.47    .160E+06       95.2          1.27      27.97
       1.93   271.78    .218E+06      141.7          1.38      25.60
       2.24   272.09    .283E+06      198.6          1.49      23.75
       2.54   272.39    .356E+06      268.4          1.60      22.08
       2.85   272.70    .432E+06      352.8          1.74      20.41
       3.16   273.01    .511E+06      447.7          1.86      19.02
       3.47   273.32    .593E+06      553.0          1.98      17.87
       3.77   273.62    .677E+06      668.6          2.10      16.89
       4.08   273.93    .765E+06      794.4          2.21      16.05
       4.39   274.24    .855E+06      930.4          2.31      15.31
       4.69   274.54    .948E+06     1076.7          2.41      14.67
       5.00   274.85    .104E+07     1233.2          2.51      14.10
       5.31   275.16    .114E+07     1400.1          2.61      13.59
       5.61   275.46    .125E+07     1528.9          2.61      13.58
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                                  <---- hydrograph ---->   <-pipe / channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                     (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0014)   82.92     3.55    6.25  58.44      0.35      0.59
     OUTFLOW: ID= 1 (5013)   82.92     2.82    7.00  58.44      0.30      0.48

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0013)  |   Area    (ha)= 118.75   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.70   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.20

     Unit Hyd Qpeak  (cms)=   3.792

     PEAK FLOW       (cms)=   4.808 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  53.562
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.470

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2013) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0013):   118.75   4.808     6.25    53.56
       + ID2= 2 (5013):    82.92   2.824     7.00    58.44
         ================================================
         ID = 3 (2013):   201.67   7.222     6.75    55.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0002)  |   Area    (ha)= 141.56   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.27

     Unit Hyd Qpeak  (cms)=   4.261

     PEAK FLOW       (cms)=   5.492 (i)
     TIME TO PEAK    (hrs)=   6.500
     RUNOFF VOLUME    (mm)=  53.411
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.469

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (0003)  |   Area    (ha)=  57.29   Curve Number   (CN)= 72.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   9.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.86

     Unit Hyd Qpeak  (cms)=   2.533
```

PEAK FLOW (cms)= 2.801 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 53.392
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.468

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1006)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0002):	141.56	5.492	6.50	53.41
		+ ID2= 2 (0003):	57.29	2.801	5.75	53.39
		ID = 3 (1006):	198.85	8.066	6.25	53.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5006)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5006.0) ------>

Distance	Elevation	Manning	
0.00	287.32	0.0930	
23.48	286.69	0.0930	
44.41	286.64	0.0930	
58.95	286.40	0.0930	
73.88	284.37	0.0930 /0.0410	Main Channel
84.88	284.02	0.0410	Main Channel
87.92	283.91	0.0410	Main Channel
95.02	284.40	0.0410 /0.0930	Main Channel
111.06	285.99	0.0930	
138.74	286.46	0.0930	
172.31	287.17	0.0930	
211.16	287.27	0.0930	
236.90	287.59	0.0930	
267.08	287.45	0.0930	
312.04	288.42	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	284.06	.461E+03	0.1	0.24	63.72
0.31	284.22	.190E+04	0.8	0.38	40.19
0.46	284.37	.434E+04	2.4	0.50	30.58
0.64	284.55	.816E+04	6.4	0.73	21.22
0.83	284.74	.125E+05	12.1	0.89	17.25
1.01	284.92	.175E+05	19.4	1.03	15.03
1.20	285.11	.229E+05	28.1	1.13	13.60
1.38	285.29	.290E+05	38.4	1.23	12.58
1.57	285.48	.355E+05	50.1	1.30	11.82
1.75	285.66	.427E+05	63.4	1.37	11.21
1.94	285.85	.503E+05	78.2	1.44	10.73
2.12	286.03	.586E+05	94.1	1.49	10.38
2.30	286.21	.684E+05	110.8	1.50	10.30
2.49	286.40	.804E+05	130.2	1.50	10.29
2.67	286.58	.952E+05	150.2	1.46	10.56
2.86	286.77	.115E+06	173.2	1.39	11.06

3.04	286.95	.139E+06	203.8	1.36	11.36
3.23	287.14	.166E+06	238.3	1.33	11.58
3.41	287.32	.198E+06	269.7	1.26	12.23

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1006)	198.85	8.07	6.25	53.41	0.70	0.77
OUTFLOW: ID= 1 (5006)	198.85	7.90	6.50	53.40	0.69	0.76

CALIB	NASHYD (0006)	ID= 1 DT=15.0 min	Area (ha)= 26.09	Curve Number (CN)= 70.0	Ia (mm)= 8.30	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 0.65

Unit Hyd Qpeak (cms)= 1.533

PEAK FLOW (cms)= 1.461 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 52.000
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.456

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2006)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0006):	26.09	1.461	5.50	52.00
		+ ID2= 2 (5006):	198.85	7.903	6.50	53.40
		ID = 3 (2006):	224.94	8.918	6.25	53.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0001)	ID= 1 DT=15.0 min	Area (ha)= 255.18	Curve Number (CN)= 73.0	Ia (mm)= 9.60	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 1.71

Unit Hyd Qpeak (cms)= 5.686

PEAK FLOW (cms)= 8.448 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 54.951
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.482

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1008)	1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.

			AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0001):	255.18	8.448	7.00	54.95
		+ ID2= 2 (2006):	224.94	8.918	6.25	53.24
		ID = 3 (1008):	480.12	16.964	6.50	54.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5008)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5008.0) ------>

Distance	Elevation	Manning	
0.00	285.25	0.0930	
5.09	285.37	0.0930	
133.83	283.19	0.0930	
146.67	282.58	0.0930	
159.56	277.24	0.0930	
181.65	275.77	0.0930 /0.0410	Main Channel
184.90	275.43	0.0410	Main Channel
185.21	275.45	0.0410	Main Channel
187.80	275.63	0.0410	Main Channel
191.31	275.97	0.0410 /0.0930	Main Channel
209.70	278.15	0.0930	
221.15	281.88	0.0930	
261.53	283.57	0.0930	
304.31	284.15	0.0930	
337.36	284.93	0.0930	
377.51	285.01	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	275.77	.187E+04	0.8	0.58	40.13
0.85	276.28	.116E+05	8.7	1.05	22.11
1.35	276.78	.296E+05	26.7	1.25	18.51
1.86	277.29	.559E+05	56.0	1.39	16.65
2.36	277.79	.880E+05	99.4	1.57	14.74
2.87	278.30	.124E+06	155.5	1.74	13.27
3.37	278.80	.162E+06	224.4	1.92	12.03
3.88	279.31	.202E+06	304.6	2.09	11.06
4.38	279.81	.244E+06	395.9	2.25	10.28
4.89	280.32	.288E+06	498.0	2.40	9.64
5.39	280.82	.334E+06	611.1	2.54	9.11
5.90	281.33	.382E+06	735.0	2.67	8.66
6.40	281.83	.432E+06	869.8	2.79	8.28
6.91	282.34	.487E+06	982.8	2.80	8.25
7.41	282.84	.552E+06	1089.7	2.74	8.44
7.92	283.35	.633E+06	1183.0	2.59	8.91
8.42	283.85	.742E+06	1270.3	2.37	9.74
8.93	284.36	.897E+06	1446.3	2.24	10.33
9.43	284.86	.109E+07	1711.6	2.18	10.60

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1008)	480.12	16.96	6.50	54.15	1.08	1.13
OUTFLOW: ID= 1 (5008)	480.12	16.56	7.00	54.15	1.06	1.12

CALIB	NASHYD (0008)	ID= 1 DT=15.0 min	Area (ha)= 39.23	Curve Number (CN)= 70.0	Ia (mm)= 10.70	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 0.70

Unit Hyd Qpeak (cms)= 2.153

PEAK FLOW (cms)= 2.028 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 50.244
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.441

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2008)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0008):	39.23	2.028	5.50	50.24
		+ ID2= 2 (5008):	480.12	16.560	7.00	54.15
		ID = 3 (2008):	519.35	17.696	6.75	53.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0010)	ID= 1 DT=15.0 min	Area (ha)= 32.74	Curve Number (CN)= 73.0	Ia (mm)= 9.20	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 0.85

Unit Hyd Qpeak (cms)= 1.473

PEAK FLOW (cms)= 1.680 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 55.236
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.485

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1017)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0010):	32.74	1.680	5.75	55.24
		+ ID2= 2 (2008):	519.35	17.696	6.75	53.85
		ID = 3 (1017):	552.09	18.903	6.75	53.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5017)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5017.0) ------>

Distance	Elevation	Manning	
0.00	284.04	0.0930	
46.21	283.58	0.0930	
60.07	282.83	0.0930	
78.57	282.39	0.0930	
85.85	282.05	0.0930	
121.94	278.24	0.0930	
123.09	278.18	0.0930	
129.01	277.91	0.0930	
139.25	277.70	0.0930	
148.64	277.62	0.0930	
150.40	277.60	0.0930 /0.0410	Main Channel
153.11	277.50	0.0410	Main Channel
156.99	277.64	0.0410 /0.0930	Main Channel
169.99	278.18	0.0930	
199.99	281.62	0.0930	
209.74	282.18	0.0930	
218.36	282.39	0.0930	
234.68	282.62	0.0930	
330.59	282.90	0.0930	
341.39	283.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	277.60	.885E+03	0.1	0.24	223.44
0.39	277.89	.204E+05	2.8	0.44	123.11
0.67	278.17	.572E+05	10.5	0.59	91.21
0.96	278.46	.103E+06	23.8	0.74	72.31
1.24	278.74	.154E+06	42.1	0.88	61.07
1.53	279.03	.210E+06	65.0	1.00	53.76
1.81	279.31	.270E+06	92.7	1.11	48.56
2.10	279.60	.336E+06	125.3	1.21	44.64
2.39	279.89	.406E+06	162.7	1.30	41.55
2.67	280.17	.480E+06	205.2	1.38	39.03
2.96	280.46	.560E+06	252.8	1.46	36.93
3.24	280.74	.645E+06	305.8	1.53	35.14
3.53	281.03	.734E+06	364.2	1.60	33.59
3.82	281.32	.828E+06	428.2	1.67	32.23
4.10	281.60	.927E+06	497.9	1.73	31.02
4.39	281.89	.103E+07	569.1	1.78	30.21
4.67	282.17	.114E+07	642.6	1.81	29.66
4.96	282.46	.127E+07	698.4	1.78	30.27
5.24	282.74	.143E+07	715.3	1.62	33.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1017)	552.09	18.90	6.75	53.94	0.85	0.68
OUTFLOW: ID= 1 (5017)	552.09	14.74	8.00	53.93	0.76	0.63

CALIB					
NASHYD (0017)	Area	(ha)= 148.68	Curve Number	(CN)= 69.0	
ID= 1 DT=15.0 min	Ia	(mm)= 8.50	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 1.11				

Unit Hyd Qpeak (cms)= 5.125

PEAK FLOW (cms)= 5.909 (i)
TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 50.673
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.444

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2017)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0017):	148.68	5.909	6.25	50.67
	+ ID2= 2 (5017):	552.09	14.739	8.00	53.93
	ID = 3 (2017):	700.77	18.453	7.50	53.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1033)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2013):	201.67	7.222	6.75	55.57
	+ ID2= 2 (2017):	700.77	18.453	7.50	53.24
	ID = 3 (1033):	902.44	24.993	7.25	53.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5033)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5033.0) ------>

Distance	Elevation	Manning	
0.00	262.20	0.0930	
7.96	260.93	0.0930	
28.15	259.22	0.0930	
39.76	257.39	0.0930	
55.06	257.09	0.0930	
63.73	256.73	0.0930	
75.56	256.77	0.0930	
86.35	257.05	0.0930 /0.0410	Main Channel
88.50	256.67	0.0410	Main Channel
89.43	256.54	0.0410	Main Channel
90.89	256.33	0.0410	Main Channel
92.64	256.68	0.0410	Main Channel
94.27	257.00	0.0410 /0.0930	Main Channel
113.17	257.17	0.0930	
126.05	259.64	0.0930	
159.89	261.07	0.0930	
170.84	262.03	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	256.55	.142E+03	0.1	0.35	22.74

0.45	256.78	.731E+03	0.7	0.45	17.70
0.67	257.00	.357E+04	3.0	0.40	19.98
0.98	257.31	.121E+05	12.3	0.49	16.35
1.30	257.63	.234E+05	30.9	0.63	12.60
1.61	257.94	.352E+05	57.0	0.77	10.29
1.93	258.26	.476E+05	89.8	0.90	8.85
2.24	258.57	.606E+05	128.7	1.01	7.85
2.56	258.89	.741E+05	173.7	1.12	7.11
2.87	259.20	.882E+05	224.6	1.22	6.54
3.18	259.51	.103E+06	279.2	1.30	6.14
3.50	259.83	.119E+06	335.2	1.35	5.89
3.81	260.14	.136E+06	396.3	1.39	5.71
4.13	260.46	.155E+06	466.0	1.44	5.54
4.44	260.77	.175E+06	544.3	1.48	5.37
4.76	261.09	.198E+06	634.2	1.53	5.19
5.07	261.40	.221E+06	740.3	1.60	4.98
5.39	261.72	.245E+06	854.6	1.66	4.78
5.70	262.03	.270E+06	977.2	1.73	4.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1033)	902.44	24.99	7.25	53.76	1.20	0.58
OUTFLOW: ID= 1 (5033)	902.44	24.85	7.50	53.76	1.20	0.58

CALIB					
NASHYD (0033)	Area	(ha)= 14.99	Curve Number	(CN)= 72.0	
ID= 1 DT=15.0 min	Ia	(mm)= 9.80	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.51				

Unit Hyd Qpeak (cms)= 1.118

PEAK FLOW (cms)= 0.957 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 53.304
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.468

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2033)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0033):	14.99	0.957	5.50	53.30
	+ ID2= 2 (5033):	902.44	24.854	7.50	53.76
	ID = 3 (2033):	917.43	25.129	7.25	53.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0034)	Area	(ha)= 66.29	Curve Number	(CN)= 74.0	
ID= 1 DT=15.0 min	Ia	(mm)= 8.90	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 1.32				

Unit Hyd Qpeak (cms)= 1.917

PEAK FLOW (cms)= 2.688 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 56.834
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.499

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1037)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0034):	66.29	2.688	6.50	56.83
	+ ID2= 2 (2033):	917.43	25.129	7.25	53.75
	ID = 3 (1037):	983.72	27.459	7.25	53.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5037)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5037.0) ------>

Distance	Elevation	Manning	
0.00	260.96	0.0930	
3.52	260.75	0.0930	
32.87	255.52	0.0930	
40.76	254.86	0.0930 /0.0410	Main Channel
42.91	253.65	0.0410	Main Channel
48.59	254.84	0.0410 /0.0930	Main Channel
80.76	254.83	0.0930	
96.56	255.53	0.0930	
112.29	261.81	0.0930	
119.25	261.97	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.95	.102E+03	0.1	0.40	14.86
0.60	254.25	.410E+03	0.7	0.63	9.36
0.89	254.54	.922E+03	2.2	0.82	7.14
1.19	254.84	.170E+04	4.6	0.97	6.10
1.60	255.25	.848E+04	16.3	0.68	8.67
2.01	255.66	.172E+05	38.2	0.78	7.50
2.41	256.06	.268E+05	70.6	0.93	6.32
2.82	256.47	.368E+05	111.6	1.07	5.50
3.23	256.88	.474E+05	160.7	1.20	4.91
3.64	257.29	.584E+05	217.8	1.32	4.47
4.05	257.70	.699E+05	282.6	1.43	4.12
4.45	258.10	.818E+05	355.1	1.53	3.84
4.86	258.51	.943E+05	435.2	1.63	3.61
5.27	258.92	.107E+06	522.9	1.72	3.42
5.68	259.33	.121E+06	618.3	1.81	3.25
6.09	259.74	.134E+06	721.4	1.90	3.11
6.49	260.14	.149E+06	832.2	1.98	2.98
6.90	260.55	.164E+06	950.8	2.05	2.87
7.31	260.96	.179E+06	1070.9	2.11	2.79

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1037)	983.72	27.46	7.25	53.96	1.81	0.73
OUTFLOW: ID= 1 (5037)	983.72	27.34	7.50	53.96	1.80	0.73

CALIB			
NASHYD (0037)	Area (ha)=	10.16	Curve Number (CN)= 75.0
ID= 1 DT=15.0 min	Ia (mm)=	8.50	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.36	

Unit Hyd Qpeak (cms)= 1.090

PEAK FLOW (cms)= 0.853 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 57.715
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.506

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2037)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0037):	10.16	0.853	5.25	57.72
+ ID2= 2 (5037):	983.72	27.345	7.50	53.96
ID = 3 (2037):	993.88	27.494	7.50	54.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1049)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2037):	993.88	27.494	7.50	54.00
+ ID2= 2 (2043):	1312.93	41.736	7.25	54.62
ID = 3 (1049):	2306.81	69.196	7.25	54.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5049)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5049.0) ------>

Distance	Elevation	Manning		
0.00	263.74	0.0930		
50.53	263.28	0.0930		
63.03	262.47	0.0930		
87.97	255.04	0.0930		
98.77	253.73	0.0930 /0.0410	Main Channel	

108.22	253.09	0.0410	Main Channel
111.56	253.07	0.0410	Main Channel
112.80	253.14	0.0410	Main Channel
114.25	253.67	0.0410 /0.0930	Main Channel
116.67	254.81	0.0930	
143.69	255.06	0.0930	
162.94	255.55	0.0930	
197.87	263.69	0.0930	
207.51	264.45	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	253.37	.221E+04	0.5	0.27	69.99
0.60	253.67	.629E+04	2.2	0.40	47.02
1.19	254.26	.184E+05	11.1	0.68	27.66
1.78	254.85	.348E+05	25.8	0.84	22.46
2.38	255.45	.732E+05	49.7	0.77	24.52
2.97	256.04	.125E+06	87.5	0.79	23.92
3.56	256.63	.181E+06	136.9	0.86	22.04
4.15	257.22	.240E+06	197.0	0.93	20.28
4.75	257.82	.301E+06	267.3	1.01	18.79
5.34	258.41	.366E+06	347.6	1.08	17.55
5.93	259.00	.434E+06	437.8	1.15	16.52
6.52	259.59	.505E+06	537.8	1.21	15.64
7.12	260.19	.579E+06	647.6	1.27	14.89
7.71	260.78	.655E+06	767.3	1.33	14.24
8.30	261.37	.735E+06	896.9	1.38	13.66
8.89	261.96	.818E+06	1036.6	1.44	13.16
9.49	262.56	.904E+06	1183.2	1.48	12.74
10.08	263.15	.997E+06	1325.9	1.51	12.53
10.67	263.74	.111E+07	1426.8	1.46	12.94

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1049)	2306.81	69.20	7.25	54.36	2.68	0.78
OUTFLOW: ID= 1 (5049)	2306.81	65.66	7.75	54.36	2.63	0.78

CALIB			
NASHYD (0049)	Area (ha)=	30.46	Curve Number (CN)= 74.0
ID= 1 DT=15.0 min	Ia (mm)=	9.10	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.60	

Unit Hyd Qpeak (cms)= 1.949

PEAK FLOW (cms)= 1.961 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 56.571
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.496

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2049)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0049):	30.46	1.961	5.50	56.57
+ ID2= 2 (5049):	2306.81	65.656	7.75	54.36
ID = 3 (2049):	2337.27	66.140	7.75	54.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1039)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2049):	2337.27	66.140	7.75	54.38
+ ID2= 2 (2063):	2379.05	53.266	8.75	53.11
ID = 3 (1039):	4716.32	115.367	8.00	53.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5039)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5039.0) ------>

Distance	Elevation	Manning		
0.00	260.00	0.0930		
105.82	257.72	0.0930		
137.40	257.00	0.0930		
163.69	256.37	0.0930		
237.19	256.95	0.0930		
283.24	256.00	0.0930		
335.42	256.00	0.0930		
341.91	256.25	0.0930		
370.46	254.68	0.0930		
405.46	252.00	0.0930		
421.66	251.26	0.0930 /0.0410	Main Channel	
425.14	251.00	0.0410	Main Channel	
430.43	250.00	0.0410	Main Channel	
434.15	250.00	0.0410	Main Channel	
436.43	250.89	0.0410 /0.0930	Main Channel	
443.70	251.29	0.0930		
472.16	252.35	0.0930		
485.36	252.50	0.0930		
501.02	253.82	0.0930		
541.72	263.04	0.0930		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	250.44	.417E+04	0.9	0.39	73.75
0.89	250.89	.110E+05	3.6	0.57	50.45
1.43	251.43	.282E+05	10.5	0.64	44.71
1.96	251.96	.672E+05	25.6	0.65	43.77
2.50	252.50	.129E+06	49.3	0.65	43.75
3.03	253.03	.215E+06	87.2	0.70	41.04
3.57	253.57	.313E+06	137.1	0.75	38.00
4.11	254.11	.422E+06	200.2	0.81	35.13
4.64	254.64	.541E+06	276.8	0.88	32.56
5.18	255.18	.669E+06	364.3	0.93	30.60
5.71	255.71	.808E+06	465.2	0.99	28.96
6.25	256.25	.985E+06	546.0	0.95	30.06

6.78	256.78	.124E+07	671.8	0.93	30.86
7.32	257.32	.159E+07	859.8	0.93	30.80
7.86	257.86	.196E+07	1093.1	0.96	29.92
8.39	258.39	.236E+07	1360.3	0.99	28.92
8.93	258.93	.278E+07	1662.5	1.02	27.90
9.46	259.46	.323E+07	2000.4	1.06	26.92
10.00	260.00	.370E+07	2374.8	1.10	25.99

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1039)	4716.32	115.37	8.00	53.74	3.34	0.73
OUTFLOW: ID= 1 (5039)	4716.32	108.31	8.75	53.74	3.26	0.72

CALIB			
NASHYD (0039)	Area (ha)=	81.93	Curve Number (CN)= 71.0
ID= 1 DT=15.0 min	Ia (mm)=	10.20	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.75	

Unit Hyd Qpeak (cms)= 4.145

PEAK FLOW (cms)= 4.177 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 51.874
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.455

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2039)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0039):	81.93	4.177	5.75	51.87
+ ID2= 2 (5039):	4716.32	108.314	8.75	53.74
ID = 3 (2039):	4798.25	109.135	8.75	53.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0454)	Area (ha)=	15.15	
ID= 1 DT=15.0 min	Total Imp(%)=	55.00	Dir. Conn.(%)= 43.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.33	6.82
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	317.80	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	62.60
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	9.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.09

```
                                                        *TOTALS*
     PEAK FLOW      (cms)=       0.95         1.18          2.126 (iii)
     TIME TO PEAK   (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME   (mm)=     113.00        92.29         101.20
     TOTAL RAINFALL  (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT  =       0.99         0.81           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9119) |
| Inlet Cap.=2.458 |
| #of Inlets=    1 |
| Total(cms)=  2.5 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.15      2.13      5.25  101.20
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.15      2.13      5.25  101.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6119) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7140     0.1930
                          0.0220     0.0770   |   1.0810     0.2120
                          0.0300     0.1400   |   1.4980     0.2320
                          0.1630     0.1580   |   2.4580     0.2560
                          0.4020     0.1760   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9119)     15.150      2.126      5.25     101.20
     OUTFLOW: ID= 1 (6119)     15.150      2.124      5.25     101.14

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.88
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2478

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--------------------
| ADD HYD   (4119) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9119 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6119):    15.15   2.124     5.25   101.14
      + ID2= 2 (9119):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4119):    15.15   2.124     5.25   101.14
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (3039) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2039):  4798.25 109.135     8.75    53.71
      + ID2= 2 (4119):    15.15   2.124     5.25   101.14
        ================================================
        ID = 3 (3039):  4813.40 109.265     8.75    53.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0029) |   Area    (ha)=  90.39   Curve Number   (CN)= 69.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.80   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.87

     Unit Hyd Qpeak  (cms)=   3.955

     PEAK FLOW       (cms)=   4.118 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  50.440
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.442

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0029):    90.39   4.118     5.75    50.44
      + ID2= 2 (3039):  4813.40 109.265     8.75    53.86
        ================================================
        ID = 3 (1038):  4903.79 110.270     8.75    53.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5038) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                    <------ DATA FOR SECTION (5038.0) ------>
                    Distance      Elevation       Manning
                       0.00         264.96        0.0930
                      17.37         263.50        0.0930
                      57.10         253.15        0.0930
                      82.21         251.50        0.0930
                     173.97         249.50        0.0930
                     230.01         246.00        0.0930
                     254.43         246.00        0.0930
                     281.97         245.79        0.0930
                     286.56         245.45        0.0930
                     287.80         245.00    0.0930 /0.0410  Main Channel
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                    288.00       244.50        0.0410      Main Channel
                    292.35       244.50        0.0410      Main Channel
                    292.94       245.00    0.0410 /0.0930  Main Channel
                    315.83       257.40        0.0930
                    330.45       261.99        0.0930

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   245.00    .228E+04        1.3          0.53      30.29
       1.39   245.89    .101E+05        8.0          0.77      20.93
       2.29   246.79    .679E+05       38.7          0.55      29.25
       3.18   247.68    .143E+06      101.6          0.69      23.38
       4.08   248.58    .231E+06      194.8          0.81      19.76
       4.97   249.47    .333E+06      319.4          0.92      17.38
       5.87   250.37    .460E+06      449.5          0.94      17.04
       6.76   251.26    .623E+06      634.5          0.98      16.36
       7.65   252.15    .817E+06      913.9          1.08      14.89
       8.55   253.05    .102E+07     1260.8          1.18      13.54
       9.44   253.94    .124E+07     1690.1          1.31      12.24
      10.34   254.84    .146E+07     2176.8          1.43      11.20
      11.23   255.73    .169E+07     2715.7          1.55      10.37
      12.12   256.62    .192E+07     3305.4          1.66       9.68
      13.02   257.52    .215E+07     3944.1          1.76       9.11
      13.91   258.41    .239E+07     4628.0          1.86       8.62
      14.81   259.31    .264E+07     5361.6          1.95       8.21
      15.70   260.20    .289E+07     6144.6          2.04       7.84
      16.60   261.10    .315E+07     6976.6          2.13       7.52

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1038) 4903.79   110.27    8.75  53.80      3.27      0.70
     OUTFLOW: ID= 1 (5038) 4903.79   108.27    9.00  53.80      3.24      0.69

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--------------------
| CALIB            |
| NASHYD    (0038) |   Area    (ha)=  18.88   Curve Number   (CN)= 73.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   9.20   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.42

     Unit Hyd Qpeak  (cms)=   1.701

     PEAK FLOW       (cms)=   1.391 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  54.863
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.481

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0038):    18.88   1.391     5.25    54.86
      + ID2= 2 (5038):  4903.79 108.273     9.00    53.80
        ================================================
        ID = 3 (2038):  4922.67 108.384     9.00    53.80
```



```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0023) |   Area    (ha)= 185.77   Curve Number   (CN)= 75.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.60   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   1.25

     Unit Hyd Qpeak  (cms)=   5.685

     PEAK FLOW       (cms)=   8.042 (i)
     TIME TO PEAK    (hrs)=   6.250
     RUNOFF VOLUME    (mm)=  58.443
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.513

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1051) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0023):   185.77   8.042     6.25    58.44
      + ID2= 2 (2038):  4922.67 108.384     9.00    53.80
        ================================================
        ID = 3 (1051):  5108.44 111.357     9.00    53.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0449) |   Area    (ha)=  59.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  46.00   Dir. Conn.(%)=  36.00
--------------------

                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       27.31         32.07
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.90
     Length            (m)=      629.18         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         56.10
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       2.40 (ii)    15.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.11          4.82          7.936 (iii)
     TIME TO PEAK    (hrs)=       5.00          5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00         85.79          95.59
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.75           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9118)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		59.38	7.94	5.25	95.59
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		59.38	7.94	5.25	95.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6118)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	17.0000	0.4500
	1.1800	0.3000	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9118)	59.380	7.936	5.25	95.59
OUTFLOW: ID= 1 (6118)	59.380	8.093	5.25	95.59

PEAK FLOW REDUCTION [Qout/Qin](%)=101.97
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.3726

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (4118)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G :	HYDROGRAPH 9118 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6118):		59.38	8.093	5.25	95.59
+ ID2= 2 (9118):		0.00	0.000	0.00	0.00
ID = 3 (4118):		59.38	8.093	5.25	95.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3051)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1051):		5108.44	111.357	9.00	53.97
+ ID2= 2 (4118):		59.38	8.093	5.25	95.59
ID = 3 (3051):		5167.82	111.953	9.00	54.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5051)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5051.0) ------>

Distance	Elevation	Manning	
0.00	254.99	0.0930	
45.56	252.50	0.0930	
55.02	252.50	0.0930	
73.97	254.29	0.0930	
227.89	251.34	0.0930	
260.10	248.27	0.0930	
305.08	247.61	0.0930	
342.61	243.00	0.0930	
370.31	242.00	0.0930	
383.77	242.50	0.0930	
407.52	242.50	0.0930	
427.35	242.00	0.0930	
428.40	241.76	0.0930 /0.0410	Main Channel
429.92	241.00	0.0410	Main Channel
437.00	241.00	0.0410	Main Channel
437.12	241.50	0.0410 /0.0930	Main Channel
439.50	242.50	0.0930	
471.55	242.50	0.0930	
491.51	244.88	0.0930	
515.66	256.99	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	241.50	.856E+04	2.7	0.70	53.03
1.21	242.21	.290E+05	13.1	1.01	36.81
1.92	242.92	.174E+06	49.5	0.64	58.53
2.63	243.63	.393E+06	138.4	0.79	47.30
3.34	244.34	.630E+06	269.1	0.96	39.04
4.05	245.05	.886E+06	439.5	1.11	33.60
4.76	245.76	.116E+07	651.0	1.26	29.59
5.47	246.47	.144E+07	898.5	1.40	26.65
6.18	247.18	.173E+07	1181.0	1.53	24.40
6.89	247.89	.204E+07	1436.7	1.58	23.65
7.60	248.60	.241E+07	1738.7	1.62	23.08
8.31	249.31	.280E+07	2162.7	1.73	21.58
9.02	250.02	.321E+07	2629.6	1.84	20.32
9.73	250.73	.363E+07	3139.3	1.94	19.25
10.44	251.44	.406E+07	3663.4	2.02	18.48
11.15	252.15	.454E+07	4085.1	2.01	18.52
11.86	252.86	.509E+07	4492.2	1.98	18.89
12.57	253.57	.574E+07	5031.6	1.96	19.02
13.28	254.28	.648E+07	5692.0	1.97	18.99

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3051)	5167.82	111.95	9.00	54.45	2.42	0.74
OUTFLOW: ID= 1 (5051)	5167.82	105.13	9.75	54.45	2.36	0.72

CALIB					
NASHYD (0051)	Area	(ha)= 73.29	Curve Number	(CN)= 76.0	
ID= 1 DT=15.0 min	Ia	(mm)= 7.80	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.70				

Unit Hyd Qpeak (cms)= 3.971

PEAK FLOW (cms)= 4.609 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 60.443
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.530

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2051)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0051):		73.29	4.609	5.50	60.44
+ ID2= 2 (5051):		5167.82	105.134	9.75	54.45
ID = 3 (2051):		5241.11	105.532	9.75	54.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0067)	Area	(ha)= 23.75		
ID= 1 DT=15.0 min	Total Imp(%)=	23.00	Dir. Conn.(%)=	21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.46	18.29
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	397.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	41.99
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	12.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08

		TOTALS
PEAK FLOW (cms)=	0.73	2.06	2.782 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	70.48	79.41
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.62	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2467)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0067):		23.75	2.782	5.25	79.41
+ ID2= 2 (2051):		5241.11	105.532	9.75	54.53
ID = 3 (2467):		5264.86	105.604	9.75	54.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0467)	Area	(ha)= 22.32			
ID= 1 DT=15.0 min	Total Imp(%)=	47.00	Dir. Conn.(%)=	39.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.49	11.83
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.70
Length (m)=	385.75	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	54.22
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	11.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08

		TOTALS
PEAK FLOW (cms)=	1.27	1.75	3.017 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	85.13	96.00
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.75	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9268)					
Inlet Cap.=0.026					
#of Inlets= 1					
Total(cms)= 0.0		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		22.32	3.02	5.25	96.00
MAJOR SYS.(ID= 2):		21.22	2.99	5.25	96.00
MINOR SYS.(ID= 3):		1.10	0.03	1.50	96.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6268)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE

```
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   0.0260     0.3400

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9268)      1.100     0.026      1.50      96.00
     OUTFLOW: ID= 1 (6268)      1.100     0.007     12.75      92.99

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.46
                  TIME SHIFT OF PEAK FLOW         (min)=675.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0901

------------------------------------------------------------------------------

--------------------
| ADD HYD   (4268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6268):     1.10    0.007    12.75    92.99
       + ID2= 2 (9268):    21.22    2.991     5.25    96.00
         ================================================
         ID = 3 (4268):    22.32    2.994     5.25    95.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------

--------------------
| ADD HYD   (1069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2467):  5264.86 105.604     9.75    54.64
       + ID2= 2 (4268):    22.32    2.994     5.25    95.85
         ================================================
         ID = 3 (1069):  5287.18 105.655     9.75    54.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5069) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5069.0) ------>
                Distance      Elevation      Manning
                    0.00         249.35       0.0930
                   17.46         245.50       0.0930
                   49.96         240.00       0.0930
                   64.40         240.00       0.0930
                   85.68         240.46       0.0930
                  104.52         238.50       0.0930
                  119.89         237.61       0.0930
                  150.03         237.50       0.0930
                  170.81         238.00       0.0930
                  198.79         238.00       0.0930
                  200.49         236.53    0.0930 /0.0410  Main Channel
                  201.16         235.70       0.0410       Main Channel
                  211.80         235.70       0.0410       Main Channel
                  212.04         236.00    0.0410 /0.0930  Main Channel
                  216.53         237.00       0.0930
                  222.34         237.50       0.0930
                  257.68         237.50       0.0930
                  279.63         243.00       0.0930
```



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                  328.63         245.49         0.0930
                  342.46         247.54         0.0930

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.30   236.00    .100E+05        1.7         0.51     100.52
        0.91   236.61    .337E+05       10.8         0.98      52.06
        1.51   237.21    .641E+05       26.6         1.27      40.21
        2.12   237.82    .173E+06       53.5         0.94      54.05
        2.73   238.43    .434E+06      117.6         0.83      61.46
        3.34   239.04    .732E+06      221.2         0.93      55.16
        3.94   239.64    .105E+07      356.8         1.05      48.84
        4.55   240.25    .139E+07      499.3         1.10      46.42
        5.16   240.86    .180E+07      702.2         1.19      42.78
        5.77   241.47    .223E+07      951.9         1.31      39.02
        6.37   242.07    .267E+07     1235.3         1.42      35.97
        6.98   242.68    .312E+07     1551.4         1.53      33.47
        7.59   243.29    .358E+07     1880.6         1.61      31.70
        8.20   243.90    .407E+07     2227.4         1.68      30.42
        8.80   244.50    .458E+07     2614.2         1.75      29.22
        9.41   245.11    .513E+07     3040.8         1.82      28.11
       10.02   245.72    .570E+07     3522.2         1.89      26.99
       10.63   246.33    .629E+07     4065.9         1.98      25.80
       11.23   246.93    .690E+07     4645.2         2.06      24.74

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)  (mm)      (m)       (m/s)
     INFLOW : ID= 2 (1069) 5287.18   105.66    9.75  54.82      2.62       0.85
     OUTFLOW: ID= 1 (5069) 5287.18    96.81   10.75  54.82      2.53       0.87

------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0069) |   Area    (ha)= 155.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  25.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      46.63        108.79
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.10
     Length            (m)=    1017.91         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         46.81
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       3.00 (ii)    16.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.66         13.33        18.988 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     113.00         76.56        85.67
     TOTAL RAINFALL   (mm)=     114.00        114.00       114.00
     RUNOFF COEFFICIENT   =       0.99          0.67         0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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```
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0069):    155.42  18.988     5.25    85.67
       + ID2= 2 (5069):   5287.18  96.811    10.75    54.82
         ================================================
         ID = 3 (2069):   5442.60  97.272    10.75    55.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0471) |   Area    (ha)=   3.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  30.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.27          2.08
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          6.40
     Length            (m)=     149.44         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         53.75
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       0.60 (ii)     4.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.11
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.15          0.31          0.456 (iii)
     TIME TO PEAK    (hrs)=       4.50          5.25          5.25
     RUNOFF VOLUME    (mm)=     113.00         86.45         94.41
     TOTAL RAINFALL   (mm)=     114.00        114.00        114.00
     RUNOFF COEFFICIENT   =       0.99          0.76          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
--------------------
| DUHYD     (9158) |
| Inlet Cap.=1.825 |
| #of Inlets=    1 |
| Total(cms)=  1.8 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.35      0.46      5.25   94.41
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.35      0.46      5.25   94.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR (6158) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0950      0.1100
                          0.0750     0.0340   |   1.8250      0.1650

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9158)      3.350     0.456      5.25      94.41
     OUTFLOW: ID= 1 (6158)      3.350     0.500      5.25      94.39

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=109.56
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1265

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
------------------------------------------------------------------------------

--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9158 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6158):     3.35   0.500     5.25    94.39
       + ID2= 2 (9158):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (****):     3.35   0.500     5.25    94.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------

--------------------
| ADD HYD   (3069) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2069):  5442.60  97.272    10.75    55.70
       + ID2= 2 (****):     3.35   0.500     5.25    94.39
         ================================================
         ID = 3 (3069):  5445.95  97.335    10.75    55.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0078) |   Area    (ha)= 127.54
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  17.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      26.78        100.76
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          1.90
     Length            (m)=     922.10         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         42.53
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```
                over (min)       15.00         15.00
     Storage Coeff.  (min)=       3.60 (ii)   21.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.16          10.70          13.857 (iii)
     TIME TO PEAK    (hrs)=       5.25           5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00          69.60          76.98
     TOTAL RAINFALL   (mm)=     114.00         114.00         114.00
     RUNOFF COEFFICIENT   =       0.99           0.61           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0475) |   Area    (ha)=  62.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  44.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.83         28.81
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.30
     Length            (m)=     646.22         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         59.93
                over (min)       15.00         15.00
     Storage Coeff.  (min)=       3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       4.01          4.63           8.648 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00         91.55         100.99
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.80           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2475) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0078):   127.54  13.857     5.25    76.98
       + ID2= 2 (0475):    62.64   8.648     5.25   100.99
         ================================================
         ID = 3 (2475):   190.18  22.504     5.25    84.89
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9078) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)= 14.6 |      AREA     QPEAK     TPEAK     R.V.
--------------------       (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1): 190.18     22.50      5.25    84.89
     ================================================
     MAJOR SYS.(ID= 2):  20.63      7.91      5.25    84.89
     MINOR SYS.(ID= 3): 169.55     14.59      4.50    84.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0015) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (3069):  5445.95  97.335    10.75    55.72
       + ID2= 2 (9078):   169.55  14.590     4.50    84.89
         ================================================
         ID = 3 (0015):  5615.50  97.895    10.75    56.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0066) |   Area    (ha)= 130.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  48.00   Dir. Conn.(%)=  39.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      62.59         67.81
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.60
     Length            (m)=     932.38         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         55.43
                over (min)       15.00         15.00
     Storage Coeff.  (min)=       3.00 (ii)   16.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=       7.40         10.01          17.410 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00         85.56          96.26
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.75           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```



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--------------------
| ADD HYD   (1101) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0015):  5615.50  97.895    10.75    56.60
       + ID2= 2 (0066):   130.40  17.410     5.25    96.26
         ================================================
         ID = 3 (1101):  5745.90  98.298    10.75    57.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5101) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5101.0) ------>
               Distance      Elevation        Manning
                   0.00         241.94         0.0930
                   8.16         239.50         0.0930
                  22.34         239.00         0.0930
                  28.16         235.50         0.0930
                  31.19         235.00         0.0930
                  45.37         235.00         0.0930
                  66.87         235.30         0.0930
                  92.82         235.00         0.0930
                 128.48         235.00         0.0930
                 131.88         234.50         0.0930
                 133.09         234.00    0.0930 /0.0410  Main Channel
                 133.35         233.80         0.0410      Main Channel
                 143.76         233.80         0.0410      Main Channel
                 143.82         234.00    0.0410 /0.0930  Main Channel
                 146.15         235.00         0.0930
                 163.07         235.45         0.0930
                 172.90         235.85         0.0930
                 179.77         238.00         0.0930
                 182.39         238.10         0.0930
                 202.70         242.63         0.0930

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.20   234.00    .288E+04       0.8          0.38      59.38
      0.62   234.42    .955E+04       5.5          0.78      29.17
      1.04   234.84    .177E+05      13.2          1.02      22.25
      1.45   235.25    .536E+05      26.9          0.68      33.23
      1.87   235.67    .130E+06      60.9          0.64      35.54
      2.29   236.09    .212E+06     113.1          0.73      31.26
      2.71   236.51    .296E+06     180.8          0.83      27.30
      3.13   236.93    .381E+06     262.0          0.94      24.24
      3.54   237.34    .467E+06     355.8          1.04      21.89
      3.96   237.76    .555E+06     461.5          1.13      20.04
      4.38   238.18    .644E+06     575.5          1.22      18.64
      4.80   238.60    .735E+06     703.6          1.30      17.41
      5.21   239.01    .828E+06     841.5          1.38      16.39
      5.63   239.43    .925E+06     958.9          1.41      16.08
      6.05   239.85    .103E+07    1117.1          1.48      15.34
      6.47   240.27    .113E+07    1291.9          1.55      14.63
      6.89   240.69    .124E+07    1477.9          1.62      13.99
      7.30   241.10    .135E+07    1675.0          1.69      13.43
```



```
      7.72   241.52    .146E+07    1883.1          1.76      12.93

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1101) 5745.90    98.30   10.75  57.50      2.17      0.70
     OUTFLOW: ID= 1 (5101) 5745.90    96.71   11.25  57.50      2.16      0.70

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0101) |   Area    (ha)= 133.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  39.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      62.72         70.73
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.30
     Length            (m)=     943.22         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         54.22
                over (min)       15.00         15.00
     Storage Coeff.  (min)=       3.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=       7.58         10.08          17.659 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00         85.13          96.00
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.75           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2101) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0101):   133.45  17.659     5.25    96.00
       + ID2= 2 (5101):  5745.90  96.705    11.25    57.50
         ================================================
         ID = 3 (2101):  5879.35  97.116    11.25    58.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5095) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5095.0) ------>
               Distance      Elevation        Manning
                   0.00         236.91         0.0930
```

17.88	233.09	0.0930	
29.64	231.89	0.0930	
36.51	231.50	0.0930	
36.72	231.50	0.0930	
39.68	230.95	0.0930	
42.58	230.50	0.0930 /0.0410	Main Channel
42.67	229.70	0.0410	Main Channel
42.81	229.70	0.0410	Main Channel
49.66	229.70	0.0410	Main Channel
49.91	230.50	0.0410 /0.0930	Main Channel
53.95	231.00	0.0930	
111.16	232.00	0.0930	
167.36	232.00	0.0930	
183.43	233.00	0.0930	
203.76	237.50	0.0930	
211.96	238.12	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	229.97	.137E+04	1.1	0.56	21.49
0.53	230.23	.275E+04	3.3	0.86	14.11
0.80	230.50	.416E+04	6.2	1.08	11.19
1.20	230.90	.714E+04	12.6	1.28	9.45
1.60	231.30	.134E+05	21.9	1.19	10.18
2.00	231.70	.270E+05	37.2	1.00	12.08
2.40	232.10	.530E+05	59.5	0.82	14.86
2.80	232.50	.957E+05	110.2	0.84	14.47
3.20	232.90	.141E+06	179.2	0.92	13.15
3.60	233.30	.190E+06	268.0	1.03	11.79
4.01	233.71	.239E+06	374.4	1.14	10.64
4.41	234.11	.290E+06	496.3	1.25	9.72
4.81	234.51	.341E+06	633.1	1.35	8.98
5.21	234.91	.394E+06	784.4	1.45	8.37
5.61	235.31	.447E+06	949.8	1.54	7.85
6.01	235.71	.502E+06	1129.0	1.63	7.41
6.41	236.11	.558E+06	1322.0	1.72	7.04
6.81	236.51	.615E+06	1528.3	1.81	6.71
7.21	236.91	.673E+06	1748.1	1.89	6.42

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2101)	5879.35	97.12	11.25	58.38	2.70	0.83
OUTFLOW: ID= 1 (5095)	5879.35	96.72	11.50	58.38	2.70	0.83

CALIB	
STANDHYD (0095)	Area (ha)= 84.82
ID= 1 DT=15.0 min	Total Imp(%)= 46.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.02	45.80
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	751.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	54.80
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	15.60 (ii)

Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.11	0.07	
			TOTALS
PEAK FLOW (cms)=	4.69	6.72	11.410 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	86.82	96.77
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.76	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2095)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0095):	84.82	11.410	5.25	96.77
	+ ID2= 2 (5095):	5879.35	96.721	11.50	58.38
	ID = 3 (2095):	5964.17	96.983	11.50	58.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0688)	Area (ha)= 43.70
ID= 1 DT=15.0 min	Total Imp(%)= 44.00 Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.23	24.47
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	539.75	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	50.10
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07
			TOTALS
PEAK FLOW (cms)=		2.48	3.27	5.755 (iii)
TIME TO PEAK (hrs)=		5.00	5.25	5.25
RUNOFF VOLUME (mm)=		113.00	82.09	94.14
TOTAL RAINFALL (mm)=		114.00	114.00	114.00
RUNOFF COEFFICIENT =		0.99	0.72	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2688)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0688):	43.70	5.755	5.25	94.14
	+ ID2= 2 (9078):	20.63	7.914	5.25	84.89
	ID = 3 (2688):	64.33	13.669	5.25	91.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0476)	Area (ha)= 22.70
ID= 1 DT=15.0 min	Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.25	5.45
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.20
Length	(m)=	389.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.77
over (min)		15.00	15.00
Storage Coeff. (min)=		1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.08
			TOTALS
PEAK FLOW (cms)=		2.51	0.73	3.238 (iii)
TIME TO PEAK (hrs)=		4.75	5.25	5.25
RUNOFF VOLUME (mm)=		113.00	89.55	107.37
TOTAL RAINFALL (mm)=		114.00	114.00	114.00
RUNOFF COEFFICIENT =		0.99	0.79	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9331)					
Inlet Cap.=5.900					
#of Inlets= 1					
Total(cms)= 5.9		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	22.70	3.24	5.25	107.37
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	22.70	3.24	5.25	107.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6331)

IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.2500	0.7550
	0.0400	0.4210	1.6700	0.8120
	0.0800	0.4760	2.3800	0.8680
	0.1700	0.5310	3.3600	0.9250
	0.4100	0.5870	4.5400	0.9820
	0.6500	0.6430	5.9000	1.0400
	0.9500	0.6990	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9331)	22.700	3.238	5.25	107.37
OUTFLOW: ID= 1 (6331)	22.700	3.168	5.25	107.26

PEAK FLOW REDUCTION [Qout/Qin](%)= 97.85
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.9170

ADD HYD (****)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	*** W A R N I N G : HYDROGRAPH 9331 <ID= 2> IS DRY.				
	*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
	*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
	ID1= 1 (6331):	22.70	3.168	5.25	107.26
	+ ID2= 2 (9331):	0.00	0.000	0.00	0.00
	ID = 3 (****):	22.70	3.168	5.25	107.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0689)	Area (ha)= 4.42
ID= 1 DT=15.0 min	Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.02	3.40
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	171.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	39.05
over (min)		15.00	15.00
Storage Coeff. (min)=		1.20 (ii)	7.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.10
			TOTALS
PEAK FLOW (cms)=		0.15	0.37	0.513 (iii)
TIME TO PEAK (hrs)=		4.75	5.25	5.25
RUNOFF VOLUME (mm)=		113.00	66.62	77.28
TOTAL RAINFALL (mm)=		114.00	114.00	114.00
RUNOFF COEFFICIENT =		0.99	0.58	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2689)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0689):		4.42	0.513	5.25	77.28
+ ID2= 2 (****):		23.70	3.168	5.25	107.26
ID = 3 (2689):		27.12	3.681	5.25	102.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1113)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2688):		64.33	13.669	5.25	91.17
+ ID2= 2 (2689):		27.12	3.681	5.25	102.37
ID = 3 (1113):		91.45	17.351	5.25	94.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5113)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5113.0) ------>

Distance	Elevation	Manning	
0.00	244.57	0.0930	
317.65	242.05	0.0930	
348.79	241.03	0.0930	
378.18	238.00	0.0930	
381.25	236.49	0.0930 /0.0410	Main Channel
381.97	235.89	0.0410	Main Channel
384.32	236.39	0.0410 /0.0930	Main Channel
413.50	241.05	0.0930	
457.83	240.38	0.0930	
497.88	241.26	0.0930	
759.99	241.26	0.0930	
924.92	242.38	0.0930	
990.74	242.50	0.0930	
1030.87	242.13	0.0930	
1081.60	243.06	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	236.14	.126E+03	0.1	0.48	23.67
0.50	236.39	.504E+03	0.6	0.76	14.91
0.89	236.78	.171E+04	2.9	1.15	9.87
1.28	237.17	.379E+04	7.2	1.30	8.76
1.68	237.57	.674E+04	13.8	1.40	8.12

2.07	237.96	.106E+05	23.1	1.49	7.64
2.46	238.35	.156E+05	34.9	1.53	7.44
2.85	238.74	.223E+05	50.9	1.56	7.29
3.25	239.14	.307E+05	71.8	1.60	7.12
3.64	239.53	.407E+05	98.0	1.65	6.93
4.03	239.92	.525E+05	130.2	1.70	6.71
4.42	240.31	.659E+05	169.0	1.75	6.50
4.82	240.71	.850E+05	186.4	1.50	7.60
5.21	241.10	.117E+06	240.8	1.40	8.13
5.60	241.49	.203E+06	302.7	1.02	11.19
5.99	241.88	.336E+06	517.9	1.05	10.81
6.39	242.28	.490E+06	782.2	1.09	10.44
6.78	242.67	.691E+06	1137.8	1.13	10.12
7.17	243.06	.920E+06	1698.5	1.26	9.03

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1113)	91.45	17.35	5.25	94.50	1.83	1.44
OUTFLOW: ID= 1 (5113)	91.45	16.38	5.25	94.49	1.79	1.43

CALIB	
STANDHYD (0113)	Area (ha)= 12.71
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 52.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.61	6.10
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	291.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	52.42	44.45
over (min)		15.00	15.00
Storage Coeff.	(min)=	1.80 (ii)	9.00 (ii)
Unit Hyd. Tpeak	(min)=	15.00	15.00
Unit Hyd. peak	(cms)=	0.11	0.09
			TOTALS
PEAK FLOW	(cms)=	0.96	0.74 1.706 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25 5.25
RUNOFF VOLUME	(mm)=	113.00	78.15 96.27
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.69 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2113)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0113):		12.71	1.706	5.25	96.27
+ ID2= 2 (5113):		91.45	16.377	5.25	94.49

ADD HYD (2113)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0120):		46.27	6.428	5.25	102.85
+ ID2= 2 (2113):		104.16	18.083	5.25	94.71
ID = 3 (1119):		150.43	24.511	5.25	97.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5119)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5119.0) ------>

Distance	Elevation	Manning	
0.00	240.51	0.0930	
29.89	240.57	0.0930	
116.44	238.41	0.0930	
139.64	232.93	0.0930 /0.0410	Main Channel
141.61	232.28	0.0410	Main Channel

145.25		233.93	0.0410 /0.0930		Main Channel
173.42		238.12	0.0930		
173.87		238.19	0.0930		
270.90		240.57	0.0930		
279.44		240.59	0.0930		
297.64		240.11	0.0930		
300.84		240.11	0.0930		
309.34		240.24	0.0930		
309.90		240.23	0.0930		
315.37		240.29	0.0930		
322.46		240.34	0.0930		
324.59		240.37	0.0930		
337.93		240.53	0.0930		
338.14		240.54	0.0930		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	232.60	.159E+03	0.1	0.35	27.10
0.65	232.93	.636E+03	0.6	0.56	17.07
1.10	233.38	.189E+04	2.6	0.80	12.00
1.55	233.83	.390E+04	6.3	0.93	10.35
2.00	234.28	.683E+04	12.6	1.06	9.01
2.45	234.73	.110E+05	21.8	1.14	8.43
2.90	235.18	.165E+05	34.0	1.19	8.08
3.35	235.63	.232E+05	49.7	1.23	7.79
3.80	236.08	.313E+05	69.2	1.27	7.53
4.25	236.53	.406E+05	92.9	1.32	7.28
4.71	236.99	.511E+05	121.0	1.36	7.05
5.16	237.44	.630E+05	153.9	1.40	6.83
5.61	237.89	.761E+05	191.8	1.45	6.62
6.06	238.34	.908E+05	229.8	1.46	6.58
6.51	238.79	.111E+06	254.0	1.31	7.30
6.96	239.24	.141E+06	302.2	1.23	7.78
7.41	239.69	.180E+06	372.7	1.19	8.06
7.86	240.14	.229E+06	460.2	1.16	8.30
8.31	240.59	.297E+06	525.8	1.02	9.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1119)	150.43	24.51	5.25	97.22	2.55	1.15
OUTFLOW: ID= 1 (5119)	150.43	22.94	5.25	97.22	2.49	1.14

DUHYD (9033)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)= 26.9

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	150.43	22.94	5.25	97.22
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	150.43	22.94	5.25	97.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6033)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	9.6100	1.9350
	0.1300	1.4400	12.0700	2.0240
	0.7800	1.5180	14.7200	2.1150
	1.9600	1.5970	17.5300	2.2070
	3.4900	1.6790	20.5100	2.3010
	5.2900	1.7620	23.6400	2.3970
	7.3400	1.8480	26.9100	2.4940

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9033)	150.429	22.935	5.25	97.22
OUTFLOW: ID= 1 (6033)	150.429	21.678	5.25	97.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 94.52
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 2.3934

ADD HYD (****)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9033 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6033):	150.43	21.678	5.25	97.20
+ ID2= 2 (9033):	0.00	0.000	0.00	0.00
ID = 3 (****):	150.43	21.678	5.25	97.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0119) | Area (ha)= 7.24
ID= 1 DT=15.0 min | Total Imp(%)= 21.00 Dir. Conn.(%)= 19.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.52	5.72
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.50
Length	(m)=	219.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	41.17
over (min)		15.00	15.00
Storage Coeff. (min)=		1.20 (ii)	6.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.10

			TOTALS
PEAK FLOW	(cms)=	0.20	0.65	0.850 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	113.00	68.89	77.27
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.60	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2119)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0119):	7.24	0.850	5.25	77.27
+ ID2= 2 (****):	150.43	21.678	5.25	97.20
ID = 3 (2119):	157.67	22.528	5.25	96.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9529)
Inlet Cap.=***** |
#of Inlets= 1 |
Total(cms)=***** |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	157.67	22.53	5.25	96.28
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	157.67	22.53	5.25	96.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6529)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	6.0000	0.2720
2.0000	0.0946	8.0000	0.3631
4.0000	0.1999	10.0000	0.4677

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9529)	157.669	22.528	5.25	96.28
OUTFLOW: ID= 1 (6529)	157.669	21.561	5.50	96.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 95.71
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.1035

ADD HYD (4529)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9529 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6529):	157.67	21.561	5.50	96.28
+ ID2= 2 (9529):	0.00	0.000	0.00	0.00
ID = 3 (4529):	157.67	21.561	5.50	96.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0484) | Area (ha)= 10.31
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.46	4.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	262.17	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	60.17
over (min)		15.00	15.00
Storage Coeff. (min)=		1.80 (ii)	8.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.09

			TOTALS
PEAK FLOW	(cms)=	0.63	0.80	1.435 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	113.00	90.07	99.70
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.79	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9129)
Inlet Cap.=0.021 |
#of Inlets= 1 |
Total(cms)= 0.0 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	10.31	1.44	5.25	99.70
MAJOR SYS.(ID= 2):	9.49	1.41	5.25	99.70
MINOR SYS.(ID= 3):	0.82	0.02	2.50	99.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6129)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0160	0.0567
0.0090	0.0175	0.0190	0.0784
0.0130	0.0364	0.0210	0.1015

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9129)	0.818	0.021	2.50	99.70
OUTFLOW: ID= 1 (6129)	0.818	0.014	12.25	99.13

PEAK FLOW REDUCTION [Qout/Qin](%)= 66.19
TIME SHIFT OF PEAK FLOW (min)=585.00
MAXIMUM STORAGE USED (ha.m.)= 0.0428

ADD HYD (4129)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6129):	0.82	0.014	12.25	99.13
+ ID2= 2 (9129):	9.49	1.414	5.25	99.70
ID = 3 (4129):	10.31	1.424	5.25	99.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2484)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4129):	10.31	1.424	5.25	99.66
+ ID2= 2 (4529):	157.67	21.561	5.50	96.28
ID = 3 (2484):	167.98	22.055	5.50	96.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0485) | Area (ha)= 44.69
ID= 1 DT=15.0 min | Total Imp(%)= 50.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.34	22.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.70
Length	(m)=	545.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	45.55
over (min)		15.00	15.00
Storage Coeff. (min)=		3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

			TOTALS
PEAK FLOW	(cms)=	3.19	2.68	5.872 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	113.00	78.67	95.49
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.69	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2485)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0485):		44.69	5.872	5.25	95.49
+ ID2= 2 (2484):		167.98	22.055	5.50	96.49
ID = 3 (2485):		212.67	27.160	5.25	96.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1122)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2095):		5964.17	96.983	11.50	58.92
+ ID2= 2 (2485):		212.67	27.160	5.25	96.28
ID = 3 (1122):		6176.84	97.624	11.50	60.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5122) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5122.0) ------>

Distance	Elevation	Manning	
0.00	235.73	0.0930	
17.92	231.50	0.0930	
24.58	231.00	0.0930	
44.00	230.55	0.0930	
142.67	231.50	0.0930	
150.22	231.50	0.0930	
174.16	231.28	0.0930	
192.63	231.06	0.0930	
194.24	231.00	0.0930	
196.93	230.16	0.0930	
197.38	230.00	0.0930 /0.0410	Main Channel
197.43	229.98	0.0410	Main Channel
197.57	229.00	0.0410	Main Channel
205.27	229.00	0.0410	Main Channel
205.34	229.94	0.0410	Main Channel
205.54	230.00	0.0410 /0.0930	Main Channel
229.92	238.50	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	229.33	.126E+04	1.5	0.58	14.12
0.67	229.67	.254E+04	4.5	0.87	9.33
1.00	230.00	.383E+04	8.5	1.08	7.54

1.36	230.36	.544E+04	14.4	1.30	6.28
1.72	230.72	.843E+04	22.0	1.28	6.38
2.07	231.07	.197E+05	35.4	0.88	9.28
2.43	231.43	.424E+05	59.9	0.69	11.80
2.79	231.79	.757E+05	107.8	0.70	11.70
3.15	232.15	.110E+06	175.4	0.78	10.45
3.51	232.51	.145E+06	258.4	0.88	9.33
3.87	232.87	.180E+06	355.7	0.97	8.42
4.22	233.22	.215E+06	466.3	1.06	7.70
4.58	233.58	.251E+06	589.7	1.15	7.10
4.94	233.94	.288E+06	725.4	1.23	6.61
5.30	234.30	.325E+06	873.0	1.32	6.20
5.66	234.66	.362E+06	1032.1	1.40	5.85
6.01	235.01	.400E+06	1202.5	1.47	5.54
6.37	235.37	.438E+06	1384.0	1.55	5.28
6.73	235.73	.477E+06	1576.4	1.62	5.04

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1122)	6176.84	97.62	11.50	60.21	2.71	0.70
OUTFLOW: ID= 1 (5122)	6176.84	97.33	11.75	60.21	2.71	0.70

CALIB | STANDHYD (0122) | ID= 1 DT=15.0 min | Area (ha)= 30.63 Total Imp(%)= 32.00 Dir. Conn.(%)= 26.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.80	20.83
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	451.88	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	47.73
over (min)		15.00	15.00
Storage Coeff.	(min)=	1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak	(min)=	15.00	15.00
Unit Hyd. peak	(cms)=	0.11	0.08
			TOTALS
PEAK FLOW	(cms)=	1.16	2.69 3.846 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25 5.25
RUNOFF VOLUME	(mm)=	113.00	76.97 86.34
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.68 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2122)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

ID1= 1 (0122):		30.63	3.846	5.25	86.34
+ ID2= 2 (5122):		6176.84	97.334	11.75	60.21
ID = 3 (2122):		6207.47	97.425	11.75	60.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5112) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5112.0) ------>

Distance	Elevation	Manning	
0.00	235.91	0.0930	
5.76	235.56	0.0930	
118.08	233.00	0.0930	
121.46	233.00	0.0930	
158.56	231.55	0.0930	
190.22	229.04	0.0930	
190.34	229.04	0.0930	
212.62	228.00	0.0930	
225.02	227.50	0.0930	
226.84	227.00	0.0930 /0.0410	Main Channel
227.92	226.50	0.0410	Main Channel
232.46	226.50	0.0410	Main Channel
232.95	226.98	0.0410 /0.0930	Main Channel
237.55	228.00	0.0930	
247.07	228.50	0.0930	
255.73	228.80	0.0930	
268.28	229.64	0.0930	
274.49	231.50	0.0930	
283.66	232.45	0.0930	
298.53	235.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	226.74	.770E+03	0.5	0.47	23.34
0.48	226.98	.166E+04	1.8	0.70	15.51
0.95	227.45	.411E+04	6.4	1.02	10.61
1.42	227.92	.897E+04	14.3	1.04	10.49
1.90	228.40	.186E+05	27.2	0.95	11.44
2.37	228.87	.346E+05	48.1	0.91	11.99
2.84	229.34	.563E+05	80.7	0.93	11.62
3.31	229.81	.819E+05	125.6	1.00	10.87
3.78	230.28	.110E+06	183.3	1.08	10.03
4.25	230.75	.141E+06	252.3	1.17	9.31
4.73	231.23	.174E+06	333.0	1.25	8.70
5.20	231.70	.209E+06	420.3	1.31	8.30
5.67	232.17	.249E+06	512.6	1.34	8.10
6.14	232.64	.294E+06	623.0	1.38	7.87
6.61	233.11	.344E+06	742.9	1.41	7.72
7.08	233.58	.401E+06	880.3	1.43	7.60
7.56	234.06	.466E+06	1041.7	1.46	7.45
8.03	234.53	.538E+06	1228.2	1.49	7.30
8.50	235.00	.616E+06	1440.8	1.52	7.13

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2122)	6207.47	97.42	11.75	60.34	3.01	0.96
OUTFLOW: ID= 1 (5112)	6207.47	97.25	11.75	60.34	3.01	0.96

CALIB | STANDHYD (0112) | ID= 1 DT=15.0 min | Area (ha)= 91.24 Total Imp(%)= 48.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.80	47.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	779.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	57.21
over (min)		15.00	15.00
Storage Coeff.	(min)=	3.00 (ii)	16.80 (ii)
Unit Hyd. Tpeak	(min)=	15.00	15.00
Unit Hyd. peak	(cms)=	0.11	0.07
			TOTALS
PEAK FLOW	(cms)=	5.05	7.22 12.267 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	113.00	87.64 97.28
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.77 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2112)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0112):		91.24	12.267	5.25	97.28
+ ID2= 2 (5112):		6207.47	97.251	11.75	60.34
ID = 3 (2112):		6298.71	97.533	11.75	60.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5091) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5091.0) ------>

Distance	Elevation	Manning	
0.00	233.68	0.0930	
57.19	231.45	0.0930	
70.84	229.38	0.0930	
75.11	228.00	0.0930	
76.32	227.82	0.0930	
78.35	227.50	0.0930 /0.0410	Main Channel
79.48	227.23	0.0410	Main Channel
80.40	227.00	0.0410	Main Channel

81.40	226.00	0.0410		Main Channel
87.08	226.00	0.0410		Main Channel
87.20	226.00	0.0410		Main Channel
87.27	226.50	0.0410		Main Channel
88.50	227.47	0.0410		Main Channel
88.62	227.50	0.0410		Main Channel
92.08	227.50	0.0410		Main Channel
93.44	227.80	0.0410		Main Channel
94.43	228.72	0.0410 /0.0930		Main Channel
111.61	232.98	0.0930		
115.31	233.50	0.0930		
134.67	234.81	0.0930		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	226.38	.167E+04	1.4	0.61	20.11
0.75	226.75	.348E+04	4.3	0.91	13.58
1.12	227.12	.554E+04	8.3	1.10	11.19
1.50	227.50	.808E+04	13.4	1.22	10.07
1.91	227.91	.129E+05	21.9	1.25	9.82
2.32	228.32	.187E+05	36.9	1.46	8.45
2.74	228.74	.250E+05	55.3	1.63	7.54
3.15	229.15	.321E+05	78.4	1.81	6.83
3.56	229.56	.401E+05	104.9	1.94	6.37
3.97	229.97	.493E+05	135.2	2.03	6.08
4.38	230.38	.599E+05	169.9	2.10	5.88
4.80	230.80	.718E+05	209.2	2.15	5.72
5.21	231.21	.851E+05	253.2	2.20	5.60
5.62	231.62	.999E+05	299.8	2.22	5.56
6.03	232.03	.118E+06	350.3	2.20	5.61
6.44	232.44	.140E+06	409.8	2.17	5.69
6.86	232.86	.165E+06	478.0	2.14	5.76
7.27	233.27	.195E+06	554.6	2.11	5.85
7.68	233.68	.228E+06	639.5	2.07	5.95

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2112)	6298.71	97.53	11.75	60.87	3.45	1.90
OUTFLOW: ID= 1 (5091)	6298.71	97.50	12.00	60.87	3.43	1.89

CALIB
STANDHYD (0091) | Area (ha)= 180.35
ID= 1 DT=15.0 min | Total Imp(%)= 47.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	84.76	95.59
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	1096.51	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	55.98
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	19.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06
			TOTALS
PEAK FLOW	(cms)=	9.98	13.93	23.912 (iii)

TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	113.00	87.23	97.02
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.77	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2091) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0091):	180.35	23.912	5.25	97.02
+ ID2= 2 (5091):	6298.71	97.505	12.00	60.87
ID = 3 (2091):	6479.06	98.669	5.25	61.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9023) | Inlet Cap.=***** | #of Inlets= 1 | Total(cms)= 17.8 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	6479.06	98.67	5.25	61.88
MAJOR SYS.(ID= 2):	4501.00	80.83	5.25	61.88
MINOR SYS.(ID= 3):	1978.05	17.84	4.00	61.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6023) | IN= 2---> OUT= 1 | DT= 15.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	6.0830	0.7376
	0.5140	0.0185	8.6630	1.7454
	1.9040	0.1110	17.8370	3.6437
	3.8440	0.3047	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9023)	1978.051	17.837	4.00	61.88
OUTFLOW: ID= 1 (6023)	1978.051	17.837	12.50	61.88

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)=510.00
MAXIMUM STORAGE USED (ha.m.)= 3.6437

ADD HYD (****) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6023):	1978.05	17.837	12.50	61.88
+ ID2= 2 (9023):	4501.00	80.832	5.25	61.88
ID = 3 (****):	6479.05	98.063	12.00	61.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5530) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5530.0) ------>

Distance	Elevation	Manning	
0.00	232.00	0.0930	
4.96	232.00	0.0930	
7.83	231.50	0.0930	
17.85	231.00	0.0930	
42.32	226.50	0.0930	
90.46	226.50	0.0930	
96.74	225.00	0.0930 /0.0410	Main Channel
98.31	224.50	0.0410	Main Channel
108.69	224.50	0.0410	Main Channel
109.36	225.00	0.0410 /0.0930	Main Channel
114.19	225.50	0.0930	
117.90	227.00	0.0930	
121.45	227.50	0.0930	
134.20	227.50	0.0930	
149.51	228.94	0.0930	
154.36	229.23	0.0930	
155.62	229.30	0.0930	
155.63	232.00	0.0930	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	224.75	.192E+04	2.5	0.92	12.70
0.50	225.00	.403E+04	8.1	1.41	8.28
0.91	225.41	.850E+04	24.2	1.99	5.86
1.32	225.82	.144E+05	48.1	2.35	4.97
1.74	226.24	.210E+05	79.6	2.66	4.40
2.15	226.65	.335E+05	118.2	2.48	4.72
2.56	227.06	.557E+05	182.5	2.30	5.09
2.97	227.47	.793E+05	264.6	2.34	5.00
3.38	227.88	.108E+06	362.6	2.36	4.96
3.79	228.29	.139E+06	488.9	2.47	4.73
4.21	228.71	.172E+06	634.9	2.60	4.50
4.62	229.12	.206E+06	799.2	2.72	4.30
5.03	229.53	.243E+06	987.9	2.85	4.10
5.44	229.94	.281E+06	1201.3	3.00	3.90
5.85	230.35	.320E+06	1433.6	3.15	3.72
6.26	230.76	.359E+06	1684.2	3.29	3.55
6.68	231.18	.399E+06	1936.0	3.41	3.43
7.09	231.59	.441E+06	2195.5	3.50	3.34
7.50	232.00	.484E+06	2505.8	3.63	3.22

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (****)	6479.05	98.06	12.00	61.88	1.93	2.57

OUTFLOW: ID= 1 (5530)	6479.05	98.07	12.00	61.88	1.93	2.57

CALIB
STANDHYD (0530) | Area (ha)= 12.46
ID= 1 DT=15.0 min | Total Imp(%)= 33.00 Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.11	8.35
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	6.00
Length	(m)=	288.21	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	44.61
over (min)		15.00	15.00
Storage Coeff. (min)=		1.20 (ii)	7.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.10
			TOTALS
PEAK FLOW	(cms)=	0.51	1.02	1.530 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	113.00	71.80	83.34
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.63	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2530) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0530):	12.46	1.530	5.25	83.34
+ ID2= 2 (5530):	6479.05	98.066	12.00	61.88
ID = 3 (2530):	6491.51	98.103	12.00	61.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0114) | Area (ha)= 71.32
ID= 1 DT=15.0 min | Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.09	34.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	689.54	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	57.64

```
                over (min)       15.00         15.00
     Storage Coeff.  (min)=       3.00 (ii)   15.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                            *TOTALS*
     PEAK FLOW       (cms)=       4.47          5.30          9.763 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00         89.29          99.49
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.78           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (1529) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0114):     71.32  9.763      5.25    99.49
        + ID2= 2 (2530):   6491.51  98.103    12.00    61.92
          ==================================================
          ID = 3 (1529):   6562.83 104.071     5.25    62.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5529) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5529.0) ------>
               Distance      Elevation       Manning
                   0.00        229.04        0.0930
                   7.45        221.83    0.0930 /0.0410  Main Channel
                   7.73        221.00        0.0410      Main Channel
                  11.19        221.00        0.0410      Main Channel
                  14.51        222.00    0.0410 /0.0930  Main Channel
                  15.34        222.00        0.0930
                  16.50        222.50        0.0930
                  29.47        222.35        0.0930
                  55.40        222.50        0.0930
                  76.32        222.50        0.0930
                 144.32        223.00        0.0930
                 157.97        223.80        0.0930
                 163.43        224.00        0.0930
                 184.95        224.50        0.0930
                 193.87        225.00        0.0930
                 197.46        225.00        0.0930
                 203.83        225.27        0.0930
                 208.01        225.56        0.0930
                 214.39        225.78        0.0930
                 214.40        229.00        0.0930

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
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       0.41    221.41    .154E+04       0.8          0.48      30.55
       0.83    221.83    .362E+04       2.9          0.69      21.07
       1.25    222.25    .652E+04       6.7          0.90      16.23
       1.67    222.67    .235E+05      14.4          0.54      27.14
       2.10    223.10    .682E+05      36.2          0.46      31.45
       2.52    223.52    .121E+06      75.3          0.54      26.85
       2.94    223.94    .177E+06     127.4          0.63      23.21
       3.36    224.36    .238E+06     188.5          0.69      21.08
       3.78    224.78    .305E+06     266.7          0.77      19.08
       4.20    225.20    .376E+06     356.2          0.83      17.60
       4.63    225.63    .451E+06     463.5          0.90      16.22
       5.05    226.05    .529E+06     588.5          0.98      14.97
       5.47    226.47    .607E+06     732.6          1.06      13.81
       5.89    226.89    .685E+06     889.1          1.14      12.85
       6.31    227.31    .764E+06    1057.6          1.21      12.04
       6.73    227.73    .843E+06    1237.6          1.29      11.35
       7.16    228.16    .922E+06    1428.6          1.36      10.75
       7.58    228.58    .100E+07    1630.4          1.43      10.23
       8.00    229.00    .108E+07    1842.6          1.50       9.77

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1529) 6562.83   104.07    5.25  62.33      2.75      0.59
     OUTFLOW: ID= 1 (5529) 6562.83    97.28   12.25  62.33      2.69      0.58


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0529) |   Area    (ha)=  41.93
|ID= 1 DT=15.0 min |   Total Imp(%)=  33.00   Dir. Conn.(%)=  26.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.84         28.09
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.80
     Length            (m)=     528.71         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         48.62
                over (min)       15.00         15.00
     Storage Coeff.  (min)=       2.40 (ii)   12.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08
                                                            *TOTALS*
     PEAK FLOW       (cms)=       1.59          3.68          5.267 (iii)
     TIME TO PEAK    (hrs)=       5.00          5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00         77.36          86.63
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.68           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (2529) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0529):     41.93  5.267      5.25    86.63
        + ID2= 2 (5529):   6562.83  97.279    12.25    62.33
          ==================================================
          ID = 3 (2529):   6604.76  97.403    12.25    62.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0488) |   Area    (ha)=  47.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  51.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.23         20.54
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.70
     Length            (m)=     564.33         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         55.03
                over (min)       15.00         15.00
     Storage Coeff.  (min)=       2.40 (ii)   14.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.07
                                                            *TOTALS*
     PEAK FLOW       (cms)=       3.55          3.05          6.598 (iii)
     TIME TO PEAK    (hrs)=       5.00          5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00         88.44         100.97
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.78           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9164) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  47.77      6.60      5.25  100.97
     =====================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  47.77      6.60      5.25  100.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6164) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```



```
                    0.0000     0.0000   |   0.1280      0.6485
                    0.0360     0.0650   |   0.2220      0.6870
                    0.0470     0.1250   |   0.6040      0.7600
                    0.0620     0.1800   |   1.1450      0.8300
                    0.0750     0.2500   |   1.8080      0.9100
                    0.0850     0.3100   |   2.5730      0.9800
                    0.0950     0.3750   |   3.4270      1.0500
                    0.1030     0.4330   |   4.3630      1.1200
                    0.1110     0.4930   |   5.3730      1.1950
                    0.1180     0.5630   |   0.0000      0.0000
                    0.1250     0.6120   |   0.0000      0.0000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9164)     47.770      6.598      5.25     100.97
     OUTFLOW: ID= 1 (6164)     47.770      5.927      5.25     100.96

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 89.83
                  TIME SHIFT OF PEAK FLOW        (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.3485

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--------------------
| ADD HYD   (4164) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9164 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6164):     47.77   5.927     5.25   100.96
        + ID2= 2 (9164):      0.00   0.000     0.00     0.00
          ==================================================
          ID = 3 (4164):     47.77   5.927     5.25   100.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1486) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2529):   6604.76  97.403    12.25    62.48
        + ID2= 2 (4164):     47.77   5.927     5.25   100.96
          ==================================================
          ID = 3 (1486):   6652.53  98.739     5.75    62.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5486) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5486.0) ------>
               Distance      Elevation       Manning
                   0.00        225.00        0.0930
                  11.94        222.00        0.0930
                  16.06        221.50        0.0930
                  41.45        220.50        0.0930
                  88.07        220.00        0.0930
```

99.13	219.50	0.0930	
102.39	219.00	0.0930 /0.0410	Main Channel
102.82	218.50	0.0410	Main Channel
108.08	218.50	0.0410	Main Channel
108.18	219.00	0.0410 /0.0930	Main Channel
109.15	219.20	0.0930	
110.60	219.50	0.0930	
116.50	221.36	0.0930	
127.30	226.50	0.0930	
144.83	227.58	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	218.75	.815E+03	0.8	0.62	16.38
0.50	219.00	.167E+04	2.6	0.93	10.82
0.85	219.35	.333E+04	6.6	1.20	8.38
1.21	219.71	.603E+04	12.7	1.27	7.93
1.56	220.06	.106E+05	21.3	1.22	8.29
1.91	220.41	.206E+05	34.9	1.02	9.84
2.26	220.76	.364E+05	59.4	0.99	10.22
2.62	221.12	.546E+05	93.6	1.04	9.71
2.97	221.47	.748E+05	137.0	1.11	9.10
3.32	221.82	.967E+05	193.1	1.21	8.34
3.68	222.18	.119E+06	259.4	1.32	7.66
4.03	222.53	.142E+06	335.2	1.42	7.08
4.38	222.88	.166E+06	419.5	1.53	6.59
4.74	223.24	.190E+06	512.1	1.63	6.18
5.09	223.59	.214E+06	612.7	1.73	5.83
5.44	223.94	.239E+06	721.2	1.82	5.53
5.79	224.29	.264E+06	837.5	1.92	5.26
6.15	224.65	.290E+06	961.5	2.00	5.03
6.50	225.00	.317E+06	1093.1	2.09	4.83

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1486)	6652.53	98.74	5.75	62.76	2.66	1.05
OUTFLOW: ID= 1 (5486)	6652.53	98.49	6.00	62.76	2.65	1.04

CALIB	
STANDHYD (0486)	Area (ha)= 35.14
ID= 1 DT=15.0 min	Total Imp(%)= 47.00 Dir. Conn.(%)= 41.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.52	18.62
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.50
Length (m)=	484.01	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	51.41
over (min)	15.00	15.00
Storage Coeff. (min)=	1.80 (ii)	12.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.08
		TOTALS
PEAK FLOW (cms)=	2.10	2.60 4.697 (iii)
TIME TO PEAK (hrs)=	4.75	5.25 5.25
RUNOFF VOLUME (mm)=	113.00	82.61 95.07

TOTAL RAINFALL (mm)=	114.00	114.00	114.00			
RUNOFF COEFFICIENT =	0.99	0.72	0.83			

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2486)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0486):	35.14	4.697	5.25	95.07
+ ID2= 2 (5486):	6652.53	98.493	6.00	62.76
ID = 3 (2486):	6687.67	99.904	6.00	62.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0533)	Area (ha)= 61.35
ID= 1 DT=15.0 min	Total Imp(%)= 49.00 Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	30.06	31.29
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	639.53	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	57.41
over (min)	15.00	15.00
Storage Coeff. (min)=	2.40 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	3.48	4.83 8.313 (iii)
TIME TO PEAK (hrs)=	5.00	5.25 5.25
RUNOFF VOLUME (mm)=	113.00	87.70 97.57
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.77 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1165)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0533):	61.35	8.313	5.25	97.57		
+ ID2= 2 (2486):	6687.67	99.904	6.00	62.93		
ID = 3 (1165):	6749.02	102.499	6.00	63.24		

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5165)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5165.0) ------>

Distance	Elevation	Manning	
0.00	217.93	0.0930	
93.89	215.00	0.0930	
100.20	213.00	0.0930	
110.33	212.37	0.0930	
119.07	212.00	0.0930	
119.29	212.00	0.0930	
131.29	211.51	0.0930	
131.54	211.50	0.0930 /0.0410	Main Channel
133.06	211.27	0.0410	Main Channel
133.84	211.00	0.0410	Main Channel
145.04	211.00	0.0410	Main Channel
145.53	211.37	0.0410 /0.0930	Main Channel
148.07	212.50	0.0930	
159.61	213.50	0.0930	
179.18	214.00	0.0930	
235.23	213.00	0.0930	
247.26	213.00	0.0930	
261.80	214.00	0.0930	
277.22	218.03	0.0930	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	211.18	.179E+04	0.9	0.44	31.48
0.37	211.37	.372E+04	3.0	0.68	20.65
0.76	211.76	.900E+04	10.9	1.01	13.79
1.14	212.14	.175E+05	24.0	1.14	12.17
1.53	212.53	.292E+05	42.8	1.23	11.37
1.91	212.91	.440E+05	67.9	1.29	10.81
2.30	213.30	.675E+05	101.8	1.26	11.05
2.69	213.69	.103E+06	148.9	1.21	11.48
3.07	214.07	.151E+06	213.5	1.18	11.80
3.46	214.46	.205E+06	302.0	1.23	11.31
3.84	214.84	.260E+06	407.0	1.31	10.63
4.23	215.23	.316E+06	516.4	1.37	10.19
4.61	215.61	.376E+06	638.6	1.42	9.81
5.00	216.00	.441E+06	780.7	1.48	9.41
5.39	216.39	.510E+06	941.7	1.54	9.03
5.77	216.77	.584E+06	1121.6	1.61	8.67
6.16	217.16	.662E+06	1320.5	1.67	8.35
6.54	217.54	.744E+06	1538.7	1.73	8.06
6.93	217.93	.832E+06	1776.7	1.79	7.80

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1165)	6749.02	102.50	6.00	63.24	2.31	1.26
OUTFLOW: ID= 1 (5165)	6749.02	101.63	6.25	63.24	2.29	1.26

CALIB	
STANDHYD (0165)	Area (ha)= 101.91
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	50.96	50.96
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	824.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	54.72
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	17.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07
		TOTALS
PEAK FLOW (cms)=	6.23	7.36 13.593 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	113.00	85.31 96.94
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.75 0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2165)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0165):	101.91	13.593	5.25	96.94
+ ID2= 2 (5165):	6749.02	101.628	6.25	63.24
ID = 3 (2165):	6850.93	105.807	6.25	63.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5383)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5383.0) ------>

Distance	Elevation	Manning	
0.00	217.40	0.0930	
9.80	217.00	0.0930	
16.80	215.50	0.0930	
48.20	214.50	0.0930	
66.70	214.50	0.0930	
92.00	211.00	0.0930	
96.20	210.50	0.0930 /0.0410	Main Channel
97.00	210.10	0.0410	Main Channel
107.00	210.10	0.0410	Main Channel

107.50	210.50	0.0410 /0.0930	Main Channel	
112.00	211.00	0.0930		
120.50	212.50	0.0930		
131.90	213.00	0.0930		
199.00	213.00	0.0930		
201.70	212.50	0.0930		
214.00	212.00	0.0930		
229.70	212.00	0.0930		
243.80	215.00	0.0930		
270.00	215.00	0.0930		
310.90	216.00	0.0930		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	210.30	.188E+04	1.1	0.53	28.54
0.40	210.50	.388E+04	3.5	0.82	18.44
0.72	210.82	.804E+04	10.0	1.14	13.34
1.05	211.15	.138E+05	19.8	1.30	11.64
1.37	211.47	.209E+05	32.8	1.43	10.61
1.69	211.79	.292E+05	49.2	1.54	9.89
2.02	212.12	.406E+05	67.1	1.51	10.07
2.34	212.44	.584E+05	93.8	1.46	10.37
2.66	212.76	.801E+05	127.3	1.45	10.49
2.99	213.09	.111E+06	158.3	1.30	11.68
3.31	213.41	.158E+06	222.8	1.28	11.83
3.64	213.74	.206E+06	301.4	1.33	11.41
3.96	214.06	.256E+06	393.0	1.40	10.84
4.28	214.38	.306E+06	497.1	1.48	10.26
4.61	214.71	.362E+06	595.1	1.50	10.13
4.93	215.03	.423E+06	682.5	1.47	10.34
5.25	215.35	.497E+06	819.4	1.50	10.12
5.58	215.68	.578E+06	979.1	1.54	9.84
5.90	216.00	.663E+06	1160.9	1.59	9.52

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2165)	6850.93	105.81	6.25	63.74	2.46	1.46
OUTFLOW: ID= 1 (5383)	6850.93	104.68	6.25	63.74	2.45	1.46

CALIB	
STANDHYD (0383)	Area (ha)= 61.08
ID= 1 DT=15.0 min	Total Imp(%)= 40.00 Dir. Conn.(%)= 31.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.43	36.65
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	638.12	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	52.67
over (min)		15.00	15.00
Storage Coeff. (min)=		2.40 (ii)	14.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.07

		TOTALS
PEAK FLOW	(cms)=	2.76	5.17	7.926 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25

RUNOFF VOLUME	(mm)=	113.00	81.71	91.41
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.72	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2383)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0383):	61.08	7.926	5.25	91.41
+ ID2= 2 (5383):	6850.93	104.677	6.25	63.74
ID = 3 (2383):	6912.01	107.086	6.25	63.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0177)	Area (ha)= 144.80
ID= 1 DT=15.0 min	Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	75.30	69.50
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	982.51	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	57.64
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	8.99	5.52	12.659 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	89.29	99.49
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.78	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1720)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0177):	144.80	12.659	5.25	99.49
+ ID2= 2 (2383):	6912.01	107.086	6.25	63.99
ID = 3 (1720):	7056.81	115.196	6.25	64.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DIVERT HYD (1800)	
IN= 1	# OUT= 5

Outflow / Inflow Relationships

Flow 1 (cms)	+ Flow 2 (cms)	+ Flow 3 (cms)	+ Flow 4 (cms)	+ Flow 5 (cms)	= Total (cms)
0.00	0.00	0.00	0.00	0.00	0.00
0.00	******	0.00	0.00	0.00	******

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	7056.81	115.20	6.25	64.72
ID= 2 (2)	0.01	0.00	6.25	64.72
ID= 3 (2)	7056.81	115.20	6.25	64.72
ID= 4 (2)	0.00	0.00	0.00	0.00
ID= 5 (2)	0.00	0.00	0.00	0.00
ID= 6 (2)	0.00	0.00	0.00	0.00

ROUTE CHN (5800)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5800.0) ------>

Distance	Elevation	Manning	
0.00	214.42	0.0700	
79.28	213.89	0.0700	
120.12	213.16	0.0700	
155.24	211.47	0.0700 /0.0700	Main Channel
158.88	211.30	0.0700	Main Channel
162.95	211.27	0.0700	Main Channel
173.48	211.26	0.0700	Main Channel
221.99	210.58	0.0700	Main Channel
245.42	210.53	0.0700	Main Channel
264.64	210.60	0.0700	Main Channel
283.77	210.98	0.0700	Main Channel
294.38	211.50	0.0700 /0.0700	Main Channel
314.27	212.46	0.0700	
375.00	214.31	0.0700	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	210.72	.117E+05	1.6	0.20	122.43
0.38	210.91	.314E+05	6.6	0.32	78.97
0.56	211.09	.573E+05	15.6	0.41	61.03
0.75	211.28	.884E+05	27.4	0.46	53.77
0.94	211.47	.126E+06	47.3	0.56	44.53
1.14	211.67	.170E+06	76.4	0.68	37.02
1.35	211.88	.216E+06	111.7	0.78	32.20
1.55	212.08	.264E+06	152.9	0.87	28.81
1.75	212.28	.315E+06	200.1	0.95	26.27

1.95	212.48	.369E+06	253.3	1.03	24.29
2.16	212.69	.426E+06	312.4	1.10	22.72
2.36	212.89	.486E+06	377.9	1.17	21.42
2.56	213.09	.549E+06	450.2	1.23	20.33
2.77	213.30	.616E+06	527.6	1.28	19.47
2.97	213.50	.689E+06	612.3	1.33	18.75
3.17	213.70	.767E+06	705.3	1.38	18.12
3.37	213.90	.850E+06	806.4	1.42	17.57
3.58	214.11	.942E+06	911.2	1.45	17.23
3.78	214.31	.105E+07	1029.3	1.48	16.93

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	0.01	0.00	6.25	64.72	0.00	0.20
OUTFLOW: ID= 1 (5800)	0.01	0.00	14.25	64.72	0.00	0.20

ROUTE CHN (5720)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5720.0) ------>

Distance	Elevation	Manning	
0.00	217.21	0.1110	
21.44	216.00	0.1110	
44.42	215.50	0.1110	
50.34	215.00	0.1110	
62.51	209.50	0.1110	
65.10	209.15	0.1110	
66.24	209.00	0.1110 /0.0490	Main Channel
66.50	208.60	0.0490	Main Channel
68.40	208.60	0.0490	Main Channel
68.93	209.00	0.0490 /0.1110	Main Channel
69.89	209.12	0.1110	
72.86	209.50	0.1110	
80.96	213.52	0.1110	
83.23	214.31	0.1110	
86.07	215.00	0.1110	
87.25	215.10	0.1110	
97.04	215.50	0.1110	
101.19	215.50	0.1110	
112.34	215.74	0.1110	
112.52	215.74	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	208.80	.325E+03	0.2	0.46	28.04
0.40	209.00	.710E+03	0.6	0.67	19.10
0.80	209.40	.247E+04	2.5	0.79	16.41
1.19	209.79	.573E+04	6.3	0.86	15.03
1.59	210.19	.954E+04	12.0	0.98	13.20
1.99	210.59	.139E+05	19.5	1.09	11.85
2.38	210.98	.187E+05	28.7	1.19	10.85
2.78	211.38	.241E+05	39.8	1.28	10.08
3.18	211.78	.299E+05	52.7	1.36	9.46
3.57	212.17	.363E+05	67.6	1.44	8.95
3.97	212.57	.432E+05	84.5	1.51	8.52
4.36	212.96	.506E+05	103.6	1.58	8.14
4.76	213.36	.585E+05	124.8	1.65	7.82
5.16	213.76	.670E+05	147.8	1.71	7.55

5.55	214.15	.761E+05	173.1	1.76	7.32
5.95	214.55	.858E+05	200.2	1.81	7.14
6.35	214.95	.962E+05	229.9	1.85	6.98
6.74	215.34	.109E+06	242.9	1.73	7.45
7.14	215.74	.127E+06	242.9	1.48	8.73

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1800)	7056.81	115.20	6.25	64.72	4.58	1.62
OUTFLOW: ID= 1 (5720)	7056.81	114.23	6.25	64.72	4.57	1.62

ADD HYD (2800)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (5720):	7056.81	114.233	6.25	64.72
+ ID2= 2 (5800):	0.01	0.000	14.25	64.72
ID = 3 (2800):	7056.81	114.233	6.25	64.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0720)	Area (ha)= 50.88		
ID= 1 DT=15.0 min	Total Imp(%)= 36.00	Dir. Conn.(%)= 32.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.32	32.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	582.41	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	47.10
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	2.37	2.68	4.798 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	78.01	89.21
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.68	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2720)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0720):	50.88	4.798	5.25	89.21
+ ID2= 2 (2800):	7056.81	114.233	6.25	64.72
ID = 3 (2720):	7107.69	116.889	6.25	64.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0393)	Area (ha)= 98.98		
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 51.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	56.42	42.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	812.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	55.03
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	67.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	7.33	3.49	9.685 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	88.44	100.97
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.78	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1394)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0393):		98.98	9.685	5.25	100.97
+ ID2= 2 (2720):		7107.69	116.889	6.25	64.89
ID = 3 (1394):		7206.67	122.402	6.25	65.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5394)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5394.0) ------>		
Distance	Elevation	Manning
0.00	213.16	0.1110

20.83	211.00	0.1110		
60.38	209.34	0.1110		
86.89	209.00	0.1110		
94.15	208.62	0.1110		
151.69	206.40	0.1110		
157.26	206.00	0.1110		
161.49	205.39	0.1110		
163.96	204.98	0.1110 /0.0490	Main Channel	
166.91	204.50	0.0490	Main Channel	
174.77	204.50	0.0490	Main Channel	
177.78	204.96	0.0490	Main Channel	
178.68	205.00	0.0490	Main Channel	
178.78	204.99	0.0490 /0.1110	Main Channel	
180.81	206.00	0.1110		
203.93	206.50	0.1110		
209.84	206.50	0.1110		
222.90	207.00	0.1110		
250.93	210.92	0.1110		
250.94	213.16	0.1110		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	204.74	.209E+04	0.7	0.33	47.42
0.48	204.98	.486E+04	2.5	0.48	32.36
0.96	205.46	.123E+05	10.4	0.78	19.84
1.44	205.94	.216E+05	22.7	0.97	15.86
1.92	206.42	.372E+05	39.8	0.99	15.55
2.40	206.90	.676E+05	65.8	0.90	17.13
2.89	207.39	.108E+06	104.1	0.89	17.35
3.37	207.87	.156E+06	154.4	0.92	16.88
3.85	208.35	.211E+06	217.1	0.95	16.23
4.33	208.83	.273E+06	293.4	0.99	15.54
4.81	209.31	.344E+06	374.8	1.01	15.30
5.29	209.79	.427E+06	483.1	1.05	14.73
5.77	210.27	.517E+06	608.5	1.09	14.15
6.25	210.75	.613E+06	750.5	1.14	13.61
6.74	211.24	.715E+06	918.2	1.19	12.98
7.22	211.72	.820E+06	1109.3	1.26	12.32
7.70	212.20	.927E+06	1316.7	1.32	11.73
8.18	212.68	.104E+07	1539.9	1.38	11.21
8.66	213.16	.115E+07	1778.7	1.44	10.74

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1394)	7206.67	122.40	6.25	65.39	3.06	0.90
OUTFLOW: ID= 1 (5394)	7206.67	118.92	6.50	65.39	3.03	0.90

CALIB			
STANDHYD (0394)	Area (ha)= 38.01		
ID= 1 DT=15.0 min	Total Imp(%)= 31.00	Dir. Conn.(%)= 25.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.78	26.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	503.39	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		52.42	46.87	
over (min)		15.00	30.00	
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.10	0.03	

		TOTALS
PEAK FLOW	(cms)=	1.38	2.20	3.374 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	75.31	84.73
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.66	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2394)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0394):		38.01	3.374	5.25	84.73
+ ID2= 2 (5394):		7206.67	118.921	6.50	65.39
ID = 3 (2394):		7244.68	120.543	6.50	65.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5221)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5221.0) ------>		
Distance	Elevation	Manning
0.00	209.40	0.1110
6.90	205.50	0.1110
12.79	205.00	0.1110
50.72	205.00	0.1110
54.17	204.40	0.1110
58.47	204.00	0.1110
68.03	203.71	0.1110
77.31	203.69	0.1110
81.46	203.50	0.1110
86.45	203.56	0.1110
89.27	202.50	0.1110
89.61	202.33	0.1110 /0.0490	Main Channel
90.01	201.80	0.0490	Main Channel
100.15	201.80	0.0490	Main Channel
100.63	202.43	0.0490 /0.1110	Main Channel
104.18	204.27	0.1110	
115.16	204.94	0.1110	
119.53	204.93	0.1110	
121.87	205.00	0.1110	
148.39	209.73	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.27	202.07	.229E+04	1.1	0.40	34.80
0.53	202.33	.467E+04	3.5	0.62	22.52
0.95	202.75	.875E+04	9.3	0.89	15.59
1.36	203.16	.135E+05	17.6	1.09	12.75
1.78	203.58	.191E+05	27.9	1.22	11.42
2.19	203.99	.314E+05	42.1	1.12	12.44
2.61	204.41	.481E+05	61.9	1.08	12.96
3.03	204.83	.679E+05	87.5	1.08	12.95
3.44	205.24	.999E+05	113.6	0.95	14.66
3.86	205.66	.140E+06	161.3	0.96	14.52
4.27	206.07	.182E+06	219.4	1.01	13.86
4.69	206.49	.225E+06	286.6	1.06	13.11
5.10	206.90	.269E+06	362.5	1.13	12.39
5.52	207.32	.315E+06	446.9	1.19	11.73
5.94	207.74	.361E+06	539.4	1.25	11.15
6.35	208.15	.408E+06	640.0	1.31	10.62
6.77	208.57	.456E+06	748.5	1.37	10.16
7.18	208.98	.506E+06	864.8	1.43	9.74
7.60	209.40	.556E+06	988.9	1.49	9.37

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2394)	7244.68	120.54	6.50	65.49	3.50	0.95
OUTFLOW: ID= 1 (5221)	7244.68	116.83	6.75	65.49	3.47	0.95

CALIB			
STANDHYD (0221)	Area (ha)= 129.39		
ID= 1 DT=15.0 min	Total Imp(%)= 48.00	Dir. Conn.(%)= 39.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	62.11	67.28
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	928.76	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	56.86
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	75.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	7.31	5.46	10.966 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	113.00	89.04	98.39
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.78	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2221)	7374.07	122.55	6.75	66.07	2.57	1.07
OUTFLOW: ID= 1 (5233)	7374.07	121.82	7.00	66.07	2.56	1.06

CALIB			
STANDHYD (0233)	Area (ha)= 60.17		
ID= 1 DT=15.0 min	Total Imp(%)= 44.00	Dir. Conn.(%)= 35.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	26.47	33.70
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	633.35	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	56.18
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	3.06	3.23	5.719 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	113.00	88.82	97.29
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.78	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2233)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0233):	60.17	5.719	5.25	97.29
+ ID2= 2 (5233):	7374.07	121.823	7.00	66.07
ID = 3 (2233):	7434.24	124.133	7.00	66.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5242)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5242.0) ------>

Distance	Elevation	Manning	
0.00	206.25	0.1110	
7.53	204.51	0.1110	
40.12	201.31	0.1110	
59.19	200.00	0.1110	

ADD HYD (2221)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0221):	129.39	10.966	5.25	98.39
+ ID2= 2 (5221):	7244.68	116.832	6.75	65.49
ID = 3 (2221):	7374.07	122.546	6.75	66.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5233)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5233.0) ------>

Distance	Elevation	Manning	
0.00	211.05	0.1110	
13.16	206.00	0.1110	
38.98	205.50	0.1110	
46.73	205.50	0.1110	
58.41	203.00	0.1110	
69.39	202.53	0.1110	
79.51	202.50	0.1110	
95.91	202.01	0.1110 /0.0490	Main Channel
96.32	201.98	0.0490	Main Channel
100.74	201.58	0.0490	Main Channel
109.40	201.58	0.0490	Main Channel
111.17	202.00	0.0490 /0.1110	Main Channel
111.89	202.15	0.1110	
117.63	203.50	0.1110	
119.63	204.24	0.1110	
122.33	205.00	0.1110	
127.31	205.55	0.1110	
140.44	206.50	0.1110	
170.27	211.50	0.1110	
180.32	212.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	202.00	.395E+04	2.6	0.51	25.73
0.90	202.48	.130E+05	12.1	0.74	17.85
1.37	202.95	.313E+05	30.7	0.78	17.01
1.85	203.43	.535E+05	59.9	0.89	14.88
2.33	203.91	.772E+05	98.3	1.01	13.09
2.80	204.38	.102E+06	145.0	1.12	11.76
3.28	204.86	.129E+06	199.5	1.23	10.76
3.75	205.33	.157E+06	261.1	1.32	10.02
4.23	205.81	.191E+06	306.9	1.27	10.40
4.71	206.29	.237E+06	388.0	1.30	10.16
5.18	206.76	.285E+06	493.3	1.37	9.63
5.66	207.24	.335E+06	612.1	1.45	9.13
6.14	207.72	.387E+06	742.9	1.52	8.68
6.61	208.19	.440E+06	885.6	1.60	8.29
7.09	208.67	.495E+06	1040.0	1.67	7.94
7.56	209.14	.552E+06	1206.2	1.73	7.62
8.04	209.62	.609E+06	1384.0	1.80	7.34
8.52	210.10	.669E+06	1573.4	1.87	7.09
8.99	210.57	.730E+06	1774.6	1.93	6.86

<---- hydrograph ----> <-pipe / channel->

69.28	199.50	0.1110	
73.36	199.03	0.1110 /0.0490	Main Channel
74.00	198.50	0.0490	Main Channel
83.49	198.50	0.0490	Main Channel
84.08	199.00	0.0490 /0.1110	Main Channel
84.49	199.26	0.1110	
86.60	200.30	0.1110	
87.15	200.50	0.1110	
94.96	201.00	0.1110	
98.93	201.50	0.1110	
111.89	204.46	0.1110	
115.16	205.00	0.1110	
122.69	207.55	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	198.75	.233E+04	1.0	0.40	39.67
0.50	199.00	.480E+04	3.1	0.62	25.72
0.93	199.43	.995E+04	9.2	0.88	17.97
1.35	199.85	.176E+05	18.3	0.99	16.00
1.78	200.28	.289E+05	31.3	1.03	15.39
2.21	200.71	.434E+05	48.2	1.06	15.01
2.63	201.13	.628E+05	70.2	1.07	14.90
3.06	201.56	.862E+05	98.6	1.09	14.58
3.49	201.99	.113E+06	133.3	1.13	14.06
3.91	202.41	.141E+06	174.0	1.17	13.53
4.34	202.84	.173E+06	220.8	1.22	13.03
4.76	203.26	.206E+06	273.9	1.26	12.57
5.19	203.69	.243E+06	333.4	1.31	12.14
5.62	204.12	.282E+06	399.8	1.35	11.74
6.04	204.54	.323E+06	473.2	1.39	11.38
6.47	204.97	.367E+06	557.1	1.45	10.97
6.90	205.40	.412E+06	650.2	1.50	10.56
7.32	205.82	.458E+06	750.3	1.56	10.18
7.75	206.25	.506E+06	857.3	1.61	9.83

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2233)	7434.24	124.13	7.00	66.32	3.37	1.12
OUTFLOW: ID= 1 (5242)	7434.24	122.61	7.00	66.32	3.36	1.12

CALIB			
STANDHYD (0242)	Area (ha)= 144.68		
ID= 1 DT=15.0 min	Total Imp(%)= 52.00	Dir. Conn.(%)= 44.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	75.23	69.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	982.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	57.18
over (min)	15.00	30.00
Storage Coeff. (min)=	12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS

```
     PEAK FLOW      (cms)=       9.22         5.79         13.137 (iii)
     TIME TO PEAK   (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME   (mm)=     113.00        90.72        100.53
     TOTAL RAINFALL  (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT  =       0.99         0.80          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0242):   144.68  13.137     5.25   100.53
       + ID2= 2 (5242):  7434.24 122.609     7.00    66.32
         ================================================
         ID = 3 (2242):  7578.92 128.346     7.00    66.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5551) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5551.0) ------>
              Distance      Elevation      Manning
                  0.00         206.24        0.1110
                 25.71         201.81        0.1110
                 46.60         199.50        0.1110
                 67.80         199.50        0.1110
                 74.10         198.50        0.1110
                 97.90         197.50        0.1110
                132.90         197.50        0.1110
                138.80         197.00        0.1110
                146.80         196.50    0.1110 /0.0490  Main Channel
                150.90         196.00        0.0490      Main Channel
                160.46         196.00        0.0490      Main Channel
                161.39         196.31        0.0490      Main Channel
                161.98         196.50    0.0490 /0.1110  Main Channel
                163.24         196.92        0.1110
                163.50         197.00        0.1110
                165.25         197.50        0.1110
                193.50         204.00        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.25    196.25    .400E+04         1.8          0.65       37.22
       0.50    196.50    .903E+04         6.1          0.98       24.86
       0.94    196.94    .216E+05        21.1          1.43       17.03
       1.38    197.38    .392E+05        44.8          1.67       14.58
       1.82    197.82    .785E+05        80.3          1.49       16.31
       2.26    198.26    .132E+06       136.7          1.52       16.07
       2.71    198.71    .193E+06       212.4          1.61       15.11
       3.15    199.15    .257E+06       307.3          1.75       13.94
```



```
       3.59   199.59    .327E+06       395.1          1.76       13.80
       4.03   200.03    .412E+06       531.2          1.88       12.93
       4.47   200.47    .500E+06       686.6          2.00       12.15
       4.91   200.91    .593E+06       861.3          2.12       11.47
       5.35   201.35    .689E+06      1054.9          2.24       10.88
       5.79   201.79    .789E+06      1267.4          2.35       10.37
       6.24   202.24    .892E+06      1504.2          2.46        9.88
       6.68   202.68    .998E+06      1760.2          2.57        9.45
       7.12   203.12    .111E+07      2034.9          2.68        9.07
       7.56   203.56    .122E+07      2328.5          2.79        8.73
       8.00   204.00    .133E+07      2640.8          2.89        8.42

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2242) 7578.92   128.35    7.00  66.97      2.20      1.51
     OUTFLOW: ID= 1 (5551) 7578.92   126.92    7.25  66.97      2.19      1.51

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0551) |   Area    (ha)=  27.37   Curve Number   (CN)= 79.1
|ID= 1 DT=15.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.31

     Unit Hyd Qpeak  (cms)=   3.405

     PEAK FLOW       (cms)=   2.665 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  64.434
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.565

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2551) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0551):    27.37    2.665     5.25    64.43
       + ID2= 2 (5551):  7578.92 126.923     7.25    66.97
         ================================================
         ID = 3 (2551):  7606.29 127.423     7.25    66.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0554) |   Area    (ha)=  16.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  39.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        8.06         8.06
     Dep. Storage     (mm)=        1.00         4.00
     Average Slope     (%)=        1.00         3.30
     Length            (m)=      327.92        40.00
     Mannings n           =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       52.42        60.07
```



```
                over (min)       15.00        15.00
     Storage Coeff.  (min)=       6.60 (ii)   37.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.92         0.98          1.847 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=     113.00        91.59         99.94
     TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT   =       0.99         0.80          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9099) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  16.13      1.85      5.25   99.94
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  16.13      1.85      5.25   99.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6099) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1500     2.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9099)     16.130     1.847      5.25      99.94
     OUTFLOW: ID= 1 (6099)     16.130     0.104      9.50      99.73

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.62
                TIME SHIFT OF PEAK FLOW          (min)=255.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.3855

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (4099) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9099 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6099):    16.13   0.104     9.50    99.73
       + ID2= 2 (9099):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4099):    16.13   0.104     9.50    99.73
```



```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (1230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2551):  7606.29 127.423     7.25    66.96
       + ID2= 2 (4099):    16.13   0.104     9.50    99.73
         ================================================
         ID = 3 (1230):  7622.42 127.518     7.25    67.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5230) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5230.0) ------>
              Distance      Elevation      Manning
                  0.00         206.83        0.1110
                  4.14         206.00        0.1110
                 22.63         198.67        0.1110
                 36.40         196.50        0.1110
                112.13         195.70        0.1110
                118.23         195.50        0.1110
                122.94         195.00        0.1110
                123.65         194.50    0.1110 /0.0490  Main Channel
                123.86         194.36        0.0490      Main Channel
                135.37         194.41        0.0490      Main Channel
                135.47         194.41        0.0490      Main Channel
                135.58         194.50    0.0490 /0.1110  Main Channel
                136.38         195.21        0.1110
                163.77         196.50        0.1110
                176.41         197.50        0.1110
                187.00         199.50        0.1110
                197.29         200.50        0.1110
                222.22         205.14        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.14    194.50    .102E+04         0.3          0.22       57.77
       0.70    195.06    .639E+04         5.8          0.69       18.34
       1.26    195.62    .149E+05        16.6          0.84       14.95
       1.82    196.18    .395E+05        36.4          0.70       18.12
       2.38    196.74    .894E+05        77.0          0.65       19.35
       2.94    197.30    .147E+06       141.7          0.73       17.35
       3.50    197.86    .210E+06       227.1          0.82       15.39
       4.06    198.42    .275E+06       331.5          0.91       13.82
       4.62    198.98    .343E+06       455.0          1.00       12.55
       5.18    199.54    .412E+06       596.4          1.09       11.52
       5.74    200.10    .485E+06       751.0          1.17       10.75
       6.30    200.66    .560E+06       924.2          1.25       10.09
       6.86    201.22    .637E+06      1117.9          1.33        9.50
       7.42    201.78    .716E+06      1327.9          1.40        8.99
       7.98    202.34    .797E+06      1554.0          1.47        8.55
       8.54    202.90    .880E+06      1796.2          1.54        8.17
       9.10    203.46    .965E+06      2054.2          1.61        7.83
       9.66    204.02    .105E+07      2328.1          1.67        7.53
```

```
 10.22   204.58    .114E+07    2617.9          1.74       7.26

                                <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (1230) 7622.42   127.52    7.25  67.03      2.82      0.71
OUTFLOW: ID= 1 (5230) 7622.42   125.55    7.50  67.03      2.80      0.71


--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0230)   |   Area    (ha)=  73.89
|ID= 1 DT=15.0 min   |   Total Imp(%)=  28.00   Dir. Conn.(%)=  22.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.69        53.20
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.40
     Length            (m)=     701.85        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        49.78
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   54.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.36         4.32         5.812 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75         5.25
     RUNOFF VOLUME    (mm)=     113.00        81.95        88.78
     TOTAL RAINFALL   (mm)=     114.00       114.00       114.00
     RUNOFF COEFFICIENT   =       0.99         0.72         0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0230):    73.89   5.812     5.25    88.78
       + ID2= 2 (5230):  7622.42 125.548     7.50    67.03
         ================================================
         ID = 3 (2230):  7696.31 127.746     7.50    67.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0561)   |   Area    (ha)=  20.84
|ID= 1 DT=15.0 min   |   Total Imp(%)=  55.00   Dir. Conn.(%)=  50.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      11.46         9.38
```



```
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.80
     Length            (m)=     372.74        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        54.16
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       8.40 (ii)   49.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.52         0.92         2.368 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=     113.00        89.75       101.37
     TOTAL RAINFALL   (mm)=     114.00       114.00       114.00
     RUNOFF COEFFICIENT   =       0.99         0.79         0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9561) |
| Inlet Cap.=0.850 |
| #of Inlets=   1  |
| Total(cms)=  0.9 |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  20.84      2.37      5.25  101.37
     ================================================
     MAJOR SYS.(ID= 2):   5.82      1.52      5.25  101.37
     MINOR SYS.(ID= 3):  15.02      0.85      4.50  101.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0230):  7696.31 127.746     7.50    67.24
       + ID2= 2 (9561):    15.02   0.850     4.50   101.37
         ================================================
         ID = 3 (****):  7711.34 128.228     7.50    67.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5389) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5389.0) ------>
              Distance      Elevation       Manning
                  0.00         199.34        0.1110
                  3.25         198.31        0.1110
                  8.26         194.50        0.1110
                 12.49         192.78        0.1110
```



```
              35.23         192.57        0.1110
              45.14         192.86        0.1110
              56.75         192.19        0.1110
              64.87         192.00        0.1110
              86.92         192.00        0.1110
              87.41         191.50        0.1110
              87.93         191.00        0.1110
              88.41         190.96    0.1110 /0.0490  Main Channel
              89.77         190.00        0.0490      Main Channel
              93.81         190.00        0.0490      Main Channel
              95.69         190.80        0.0490      Main Channel
              96.61         191.00    0.0490 /0.1110  Main Channel
              98.47         191.50        0.1110
             113.20         193.50        0.1110
             129.63         197.50        0.1110
             129.73         197.53        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.32   190.32    .222E+04        0.9          0.58      42.60
       0.64   190.64    .502E+04        2.9          0.87      28.76
       0.96   190.96    .843E+04        5.9          1.05      23.65
       1.37   191.37    .142E+05       12.9          1.35      18.41
       1.78   191.78    .214E+05       22.3          1.55      16.04
       2.19   192.19    .382E+05       35.0          1.37      18.18
       2.60   192.60    .702E+05       55.8          1.19      20.95
       3.01   193.01    .124E+06       87.2          1.05      23.68
       3.42   193.42    .185E+06      135.4          1.09      22.78
       3.83   193.83    .248E+06      195.9          1.18      21.14
       4.24   194.24    .313E+06      267.3          1.27      19.55
       4.66   194.66    .380E+06      349.2          1.37      18.15
       5.07   195.07    .448E+06      441.3          1.47      16.93
       5.48   195.48    .518E+06      542.9          1.57      15.90
       5.89   195.89    .589E+06      653.9          1.66      15.00
       6.30   196.30    .661E+06      773.9          1.75      14.23
       6.71   196.71    .734E+06      902.9          1.84      13.56
       7.12   197.12    .809E+06     1040.7          1.92      12.96
       7.53   197.53    .886E+06     1187.4          2.00      12.43

                                <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
INFLOW : ID= 2 (****) 7711.34   128.23    7.50  67.31      3.36      1.09
OUTFLOW: ID= 1 (5389) 7711.34   125.32    8.00  67.31      3.34      1.08


--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0389)   |   Area    (ha)=  77.16
|ID= 1 DT=15.0 min   |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      18.52        58.64
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.50
     Length            (m)=     717.22        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        42.92
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   52.20 (ii)
```



```
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.69         4.18         6.428 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=     113.00        74.68        83.88
     TOTAL RAINFALL   (mm)=     114.00       114.00       114.00
     RUNOFF COEFFICIENT   =       0.99         0.66         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2389) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0389):    77.16   6.428     5.25    83.88
       + ID2= 2 (5389):  7711.34 125.318     8.00    67.31
         ================================================
         ID = 3 (2389):  7788.50 126.834     8.00    67.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5680) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5680.0) ------>
              Distance      Elevation       Manning
                  0.00         192.05        0.1110
                  4.42         191.50        0.1110
                 19.11         187.00        0.1110
                 24.86         186.33        0.1110
                 30.83         186.31        0.1110
                 36.85         186.50        0.1110
                 56.81         186.50        0.1110
                 63.15         186.00        0.1110
                 73.63         186.00        0.1110
                 74.48         185.90    0.1110 /0.0490  Main Channel
                 75.36         184.90        0.0490      Main Channel
                 82.36         184.90        0.0490      Main Channel
                 83.09         185.85    0.0490 /0.1110  Main Channel
                 83.24         185.85        0.1110
                 96.38         186.50        0.1110
                112.87         191.86        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.32   185.22    .230E+04        1.5          0.64      26.12
       0.63   185.53    .476E+04        4.6          0.97      17.18
       0.95   185.85    .739E+04        9.1          1.22      13.61
       1.33   186.23    .150E+05       17.5          1.16      14.35
       1.70   186.60    .339E+05       31.6          0.93      17.88
       2.08   186.98    .626E+05       58.2          0.93      17.92
```

2.45	187.35	.925E+05	94.4	1.02	16.33
2.83	187.73	.123E+06	139.1	1.13	14.79
3.20	188.10	.155E+06	191.4	1.23	13.51
3.58	188.48	.188E+06	251.2	1.34	12.47
3.96	188.86	.221E+06	318.1	1.44	11.60
4.33	189.23	.256E+06	392.0	1.53	10.88
4.71	189.61	.291E+06	472.7	1.62	10.27
5.08	189.98	.328E+06	560.2	1.71	9.74
5.46	190.36	.365E+06	654.4	1.79	9.29
5.83	190.73	.403E+06	755.2	1.87	8.89
6.21	191.11	.442E+06	862.6	1.95	8.53
6.58	191.48	.482E+06	976.5	2.03	8.22
6.96	191.86	.523E+06	1088.5	2.08	8.00

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (2389)	7788.50	126.83	8.00	67.47	2.73	1.10
OUTFLOW: ID= 1 (5680)	7788.50	126.21	8.00	67.47	2.72	1.09

CALIB			
STANDHYD (0680)	Area (ha)= 29.70		
ID= 1 DT=15.0 min	Total Imp(%)= 19.00	Dir. Conn.(%)= 19.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.64	24.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	8.80
Length	(m)=	444.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	42.92
over (min)		15.00	15.00
Storage Coeff. (min)=		6.00 (ii)	34.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.82 2.10 2.923 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	113.00 74.68 81.96
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.66 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2680)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0680):	29.70	2.923	5.25	81.96

+ ID2= 2 (5680):	7788.50	126.207	8.00 67.47
ID = 3 (2680):	7818.20	126.657	8.00 67.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0215)	Area (ha)= 168.73		
ID= 1 DT=15.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 52.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	97.86	70.87
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80
Length	(m)=	1060.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	56.53
over (min)		15.00	30.00
Storage Coeff. (min)=		15.60 (ii)	91.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	12.60 5.17 15.586 (iii)
TIME TO PEAK	(hrs)=	5.25 6.25 5.25
RUNOFF VOLUME	(mm)=	113.00 92.17 103.00
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.81 0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (5563)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5563.0) ------>

Distance	Elevation	Manning	
0.00	191.36	0.1110	
14.77	191.00	0.1110	
25.44	190.67	0.1110	
80.93	190.90	0.1110	
145.10	190.42	0.1110	
212.09	190.83	0.1110	
285.12	189.56	0.1110	
295.52	188.71	0.1110	
307.38	188.32	0.1110	
307.51	188.31	0.1110	
312.32	188.04	0.1110 /0.0490	Main Channel
317.15	187.12	0.0490	Main Channel
321.73	188.01	0.0490 /0.1110	Main Channel
327.33	189.06	0.1110	
328.00	189.07	0.1110	
347.82	189.58	0.1110	
348.77	189.58	0.1110	
359.57	189.55	0.1110	

452.50	191.17	0.1110	
496.50	191.28	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	187.30	.208E+03	0.1	0.42	50.17
0.36	187.48	.832E+03	0.4	0.67	31.60
0.53	187.65	.187E+04	1.3	0.87	24.12
0.71	187.83	.333E+04	2.8	1.06	19.91
0.89	188.01	.520E+04	5.1	1.23	17.16
1.12	188.24	.862E+04	10.3	1.51	13.96
1.36	188.48	.138E+05	17.5	1.60	13.14
1.59	188.71	.214E+05	27.2	1.61	13.11
1.82	188.94	.309E+05	40.1	1.64	12.84
2.06	189.18	.419E+05	55.2	1.67	12.64
2.29	189.41	.561E+05	74.0	1.66	12.65
2.52	189.64	.755E+05	94.5	1.58	13.32
2.76	189.88	.104E+06	122.0	1.47	14.28
2.99	190.11	.141E+06	158.7	1.42	14.85
3.23	190.35	.186E+06	205.5	1.39	15.10
3.46	190.58	.244E+06	249.0	1.29	16.31
3.69	190.81	.332E+06	310.8	1.18	17.80
3.93	191.05	.455E+06	425.1	1.18	17.82
4.16	191.28	.588E+06	551.2	1.18	17.79

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (0215)	168.73	15.59	5.25	103.00	1.29	1.58
OUTFLOW: ID= 1 (5563)	168.73	14.65	5.25	103.00	1.26	1.56

CALIB			
STANDHYD (0563)	Area (ha)= 27.61		
ID= 1 DT=15.0 min	Total Imp(%)= 37.00	Dir. Conn.(%)= 37.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.22	17.39
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	429.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	45.21
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.49 1.46 2.821 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	113.00 79.95 92.18
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.70 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2563)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0563):	27.61	2.821	5.25	92.18
	+ ID2= 2 (5563):	168.73	14.654	5.25	103.00
	ID = 3 (2563):	196.34	17.475	5.25	101.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0565)	Area (ha)= 11.31		
ID= 1 DT=15.0 min	Total Imp(%)= 54.00	Dir. Conn.(%)= 54.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.11	5.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.20
Length	(m)=	274.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.10
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.89 0.49 1.352 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	113.00 87.54 101.29
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.77 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9290)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	11.31	1.35	5.25	101.29	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	11.31	1.35	5.25	101.29	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6290)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6680	0.3357
	0.0690	0.0792	0.9860	0.4276
	0.2090	0.1615	1.3660	0.5226
	0.4090	0.2471	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9290)	11.310	1.352	5.25	101.29
OUTFLOW: ID= 1 (6290)	11.310	0.848	5.50	101.26

PEAK FLOW REDUCTION [Qout/Qin](%)= 62.71
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.3894

ADD HYD (4290)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9290 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6290):	11.31	0.848	5.50	101.26
+ ID2= 2 (9290):	0.00	0.000	0.00	0.00
ID = 3 (4290):	11.31	0.848	5.50	101.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3563)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2563):	196.34	17.475	5.25	101.48
+ ID2= 2 (4290):	11.31	0.848	5.50	101.26
ID = 3 (3563):	207.65	18.237	5.25	101.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3680)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2680):	7818.20	126.657	8.00	67.53
+ ID2= 2 (3563):	207.65	18.237	5.25	101.47
ID = 3 (3680):	8025.85	132.172	8.00	68.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.60		
ID= 1 DT=15.0 min	Total Imp(%)= 31.00	Dir. Conn.(%)= 31.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.41
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	13.50
Length (m)=	63.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	45.96
over (min)	15.00	15.00
Storage Coeff. (min)=	4.80 (ii)	27.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.03	0.04	0.070 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	81.78	91.44
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.72	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 1.60		
ID= 1 DT=15.0 min	Total Imp(%)= 31.00	Dir. Conn.(%)= 31.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	1.10
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	13.50
Length (m)=	103.28	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	45.96
over (min)	15.00	15.00
Storage Coeff. (min)=	4.80 (ii)	27.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.07	0.11	0.186 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	81.78	91.45
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.72	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 19.81		
ID= 1 DT=15.0 min	Total Imp(%)= 31.00	Dir. Conn.(%)= 31.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.14	13.67
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	13.50
Length (m)=	363.41	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	45.96
over (min)	15.00	15.00
Storage Coeff. (min)=	4.80 (ii)	27.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	0.89	1.41	2.308 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	81.78	91.46
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.72	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0405)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	19.81	2.308	5.25	91.46
+ ID2= 2 (****):	1.60	0.186	5.25	91.45
ID = 3 (0405):	21.41	2.495	5.25	91.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0404)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0405):	21.41	2.495	5.25	91.46
+ ID2= 2 (****):	0.60	0.070	5.25	91.44
ID = 3 (0404):	22.01	2.565	5.25	91.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9473)				
Inlet Cap.=0.059				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	22.01	2.56	5.25	91.46
MAJOR SYS.(ID= 2):	19.50	2.51	5.25	91.46
MINOR SYS.(ID= 3):	2.51	0.06	2.50	91.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6473)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0590	0.2565

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9473)	2.506	0.059	2.50	91.46
OUTFLOW: ID= 1 (6473)	2.506	0.034	12.50	91.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 57.81
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.1485

ADD HYD (4473)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6473):	2.51	0.034	12.50	91.02
+ ID2= 2 (9473):	19.50	2.506	5.25	91.46
ID = 3 (4473):	22.01	2.520	5.25	91.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1227)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3680):	8025.85	132.172	8.00	68.41
+ ID2= 2 (4473):	22.01	2.520	5.25	91.41
ID = 3 (1227):	8047.86	132.450	8.00	68.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5227)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5227.0) ------>

Distance	Elevation	Manning
0.00	183.10	0.1110

2.58	183.12	0.1110	
12.20	179.50	0.1110	
18.00	179.50	0.1110	
24.51	179.00	0.1110	
31.60	179.00	0.1110	
36.79	179.37	0.1110	
53.69	179.00	0.1110 /0.0490	Main Channel
55.00	178.00	0.0490	Main Channel
68.00	178.00	0.0490	Main Channel
69.17	179.00	0.0490 /0.1110	Main Channel
81.13	179.50	0.1110	
103.11	179.50	0.1110	
130.08	180.00	0.1110	
146.16	180.75	0.1110	
171.96	185.35	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	178.25	.765E+04	2.3	0.70	54.53
0.50	178.50	.157E+05	7.4	1.09	35.12
0.75	178.75	.240E+05	14.6	1.40	27.35
1.00	179.00	.327E+05	23.7	1.67	23.01
1.27	179.27	.552E+05	37.9	1.58	24.27
1.55	179.55	.952E+05	58.0	1.40	27.36
1.82	179.82	.159E+06	89.5	1.29	29.60
2.09	180.09	.232E+06	131.2	1.30	29.46
2.37	180.37	.310E+06	183.3	1.36	28.21
2.64	180.64	.393E+06	244.7	1.43	26.77
2.91	180.91	.479E+06	316.3	1.52	25.24
3.19	181.19	.567E+06	397.7	1.61	23.76
3.46	181.46	.656E+06	487.5	1.71	22.43
3.73	181.73	.747E+06	585.4	1.80	21.26
4.01	182.01	.839E+06	691.2	1.89	20.23
4.28	182.28	.933E+06	804.7	1.98	19.32
4.55	182.55	.103E+07	925.7	2.07	18.50
4.83	182.83	.112E+07	1054.1	2.16	17.77
5.10	183.10	.122E+07	1189.9	2.24	17.11

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> (m)	(m/s)
INFLOW : ID= 2 (1227)	8047.86	132.45	8.00	68.47	2.10	1.30
OUTFLOW: ID= 1 (5227)	8047.86	128.31	8.50	68.47	2.07	1.30

CALIB	
STANDHYD (****)	Area (ha)= 91.82
ID= 1 DT=15.0 min	Total Imp(%)= 32.00 Dir. Conn.(%)= 32.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	29.38	62.44
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.60
Length (m)=	782.39	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	43.69
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00

		TOTALS
Unit Hyd. peak (cms)=	0.09	0.02
PEAK FLOW (cms)=	4.27	4.15 7.476 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	113.00	76.40 88.11
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.67 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 4.30
ID= 1 DT=15.0 min	Total Imp(%)= 32.00 Dir. Conn.(%)= 32.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.38	2.92
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.60
Length (m)=	169.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	43.69
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	0.20	0.19 0.350 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	113.00	76.40 88.10
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.67 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 12.48
ID= 1 DT=15.0 min	Total Imp(%)= 32.00 Dir. Conn.(%)= 32.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.99	8.49
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.60
Length (m)=	288.44	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	43.69

			TOTALS
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
PEAK FLOW (cms)=	0.58	0.56	1.016 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	113.00	76.40	88.11
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.67	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0359)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	12.48	1.016	5.25	88.11
	+ ID2= 2 (****):	4.30	0.350	5.25	88.10
	ID = 3 (0359):	16.78	1.366	5.25	88.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0358)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0359):	16.78	1.366	5.25	88.11
	+ ID2= 2 (****):	91.82	7.476	5.25	88.11
	ID = 3 (0358):	108.60	8.842	5.25	88.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2227)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0358):	108.60	8.842	5.25	88.11
	+ ID2= 2 (5227):	8047.86	128.312	8.50	68.47
	ID = 3 (2227):	8156.46	130.075	8.50	68.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0197)	Area (ha)= 124.38
ID= 1 DT=15.0 min	Total Imp(%)= 67.00 Dir. Conn.(%)= 62.00

CALIB	
STANDHYD (****)	Area (ha)= 74.89
ID= 1 DT=15.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	83.33	41.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.50
Length (m)=	910.60	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	57.61
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01

		TOTALS
PEAK FLOW (cms)=	11.15	3.44 13.517 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	113.00	94.18 105.85
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.83 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0183)	Area (ha)= 74.89
ID= 1 DT=15.0 min	Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	63.66	11.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.30
Length (m)=	706.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	51.07
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	67.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02

		TOTALS
PEAK FLOW (cms)=	9.24	0.93 10.004 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	113.00	98.08 110.76
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.86 0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1191)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0183):	74.89	10.004	5.25	110.76
	+ ID2= 2 (0197):	124.38	13.517	5.25	105.85
	ID = 3 (1191):	199.27	23.521	5.25	107.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5191) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5191.0) ------>

Distance	Elevation	Manning	
0.00	206.09	0.1110	
41.11	202.34	0.1110	
69.44	202.09	0.1110	
120.54	202.43	0.1110	
159.64	202.06	0.1110	
176.80	201.18	0.1110	
193.03	197.88	0.1110	
193.97	197.91	0.1110 /0.0490	Main Channel
202.84	197.45	0.0490	Main Channel
207.88	196.02	0.0490 /0.1110	Main Channel
219.68	198.15	0.1110	
226.18	199.27	0.1110	
252.21	200.52	0.1110	
288.65	200.95	0.1110	
324.33	200.78	0.1110	
336.83	201.55	0.1110	
350.63	201.56	0.1110	
407.58	202.86	0.1110	
457.84	201.67	0.1110	
478.94	202.83	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	196.38	.805E+03	0.2	0.26	88.04
0.72	196.74	.322E+04	1.0	0.42	55.46
1.08	197.10	.724E+04	2.9	0.54	42.32
1.43	197.45	.129E+05	6.1	0.66	35.09
1.79	197.81	.215E+05	10.3	0.66	34.83
2.15	198.17	.344E+05	20.5	0.83	27.92
2.51	198.53	.493E+05	35.2	0.99	23.31
2.87	198.89	.661E+05	53.8	1.13	20.47
3.23	199.25	.848E+05	76.3	1.24	18.53
3.58	199.60	.107E+06	99.7	1.29	17.82
3.94	199.96	.133E+06	128.8	1.34	17.20
4.30	200.32	.164E+06	163.8	1.38	16.67
4.66	200.68	.201E+06	198.9	1.37	16.81
5.02	201.04	.260E+06	234.3	1.24	18.51
5.38	201.40	.337E+06	305.3	1.25	18.42
5.73	201.75	.425E+06	376.5	1.22	18.83
6.09	202.11	.535E+06	456.7	1.18	19.53
6.45	202.47	.701E+06	555.9	1.10	21.03
6.81	202.83	.909E+06	714.3	1.09	21.22

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1191)	199.27	23.52	5.25	107.70	2.22	0.85
OUTFLOW: ID= 1 (5191)	199.27	20.52	5.25	107.69	2.14	0.82

CALIB | STANDHYD (0191) | ID= 1 DT=15.0 min | Area (ha)= 162.87 | Total Imp(%)= 82.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	133.55	29.32
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	1042.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	52.42	53.55
over (min)		15.00	30.00
Storage Coeff.	(min)=	13.20 (ii)	78.00 (ii)
Unit Hyd. Tpeak	(min)=	15.00	75.00
Unit Hyd. peak	(cms)=	0.08	0.01
			TOTALS
PEAK FLOW	(cms)=	19.08	2.29 20.671 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	113.00	96.73 109.91
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.85 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2191) | 1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0191):	162.87	20.671	5.25	109.91
	+ ID2= 2 (5191):	199.27	20.517	5.25	107.69
	ID = 3 (2191):	362.14	41.189	5.25	108.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5214) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5214.0) ------>

Distance	Elevation	Manning	
0.00	190.50	0.1110	
2.09	189.13	0.1110	
13.57	187.20	0.1110	
23.54	186.97	0.1110 /0.0490	Main Channel

26.84	186.32	0.0490	Main Channel
27.21	186.25	0.0490	Main Channel
31.31	187.11	0.0490 /0.1110	Main Channel
35.60	187.49	0.1110	
46.65	189.04	0.1110	
49.91	188.81	0.1110	
63.03	189.57	0.1110	
78.54	190.45	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	186.43	.305E+03	0.1	0.37	85.15
0.36	186.61	.121E+04	0.4	0.59	53.70
0.54	186.79	.272E+04	1.1	0.77	41.01
0.72	186.97	.484E+04	2.4	0.93	33.86
0.95	187.20	.104E+05	5.6	1.01	31.17
1.18	187.43	.196E+05	11.1	1.07	29.32
1.42	187.67	.303E+05	18.7	1.17	27.02
1.65	187.90	.424E+05	28.2	1.26	25.01
1.88	188.13	.558E+05	39.8	1.35	23.38
2.11	188.36	.705E+05	53.3	1.43	22.05
2.34	188.59	.866E+05	68.9	1.50	20.94
2.58	188.83	.104E+06	86.4	1.57	20.06
2.81	189.06	.125E+06	104.5	1.58	19.87
3.04	189.29	.148E+06	128.2	1.63	19.28
3.27	189.52	.174E+06	155.0	1.68	18.70
3.50	189.75	.201E+06	184.8	1.73	18.17
3.74	189.99	.231E+06	217.7	1.78	17.68
3.97	190.22	.262E+06	253.8	1.83	17.24
4.20	190.45	.296E+06	293.1	1.87	16.82

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2191)	362.14	41.19	5.25	108.69	1.90	1.35
OUTFLOW: ID= 1 (5214)	362.14	35.20	5.50	108.69	1.79	1.31

CALIB | STANDHYD (0214) | ID= 1 DT=15.0 min | Area (ha)= 38.36 | Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.18	19.18
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.80
Length	(m)=	505.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	52.42	47.41
over (min)		15.00	15.00
Storage Coeff.	(min)=	7.20 (ii)	43.80 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	2.79	1.71 4.369 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	113.00	85.58 99.29
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.75 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2214) | 1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0214):	38.36	4.369	5.25	99.29
	+ ID2= 2 (5214):	362.14	35.204	5.50	108.69
	ID = 3 (2214):	400.50	39.147	5.25	107.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0134) | ID= 1 DT=15.0 min | Area (ha)= 24.26 | Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.95	6.31
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	402.16	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	52.42	50.01
over (min)		15.00	30.00
Storage Coeff.	(min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak	(min)=	15.00	45.00
Unit Hyd. peak	(cms)=	0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.61	0.59 3.166 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	113.00	93.71 107.99
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.82 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9313) | Inlet Cap.=8.700 | #of Inlets= 1 | Total(cms)= 8.7 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.26	3.17	5.25	107.99

```
    ==================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3):  24.26      3.17      5.25  107.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6313) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.1050      0.6800
                          0.1030     0.5950   |  8.7000      0.9200

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9313)     24.260     3.166      5.25     107.99
    OUTFLOW: ID= 1 (6313)     24.260     3.168      5.00     107.93

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.05
                   TIME SHIFT OF PEAK FLOW         (min)=-15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7602

    **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4313) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9313 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6313):    24.26   3.168     5.00   107.93
      + ID2= 2 (9313):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4313):    24.26   3.168     5.00   107.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (3214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2214):   400.50  39.147     5.25   107.79
      + ID2= 2 (4313):    24.26   3.168     5.00   107.93
        ================================================
        ID = 3 (3214):   424.76  42.241     5.25   107.80

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0189) |   Area    (ha)= 116.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      85.86        30.17
```



```
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         4.20
    Length            (m)=     879.51        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      52.42        50.01
                over (min)      15.00        30.00
    Storage Coeff.  (min)=      10.80 (ii)   63.60 (ii)
    Unit Hyd. Tpeak (min)=      15.00        60.00
    Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=      12.47         2.44        14.465 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.75          5.25
    RUNOFF VOLUME    (mm)=     113.00        93.71        107.99
    TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
    RUNOFF COEFFICIENT   =       0.99         0.82          0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5200) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5200.0) ------>
               Distance      Elevation       Manning
                  0.00         193.37        0.1110
                 17.44         193.51        0.1110
                 50.09         193.00        0.1110
                 90.09         192.83        0.1110
                121.68         192.17        0.1110
                128.93         192.61        0.1110
                141.32         191.78        0.1110
                147.98         191.88        0.1110
                197.61         189.48    0.1110 /0.0490  Main Channel
                204.01         189.06        0.0490      Main Channel
                205.40         188.96        0.0490      Main Channel
                211.29         189.53    0.0490 /0.1110  Main Channel
                222.97         191.23        0.1110
                226.70         191.10        0.1110
                263.00         191.03        0.1110
                355.09         192.45        0.1110
                382.19         192.49        0.1110
                383.02         192.49        0.1110
                396.28         192.31        0.1110
                520.20         195.65        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.17   189.13    .489E+03        0.1         0.39       56.62
       0.35   189.31    .199E+04        0.9         0.62       35.61
       0.52   189.48    .451E+04        2.8         0.82       27.13
       0.76   189.72    .990E+04        8.6         1.15       19.26
       1.01   189.97    .175E+05       17.5         1.33       16.62
       1.25   190.21    .272E+05       29.7         1.45       15.26
       1.49   190.45    .391E+05       45.3         1.54       14.36
```



```
       1.74   190.70    .531E+05       64.6         1.62       13.70
       1.98   190.94    .693E+05       87.8         1.68       13.16
       2.22   191.18    .945E+05      112.8         1.59       13.96
       2.47   191.43    .133E+06      151.5         1.51       14.68
       2.71   191.67    .179E+06      199.9         1.48       14.95
       2.95   191.91    .233E+06      253.7         1.45       15.28
       3.19   192.15    .294E+06      326.4         1.47       15.02
       3.44   192.40    .365E+06      396.3         1.44       15.34
       3.68   192.64    .457E+06      480.9         1.40       15.85
       3.92   192.88    .561E+06      600.7         1.42       15.57
       4.17   193.13    .680E+06      737.3         1.44       15.37
       4.41   193.37    .808E+06      909.7         1.50       14.81

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)    (mm)      (m)      (m/s)
    INFLOW : ID= 2 (0189)  116.03    14.47    5.25 107.99      0.92      1.26
    OUTFLOW: ID= 1 (5200)  116.03    13.72    5.25 107.98      0.90      1.25


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0200) |   Area    (ha)=  47.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      38.50         9.03
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         2.70
    Length            (m)=     562.91        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      52.42        50.57
                over (min)      15.00        30.00
    Storage Coeff.  (min)=       9.60 (ii)   55.80 (ii)
    Unit Hyd. Tpeak (min)=      15.00        60.00
    Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=       5.60         0.79         6.260 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.75           5.25
    RUNOFF VOLUME    (mm)=     113.00        95.87         109.75
    TOTAL RAINFALL   (mm)=     114.00       114.00         114.00
    RUNOFF COEFFICIENT   =       0.99         0.84           0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2200) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0200):    47.53   6.260     5.25   109.75
      + ID2= 2 (5200):   116.03  13.722     5.25   107.98
        ================================================
        ID = 3 (2200):   163.56  19.982     5.25   108.50
```



```
    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1650) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2200):   163.56  19.982     5.25   108.50
      + ID2= 2 (3214):   424.76  42.241     5.25   107.80
        ================================================
        ID = 3 (1650):   588.32  62.223     5.25   107.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN (5650) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5650.0) ------>
               Distance      Elevation       Manning
                  0.00         186.99        0.1110
                  0.62         186.98        0.1110
                 54.47         185.71        0.1110
                 69.34         182.09    0.1110 /0.0490  Main Channel
                 71.18         181.64        0.0490      Main Channel
                 73.43         182.23    0.0490 /0.1110  Main Channel
                 82.69         184.73        0.1110
                 87.60         185.04        0.1110
                110.20         184.66        0.1110
                129.32         184.73        0.1110
                164.79         185.85        0.1110
                170.26         185.86        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.15   181.79    .249E+02        0.0         0.18       26.45
       0.30   181.94    .997E+02        0.1         0.28       16.66
       0.45   182.09    .224E+03        0.3         0.37       12.71
       0.69   182.33    .521E+03        1.0         0.53        8.87
       0.92   182.56    .939E+03        2.1         0.63        7.37
       1.16   182.80    .148E+04        3.7         0.70        6.65
       1.39   183.03    .214E+04        5.7         0.75        6.21
       1.63   183.27    .292E+04        8.3         0.79        5.90
       1.86   183.50    .383E+04       11.3         0.83        5.65
       2.10   183.74    .486E+04       14.9         0.86        5.44
       2.34   183.98    .600E+04       19.0         0.89        5.26
       2.57   184.21    .727E+04       23.7         0.92        5.10
       2.81   184.45    .866E+04       29.1         0.94        4.96
       3.04   184.68    .102E+05       33.4         0.92        5.09
       3.28   184.92    .138E+05       39.5         0.80        5.82
       3.51   185.15    .190E+05       50.2         0.74        6.31
       3.75   185.39    .250E+05       64.4         0.72        6.46
       3.98   185.62    .315E+05       81.4         0.72        6.45
       4.22   185.86    .387E+05       96.4         0.70        6.69

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)    (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1650)  588.32    62.22    5.25 107.99      3.71      0.73
```

```
     OUTFLOW: ID= 1 (5650)  588.32    58.48    5.25 107.99      3.65      0.73

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0650) |   Area    (ha)=  10.55
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.59         4.96
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.40
     Length            (m)=     265.20        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        46.69
               over (min)        15.00        15.00
     Storage Coeff.  (min)=      5.40 (ii)    33.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.81         0.50          1.310 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00        83.66          99.21
     TOTAL RAINFALL   (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT   =       0.99         0.73           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2650) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0650):    10.55   1.310     5.25    99.21
       + ID2= 2 (5650):   588.32  58.482     5.25   107.99
         ================================================
         ID = 3 (2650):   598.87  59.792     5.25   107.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0187) |   Area    (ha)= 103.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      83.83        19.66
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.10
     Length            (m)=     830.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        50.57
```



```
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.20 (ii)   76.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=      12.12         1.46         13.136 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     113.00        95.87         109.75
     TOTAL RAINFALL   (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT   =       0.99         0.84           0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2187) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0187):   103.50  13.136     5.25   109.75
       + ID2= 2 (2650):   598.87  59.792     5.25   107.84
         ================================================
         ID = 3 (2187):   702.37  72.928     5.25   108.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0212) |   Area    (ha)=  14.09
|ID= 1 DT=15.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.38        10.71
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         5.60
     Length            (m)=     306.49        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        44.45
               over (min)        15.00        15.00
     Storage Coeff.  (min)=      5.40 (ii)    31.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.49         1.02          1.508 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     113.00        78.15         86.52
     TOTAL RAINFALL   (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT   =       0.99         0.69           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```



```
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9474) |
| Inlet Cap.=0.031 |
| #of Inlets=    1 |
| Total(cms)=  0.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  14.09      1.51      5.25   86.52
     ================================================
     MAJOR SYS.(ID= 2):  12.68      1.48      5.25   86.52
     MINOR SYS.(ID= 3):   1.41      0.03      2.50   86.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6474) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.0310      0.1340

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9474)      1.412      0.031      2.50      86.52
     OUTFLOW: ID= 1 (6474)      1.412      0.018     12.75      85.75

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.39
                  TIME SHIFT OF PEAK FLOW          (min)=615.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0783

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4474) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6474):     1.41   0.018    12.75    85.75
       + ID2= 2 (9474):    12.68   1.477     5.25    86.52
         ================================================
         ID = 3 (4474):    14.09   1.484     5.25    86.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2187):   702.37  72.928     5.25   108.12
       + ID2= 2 (4474):    14.09   1.484     5.25    86.44
         ================================================
         ID = 3 (1210):   716.46  74.412     5.25   107.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5210) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
```



```
--------------------
                <------ DATA FOR SECTION (5210.0) ------>
                Distance      Elevation       Manning
                   0.00         186.99        0.1110
                   0.62         186.98        0.1110
                  54.47         185.71        0.1110
                  69.34         182.09    0.1110 /0.0490  Main Channel
                  71.18         181.64        0.0490      Main Channel
                  73.43         182.23    0.0490 /0.1110  Main Channel
                  82.69         184.73        0.1110
                  87.60         185.04        0.1110
                 110.20         184.66        0.1110
                 129.32         184.73        0.1110
                 164.79         185.85        0.1110
                 170.26         185.86        0.1110

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)         (m/s)      (min)
      0.15   181.79    .140E+03       0.0          0.24      111.40
      0.30   181.94    .561E+03       0.1          0.37       70.18
      0.45   182.09    .126E+04       0.4          0.49       53.56
      0.69   182.33    .293E+04       1.3          0.70       37.38
      0.92   182.56    .528E+04       2.8          0.85       31.04
      1.16   182.80    .832E+04       4.9          0.94       28.03
      1.39   183.03    .120E+05       7.7          1.00       26.17
      1.63   183.27    .164E+05      11.0          1.06       24.84
      1.86   183.50    .215E+05      15.1          1.10       23.79
      2.10   183.74    .273E+05      19.8          1.15       22.92
      2.34   183.98    .338E+05      25.4          1.19       22.17
      2.57   184.21    .409E+05      31.7          1.22       21.50
      2.81   184.45    .487E+05      38.8          1.26       20.91
      3.04   184.68    .573E+05      44.5          1.22       21.46
      3.28   184.92    .774E+05      52.7          1.07       24.50
      3.51   185.15    .107E+06      67.1          0.99       26.57
      3.75   185.39    .140E+06      86.0          0.97       27.21
      3.98   185.62    .177E+06     108.6          0.97       27.17
      4.22   185.86    .218E+06     128.7          0.93       28.18

                                  <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
     INFLOW : ID= 2 (1210)  716.46    74.41    5.25 107.69      3.60      0.98
     OUTFLOW: ID= 1 (5210)  716.46    60.43    5.75 107.69      3.40      1.03

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  20.85
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.38        16.47
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.70
     Length            (m)=     372.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        42.92
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      9.00 (ii)    53.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
```

```
Unit Hyd. peak  (cms)=       0.09         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.64         1.13         1.518 (iii)
TIME TO PEAK    (hrs)=       5.25         5.75          5.25
RUNOFF VOLUME    (mm)=     113.00        74.68         82.73
TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
RUNOFF COEFFICIENT   =       0.99         0.66          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   1.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       0.29         1.11
Dep. Storage     (mm)=       1.00         4.00
Average Slope     (%)=       1.00         3.70
Length            (m)=      96.61        40.00
Mannings n           =      0.013        0.250

Max.Eff.Inten.(mm/hr)=      52.42        42.92
          over (min)        15.00        30.00
Storage Coeff.  (min)=       9.00 (ii)   53.40 (ii)
Unit Hyd. Tpeak (min)=      15.00        60.00
Unit Hyd. peak  (cms)=       0.09         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.04         0.08         0.102 (iii)
TIME TO PEAK    (hrs)=       5.25         5.75          5.25
RUNOFF VOLUME    (mm)=     113.00        74.68         82.71
TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
RUNOFF COEFFICIENT   =       0.99         0.66          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0352) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    20.85   1.518     5.25    82.73
      + ID2= 2 (****):     1.40   0.102     5.25    82.71
        ================================================
        ID = 3 (0352):    22.25   1.620     5.25    82.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=  32.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       6.90        25.96
Dep. Storage     (mm)=       1.00         4.00
Average Slope     (%)=       1.00         3.70
Length            (m)=     468.05        40.00
Mannings n           =      0.013        0.250

Max.Eff.Inten.(mm/hr)=      52.42        42.92
          over (min)        15.00        30.00
Storage Coeff.  (min)=       9.00 (ii)   53.40 (ii)
Unit Hyd. Tpeak (min)=      15.00        60.00
Unit Hyd. peak  (cms)=       0.09         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=       1.00         1.78          2.392 (iii)
TIME TO PEAK    (hrs)=       5.25         5.75          5.25
RUNOFF VOLUME    (mm)=     113.00        74.68         82.73
TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
RUNOFF COEFFICIENT   =       0.99         0.66          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0351) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0352):    22.25   1.620     5.25    82.73
      + ID2= 2 (****):    32.86   2.392     5.25    82.73
        ================================================
        ID = 3 (0351):    55.11   4.011     5.25    82.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (2210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0351):    55.11   4.011     5.25    82.73
      + ID2= 2 (5210):   716.46  60.429     5.75   107.69
        ================================================
        ID = 3 (2210):   771.57  63.933     5.75   105.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1431) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2210):   771.57  63.933     5.75   105.91
      + ID2= 2 (2227):  8156.46 130.075     8.50    68.73
        ================================================
        ID = 3 (1431):  8928.03 148.481     8.25    71.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5431) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (5431.0) ------>
             Distance      Elevation       Manning
                0.00         176.00        0.1110
               18.09         175.90        0.1110
               27.45         175.50        0.1110
               47.50         172.50        0.1110
               67.08         171.89        0.1110
              142.45         171.74        0.1110
              221.81         171.00        0.1110
              241.52         171.00        0.1110
              242.37         170.64    0.1110 /0.0490  Main Channel
              242.71         170.00        0.0490      Main Channel
              253.79         170.00        0.0490      Main Channel
              256.58         170.50    0.0490 /0.1110  Main Channel
              257.61         170.61        0.1110
              261.77         171.00        0.1110
              278.03         171.50        0.1110
              301.37         172.00        0.1110
              309.55         174.50        0.1110
              324.51         174.87        0.1110
              351.19         174.68        0.1110
              357.20         176.00        0.1110

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)       (min)
      0.25    170.25    .704E+03       2.0          0.68        5.79
      0.50    170.50    .150E+04       6.6          1.04        3.81
      0.82    170.82    .273E+04      16.4          1.43        2.78
      1.15    171.15    .528E+04      30.8          1.38        2.86
      1.47    171.47    .117E+05      55.8          1.14        3.49
      1.79    171.79    .218E+05      93.3          1.02        3.90
      2.12    172.12    .393E+05     161.6          0.98        4.05
      2.44    172.44    .584E+05     263.6          1.07        3.69
      2.76    172.76    .781E+05     393.2          1.20        3.31
      3.09    173.09    .981E+05     546.6          1.33        2.99
      3.41    173.41    .118E+06     721.6          1.45        2.73
      3.74    173.74    .139E+06     917.2          1.57        2.52
      4.06    174.06    .160E+06    1132.4          1.69        2.35
      4.38    174.38    .181E+06    1366.6          1.80        2.20
      4.71    174.71    .202E+06    1590.5          1.87        2.12
      5.03    175.03    .226E+06    1819.4          1.91        2.07
      5.35    175.35    .251E+06    2124.7          2.01        1.97
      5.68    175.68    .276E+06    2436.9          2.10        1.89
      6.00    176.00    .302E+06    2681.4          2.11        1.88

                                <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (1431) 8928.03   148.48    8.25  71.94      2.06      0.99
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    OUTFLOW: ID= 1 (5431) 8928.03   148.41    8.25  71.94      2.05      0.99

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-------------------
| CALIB           |
| STANDHYD  (0431) |   Area    (ha)=   8.28
|ID= 1 DT=15.0 min |   Total Imp(%)=  22.00   Dir. Conn.(%)=  22.00
-------------------
                         IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       1.82         6.46
Dep. Storage     (mm)=       1.00         4.00
Average Slope     (%)=       1.00         3.70
Length            (m)=     234.95        40.00
Mannings n           =      0.013        0.250

Max.Eff.Inten.(mm/hr)=      52.42        40.59
          over (min)        15.00        15.00
Storage Coeff.  (min)=       5.40 (ii)   30.00 (ii)
Unit Hyd. Tpeak (min)=      15.00        30.00
Unit Hyd. peak  (cms)=       0.11         0.04
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.27         0.55          0.814 (iii)
TIME TO PEAK    (hrs)=       5.25         5.25          5.25
RUNOFF VOLUME    (mm)=     113.00        69.74         79.26
TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
RUNOFF COEFFICIENT   =       0.99         0.61          0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2431) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0431):     8.28   0.814     5.25    79.26
      + ID2= 2 (5431):  8928.03 148.413     8.25    71.94
        ================================================
        ID = 3 (2431):  8936.30 148.519     8.25    71.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5213) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <------ DATA FOR SECTION (5213.0) ------>
             Distance      Elevation       Manning
                0.00         171.99        0.1110
               10.86         169.00        0.1110
               21.10         168.00        0.1110
               30.39         165.73        0.1110
               64.57         165.00        0.1110
               65.32         164.91        0.1110
               68.94         164.50        0.1110
```

71.70	164.50	0.1110 /0.0490	Main Channel
71.83	163.50	0.0490	Main Channel
75.93	163.50	0.0490	Main Channel
76.19	164.48	0.0490 /0.1110	Main Channel
76.80	164.50	0.1110	
78.99	165.50	0.1110	
107.09	166.50	0.1110	
126.24	171.00	0.1110	
133.28	171.50	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	163.83	.319E+04	0.9	0.63	62.42
0.65	164.15	.647E+04	2.5	0.92	42.47
0.98	164.48	.986E+04	4.7	1.13	34.66
1.42	164.92	.201E+05	9.6	1.13	34.67
1.86	165.36	.410E+05	17.2	0.98	39.67
2.30	165.80	.862E+05	31.4	0.85	45.81
2.73	166.24	.152E+06	57.6	0.89	44.08
3.17	166.67	.232E+06	95.3	0.96	40.57
3.61	167.11	.317E+06	144.7	1.07	36.56
4.05	167.55	.407E+06	204.0	1.18	33.22
4.49	167.99	.500E+06	272.8	1.28	30.53
4.93	168.43	.598E+06	346.1	1.36	28.78
5.37	168.87	.702E+06	429.2	1.43	27.27
5.81	169.31	.813E+06	527.3	1.52	25.69
6.24	169.74	.927E+06	637.5	1.61	24.23
6.68	170.18	.104E+07	757.3	1.70	22.98
7.12	170.62	.117E+07	886.9	1.78	21.91
7.56	171.06	.129E+07	1023.7	1.86	21.01
8.00	171.50	.142E+07	1156.8	1.91	20.48

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2431)	8936.30	148.52	8.25	71.95	3.64	1.07
OUTFLOW: ID= 1 (5213)	8936.30	145.75	8.50	71.95	3.62	1.07

CALIB	
STANDHYD (0213)	Area (ha)= 101.69
ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.85	50.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.80
Length	(m)=	823.37	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	45.21
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	63.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	7.39	3.47 10.084 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	113.00	79.95 96.47
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00

RUNOFF COEFFICIENT =	0.99	0.70	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2213)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0213):	101.69	10.084	5.25	96.47
	+ ID2= 2 (5213):	8936.30	145.752	8.50	71.95
	ID = 3 (2213):	9038.00	147.243	8.50	72.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0559)	Area (ha)= 35.17
ID= 1 DT=15.0 min	Total Imp(%)= 49.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.23	17.94
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	484.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	59.84
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	50.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	1.94	1.96 3.756 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	113.00	91.52 99.68
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.80 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2561)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0559):	35.17	3.756	5.25	99.68

+ ID2= 2 (9561):	5.82	1.518	5.25	101.37
ID = 3 (2561):	40.99	5.275	5.25	99.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9105)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	40.99	5.27	5.25	99.92	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	40.99	5.27	5.25	99.92	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6105)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6400	0.3000
	0.0990	0.0030	0.8600	0.4700
	0.2100	0.0050	1.3200	0.7100
	0.3400	0.0100	1.9000	0.9500
	0.4600	0.0330	2.5600	1.2000
	0.5600	0.1330	3.2000	1.4500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9105)	40.987	5.275	5.25	99.92
OUTFLOW: ID= 1 (6105)	40.987	2.808	5.75	99.92

PEAK FLOW REDUCTION [Qout/Qin](%)= 53.23
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 1.3049

ADD HYD (4105)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9105 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
	ID1= 1 (6105):	40.99	2.808	5.75	99.92
	+ ID2= 2 (9105):	0.00	0.000	0.00	0.00
	ID = 3 (4105):	40.99	2.808	5.75	99.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 3.04
ID= 1 DT=15.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.73	2.31
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.60
Length (m)=	142.36	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	43.69
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	22.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06
		TOTALS
PEAK FLOW (cms)=	0.11	0.25 0.359 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	113.00	76.40 85.18
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.67 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9470)					
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
TOTAL HYD.(ID= 1):	3.04	0.36	5.25	85.18	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	3.04	0.36	5.25	85.18	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6470)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0190	0.1800
	0.0110	0.0490	0.4930	0.2300
	0.0160	0.1130	2.4340	0.3150

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9470)	3.040	0.359	5.25	85.18
OUTFLOW: ID= 1 (6470)	3.040	0.078	6.75	84.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.70
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.1864

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--------------------
| ADD HYD   (4470) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9470 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6470):     3.04   0.078     6.75    84.81
      + ID2= 2 (9470):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4470):     3.04   0.078     6.75    84.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2568) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4105):    40.99   2.808     5.75    99.92
      + ID2= 2 (4470):     3.04   0.078     6.75    84.81
        ================================================
        ID = 3 (2568):    44.03   2.826     5.75    98.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   3.77
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.85         1.92
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.90
     Length            (m)=     158.53        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        48.10
               over (min)        15.00        15.00
     Storage Coeff.  (min)=      4.20 (ii)   25.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.27         0.22         0.486 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     113.00        87.54        100.01
     TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT   =       0.99         0.77          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (9471) |
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| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------     (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.77      0.49      5.25  100.01
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.77      0.49      5.25  100.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (6471) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0110     0.1460
                          0.0050     0.0110   |   0.1620     0.1660
                          0.0090     0.0690   |   0.9650     0.2080

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9471)      3.770     0.486      5.25      100.01
     OUTFLOW: ID= 1 (6471)      3.770     0.379      5.50       99.87

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 78.03
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1817

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--------------------
| ADD HYD   (4471) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9471 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6471):     3.77   0.379     5.50    99.87
      + ID2= 2 (9471):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4471):     3.77   0.379     5.50    99.87

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (2605) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2568):    44.03   2.826     5.75    98.88
      + ID2= 2 (4471):     3.77   0.379     5.50    99.87
        ================================================
        ID = 3 (2605):    47.80   3.100     5.50    98.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 128.50
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|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.83        70.68
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.60
     Length            (m)=     925.56        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        45.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.35         4.30        11.101 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     113.00        81.78         95.83
     TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT   =       0.99         0.72          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   3.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.37         1.67
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.60
     Length            (m)=     142.36        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        45.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.10          0.263 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     113.00        81.78         95.82
     TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT   =       0.99         0.72          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  24.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      10.80        13.20
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.60
     Length            (m)=     400.00        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        45.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      13.80 (ii)   81.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.01
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.56         0.80          2.073 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00          5.25
     RUNOFF VOLUME    (mm)=     113.00        81.78         95.83
     TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT   =       0.99         0.72          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0390) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    24.00   2.073     5.25    95.83
      + ID2= 2 (****):     3.04   0.263     5.25    95.82
        ================================================
        ID = 3 (0390):    27.04   2.336     5.25    95.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0391) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0390):    27.04   2.336     5.25    95.83
      + ID2= 2 (****):    128.50  11.101     5.25    95.83
        ================================================
        ID = 3 (0391):    155.54  13.437     5.25    95.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (2603) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
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	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0391):	155.54	13.437	5.25	95.83
+ ID2= 2 (2605):	47.80	3.100	5.50	98.96
ID = 3 (2603):	203.34	16.032	5.25	96.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9961)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	203.34	16.03	5.25	96.57
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	203.34	16.03	5.25	96.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6961)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	5.7000	4.8500
1.6000	3.9500	6.2000	5.1400
3.4000	4.2400	7.2000	5.6300
4.2000	4.4000	23.4500	7.4400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9961)	203.337	16.032	5.25	96.57
OUTFLOW: ID= 1 (6961)	203.337	11.184	6.25	96.56

PEAK FLOW REDUCTION [Qout/Qin](%)= 69.76
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 6.0778

ADD HYD (4961)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9961 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6961):	203.34	11.184	6.25	96.56
+ ID2= 2 (9961):	0.00	0.000	0.00	0.00
ID = 3 (4961):	203.34	11.184	6.25	96.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5602)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5602.0) ------>

Distance	Elevation	Manning	
0.00	188.36	0.1110	
46.99	187.30	0.1110	
162.32	186.72	0.1110	
234.98	185.20	0.1110	
249.46	183.65	0.1110 /0.0490	Main Channel
254.33	182.64	0.0490	Main Channel
258.04	183.49	0.0490	Main Channel
258.31	183.51	0.0490	Main Channel
262.53	182.77	0.0490	Main Channel
262.63	182.75	0.0490	Main Channel
267.86	183.52	0.0490 /0.1110	Main Channel
270.83	183.61	0.1110	
286.95	183.40	0.1110	
289.09	183.46	0.1110	
298.71	185.52	0.1110	
325.92	186.31	0.1110	
406.09	185.45	0.1110	
529.18	187.66	0.1110	
556.31	187.61	0.1110	
804.52	190.22	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	182.93	.360E+03	0.3	0.50	19.84
0.59	183.23	.179E+04	2.5	0.84	11.80
0.88	183.52	.478E+04	8.3	1.03	9.61
1.18	183.82	.119E+05	23.5	1.18	8.45
1.49	184.13	.200E+05	46.9	1.40	7.12
1.79	184.43	.289E+05	77.4	1.60	6.23
2.09	184.73	.386E+05	114.7	1.77	5.61
2.39	185.03	.490E+05	158.8	1.93	5.15
2.70	185.34	.604E+05	208.1	2.05	4.84
3.00	185.64	.761E+05	241.2	1.89	5.26
3.30	185.94	.103E+06	300.5	1.73	5.74
3.60	186.24	.143E+06	390.6	1.63	6.12
3.90	186.54	.194E+06	522.2	1.61	6.19
4.21	186.85	.251E+06	675.9	1.61	6.19
4.51	187.15	.321E+06	859.4	1.60	6.22
4.81	187.45	.403E+06	1099.0	1.63	6.11
5.11	187.75	.494E+06	1347.8	1.63	6.11
5.42	188.06	.596E+06	1679.2	1.68	5.92
5.72	188.36	.706E+06	2056.8	1.74	5.72

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (4961)	203.34	11.184	6.25	96.56	0.94	1.06
OUTFLOW: ID= 1 (5602)	203.34	11.12	6.25	96.56	0.94	1.06

CALIB
STANDHYD (0602)
ID= 1 DT=15.0 min

Area (ha)= 42.99
Total Imp(%)= 67.00 Dir. Conn.(%)= 67.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.80	14.19
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90

Length	(m)=	535.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.77
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

				TOTALS
PEAK FLOW	(cms)=	4.19	1.19	5.166 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	89.55	105.26
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.79	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2602)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0602):	42.99	5.166	5.25	105.26
+ ID2= 2 (5602):	203.34	11.124	6.25	96.56
ID = 3 (2602):	246.33	13.306	6.25	98.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5271)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5271.0) ------>

Distance	Elevation	Manning	
0.00	187.00	0.1110	
3.39	183.79	0.1110	
10.53	183.00	0.1110	
21.75	182.99	0.1110	
23.53	182.68	0.1110 /0.0490	Main Channel
33.07	181.08	0.0490	Main Channel
41.98	183.10	0.0490 /0.1110	Main Channel
44.71	183.70	0.1110	
62.12	184.09	0.1110	
77.77	183.81	0.1110	
120.17	183.78	0.1110	
169.07	183.98	0.1110	
228.74	185.84	0.1110	
358.41	186.79	0.1110	
420.15	186.79	0.1110	
448.98	187.02	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.27	181.35	.272E+03	0.1	0.36	33.75
0.53	181.61	.109E+04	0.9	0.58	21.26
0.80	181.88	.245E+04	2.5	0.76	16.23
1.07	182.15	.436E+04	5.4	0.92	13.39
1.33	182.41	.681E+04	9.8	1.07	11.54
1.60	182.68	.980E+04	16.0	1.20	10.22
1.93	183.01	.144E+05	27.6	1.41	8.73
2.26	183.34	.226E+05	44.8	1.46	8.42
2.60	183.68	.319E+05	67.2	1.55	7.92
2.93	184.01	.558E+05	97.7	1.29	9.52
3.26	184.34	.978E+05	149.0	1.12	10.95
3.59	184.67	.143E+06	217.6	1.12	10.94
3.93	185.01	.190E+06	301.7	1.17	10.52
4.26	185.34	.241E+06	400.7	1.23	10.02
4.59	185.67	.294E+06	514.3	1.29	9.53
4.92	186.00	.351E+06	627.2	1.32	9.32
5.26	186.34	.418E+06	746.8	1.32	9.32
5.59	186.67	.496E+06	891.5	1.33	9.27
5.92	187.00	.594E+06	1023.1	1.27	9.68

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2602)	246.33	13.31	6.25	98.08	1.48	1.14
OUTFLOW: ID= 1 (5271)	246.33	13.16	6.25	98.08	1.48	1.14

CALIB
STANDHYD (0271)
ID= 1 DT=15.0 min

Area (ha)= 17.58
Total Imp(%)= 40.00 Dir. Conn.(%)= 40.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.03	10.55
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	342.34	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	45.96
over (min)		15.00	15.00
Storage Coeff. (min)=		6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.10	0.03

				TOTALS
PEAK FLOW	(cms)=	1.02	1.01	2.034 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	113.00	81.78	94.27
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.72	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2271)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0271):	17.58	2.034	5.25	94.27
	+ ID2= 2 (5271):	246.33	13.162	6.25	98.08
	ID = 3 (2271):	263.91	14.006	6.25	97.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 198.33		
ID= 1 DT=15.0 min	Total Imp(%)= 57.00	Dir. Conn.(%)= 57.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	113.05	85.28	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.10	
Length (m)=	1149.87	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	52.42	49.41	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
		TOTALS	
PEAK FLOW (cms)=	16.33	5.85	20.248 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	113.00	91.61	103.80
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.80	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 35.00		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	29.75	5.25	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.10	
Length (m)=	483.05	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	52.42	49.41	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
		TOTALS	
PEAK FLOW (cms)=	4.30	0.36	4.538 (iii)

TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	113.00	91.61	109.79
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.80	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		35.00	4.54	5.25	109.79
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		35.00	4.54	5.25	109.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.2800	1.3790
	0.3900	0.0010	1.3400	1.7290
	0.8700	0.1580	1.4700	2.5690
	1.0600	0.4640	5.1200	2.6000
	1.2300	1.0530	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	35.000	4.538	5.25	109.79
OUTFLOW: ID= 1 (****)	35.000	1.316	6.50	109.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.01
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 1.5963

ADD HYD (****)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	35.00	1.316	6.50	109.83
	+ ID2= 2 (****):	0.00	0.000	0.00	0.00
	ID = 3 (****):	35.00	1.316	6.50	109.83

*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 17.10		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	14.54	2.56	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.10	
Length (m)=	337.64	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	52.42	49.41	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
		TOTALS	
PEAK FLOW (cms)=	2.10	0.18	2.217 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	113.00	91.61	109.79
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.80	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)=*****		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		17.10	2.22	5.25	109.79
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		17.10	2.22	5.25	109.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6300	0.6750
	0.1900	0.0610	0.6600	0.8460
	0.4200	0.0770	0.7200	1.2570
	0.5200	0.2270	2.5000	1.3000
	0.6000	0.5150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.100	2.217	5.25	109.79

OUTFLOW: ID= 1 (****)	17.100	0.652	6.50	109.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.41
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.8033

ADD HYD (****)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	17.10	0.652	6.50	109.79
	+ ID2= 2 (****):	0.00	0.000	0.00	0.00
	ID = 3 (****):	17.10	0.652	6.50	109.79

*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	35.00	1.316	6.50	109.83
	+ ID2= 2 (****):	17.10	0.652	6.50	109.79
	ID = 3 (****):	52.10	1.968	6.50	109.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 16.10		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	13.69	2.41	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.10	
Length (m)=	327.62	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	52.42	49.41	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.01	
		TOTALS	
PEAK FLOW (cms)=	1.98	0.17	2.087 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	113.00	91.61	109.79
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.80	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	16.10	2.09	5.25	109.79
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	16.10	2.09	5.25	109.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.5900	0.6350
0.1800	0.0610	0.6200	0.7960
0.4000	0.0730	0.6800	1.1820
0.4900	0.2140	2.3600	1.2000
0.5600	0.4850	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	16.100	2.087	5.25	109.79
OUTFLOW: ID= 1 (****)	16.100	0.612	6.50	109.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.34
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.7582

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	16.10	0.612	6.50	109.79
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	16.10	0.612	6.50	109.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	52.10	1.968	6.50	109.81

+ ID2= 2 (****):	16.10	0.612	6.50	109.79
ID = 3 (****):	68.20	2.581	6.50	109.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 37.00
Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.45	5.55
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	496.66	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		52.42	49.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.01	
				TOTALS
PEAK FLOW	(cms)=	4.54	0.38	4.797 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	91.61	109.79
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.80	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	37.00	4.80	5.25	109.79
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	37.00	4.80	5.25	109.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.3600	1.4580
0.4100	0.0010	1.4200	1.8280
0.9200	0.1670	1.5600	2.7160
1.1200	0.4910	5.4000	2.8000

1.3000	1.1140	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	37.000	4.797	5.25	109.79
OUTFLOW: ID= 1 (****)	37.000	1.396	6.50	109.80

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.10
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 1.6857

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	37.00	1.396	6.50	109.80
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	37.00	1.396	6.50	109.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	68.20	2.581	6.50	109.81
+ ID2= 2 (****):	37.00	1.396	6.50	109.80
ID = 3 (****):	105.20	3.977	6.50	109.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 17.40
Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.79	2.61
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.10
Length	(m)=	340.59	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		52.42	49.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)	
Unit Hyd. Tpeak (min)=		15.00	75.00	
Unit Hyd. peak (cms)=		0.08	0.01	
				TOTALS
PEAK FLOW	(cms)=	2.14	0.18	2.256 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	91.61	109.79
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00

RUNOFF COEFFICIENT =	0.99	0.80		0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	17.40	2.26	5.25	109.79
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	17.40	2.26	5.25	109.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.6300	0.6750
0.1900	0.0610	0.6600	0.8460
0.4200	0.0770	0.7200	1.2570
0.5200	0.2270	2.5500	1.3000
0.6000	0.5150	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	17.400	2.256	5.25	109.79
OUTFLOW: ID= 1 (****)	17.400	0.656	6.50	109.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.06
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.8239

ADD HYD (****)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (****):	17.40	0.656	6.50	109.79
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	17.40	0.656	6.50	109.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0218)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	105.20	3.977	6.50	109.81
	+ ID2= 2 (****):	17.40	0.656	6.50	109.79
	ID = 3 (0218):	122.60	4.632	6.50	109.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0218):	122.60	4.632	6.50	109.80
	+ ID2= 2 (****):	198.33	20.248	5.25	103.80
	ID = 3 (****):	320.93	24.655	5.25	106.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9962)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	320.93	24.66	5.25	106.09
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	320.93	24.66	5.25	106.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6962)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	8.8300	5.8290
0.7800	0.0930	14.9900	7.2690
3.3000	1.1140	22.7900	8.7080
4.6600	3.2000	28.8000	10.2730
5.2100	4.5150	31.2000	11.8370

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9962)	320.930	24.655	5.25	106.09
OUTFLOW: ID= 1 (6962)	320.930	16.730	5.75	106.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 67.86
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 6.6170

ADD HYD (4962)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9962 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6962):	320.93	16.730	5.75	106.09
+ ID2= 2 (9962):	0.00	0.000	0.00	0.00
ID = 3 (4962):	320.93	16.730	5.75	106.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1273)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2271):	263.91	14.006	6.25	97.83
	+ ID2= 2 (4962):	320.93	16.730	5.75	106.09
	ID = 3 (1273):	584.84	30.000	6.25	102.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5273)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5273.0) ------>

Distance	Elevation	Manning	
0.00	179.99	0.1110	
18.34	178.57	0.1110	
55.29	178.07	0.1110	
114.00	177.92	0.1110	
155.06	177.41	0.1110	
161.65	174.89	0.1110 /0.0490	Main Channel
164.66	174.75	0.0490	Main Channel
167.51	174.61	0.0490 /0.1110	Main Channel
169.36	174.72	0.1110	
179.42	177.94	0.1110	
271.83	179.31	0.1110	
298.09	178.85	0.1110	
325.92	179.14	0.1110	
444.55	179.57	0.1110	
496.32	180.68	0.1110	
506.76	181.27	0.1110	
526.42	185.07	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	174.89	.871E+03	0.7	0.51	21.75
0.57	175.18	.260E+04	3.9	1.01	11.13
0.85	175.46	.463E+04	9.2	1.34	8.38
1.13	175.74	.697E+04	16.5	1.59	7.05
1.42	176.03	.963E+04	25.7	1.79	6.25
1.70	176.31	.126E+05	36.8	1.96	5.70
1.98	176.59	.159E+05	49.9	2.11	5.30
2.27	176.88	.194E+05	65.0	2.24	4.99
2.55	177.16	.233E+05	82.1	2.36	4.74
2.83	177.44	.275E+05	99.6	2.43	4.61

3.11	177.72	.346E+05	118.3	2.29	4.88
3.40	178.01	.471E+05	137.4	1.96	5.71
3.68	178.29	.741E+05	173.1	1.57	7.13
3.96	178.57	.109E+06	235.8	1.45	7.71
4.25	178.86	.150E+06	326.1	1.46	7.67
4.53	179.14	.200E+06	429.3	1.44	7.75
4.81	179.42	.266E+06	565.0	1.43	7.85
5.10	179.71	.348E+06	760.3	1.47	7.63
5.38	179.99	.435E+06	1005.3	1.55	7.21

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1273)	584.84	30.00	6.25	102.36	1.53	1.85
OUTFLOW: ID= 1 (5273)	584.84	29.96	6.25	102.36	1.52	1.85

CALIB	
STANDHYD (0273)	Area (ha)= 25.66
ID= 1 DT=15.0 min	Total Imp(%)= 65.00 Dir. Conn.(%)= 65.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.68	8.98
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.70
Length	(m)=	413.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	49.41
over (min)		15.00	15.00
Storage Coeff. (min)=		6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	2.43	0.89 3.271 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	113.00	91.61 105.51
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.80 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2273)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0273):	25.66	3.271	5.25	105.51
	+ ID2= 2 (5273):	584.84	29.959	6.25	102.36
	ID = 3 (2273):	610.50	31.223	6.25	102.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0272)	Area (ha)= 42.09
ID= 1 DT=15.0 min	Total Imp(%)= 78.00 Dir. Conn.(%)= 78.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.83	9.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.70
Length	(m)=	529.72	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	50.57
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	4.77	0.77 5.407 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	113.00	95.87 109.23
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.84 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2272)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0272):	42.09	5.407	5.25	109.23
	+ ID2= 2 (2273):	610.50	31.223	6.25	102.50
	ID = 3 (2272):	652.59	33.257	6.25	102.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5260)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5260.0) ------>

Distance	Elevation	Manning	
0.00	175.32	0.1110	
51.36	174.58	0.1110	
87.35	174.75	0.1110	
122.73	174.10	0.1110	
131.56	174.13	0.1110	
202.82	173.44	0.1110	
276.03	173.59	0.1110	
349.20	172.56	0.1110	
376.00	173.21	0.1110	
384.10	170.08	0.1110 /0.0490	Main Channel

390.86	169.74	0.0490	Main Channel
394.42	170.00	0.0490 /0.1110	Main Channel
398.31	170.30	0.1110	
402.54	173.35	0.1110	
447.19	173.02	0.1110	
550.72	173.46	0.1110	
592.93	173.28	0.1110	
680.14	173.52	0.1110	
753.95	175.23	0.1110	
784.10	175.41	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	170.00	.960E+03	0.4	0.39	36.34
0.54	170.28	.382E+04	3.3	0.72	19.54
0.82	170.56	.743E+04	8.5	0.97	14.53
1.10	170.84	.113E+05	15.8	1.18	11.94
1.38	171.12	.155E+05	24.9	1.36	10.36
1.66	171.40	.199E+05	35.7	1.52	9.28
1.94	171.68	.245E+05	48.1	1.66	8.49
2.22	171.96	.295E+05	62.2	1.79	7.89
2.50	172.24	.346E+05	77.9	1.90	7.41
2.78	172.52	.401E+05	95.2	2.01	7.02
3.06	172.80	.486E+05	111.1	1.93	7.29
3.34	173.08	.652E+05	125.2	1.62	8.68
3.62	173.36	.108E+06	156.2	1.23	11.50
3.90	173.64	.206E+06	216.9	0.89	15.81
4.18	173.92	.330E+06	333.6	0.86	16.48
4.46	174.20	.464E+06	483.8	0.88	15.99
4.74	174.48	.608E+06	675.3	0.94	15.00
5.02	174.76	.761E+06	877.5	0.97	14.46
5.30	175.04	.930E+06	1142.6	1.04	13.56

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2272)	652.59	33.26	6.25	102.93	1.60	1.48
OUTFLOW: ID= 1 (5260)	652.59	33.10	6.25	102.93	1.59	1.48

CALIB	
STANDHYD (0260)	Area (ha)= 60.94
ID= 1 DT=15.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	45.70	15.23
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.60
Length (m)=	637.39	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	50.01
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	6.64	1.26	7.678 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	113.00	93.71	108.18

TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.82	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0260):	60.94	7.678	5.25	108.18
	+ ID2= 2 (5260):	652.59	33.100	6.25	102.93
	ID = 3 (2260):	713.53	36.079	6.25	103.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0643)	Area (ha)= 7.16
ID= 1 DT=15.0 min	Total Imp(%)= 48.00 Dir. Conn.(%)= 48.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.44	3.72
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	11.00
Length (m)=	218.48	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	48.10
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06
		TOTALS
PEAK FLOW (cms)=	0.50	0.46	0.963 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	87.54	99.76
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.77	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9472)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	7.16	0.96	5.25	99.76
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	7.16	0.96	5.25	99.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6472)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3490	0.9110
	0.0190	0.1220	0.4450	0.9620
	0.0270	0.2490	1.0700	1.0670
	0.1280	0.5180	2.6100	1.2280
	0.2430	0.7100	4.0000	1.3380

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9472)	7.160	0.963	5.25	99.76
OUTFLOW: ID= 1 (6472)	7.160	0.133	7.50	99.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.82
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 0.5277

ADD HYD (4472)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (6472):	7.16	0.133	7.50	99.53
	+ ID2= 2 (9472):	0.00	0.000	0.00	0.00
	ID = 3 (4472):	7.16	0.133	7.50	99.53

*** W A R N I N G : HYDROGRAPH 9472 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 76.38
ID= 1 DT=15.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	18.33	58.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	713.58	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	42.92
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02

			TOTALS
PEAK FLOW (cms)=	2.66	3.47	4.855 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	113.00	74.68	83.88
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.66	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 2.24
ID= 1 DT=15.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.54	1.70
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	122.20	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	42.92
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	0.08	0.10	0.142 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	113.00	74.68	83.86
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.66	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 84.89
ID= 1 DT=15.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.37	64.52
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	752.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	42.92
over (min)	15.00	30.00

```
Storage Coeff.  (min)=      11.40 (ii)   68.40 (ii)
Unit Hyd. Tpeak (min)=      15.00        75.00
Unit Hyd. peak  (cms)=       0.08         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=       2.96         3.86        5.396 (iii)
TIME TO PEAK    (hrs)=       5.25         6.00         5.25
RUNOFF VOLUME    (mm)=     113.00        74.68        83.88
TOTAL RAINFALL   (mm)=     114.00       114.00       114.00
RUNOFF COEFFICIENT   =       0.99         0.66         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0380) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    84.89   5.396     5.25    83.88
       + ID2= 2 (****):     2.24   0.142     5.25    83.86
         ================================================
         ID = 3 (0380):    87.13   5.539     5.25    83.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0381) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0380):    87.13   5.539     5.25    83.88
       + ID2= 2 (****):    76.38   4.855     5.25    83.88
         ================================================
         ID = 3 (0381):   163.51  10.394     5.25    83.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (2251) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0381):   163.51  10.394     5.25    83.88
       + ID2= 2 (4472):     7.16   0.133     7.50    99.53
         ================================================
         ID = 3 (2251):   170.67  10.472     5.25    84.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0709) |   Area    (ha)=   7.69
|ID= 1 DT=15.0 min |   Total Imp(%)=   4.00   Dir. Conn.(%)=   4.00
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                          IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=        0.31         7.38
Dep. Storage     (mm)=        1.00         4.00
Average Slope     (%)=        1.00         2.30
Length            (m)=      226.42        40.00
Mannings n            =       0.013        0.250

Max.Eff.Inten.(mm/hr)=       52.42        39.82
            over (min)       15.00        30.00
Storage Coeff.  (min)=        6.00 (ii)   33.60 (ii)
Unit Hyd. Tpeak (min)=       15.00        30.00
Unit Hyd. peak  (cms)=        0.10         0.03
                                                  *TOTALS*
PEAK FLOW       (cms)=        0.04         0.59         0.632 (iii)
TIME TO PEAK    (hrs)=        5.25         5.25          5.25
RUNOFF VOLUME    (mm)=      113.00        68.16         69.95
TOTAL RAINFALL   (mm)=      114.00       114.00        114.00
RUNOFF COEFFICIENT   =        0.99         0.60          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (9219) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   7.69      0.63      5.25   69.95
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   7.69      0.63      5.25   69.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (6219) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.5000     0.0350
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9219)    7.690     0.632      5.25      69.95
     OUTFLOW: ID= 1 (6219)    7.690     0.598      5.50      69.95

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 94.73
               TIME SHIFT OF PEAK FLOW         (min)= 15.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.0420

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| ADD HYD   (4219) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9219 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6219):     7.69   0.598     5.50    69.95
       + ID2= 2 (9219):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4219):     7.69   0.598     5.50    69.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  40.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       14.44        25.67
Dep. Storage     (mm)=        1.00         4.00
Average Slope     (%)=        1.00         4.10
Length            (m)=      517.11        40.00
Mannings n            =       0.013        0.250

Max.Eff.Inten.(mm/hr)=       52.42        45.21
            over (min)       15.00        30.00
Storage Coeff.  (min)=       10.80 (ii)   63.60 (ii)
Unit Hyd. Tpeak (min)=       15.00        60.00
Unit Hyd. peak  (cms)=        0.09         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=        2.10         1.75         3.460 (iii)
TIME TO PEAK    (hrs)=        5.25         5.75          5.25
RUNOFF VOLUME    (mm)=      113.00        79.95         91.85
TOTAL RAINFALL   (mm)=      114.00       114.00        114.00
RUNOFF COEFFICIENT   =        0.99         0.70          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   1.17
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=        0.42         0.75
Dep. Storage     (mm)=        1.00         4.00
Average Slope     (%)=        1.00         4.10
Length            (m)=       88.32        40.00
Mannings n            =       0.013        0.250

Max.Eff.Inten.(mm/hr)=       52.42        45.21
            over (min)       15.00        30.00
Storage Coeff.  (min)=       10.80 (ii)   63.60 (ii)
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Unit Hyd. Tpeak (min)=       15.00        60.00
Unit Hyd. peak  (cms)=        0.09         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=        0.06         0.05         0.101 (iii)
TIME TO PEAK    (hrs)=        5.25         5.75          5.25
RUNOFF VOLUME    (mm)=      113.00        79.95         91.82
TOTAL RAINFALL   (mm)=      114.00       114.00        114.00
RUNOFF COEFFICIENT   =        0.99         0.70          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0371) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    40.11   3.460     5.25    91.85
       + ID2= 2 (****):     1.17   0.101     5.25    91.82
         ================================================
         ID = 3 (0371):    41.28   3.561     5.25    91.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  70.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       25.32        45.01
Dep. Storage     (mm)=        1.00         4.00
Average Slope     (%)=        1.00         4.10
Length            (m)=      684.74        40.00
Mannings n            =       0.013        0.250

Max.Eff.Inten.(mm/hr)=       52.42        45.21
            over (min)       15.00        30.00
Storage Coeff.  (min)=       10.80 (ii)   63.60 (ii)
Unit Hyd. Tpeak (min)=       15.00        60.00
Unit Hyd. peak  (cms)=        0.09         0.02
                                                  *TOTALS*
PEAK FLOW       (cms)=        3.68         3.07         6.067 (iii)
TIME TO PEAK    (hrs)=        5.25         5.75          5.25
RUNOFF VOLUME    (mm)=      113.00        79.95         91.85
TOTAL RAINFALL   (mm)=      114.00       114.00        114.00
RUNOFF COEFFICIENT   =        0.99         0.70          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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ADD HYD (0377)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0371):	41.28	3.561	5.25	91.85
+ ID2= 2 (****):	70.33	6.067	5.25	91.85
ID = 3 (0377):	111.61	9.628	5.25	91.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2248)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0377):	111.61	9.628	5.25	91.85
+ ID2= 2 (4219):	7.69	0.598	5.50	69.95
ID = 3 (2248):	119.30	10.169	5.25	90.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1252)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2248):	119.30	10.169	5.25	90.44
+ ID2= 2 (2251):	170.67	10.472	5.25	84.53
ID = 3 (1252):	289.97	20.641	5.25	86.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0252) | Area (ha)= 58.15
ID= 1 DT=15.0 min | Total Imp(%)= 76.00 Dir. Conn.(%)= 76.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	44.19	13.96
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.60
Length	(m)=	622.63	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	50.01
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	69.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	6.41	1.06 7.138 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	113.00	93.71 108.37
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.82 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2252)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0252):	58.15	7.138	5.25	108.37
+ ID2= 2 (1252):	289.97	20.641	5.25	86.96
ID = 3 (2252):	348.12	27.778	5.25	90.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1261)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2252):	348.12	27.778	5.25	90.54
+ ID2= 2 (2260):	713.53	36.079	6.25	103.38
ID = 3 (1261):	1061.65	61.964	5.25	99.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0261) | Area (ha)= 53.92
ID= 1 DT=15.0 min | Total Imp(%)= 85.00 Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	45.83	8.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.10
Length	(m)=	599.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	51.07
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	62.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	6.66	0.69 7.232 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	113.00	98.08 110.76
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.86 0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1256)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0261):	53.92	7.232	5.25	110.76
+ ID2= 2 (1261):	1061.65	61.964	5.25	99.17
ID = 3 (1256):	1115.57	69.196	5.25	99.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5256) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5256.0) ------>

Distance	Elevation	Manning	
0.00	169.02	0.1110	
20.27	168.76	0.1110	
52.65	169.09	0.1110	
62.64	168.83	0.1110	
71.51	165.89	0.1110	
80.77	164.57	0.1110	
89.62	164.27	0.1110 /0.0490	Main Channel
90.94	164.26	0.0490	Main Channel
95.82	164.32	0.0490	Main Channel
100.45	164.36	0.0490 /0.1110	Main Channel
108.74	168.86	0.1110	
132.94	169.64	0.1110	
157.62	169.90	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.01	164.27	.329E+01	0.0	0.07	75.11
0.26	164.52	.997E+03	2.1	0.66	7.75
0.51	164.77	.258E+04	8.6	1.02	5.02
0.76	165.02	.435E+04	18.4	1.31	3.93
1.01	165.27	.629E+04	31.4	1.54	3.34
1.26	165.52	.840E+04	47.4	1.74	2.95
1.51	165.77	.107E+05	66.3	1.91	2.68
1.76	166.02	.131E+05	88.5	2.08	2.47
2.01	166.27	.157E+05	113.9	2.24	2.29
2.26	166.52	.183E+05	142.1	2.39	2.15
2.51	166.77	.210E+05	173.0	2.54	2.02
2.76	167.02	.238E+05	206.6	2.67	1.92
3.01	167.27	.268E+05	242.9	2.80	1.84
3.26	167.52	.298E+05	281.9	2.92	1.76
3.51	167.77	.329E+05	323.6	3.03	1.69
3.76	168.02	.361E+05	367.9	3.14	1.63
4.01	168.27	.393E+05	414.8	3.25	1.58
4.26	168.52	.427E+05	464.5	3.35	1.53
4.51	168.77	.462E+05	509.4	3.40	1.51

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1256)	1115.57	69.20	5.25	99.73	1.54	1.93
OUTFLOW: ID= 1 (5256)	1115.57	68.14	5.25	99.73	1.53	1.92

CALIB
STANDHYD (0256) | Area (ha)= 20.70
ID= 1 DT=15.0 min | Total Imp(%)= 77.00 Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.94	4.76
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	371.48	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	50.57
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	43.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03
			TOTALS
PEAK FLOW	(cms)=	2.32	0.48 2.770 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	113.00	95.87 109.06
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.84 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2256)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0256):	20.70	2.770	5.25	109.06
+ ID2= 2 (5256):	1115.57	68.137	5.25	99.73
ID = 3 (2256):	1136.27	70.907	5.25	99.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 116.17
ID= 1 DT=15.0 min | Total Imp(%)= 74.00 Dir. Conn.(%)= 74.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	85.97	30.20
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.60
Length	(m)=	880.04	40.00

```
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        50.01
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      14.40 (ii)   85.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        90.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                            *TOTALS*
     PEAK FLOW       (cms)=      12.39         2.04          13.591 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25            5.25
     RUNOFF VOLUME    (mm)=     113.00        93.71          107.99
     TOTAL RAINFALL   (mm)=     114.00       114.00          114.00
     RUNOFF COEFFICIENT   =       0.99         0.82            0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   0.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  74.00   Dir. Conn.(%)=  74.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.08         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         1.60
     Length            (m)=      27.08        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        50.01
                over (min)       15.00        30.00
     Storage Coeff.  (min)=      14.40 (ii)   85.20 (ii)
     Unit Hyd. Tpeak (min)=      15.00        90.00
     Unit Hyd. peak  (cms)=       0.07         0.01
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00           0.013 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.25            5.25
     RUNOFF VOLUME    (mm)=     113.00        93.71          107.54
     TOTAL RAINFALL   (mm)=     114.00       114.00          114.00
     RUNOFF COEFFICIENT   =       0.99         0.82            0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0367) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):   116.17  13.591     5.25   107.99
        + ID2= 2 (****):     0.11   0.013     5.25   107.54
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          ==================================================
          ID = 3 (0367):   116.28  13.604     5.25   107.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1247) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0367):   116.28  13.604     5.25   107.99
        + ID2= 2 (2256):  1136.27  70.907     5.25    99.90
          ==================================================
          ID = 3 (1247):  1252.55  84.511     5.25   100.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5247) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5247.0) ------>
               Distance      Elevation       Manning
                   0.00         164.49        0.1110
                  96.53         159.50        0.1110
                  96.60         159.50        0.1110
                  98.32         159.15        0.1110
                  99.07         159.00    0.1110 /0.0490  Main Channel
                 101.36         158.57        0.0490      Main Channel
                 101.75         158.00        0.0490      Main Channel
                 102.83         158.00        0.0490      Main Channel
                 104.82         158.00        0.0490      Main Channel
                 105.65         158.66        0.0490      Main Channel
                 107.41         159.00    0.0490 /0.1110  Main Channel
                 109.23         159.35        0.1110
                 110.01         159.50        0.1110
                 111.19         159.56        0.1110
                 111.57         159.58        0.1110
                 121.33         160.00        0.1110
                 148.53         160.00        0.1110
                 158.08         161.00        0.1110
                 169.93         164.43        0.1110

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.33   158.33   .750E+03       0.9          0.78       14.16
       0.67   158.67   .166E+04       2.7          1.09       10.15
       1.00   159.00   .311E+04       5.5          1.18        9.36
       1.34   159.34   .538E+04      12.3          1.52        7.28
       1.68   159.68   .874E+04      21.6          1.64        6.76
       2.02   160.02   .154E+05      34.0          1.46        7.54
       2.36   160.36   .305E+05      57.4          1.25        8.85
       2.70   160.70   .478E+05      90.5          1.26        8.79
       3.04   161.04   .673E+05     133.4          1.31        8.40
       3.38   161.38   .887E+05     186.9          1.40        7.91
       3.71   161.71   .112E+06     250.3          1.48        7.45
       4.05   162.05   .137E+06     323.8          1.57        7.04
       4.39   162.39   .163E+06     407.4          1.65        6.68
       4.73   162.73   .192E+06     501.6          1.73        6.37
       5.07   163.07   .222E+06     606.4          1.81        6.10
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       5.41   163.41   .254E+06     722.2          1.89        5.86
       5.75   163.75   .287E+06     849.3          1.96        5.64
       6.09   164.09   .323E+06     987.9          2.03        5.45
       6.43   164.43   .360E+06    1138.4          2.10        5.27

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1247) 1252.55    84.51    5.25 100.65      2.64      1.26
     OUTFLOW: ID= 1 (5247) 1252.55    78.18    5.25 100.65      2.57      1.25


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| CALIB             |
| STANDHYD  (0247) |   Area    (ha)=  38.02
|ID= 1 DT=15.0 min |   Total Imp(%)=  64.00   Dir. Conn.(%)=  64.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.33        13.69
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.50
     Length            (m)=     503.45        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        48.77
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       7.80 (ii)   45.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                            *TOTALS*
     PEAK FLOW       (cms)=       3.54         1.26           4.716 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50            5.25
     RUNOFF VOLUME    (mm)=     113.00        89.55          104.56
     TOTAL RAINFALL   (mm)=     114.00       114.00          114.00
     RUNOFF COEFFICIENT   =       0.99         0.79            0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2247) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0247):    38.02   4.716     5.25   104.56
        + ID2= 2 (5247):  1252.55  78.185     5.25   100.65
          ==================================================
          ID = 3 (2247):  1290.57  82.900     5.25   100.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1226) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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```
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2213):  9038.00 147.243     8.50    72.23
        + ID2= 2 (2247):  1290.57  82.900     5.25   100.76
          ==================================================
          ID = 3 (1226): 10328.56 184.265     6.50    75.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5226) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5226.0) ------>
               Distance      Elevation       Manning
                   0.00         167.48        0.1110
                   4.33         163.54        0.1110
                  26.47         158.00        0.1110
                  57.29         157.00        0.1110
                  63.27         155.78        0.1110
                  63.95         155.50    0.1110 /0.0490  Main Channel
                  64.81         155.10        0.0490      Main Channel
                  74.07         155.10        0.0490      Main Channel
                  75.37         155.50    0.0490 /0.1110  Main Channel
                  81.00         157.00        0.1110
                 137.94         159.50        0.1110
                 171.75         168.01        0.1110

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.40   155.50   .560E+04       3.0          0.72       31.36
       1.03   156.13   .172E+05      16.4          1.29       17.55
       1.66   156.76   .334E+05      38.9          1.58       14.28
       2.29   157.39   .588E+05      70.0          1.61       14.02
       2.92   158.02   .111E+06     119.9          1.46       15.48
       3.55   158.65   .185E+06     198.8          1.45       15.52
       4.18   159.28   .273E+06     304.3          1.51       14.97
       4.81   159.91   .374E+06     443.6          1.61       14.04
       5.44   160.54   .479E+06     613.0          1.73       13.02
       6.07   161.17   .588E+06     808.3          1.86       12.13
       6.71   161.81   .702E+06    1028.8          1.98       11.38
       7.34   162.44   .820E+06    1274.3          2.10       10.73
       7.97   163.07   .943E+06    1544.4          2.22       10.18
       8.60   163.70   .107E+07    1841.5          2.33        9.68
       9.23   164.33   .120E+07    2170.2          2.45        9.21
       9.86   164.96   .133E+07    2522.8          2.57        8.80
      10.49   165.59   .147E+07    2898.9          2.68        8.44
      11.12   166.22   .161E+07    3298.4          2.78        8.11
      11.75   166.85   .175E+07    3721.0          2.89        7.82

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1226) *******   184.26    6.50  75.79      3.44      1.45
     OUTFLOW: ID= 1 (5226) *******   182.73    7.25  75.79      3.42      1.45


--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0226) |   Area    (ha)= 128.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
```

```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       64.25         64.25
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.40
     Length            (m)=      925.56         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       52.42         45.96
               over (min)         15.00         30.00
     Storage Coeff.  (min)=      10.80 (ii)    64.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         60.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       9.33          4.46        12.812 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.75         5.25
     RUNOFF VOLUME    (mm)=     113.00         81.78        97.39
     TOTAL RAINFALL   (mm)=     114.00        114.00       114.00
     RUNOFF COEFFICIENT   =       0.99          0.72         0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (2226) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0226):   128.50  12.812     5.25    97.39
       + ID2= 2 (5226): 10328.56 182.731     7.25    75.79
         ================================================
         ID = 3 (2226): 10457.06 187.058     6.75    76.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5237) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (5237.0) ------>
               Distance      Elevation        Manning
                   0.00         158.00         0.1110
                  14.00         155.00         0.1110
                  15.00         154.50         0.1110
                  45.00         154.00         0.1110
                  65.00         153.50         0.1110
                  97.00         153.50         0.1110
                 101.00         154.00         0.1110
                 102.00         154.00         0.1110
                 105.00         153.50         0.1110
                 120.00         153.00         0.1110
                 121.00         152.50    0.1110 /0.0490  Main Channel
                 122.00         151.40         0.0490      Main Channel
                 134.00         151.40         0.0490      Main Channel
                 135.00         152.50    0.0490 /0.1110  Main Channel
                 144.00         153.50         0.1110
```



```
                146.00         154.00         0.1110
                160.00         164.00         0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.28   151.67    .218E+04         1.7         0.51      21.12
        0.55   151.95    .446E+04         5.4         0.79      13.63
        0.83   152.22    .682E+04        10.7         1.01      10.64
        1.10   152.50    .927E+04        17.2         1.20       8.97
        1.47   152.87    .131E+05        28.8         1.43       7.56
        1.83   153.23    .183E+05        43.3         1.53       7.05
        2.20   153.60    .290E+05        61.9         1.39       7.79
        2.57   153.97    .497E+05        90.9         1.18       9.12
        2.93   154.33    .759E+05       130.0         1.11       9.73
        3.30   154.70    .107E+06       183.2         1.11       9.71
        3.67   155.07    .138E+06       249.6         1.17       9.23
        4.03   155.43    .170E+06       325.8         1.24       8.71
        4.40   155.80    .203E+06       411.6         1.31       8.22
        4.77   156.17    .236E+06       506.6         1.39       7.77
        5.13   156.53    .270E+06       610.4         1.47       7.36
        5.50   156.90    .304E+06       722.7         1.54       7.01
        5.87   157.27    .339E+06       843.4         1.61       6.69
        6.23   157.63    .374E+06       972.3         1.69       6.41
        6.60   158.00    .410E+06      1109.3         1.76       6.15

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)  (mm)      (m)       (m/s)
     INFLOW : ID= 2 (2226) ********   187.06    6.75  76.06      3.32       1.12
     OUTFLOW: ID= 1 (5237) *******    186.87    7.25  76.06      3.31       1.11

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (0237) |   Area    (ha)=  15.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  25.00   Dir. Conn.(%)=  25.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.87          11.61
     Dep. Storage     (mm)=       1.00           4.00
     Average Slope     (%)=       1.00           5.30
     Length            (m)=     321.25          40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       52.42         42.15
               over (min)         15.00         15.00
     Storage Coeff.  (min)=       5.40 (ii)     32.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.56          1.01         1.573 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     113.00         73.00        83.00
     TOTAL RAINFALL   (mm)=     114.00        114.00       114.00
     RUNOFF COEFFICIENT   =       0.99          0.64         0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```



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           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2237) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0237):    15.48   1.573     5.25    83.00
       + ID2= 2 (5237): 10457.06 186.869     7.25    76.06
         ================================================
         ID = 3 (2237): 10472.54 187.249     7.00    76.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD    (0447) |   Area    (ha)= 106.74   Curve Number   (CN)= 79.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   6.80   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.58

     Unit Hyd Qpeak  (cms)=   6.969

     PEAK FLOW       (cms)=   8.083 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  65.636
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.576

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5024) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <----- DATA FOR SECTION (5024.0) ------>
               Distance      Elevation        Manning
                   0.00         247.19         0.1000
                  52.21         246.15         0.1000
                  62.95         246.38         0.1000
                  94.83         245.47         0.1000
                 131.08         245.92         0.1000
                 263.16         244.86         0.1000
                 320.30         244.93         0.1000
                 355.96         243.82         0.1000
                 398.49         243.50         0.1000
                 420.89         243.19    0.1000 /0.0440  Main Channel
                 421.43         243.14         0.0440      Main Channel
                 424.25         243.19    0.0440 /0.1000  Main Channel
                 502.84         245.16         0.1000
                 552.79         245.54         0.1000
                 669.65         247.85         0.1000
                 770.08         247.29         0.1000
                 869.85         249.34         0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)       (cms)        (m/s)      (min)
        0.05   243.19    .204E+03         0.0         0.13     310.61
        0.26   243.40    .796E+04         0.8         0.25     159.47
```



```
        0.47   243.61    .287E+05         3.6         0.31     131.52
        0.68   243.82    .673E+05         9.9         0.36     112.91
        0.89   244.03    .119E+06        21.9         0.45      90.72
        1.10   244.24    .178E+06        38.5         0.52      77.32
        1.31   244.45    .246E+06        59.9         0.59      68.34
        1.52   244.66    .321E+06        86.4         0.65      61.83
        1.73   244.87    .403E+06       112.5         0.68      59.76
        1.94   245.08    .527E+06       138.2         0.64      63.51
        2.16   245.30    .673E+06       183.9         0.66      60.98
        2.37   245.51    .846E+06       238.8         0.69      59.06
        2.58   245.72    .105E+07       306.9         0.71      57.14
        2.79   245.93    .129E+07       393.3         0.74      54.65
        3.00   246.14    .155E+07       515.2         0.81      50.02
        3.21   246.35    .182E+07       640.6         0.86      47.28
        3.42   246.56    .210E+07       791.7         0.91      44.30
        3.63   246.77    .240E+07       960.6         0.97      41.68
        3.84   246.98    .271E+07      1145.3         1.03      39.46

                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                                (ha)    (cms)   (hrs)  (mm)      (m)       (m/s)
     INFLOW : ID= 2 (0447)  106.74     8.08    5.50  65.64      0.62       0.34
     OUTFLOW: ID= 1 (5024)  106.74     3.79    6.50  65.62      0.48       0.31

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| NASHYD    (0024) |   Area    (ha)= 140.14   Curve Number   (CN)= 76.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   8.10   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.56

     Unit Hyd Qpeak  (cms)=   9.610

     PEAK FLOW       (cms)=   9.873 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  60.107
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.527

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2024) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0024):   140.14   9.873     5.50    60.11
       + ID2= 2 (5024):   106.74   3.793     6.50    65.62
         ================================================
         ID = 3 (2024):   246.88  12.336     5.50    62.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5045) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION (5045.0) ------>
               Distance      Elevation        Manning
                   0.00         245.32         0.1000
```

48.84	244.35	0.1000	
66.83	244.49	0.1000	
77.60	244.28	0.1000	
92.37	244.53	0.1000	
148.98	243.76	0.1000	
202.60	243.77	0.1000	
250.13	244.20	0.1000	
292.80	243.79	0.1000	
323.01	243.86	0.1000	
373.16	242.22	0.1000 /0.0440	Main Channel
377.19	242.15	0.0440	Main Channel
382.31	242.13	0.0440	Main Channel
387.43	242.26	0.0440 /0.1000	Main Channel
438.88	244.46	0.1000	
489.19	244.67	0.1000	
537.88	243.99	0.1000	
580.30	244.40	0.1000	
602.74	244.26	0.1000	
764.27	245.55	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	242.22	.178E+03	0.3	0.43	9.82
0.25	242.38	.901E+03	3.2	0.90	4.65
0.42	242.55	.199E+04	9.0	1.14	3.67
0.58	242.71	.343E+04	17.7	1.29	3.24
0.74	242.87	.524E+04	29.4	1.41	2.97
0.91	243.04	.741E+04	44.5	1.51	2.78
1.07	243.20	.994E+04	63.0	1.59	2.63
1.23	243.36	.128E+05	85.3	1.67	2.51
1.40	243.53	.161E+05	111.5	1.74	2.40
1.56	243.69	.197E+05	141.8	1.81	2.31
1.72	243.85	.252E+05	158.6	1.58	2.65
1.88	244.01	.348E+05	205.5	1.48	2.82
2.05	244.18	.472E+05	259.7	1.38	3.03
2.21	244.34	.626E+05	336.4	1.35	3.10
2.37	244.50	.822E+05	430.4	1.31	3.18
2.54	244.67	.106E+06	568.2	1.34	3.11
2.70	244.83	.132E+06	747.9	1.42	2.94
2.86	244.99	.159E+06	953.9	1.50	2.78
3.03	245.16	.188E+06	1185.5	1.59	2.64

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2024)	246.88	12.34	5.50	62.49	0.48	1.19
OUTFLOW: ID= 1 (5045)	246.88	12.37	5.50	62.49	0.48	1.19

CALIB
NASHYD (0045)
ID= 1 DT=15.0 min

Area (ha)= 69.60 Curve Number (CN)= 78.0
Ia (mm)= 7.10 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.59

Unit Hyd Qpeak (cms)= 4.483

PEAK FLOW (cms)= 5.097 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 63.879
TOTAL RAINFALL (mm)= 114.001

RUNOFF COEFFICIENT = 0.560

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2045)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0045):	69.60	5.097	5.50	63.88
+ ID2= 2 (5045):	246.88	12.372	5.50	62.49
ID = 3 (2045):	316.48	17.469	5.50	62.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0016)
ID= 1 DT=15.0 min

Area (ha)= 208.86 Curve Number (CN)= 79.0
Ia (mm)= 6.60 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.80

Unit Hyd Qpeak (cms)= 9.972

PEAK FLOW (cms)= 13.359 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 65.904
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.578

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1048)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	208.86	13.359	5.75	65.90
+ ID2= 2 (2045):	316.48	17.469	5.50	62.80
ID = 3 (1048):	525.34	30.638	5.50	64.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5048)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5048.0) ------>

Distance	Elevation	Manning	
0.00	243.03	0.1000	
359.76	240.13	0.1000	
503.08	241.12	0.1000	
509.36	239.75	0.1000	
547.35	239.09	0.1000	
550.14	239.02	0.1000	
571.65	237.24	0.1000 /0.0440	Main Channel
573.01	237.04	0.0440	Main Channel
575.59	237.59	0.0440 /0.1000	Main Channel

588.26	239.41	0.1000	
637.64	239.34	0.1000	
713.38	240.34	0.1000	
773.29	240.09	0.1000	
817.41	241.38	0.1000	
880.91	240.96	0.1000	
1218.10	243.31	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	237.24	.152E+03	0.0	0.15	75.62
0.50	237.54	.113E+04	0.4	0.23	46.91
0.81	237.85	.318E+04	1.4	0.30	36.85
1.11	238.15	.640E+04	3.3	0.34	32.68
1.42	238.46	.108E+05	6.0	0.37	29.97
1.72	238.76	.163E+05	9.8	0.39	27.86
2.03	239.07	.231E+05	14.5	0.41	26.52
2.33	239.37	.328E+05	18.1	0.36	30.17
2.64	239.68	.585E+05	28.4	0.32	34.30
2.94	239.98	.918E+05	46.9	0.34	32.63
3.25	240.29	.136E+06	61.5	0.30	36.76
3.55	240.59	.208E+06	94.6	0.30	36.68
3.86	240.90	.300E+06	146.5	0.32	34.13
4.16	241.20	.416E+06	204.2	0.32	33.93
4.47	241.51	.561E+06	293.7	0.35	31.81
4.77	241.81	.724E+06	413.2	0.38	29.19
5.08	242.12	.903E+06	556.1	0.41	27.06
5.38	242.42	.110E+07	723.7	0.43	25.30
5.69	242.73	.131E+07	917.4	0.46	23.82

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1048)	525.34	30.64	5.50	64.03	2.67	0.32
OUTFLOW: ID= 1 (5048)	525.34	24.35	6.00	64.03	2.51	0.34

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB
STANDHYD (0048)
ID= 1 DT=15.0 min

Area (ha)= 61.81
Total Imp(%)= 29.00 Dir. Conn.(%)= 23.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	17.92	43.89	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.70	
Length (m)=	641.92	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	52.42	46.74	
over (min)	15.00	30.00	
Storage Coeff. (min)=	10.20 (ii)	60.60 (ii)	
Unit Hyd. Tpeak (min)=	15.00	60.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	2.07	3.11	4.461 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	113.00	75.24	83.93
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.66	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2048)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0048):	61.81	4.461	5.25	83.93
+ ID2= 2 (5048):	525.34	24.351	6.00	64.03
ID = 3 (2048):	587.15	28.022	6.00	66.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5046)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5046.0) ------>

Distance	Elevation	Manning	
0.00	242.13	0.1000	
21.95	242.56	0.1000	
73.65	242.53	0.1000	
129.75	241.36	0.1000	
150.90	241.54	0.1000	
175.31	240.19	0.1000	
191.36	239.80	0.1000	
206.39	238.06	0.1000	
242.75	238.88	0.1000	
260.87	237.01	0.1000 /0.0440	Main Channel
262.52	236.94	0.0440	Main Channel
262.96	236.99	0.0440 /0.1000	Main Channel
316.06	239.46	0.1000	
411.45	238.61	0.1000	
755.24	241.81	0.1000	
768.93	242.79	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	236.99	.275E+02	0.0	0.13	85.24
0.32	237.26	.115E+04	0.6	0.36	31.89
0.59	237.53	.383E+04	2.5	0.44	25.54
0.86	237.80	.806E+04	6.2	0.52	21.83
1.13	238.07	.138E+05	11.9	0.58	19.41
1.40	238.34	.226E+05	19.8	0.59	19.09
1.67	238.61	.356E+05	32.4	0.62	18.28
1.94	238.88	.583E+05	45.2	0.53	21.51
2.21	239.15	.948E+05	78.6	0.56	20.10
2.48	239.42	.144E+06	129.6	0.61	18.49
2.76	239.70	.203E+06	205.8	0.69	16.41
3.03	239.97	.268E+06	297.8	0.76	14.98
3.30	240.24	.340E+06	408.5	0.82	13.86
3.57	240.51	.419E+06	544.6	0.88	12.81

3.84	240.78	.504E+06	702.1	0.95	11.96
4.11	241.05	.595E+06	882.1	1.01	11.25
4.38	241.32	.693E+06	1085.3	1.07	10.64
4.65	241.59	.800E+06	1271.2	1.08	10.48
4.92	241.86	.916E+06	1530.3	1.14	9.98

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2048)	587.15	28.02	6.00	66.13	1.58	0.61
OUTFLOW: ID= 1 (5046)	587.15	26.89	6.25	66.12	1.56	0.61

CALIB	
STANDHYD (0046)	Area (ha)= 117.70
ID= 1 DT=15.0 min	Total Imp(%)= 37.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.55	74.15
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.20
Length (m)=	885.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	48.98
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	5.11	4.83 8.162 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	113.00	77.52 88.17
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.68 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2046)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0046):	117.70	8.162	5.25	88.17
+ ID2= 2 (5046):	587.15	26.890	6.25	66.12
ID = 3 (2046):	704.85	33.202	6.25	69.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0058)	Area (ha)= 66.21

ID= 1 DT=15.0 min	Total Imp(%)= 50.00 Dir. Conn.(%)= 39.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	33.10	33.10
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	664.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	58.72
over (min)	15.00	30.00
Storage Coeff. (min)=	11.40 (ii)	66.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.08	0.02
		TOTALS
PEAK FLOW (cms)=	3.75	3.01 6.144 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	113.00	88.13 97.83
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.77 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1065)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0058):	66.21	6.144	5.25	97.83
+ ID2= 2 (2046):	704.85	33.202	6.25	69.81
ID = 3 (1065):	771.06	36.948	6.25	72.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5065)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5065.0) ------>

Distance	Elevation	Manning	
0.00	239.31	0.1000	
5.58	239.49	0.1000	
15.91	238.39	0.1000	
40.00	238.08	0.1000	
49.46	237.62	0.1000	
60.68	238.23	0.1000	
78.72	234.07	0.1000	
80.23	233.37	0.1000 /0.0440	Main Channel
81.64	232.65	0.0440	Main Channel
82.98	233.25	0.0440 /0.1000	Main Channel
90.42	235.93	0.1000	
96.97	235.80	0.1000	
141.98	236.43	0.1000	
154.34	236.80	0.1000	

162.27	236.56	0.1000			
167.80	237.32	0.1000			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	232.95	.996E+02	0.1	0.73	12.12
0.60	233.25	.399E+03	0.9	1.15	7.63
0.97	233.62	.106E+04	3.4	1.71	5.16
1.33	233.98	.207E+04	7.8	1.98	4.44
1.70	234.35	.347E+04	14.0	2.13	4.14
2.07	234.72	.538E+04	22.5	2.21	3.98
2.44	235.09	.780E+04	33.7	2.28	3.86
2.80	235.45	.107E+05	47.7	2.35	3.74
3.17	235.82	.142E+05	63.0	2.35	3.75
3.54	236.19	.220E+05	81.7	1.97	4.48
3.90	236.55	.352E+05	120.0	1.80	4.89
4.27	236.92	.528E+05	176.3	1.76	4.99
4.64	237.29	.723E+05	258.3	1.89	4.67
5.00	237.65	.925E+05	357.0	2.04	4.32
5.37	238.02	.115E+06	459.2	2.12	4.16
5.74	238.39	.141E+06	584.5	2.19	4.02
6.11	238.76	.171E+06	760.2	2.35	3.74
6.47	239.12	.201E+06	958.4	2.52	3.50
6.84	239.49	.233E+06	1168.1	2.65	3.32

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1065)	771.06	36.95	6.25	72.21	2.52	2.30
OUTFLOW: ID= 1 (5065)	771.06	36.91	6.25	72.21	2.52	2.30

CALIB	
STANDHYD (0065)	Area (ha)= 10.36
ID= 1 DT=15.0 min	Total Imp(%)= 57.00 Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.91	4.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.40
Length (m)=	262.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	51.78
over (min)	15.00	15.00
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04
		TOTALS
PEAK FLOW (cms)=	0.80	0.54 1.337 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	113.00	85.72 100.18
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.75 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2065)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0065):	10.36	1.337	5.25	100.18
+ ID2= 2 (5065):	771.06	36.908	6.25	72.21
ID = 3 (2065):	781.42	37.375	6.25	72.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0734)	Area (ha)= 28.31	Curve Number (CN)= 80.0	
ID= 1 DT=15.0 min	Ia (mm)= 9.50	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.30		

Unit Hyd Qpeak (cms)= 3.653

PEAK FLOW (cms)= 2.771 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 63.230
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.555

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0545)	Area (ha)= 6.45
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.42	3.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.80
Length (m)=	207.36	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	60.84
over (min)	15.00	15.00
Storage Coeff. (min)=	4.20 (ii)	25.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.04	0.04
		TOTALS
PEAK FLOW (cms)=	0.39	0.44 0.834 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	113.00	91.80 100.70
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.81 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9130)					
Inlet Cap.=0.009					
#of Inlets= 1					
Total(cms)= 0.0		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):		6.45	0.83	5.25	100.70
MAJOR SYS.(ID= 2):		6.08	0.82	5.25	100.70
MINOR SYS.(ID= 3):		0.37	0.01	2.50	100.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6130)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0090	0.0800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9130)	0.375	0.009	2.50	100.70
OUTFLOW: ID= 1 (6130)	0.375	0.003	13.00	94.73

PEAK FLOW REDUCTION [Qout/Qin](%)= 36.98
TIME SHIFT OF PEAK FLOW (min)=630.00
MAXIMUM STORAGE USED (ha.m.)= 0.0296

ADD HYD (4130)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6130):		0.37	0.003	13.00	94.73
+ ID2= 2 (9130):		6.08	0.825	5.25	100.70
ID = 3 (4130):		6.45	0.826	5.25	100.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2734)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0734):		28.31	2.771	5.25	63.23
+ ID2= 2 (4130):		6.45	0.826	5.25	100.36
ID = 3 (2734):		34.76	3.597	5.25	70.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

ADD HYD (2041)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0041):		263.00	17.829	5.50	56.64
+ ID2= 2 (2741):		38.15	3.982	5.25	71.27
ID = 3 (2041):		301.15	21.762	5.25	58.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9001)					
Inlet Cap.=0.000					
#of Inlets= 1					
Total(cms)= 0.0		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):		301.15	21.76	5.25	58.50
MAJOR SYS.(ID= 2):		301.15	21.76	5.25	58.50
MINOR SYS.(ID= 3):		0.00	0.00	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0064)	Area (ha)= 67.94	Curve Number (CN)= 75.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.50	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.37		

Unit Hyd Qpeak (cms)= 7.071

PEAK FLOW (cms)= 5.645 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 57.802
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.507

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1068)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0064):		67.94	5.645	5.25	57.80
+ ID2= 2 (9001):		301.15	21.762	5.25	58.50
ID = 3 (1068):		369.09	27.407	5.25	58.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5068)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5068.0) ------>

Distance	Elevation	Manning
0.00	243.69	0.1000
1.05	244.22	0.1000

STANDHYD (0741)	Area (ha)= 3.39		
ID= 1 DT=15.0 min	Total Imp(%)= 47.00	Dir. Conn.(%)= 44.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.59	1.80
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.50
Length (m)=	150.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	37.37
over (min)	15.00	15.00
Storage Coeff. (min)=	3.60 (ii)	19.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.22	0.17	0.385 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	113.00	59.63	83.11
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.52	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2741)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0741):		3.39	0.385	5.25	83.11
+ ID2= 2 (2734):		34.76	3.597	5.25	70.12
ID = 3 (2741):		38.15	3.982	5.25	71.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0041)	Area (ha)= 263.00	Curve Number (CN)= 74.0	
ID= 1 DT=15.0 min	Ia (mm)= 8.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.52		

Unit Hyd Qpeak (cms)= 19.468

PEAK FLOW (cms)= 17.829 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 56.644
TOTAL RAINFALL (mm)= 114.001
RUNOFF COEFFICIENT = 0.497

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

19.37	243.89	0.1000	
41.05	239.31	0.1000	
42.39	239.06	0.1000	
54.90	238.66	0.1000	
104.87	239.47	0.1000	
187.22	239.06	0.1000	
198.63	238.28	0.1000	
214.93	233.81	0.1000 /0.0440	Main Channel
224.74	232.68	0.0440	Main Channel
234.23	233.89	0.0440 /0.1000	Main Channel
244.57	237.42	0.1000	
253.16	237.28	0.1000	
264.49	238.25	0.1000	
303.31	239.05	0.1000	
336.23	238.84	0.1000	
370.20	238.82	0.1000	
618.04	242.11	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.57	233.24	.503E+04	2.0	0.75	42.17
1.13	233.81	.201E+05	12.6	1.20	26.56
1.74	234.42	.447E+05	43.5	1.86	17.13
2.35	235.03	.741E+05	90.1	2.32	13.71
2.97	235.65	.108E+06	151.2	2.67	11.92
3.58	236.26	.147E+06	226.7	2.95	10.80
4.19	236.87	.190E+06	316.7	3.18	10.02
4.80	237.48	.241E+06	415.4	3.29	9.67
5.42	238.10	.310E+06	540.6	3.33	9.55
6.03	238.71	.399E+06	666.7	3.19	9.97
6.64	239.32	.651E+06	821.2	2.41	13.21
7.25	239.93	.110E+07	1176.4	2.04	15.63
7.87	240.55	.162E+07	1669.2	1.97	16.15
8.48	241.16	.219E+07	2289.5	2.00	15.94
9.09	241.77	.282E+07	3040.5	2.06	15.45
9.70	242.38	.350E+07	3971.5	2.17	14.69
10.32	243.00	.419E+07	5093.0	2.32	13.72
10.93	243.61	.489E+07	6341.8	2.48	12.85
11.54	244.22	.560E+07	7596.9	2.59	12.28

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1068)	369.09	27.41	5.25	58.37	1.42	1.44
OUTFLOW: ID= 1 (5068)	369.09	23.72	5.50	58.37	1.35	1.37

CALIB			
STANDHYD (0068)	Area (ha)= 67.87		
ID= 1 DT=15.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 22.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.29	51.58
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.70
Length (m)=	672.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	42.01
over (min)	15.00	30.00

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     Storage Coeff.  (min)=       9.60 (ii)   56.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.17         3.33          4.716 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     113.00        70.49         79.84
     TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT   =       0.99         0.62          0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2068) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0068):    67.87   4.716     5.25    79.84
       + ID2= 2 (5068):   369.09  23.722     5.50    58.37
         ================================================
         ID = 3 (2068):   436.96  27.740     5.50    61.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0075) |   Area    (ha)=  90.63
|ID= 1 DT=15.0 min |   Total Imp(%)=  59.00   Dir. Conn.(%)=  54.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      53.47        37.16
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.00
     Length            (m)=     777.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        51.89
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      11.40 (ii)   66.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       7.10         2.90          9.374 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     113.00        82.80         99.11
     TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT   =       0.99         0.73          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| ADD HYD   (1074) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0075):    90.63   9.374     5.25    99.11
       + ID2= 2 (2068):   436.96  27.740     5.50    61.70
         ================================================
         ID = 3 (1074):   527.59  34.069     5.25    68.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5074) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION (5074.0) ------>
                Distance      Elevation       Manning
                    0.00         237.79        0.1000
                  113.79         235.41        0.1000
                  164.89         228.84    0.1000 /0.0440  Main Channel
                  166.86         228.66        0.0440      Main Channel
                  168.93         229.03    0.0440 /0.1000  Main Channel
                  184.89         232.46        0.1000
                  190.40         232.85        0.1000
                  196.98         234.94        0.1000
                  215.36         235.65        0.1000
                  232.15         237.32        0.1000
                  254.34         236.11        0.1000
                  290.72         237.19        0.1000
                  335.58         237.37        0.1000
                  355.30         236.87        0.1000
                  416.53         238.54        0.1000
                  454.71         237.66        0.1000
                  532.81         237.74        0.1000
                  585.25         238.79        0.1000
                  633.15         238.27        0.1000
                  651.47         238.62        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.18   228.84    .883E+02        0.1         0.42      13.12
       0.70   229.36    .119E+04        3.7         1.03       5.33
       1.23   229.89    .342E+04       13.1         1.26       4.34
       1.75   230.41    .677E+04       29.3         1.43       3.85
       2.27   230.93    .112E+05       53.3         1.56       3.51
       2.80   231.46    .168E+05       86.4         1.69       3.25
       3.32   231.98    .236E+05      129.4         1.81       3.04
       3.85   232.51    .314E+05      182.7         1.92       2.87
       4.37   233.03    .408E+05      246.6         1.99       2.76
       4.89   233.55    .514E+05      329.5         2.11       2.60
       5.42   234.08    .630E+05      426.4         2.23       2.46
       5.94   234.60    .756E+05      537.9         2.34       2.34
       6.46   235.12    .893E+05      650.4         2.40       2.29
       6.99   235.65    .106E+06      732.6         2.28       2.41
       7.51   236.17    .128E+06      845.2         2.17       2.53
       8.04   236.70    .158E+06      973.3         2.02       2.71
       8.56   237.22    .200E+06     1148.0         1.89       2.90
       9.08   237.74    .263E+06     1390.2         1.74       3.15
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      9.61   238.27    .349E+06    1932.2          1.82       3.01

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1074)  527.59    34.07    5.25  68.13      1.86      1.45
     OUTFLOW: ID= 1 (5074)  527.59    34.72    5.50  68.13      1.87      1.45


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-------------------
| CALIB             |
| STANDHYD  (0074) |   Area    (ha)=  22.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  40.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      11.34        11.34
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     388.76        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        56.91
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       7.20 (ii)   41.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        45.00
     Unit Hyd. peak  (cms)=       0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.32         1.24          2.473 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=     113.00        86.07         96.84
     TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT   =       0.99         0.75          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2074) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0074):    22.67   2.473     5.25    96.84
       + ID2= 2 (5074):   527.59  34.723     5.50    68.13
         ================================================
         ID = 3 (2074):   550.26  36.454     5.50    69.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1073) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2065):   781.42  37.375     6.25    72.58
       + ID2= 2 (2074):   550.26  36.454     5.50    69.31
```



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         ================================================
         ID = 3 (1073):  1331.68  68.324     5.50    71.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0073) |   Area    (ha)=  52.49
|ID= 1 DT=15.0 min |   Total Imp(%)=  52.00   Dir. Conn.(%)=  44.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      27.29        25.20
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.50
     Length            (m)=     591.55        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        53.58
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.00 (ii)   53.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=       3.36         2.23          5.142 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75          5.25
     RUNOFF VOLUME    (mm)=     113.00        82.06         95.67
     TOTAL RAINFALL   (mm)=     114.00       114.00        114.00
     RUNOFF COEFFICIENT   =       0.99         0.72          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2073) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0073):    52.49   5.142     5.25    95.67
       + ID2= 2 (1073):  1331.68  68.324     5.50    71.23
         ================================================
         ID = 3 (2073):  1384.17  71.833     5.50    72.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| DUHYD     (9013) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):1384.17     71.83      5.50   72.16
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):1384.17     71.83      5.50   72.16
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6013)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	3.8550	10.8920
			0.0000	0.0000	4.2540	12.9360
			0.0400	0.8560	4.6190	15.0330
			0.1500	1.7950	4.9570	17.1840
			0.5660	2.8160	5.2730	19.3870
			0.7780	3.9200	5.6900	20.1320
			0.9440	5.1060	9.2940	23.1620
			1.1480	6.9760	13.1840	25.4880
			1.3740	7.6130	17.8240	27.8720
			3.1710	8.9050	0.0000	0.0000
			3.5640	9.5610	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9013)	1384.170	71.833	5.50	72.16
OUTFLOW: ID= 1 (6013)	1384.170	31.763	8.00	72.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.22
TIME SHIFT OF PEAK FLOW (min)=150.00
MAXIMUM STORAGE USED (ha.m.)= 49.7273

ADD HYD (4013)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9013 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
	ID1= 1 (6013):	1384.17	31.763	8.00	72.15
	+ ID2= 2 (9013):	0.00	0.000	0.00	0.00
	ID = 3 (4013):	1384.17	31.763	8.00	72.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5081)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5081.0) ------>

Distance	Elevation	Manning
0.00	225.82	0.1000
5.97	224.62	0.1000
29.57	222.64	0.1000
40.42	222.57	0.1000
76.56	222.70	0.1000
80.13	222.70	0.1000
86.10	222.50	0.1000
92.53	222.61	0.1000
98.56	222.41	0.1000
98.87	222.40	0.1000

105.10	222.00	0.1000 /0.0440	Main Channel
110.31	221.50	0.0440	Main Channel
112.61	221.67	0.0440	Main Channel
114.64	221.50	0.0440	Main Channel
114.83	221.49	0.0440	Main Channel
116.29	222.00	0.0440 /0.1000	Main Channel
119.94	222.25	0.1000	
167.66	226.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	221.66	.987E+03	0.2	0.35	87.86
0.34	221.83	.345E+04	1.2	0.65	47.66
0.51	222.00	.662E+04	3.1	0.86	35.87
0.75	222.24	.132E+05	8.0	1.12	27.52
0.99	222.48	.229E+05	15.2	1.23	25.11
1.23	222.72	.475E+05	25.7	1.00	30.83
1.46	222.95	.917E+05	46.2	0.94	33.04
1.70	223.19	.138E+06	74.5	1.00	30.96
1.94	223.43	.188E+06	109.8	1.08	28.50
2.18	223.67	.240E+06	151.7	1.17	26.33
2.42	223.91	.294E+06	200.1	1.26	24.49
2.66	224.15	.351E+06	254.8	1.35	22.95
2.90	224.39	.410E+06	316.0	1.43	21.64
3.14	224.63	.472E+06	383.6	1.51	20.52
3.37	224.86	.537E+06	460.0	1.59	19.44
3.61	225.10	.603E+06	542.8	1.67	18.50
3.85	225.34	.670E+06	632.0	1.75	17.68
4.09	225.58	.740E+06	727.6	1.82	16.95
4.33	225.82	.811E+06	829.6	1.90	16.30

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4013)	1384.17	31.76	8.00	72.15	1.30	0.98
OUTFLOW: ID= 1 (5081)	1384.17	31.14	8.75	72.15	1.29	0.98

CALIB STANDHYD (0081)	ID= 1 DT=15.0 min	Area (ha)= 131.60	Total Imp(%)= 44.00	Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.90	73.70
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	936.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	53.78
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	69.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	6.87	5.77 10.690 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	113.00	84.97 95.06
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.75 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2081)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0081):	131.60	10.690	5.25	95.06
	+ ID2= 2 (5081):	1384.17	31.137	8.75	72.15
	ID = 3 (2081):	1515.77	33.660	8.25	74.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5446)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5446.0) ------>

Distance	Elevation	Manning	
0.00	217.81	0.1000	
11.08	216.00	0.1000	
36.54	215.00	0.1000	
55.05	214.88	0.1000	
57.65	214.50	0.1000	
65.88	212.00	0.1000 /0.0440	Main Channel
65.89	212.00	0.0440	Main Channel
68.31	211.78	0.0440	Main Channel
71.62	211.62	0.0440	Main Channel
74.08	211.60	0.0440	Main Channel
82.25	211.66	0.0440	Main Channel
86.11	212.00	0.0440	Main Channel
86.23	212.02	0.0440 /0.1000	Main Channel
94.33	213.50	0.1000	
134.71	215.48	0.1000	
170.10	216.00	0.1000	
190.26	216.67	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	211.80	.388E+04	1.2	0.50	56.18
0.40	212.00	.994E+04	4.7	0.79	35.45
0.67	212.27	.199E+05	14.2	1.20	23.33
0.95	212.55	.309E+05	27.8	1.52	18.54
1.22	212.82	.431E+05	45.1	1.77	15.91
1.50	213.10	.564E+05	66.1	1.98	14.22
1.77	213.37	.708E+05	90.5	2.16	13.03
2.05	213.65	.865E+05	118.0	2.30	12.23
2.32	213.92	.105E+06	149.2	2.39	11.75
2.60	214.20	.127E+06	184.8	2.46	11.43
2.87	214.47	.151E+06	224.9	2.51	11.22
3.15	214.75	.179E+06	269.4	2.53	11.09
3.42	215.02	.213E+06	313.7	2.48	11.31

3.70	215.30	.257E+06	372.2	2.44	11.52
3.97	215.57	.308E+06	435.1	2.38	11.79
4.25	215.85	.369E+06	503.4	2.30	12.21
4.52	216.12	.441E+06	588.7	2.25	12.48
4.80	216.40	.519E+06	690.4	2.24	12.53
5.07	216.67	.602E+06	802.7	2.25	12.49

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2081)	1515.77	33.66	8.25	74.14	1.04	1.59
OUTFLOW: ID= 1 (5446)	1515.77	33.51	8.50	74.14	1.04	1.59

CALIB STANDHYD (0446)	ID= 1 DT=15.0 min	Area (ha)= 124.88	Total Imp(%)= 35.00	Dir. Conn.(%)= 28.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.71	81.17
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	912.43	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	49.58
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02
			TOTALS
PEAK FLOW	(cms)=	5.07	5.93 9.651 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	113.00	79.09 88.59
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.69 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2446)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0446):	124.88	9.651	5.25	88.59
	+ ID2= 2 (5446):	1515.77	33.508	8.50	74.14
	ID = 3 (2446):	1640.65	35.969	8.25	75.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5110)

| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5110.0) ------>

Distance	Elevation	Manning	
0.00	210.19	0.1000	
21.36	209.50	0.1000	
46.49	206.88	0.1000	
52.44	205.50	0.1000 /0.0440	Main Channel
56.57	203.68	0.0440	Main Channel
58.67	203.50	0.0440	Main Channel
62.44	203.66	0.0440	Main Channel
67.42	205.50	0.0440 /0.1000	Main Channel
71.31	206.50	0.1000	
89.08	207.50	0.1000	
149.36	207.99	0.1000	
149.52	208.00	0.1000	
155.13	208.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.75	.141E+04	0.6	0.64	36.91
0.50	204.00	.384E+04	3.0	1.10	21.46
0.75	204.25	.672E+04	6.8	1.43	16.47
1.00	204.50	.100E+05	12.1	1.71	13.82
1.25	204.75	.138E+05	19.0	1.94	12.13
1.50	205.00	.180E+05	27.5	2.16	10.93
1.75	205.25	.226E+05	37.7	2.36	10.01
2.00	205.50	.277E+05	49.8	2.54	9.28
2.27	205.77	.339E+05	68.3	2.85	8.28
2.55	206.05	.410E+05	89.4	3.09	7.64
2.82	206.32	.489E+05	113.3	3.27	7.20
3.09	206.59	.578E+05	139.7	3.42	6.90
3.36	206.86	.687E+05	169.1	3.48	6.77
3.64	207.14	.822E+05	201.9	3.48	6.78
3.91	207.41	.985E+05	239.1	3.44	6.86
4.18	207.68	.120E+06	277.9	3.27	7.20
4.45	207.95	.155E+06	326.8	2.98	7.91
4.73	208.23	.200E+06	392.5	2.78	8.48
5.00	208.50	.247E+06	469.4	2.69	8.75

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2446)	1640.65	35.97	8.25	75.24	1.71	2.32
OUTFLOW: ID= 1 (5110)	1640.65	35.86	8.50	75.24	1.70	2.31

CALIB	
STANDHYD (0110)	Area (ha)= 86.93
ID= 1 DT=15.0 min	Total Imp(%)= 36.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	31.29	55.64
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	761.27	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	51.09
over (min)	15.00	30.00

1.39	196.89	.136E+05	18.2	1.71	12.49	
1.59	197.09	.177E+05	25.5	1.84	11.56	
1.78	197.28	.223E+05	34.5	1.98	10.77	
1.98	197.48	.277E+05	44.4	2.05	10.38	
2.18	197.68	.339E+05	57.1	2.15	9.90	
2.38	197.88	.411E+05	76.1	2.37	9.00	
2.58	198.08	.495E+05	99.1	2.56	8.33	
2.78	198.28	.592E+05	125.0	2.70	7.89	
2.98	198.48	.701E+05	153.9	2.81	7.59	
3.18	198.68	.825E+05	185.7	2.88	7.40	
3.38	198.88	.968E+05	221.1	2.92	7.30	
3.58	199.08	.113E+06	260.2	2.94	7.24	
3.78	199.28	.132E+06	303.3	2.95	7.23	

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2110)	1727.58	37.73	8.25	76.12	1.85	2.00
OUTFLOW: ID= 1 (5721)	1727.58	37.66	8.25	76.12	1.84	2.00

CALIB	
STANDHYD (0721)	Area (ha)= 44.92
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 31.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.07	27.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.00
Length (m)=	547.24	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	52.87
over (min)	15.00	30.00
Storage Coeff. (min)=	9.00 (ii)	52.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	2.03	2.48 4.045 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	113.00	86.13 94.46
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.76 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2721)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0721):	44.92	4.045	5.25	94.46
+ ID2= 2 (5721):	1727.58	37.657	8.25	76.12

Storage Coeff. (min)=	10.80 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	3.79	4.32 7.185 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	113.00	83.94 92.66
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.74 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):	86.93	7.185	5.25	92.66
+ ID2= 2 (5110):	1640.65	35.859	8.50	75.24
ID = 3 (2110):	1727.58	37.734	8.25	76.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5721)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5721.0) ------>

Distance	Elevation	Manning	
0.00	199.53	0.1000	
12.53	199.00	0.1000	
12.61	199.00	0.1000	
22.51	197.82	0.1000 /0.0440	Main Channel
24.05	197.50	0.0440	Main Channel
30.35	196.57	0.0440	Main Channel
32.97	196.00	0.0440	Main Channel
34.58	195.50	0.0440	Main Channel
38.37	195.83	0.0440	Main Channel
39.72	196.22	0.0440	Main Channel
45.13	197.31	0.0440	Main Channel
49.32	197.68	0.0440 /0.1000	Main Channel
62.29	198.50	0.1000	
76.95	199.00	0.1000	
82.76	199.28	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	195.70	.369E+03	0.1	0.46	46.56
0.40	195.90	.145E+04	0.9	0.77	27.85
0.59	196.09	.297E+04	2.4	1.05	20.39
0.79	196.29	.489E+04	4.8	1.25	17.02
0.99	196.49	.727E+04	8.1	1.43	14.94
1.19	196.69	.102E+05	12.5	1.57	13.56

ID = 3 (2721):	1772.50	38.544	8.25	76.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0699)	Area (ha)= 49.10 Curve Number (CN)= 77.0
ID= 1 DT=15.0 min	Ia (mm)= 7.60 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.37

Unit Hyd Qpeak (cms)= 5.138

PEAK FLOW (cms)=	4.335 (i)
TIME TO PEAK (hrs)=	5.250
RUNOFF VOLUME (mm)=	61.324
TOTAL RAINFALL (mm)=	114.001
RUNOFF COEFFICIENT =	0.538

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0540)	Area (ha)= 11.06
ID= 1 DT=15.0 min	Total Imp(%)= 55.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.08	4.98
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	271.54	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	60.19
over (min)	15.00	30.00
Storage Coeff. (min)=	6.60 (ii)	39.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.72	0.60 1.293 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	113.00	91.62 101.24
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.80 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9214)				
Inlet Cap.=0.031				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	11.06	1.29	5.25	101.24

```
MAJOR SYS.(ID= 2):   9.84      1.26      5.25  101.24
MINOR SYS.(ID= 3):   1.22      0.03      2.50  101.24

NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (6214) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                        (cms)     (ha.m.)   |   (cms)     (ha.m.)
                       0.0000     0.0000    |  0.0280      0.3760
                       0.0230     0.2300    |  0.0290      0.4150
                       0.0240     0.2640    |  0.0300      0.4560
                       0.0260     0.3000    |  0.0310      0.4990
                       0.0270     0.3370    |  0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
INFLOW : ID= 2 (9214)      1.221     0.031      2.50      101.24
OUTFLOW: ID= 1 (6214)      1.221     0.010     13.00       99.17

          PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.02
          TIME SHIFT OF PEAK FLOW         (min)=630.00
          MAXIMUM  STORAGE   USED       (ha.m.)=  0.0993
```

```
| ADD HYD   (4214) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6214):     1.22   0.010    13.00    99.17
      + ID2= 2 (9214):     9.84   1.262     5.25   101.24
        ================================================
        ID = 3 (4214):    11.06   1.266     5.25   101.01
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB                |
| STANDHYD  (0539)     |   Area    (ha)=  12.31
|ID= 1 DT=15.0 min     |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
```

```
                          IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=        6.52          5.79
Dep. Storage     (mm)=        1.00          4.00
Average Slope     (%)=        1.00          7.20
Length            (m)=      286.47         40.00
Mannings n           =       0.013         0.250

Max.Eff.Inten.(mm/hr)=       52.42         46.69
          over (min)         15.00         15.00
Storage Coeff.  (min)=        4.80 (ii)    27.60 (ii)
Unit Hyd. Tpeak (min)=       15.00         30.00
Unit Hyd. peak  (cms)=        0.11          0.04
                                                    *TOTALS*
PEAK FLOW       (cms)=        0.95          0.61          1.563 (iii)
TIME TO PEAK    (hrs)=        5.25          5.25           5.25
RUNOFF VOLUME    (mm)=      113.00         83.66          99.21
TOTAL RAINFALL   (mm)=      114.00        114.00         114.00
RUNOFF COEFFICIENT   =        0.99          0.73           0.87
```



```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| DUHYD     (9381) |
| Inlet Cap.=1.587 |
| #of Inlets=    1 |
| Total(cms)=  1.6 |      AREA     QPEAK     TPEAK    R.V.
                          (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  12.31      1.56      5.25   99.21
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  12.31      1.56      5.25   99.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (6381) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                        (cms)     (ha.m.)   |   (cms)     (ha.m.)
                       0.0000     0.0000    |  0.0140      0.4484
                       0.0100     0.1881    |  0.1560      0.5370
                       0.0110     0.2208    |  0.7460      0.6320
                       0.0120     0.2905    |  1.5870      0.7334
                       0.0130     0.3662    |  0.0000      0.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
INFLOW : ID= 2 (9381)     12.310     1.563      5.25      99.21
OUTFLOW: ID= 1 (6381)     12.310     0.866      5.50      98.82

          PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.43
          TIME SHIFT OF PEAK FLOW         (min)= 15.00
          MAXIMUM  STORAGE   USED       (ha.m.)=  0.6469
```

```
| ADD HYD   (4381) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                            (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9381 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6381):    12.31   0.866     5.50    98.82
      + ID2= 2 (9381):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4381):    12.31   0.866     5.50    98.82
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB                |
```



```
| ADD HYD   (1699) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4214):    11.06   1.266     5.25   101.01
      + ID2= 2 (4381):    12.31   0.866     5.50    98.82
        ================================================
        ID = 3 (1699):    23.37   1.816     5.25    99.86
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD   (2699) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0699):    49.10   4.335     5.25    61.32
      + ID2= 2 (1699):    23.37   1.816     5.25    99.86
        ================================================
        ID = 3 (2699):    72.47   6.151     5.25    73.75
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB                |
| STANDHYD  (0535)     |   Area    (ha)=  43.13
|ID= 1 DT=15.0 min     |   Total Imp(%)=  58.00   Dir. Conn.(%)=  49.00
```

```
                          IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       25.02         18.11
Dep. Storage     (mm)=        1.00          4.00
Average Slope     (%)=        1.00          6.60
Length            (m)=      536.22         40.00
Mannings n           =       0.013         0.250

Max.Eff.Inten.(mm/hr)=       52.42         56.94
          over (min)         15.00         15.00
Storage Coeff.  (min)=        7.20 (ii)    41.40 (ii)
Unit Hyd. Tpeak (min)=       15.00         45.00
Unit Hyd. peak  (cms)=        0.10          0.03
                                                    *TOTALS*
PEAK FLOW       (cms)=        3.08          1.97          4.904 (iii)
TIME TO PEAK    (hrs)=        5.25          5.50           5.25
RUNOFF VOLUME    (mm)=      113.00         84.66          98.55
TOTAL RAINFALL   (mm)=      114.00        114.00         114.00
RUNOFF COEFFICIENT   =        0.99          0.74           0.86
```

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| DUHYD     (9282) |
| Inlet Cap.=5.313 |
| #of Inlets=    1 |
| Total(cms)=  5.3 |      AREA     QPEAK     TPEAK    R.V.
                          (ha)     (cms)     (hrs)    (mm)
```



```
     TOTAL HYD.(ID= 1):  43.13      4.90      5.25   98.55
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.13      4.90      5.25   98.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (6282) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                        (cms)     (ha.m.)   |   (cms)     (ha.m.)
                       0.0000     0.0000    |  0.0900      0.5455
                       0.0350     0.1299    |  0.6640      0.6004
                       0.0540     0.2338    |  1.8780      0.6553
                       0.0680     0.3377    |  3.4510      0.7101
                       0.0800     0.4416    |  5.3130      0.7650

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
INFLOW : ID= 2 (9282)     43.130     4.904      5.25      98.55
OUTFLOW: ID= 1 (6282)     43.130     4.787      5.25      98.53

          PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.62
          TIME SHIFT OF PEAK FLOW         (min)=  0.00
          MAXIMUM  STORAGE   USED       (ha.m.)=  0.7548
```

```
| ADD HYD   (4282) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
                            (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9282 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6282):    43.13   4.787     5.25    98.53
      + ID2= 2 (9282):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4282):    43.13   4.787     5.25    98.53
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CALIB                |
| STANDHYD  (0541)     |   Area    (ha)=  35.37
|ID= 1 DT=15.0 min     |   Total Imp(%)=  52.00   Dir. Conn.(%)=  41.00
```

```
                          IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=       18.39         16.98
Dep. Storage     (mm)=        1.00          4.00
Average Slope     (%)=        1.00         11.30
Length            (m)=      485.59         40.00
Mannings n           =       0.013         0.250

Max.Eff.Inten.(mm/hr)=       52.42         59.91
          over (min)         15.00         15.00
Storage Coeff.  (min)=        5.40 (ii)    33.00 (ii)
Unit Hyd. Tpeak (min)=       15.00         30.00
Unit Hyd. peak  (cms)=        0.11          0.03
                                                    *TOTALS*
```

```
PEAK FLOW      (cms)=       2.11         2.24          4.350 (iii)
TIME TO PEAK   (hrs)=       5.25         5.25           5.25
RUNOFF VOLUME   (mm)=     113.00        89.99          99.43
TOTAL RAINFALL  (mm)=     114.00       114.00         114.00
RUNOFF COEFFICIENT  =       0.99         0.79           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  89.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9281) |
| Inlet Cap.=7.470 |
| #of Inlets=    1 |
| Total(cms)=  7.5 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  35.37      4.35      5.25   99.43
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  35.37      4.35      5.25   99.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6281) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2800     0.5448
                          0.0200     0.8450   |   0.7000     0.6092
                          0.0300     0.2238   |   2.1800     0.6713
                          0.0400     0.3704   |   4.5300     0.7352
                          0.0500     0.4902   |   7.4700     0.8009

                               AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9281)     35.370     4.350      5.25      99.43
     OUTFLOW: ID= 1 (6281)     35.370     4.958      6.00      99.05

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=113.98
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.7305

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
     **** ERROR : CHECK THE STORAGE-DISCHARGE TABLE.
--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4281) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9281 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6281):    35.37   4.958     6.00    99.05
        + ID2= 2 (9281):     0.00   0.000     0.00     0.00
```



```
          ================================================
          ID = 3 (4281):    35.37   4.958     6.00    99.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2535) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (4281):    35.37   4.958     6.00    99.05
        + ID2= 2 (4282):    43.13   4.787     5.25    98.53
          ================================================
          ID = 3 (2535):    78.50   9.128     5.25    98.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2541) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2535):    78.50   9.128     5.25    98.76
        + ID2= 2 (2699):    72.47   6.151     5.25    73.75
          ================================================
          ID = 3 (2541):   150.97  15.278     5.25    86.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (1130) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2541):   150.97  15.278     5.25    86.76
        + ID2= 2 (9001):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (1130):   150.97  15.278     5.25    86.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0532) |   Area    (ha)=   8.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  21.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.35         6.34
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.30
     Length            (m)=     240.69        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        45.82
               over (min)        15.00        15.00
     Storage Coeff.  (min)=       5.40 (ii)   31.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.11         0.04
                                                        *TOTALS*
```



```
PEAK FLOW      (cms)=       0.27         0.61          0.871 (iii)
TIME TO PEAK   (hrs)=       5.25         5.25           5.25
RUNOFF VOLUME   (mm)=     113.00        73.58          81.86
TOTAL RAINFALL  (mm)=     114.00       114.00         114.00
RUNOFF COEFFICIENT  =       0.99         0.65           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  81.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2532) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0532):     8.69   0.871     5.25    81.86
        + ID2= 2 (1130):   150.97  15.278     5.25    86.76
          ================================================
          ID = 3 (2532):   159.66  16.149     5.25    86.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9000) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 159.66     16.15      5.25   86.49
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 159.66     16.15      5.25   86.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6000) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   1.5300    11.9290
                          0.6800     2.1800   |   1.8100    17.4390
                          1.1800     6.8490   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (9000)    159.660     16.149      5.25      86.49
     OUTFLOW: ID= 1 (6000)    159.660      1.351      8.50      86.48

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.36
                    TIME SHIFT OF PEAK FLOW         (min)=195.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  9.3290

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--------------------
| ADD HYD   (4000) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9000 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
          ID1= 1 (6000):   159.66   1.351     8.50    86.48
        + ID2= 2 (9000):     0.00   0.000     0.00     0.00
          ================================================
          ID = 3 (4000):   159.66   1.351     8.50    86.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0542) |   Area    (ha)=   5.19   Curve Number   (CN)= 78.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

     Unit Hyd Qpeak  (cms)=   1.153

     PEAK FLOW       (cms)=   0.455 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  53.482
     TOTAL RAINFALL   (mm)= 114.001
     RUNOFF COEFFICIENT   =   0.469

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2542) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0542):     5.19   0.455     5.25    53.48
        + ID2= 2 (4000):   159.66   1.351     8.50    86.48
          ================================================
          ID = 3 (2542):   164.85   1.395     8.25    85.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0130) |   Area    (ha)=  99.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  47.00   Dir. Conn.(%)=  38.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      46.97        52.97
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         4.50
     Length            (m)=     816.25        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        55.26
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      10.20 (ii)   59.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.52         4.69          9.267 (iii)
```

TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	85.50	95.95
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.75	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2130)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0130):	99.94	9.267	5.25	95.95
+ ID2= 2 (2542):	164.85	1.395	8.25	85.44
ID = 3 (2130):	264.79	10.573	5.25	89.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5550)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5550.0) ------>

Distance	Elevation	Manning	
0.00	209.58	0.1000	
3.56	209.62	0.1000	
42.74	208.52	0.1000	
77.30	208.87	0.1000	
107.41	207.79	0.1000	
124.03	207.40	0.1000 /0.0440	Main Channel
150.79	206.87	0.0440	Main Channel
152.45	206.85	0.0440	Main Channel
162.04	206.90	0.0440	Main Channel
164.71	206.92	0.0440	Main Channel
184.43	207.42	0.0440	Main Channel
186.09	207.46	0.0440 /0.1000	Main Channel
213.15	208.26	0.1000	
241.57	209.72	0.1000	
256.40	208.62	0.1000	
290.72	210.48	0.1000	
292.65	210.48	0.1000	
306.25	210.74	0.1000	
413.63	210.84	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	206.99	.251E+04	0.8	0.39	55.21
0.28	207.13	.762E+04	3.6	0.61	35.24
0.41	207.26	.149E+05	9.0	0.78	27.54
0.55	207.40	.244E+05	17.6	0.93	23.15
0.70	207.55	.368E+05	32.8	1.15	18.69
0.84	207.69	.512E+05	52.9	1.34	16.15
0.99	207.84	.677E+05	77.2	1.48	14.61

1.13	207.98	.860E+05	106.0	1.60	13.53
1.28	208.13	.106E+06	139.0	1.70	12.71
1.42	208.27	.128E+06	176.2	1.79	12.07
1.57	208.42	.151E+06	218.0	1.87	11.52
1.71	208.56	.175E+06	262.8	1.94	11.12
1.86	208.71	.204E+06	310.0	1.97	10.97
2.00	208.85	.239E+06	363.7	1.97	10.94
2.15	209.00	.278E+06	426.8	1.99	10.85
2.29	209.14	.319E+06	496.3	2.01	10.72
2.44	209.29	.363E+06	571.9	2.04	10.58
2.58	209.43	.409E+06	653.6	2.07	10.44
2.73	209.58	.458E+06	741.6	2.10	10.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2130)	264.79	10.57	5.25	89.41	0.44	0.81
OUTFLOW: ID= 1 (5550)	264.79	8.92	5.50	89.41	0.41	0.78

CALIB
STANDHYD (0550) Area (ha)= 48.26
ID= 1 DT=15.0 min Total Imp(%)= 34.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.41	31.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.80
Length	(m)=	567.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	47.00
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	47.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.02

		TOTALS
PEAK FLOW	(cms)=	2.11	2.63	4.492 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	77.97	88.48
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.68	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2550)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0550):	48.26	4.492	5.25	88.48
+ ID2= 2 (5550):	264.79	8.925	5.50	89.41
ID = 3 (2550):	313.05	13.007	5.25	89.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5144)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5144.0) ------>

Distance	Elevation	Manning	
0.00	208.27	0.1000	
28.32	207.87	0.1000	
28.56	207.85	0.1000	
31.58	206.89	0.1000	
40.26	204.20	0.1000 /0.0440	Main Channel
43.45	203.21	0.0440	Main Channel
48.11	205.04	0.0440 /0.1000	Main Channel
55.33	207.89	0.1000	
67.35	208.20	0.1000	
92.04	207.79	0.1000	
193.51	208.52	0.1000	
218.35	209.53	0.1000	
291.67	210.56	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	203.46	.100E+03	0.0	0.24	39.00
0.50	203.71	.402E+03	0.3	0.39	24.57
0.74	203.95	.904E+03	0.8	0.51	18.75
0.99	204.20	.161E+04	1.7	0.61	15.48
1.26	204.47	.261E+04	3.5	0.75	12.60
1.53	204.74	.385E+04	5.8	0.85	11.12
1.80	205.01	.534E+04	8.7	0.93	10.18
2.08	205.29	.706E+04	12.9	1.04	9.13
2.35	205.56	.903E+04	17.9	1.12	8.43
2.62	205.83	.112E+05	23.6	1.19	7.94
2.89	206.10	.137E+05	30.2	1.25	7.56
3.16	206.37	.164E+05	37.5	1.30	7.27
3.43	206.64	.193E+05	45.8	1.35	7.03
3.70	206.91	.225E+05	54.8	1.39	6.83
3.97	207.18	.259E+05	64.8	1.42	6.66
4.25	207.46	.295E+05	75.7	1.46	6.51
4.52	207.73	.334E+05	87.5	1.49	6.37
4.79	208.00	.405E+05	93.1	1.31	7.25
5.06	208.27	.594E+05	108.4	1.04	9.14

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2550)	313.05	13.01	5.25	89.26	2.08	1.04
OUTFLOW: ID= 1 (5144)	313.05	12.67	5.50	89.26	2.06	1.03

CALIB
STANDHYD (0144) Area (ha)= 57.15
ID= 1 DT=15.0 min Total Imp(%)= 78.00 Dir. Conn.(%)= 77.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	44.58	12.57
Dep. Storage	(mm)=	1.00	4.00

Average Slope	(%)=	1.00	2.70
Length	(m)=	617.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	52.46
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	58.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	6.40	1.11	7.313 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	94.49	108.74
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.83	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2144)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0144):	57.15	7.313	5.25	108.74
+ ID2= 2 (5144):	313.05	12.673	5.50	89.26
ID = 3 (2144):	370.20	19.263	5.25	92.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0133) Area (ha)= 124.55
ID= 1 DT=15.0 min Total Imp(%)= 52.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.77	59.78
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	911.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	58.78
over (min)		15.00	30.00
Storage Coeff. (min)=		13.20 (ii)	77.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	7.57	4.96	10.885 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	89.65	99.46
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.79	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (0157)	Area (ha)= 123.16			
ID= 1 DT=15.0 min	Total Imp(%)= 55.00	Dir. Conn.(%)= 46.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.74	55.42
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	906.13	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	58.32
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	82.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	8.18	4.43	11.121 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	89.51	100.31
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.79	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2157)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0133):	124.55	10.885	5.25	99.46
+ ID2= 2 (0157):	123.16	11.121	5.25	100.31
ID = 3 (2157):	247.71	22.006	5.25	99.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0156)	Area (ha)= 110.69			
ID= 1 DT=15.0 min	Total Imp(%)= 64.00	Dir. Conn.(%)= 56.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.84	39.85
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80

		IMPERVIOUS	PERVIOUS (i)
Length	(m)=	859.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	60.83
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	8.95	3.41	11.270 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	93.39	104.37
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.82	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2156)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0156):	110.69	11.270	5.25	104.37
+ ID2= 2 (2157):	247.71	22.006	5.25	99.88
ID = 3 (2156):	358.40	33.276	5.25	101.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5166)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5166.0) ------>

Distance	Elevation	Manning	
0.00	217.55	0.1000	
11.14	217.28	0.1000	
32.85	217.25	0.1000	
39.83	217.02	0.1000	
53.80	215.11	0.1000	
167.72	214.15	0.1000	
197.58	214.84	0.1000	
250.68	213.38	0.1000 /0.0440	Main Channel
255.86	213.24	0.0440	Main Channel
258.84	213.31	0.0440	Main Channel
259.52	213.31	0.0440	Main Channel
265.88	213.29	0.0440	Main Channel
268.98	213.36	0.0440 /0.1000	Main Channel
364.18	213.80	0.1000	
385.22	213.65	0.1000	
407.72	214.38	0.1000	
418.33	214.17	0.1000	
471.33	215.45	0.1000	
543.86	215.79	0.1000	
581.28	217.51	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	213.36	.284E+03	0.2	0.18	24.77
0.34	213.58	.297E+04	3.3	0.30	15.16
0.56	213.80	.944E+04	11.3	0.33	13.96
0.78	214.02	.190E+05	28.3	0.40	11.22
0.99	214.23	.297E+05	51.0	0.47	9.71
1.21	214.45	.438E+05	81.1	0.50	9.01
1.43	214.67	.613E+05	123.3	0.55	8.28
1.65	214.89	.818E+05	176.9	0.59	7.71
1.87	215.11	.105E+06	243.4	0.63	7.17
2.09	215.33	.129E+06	325.5	0.69	6.61
2.30	215.54	.154E+06	409.3	0.72	6.28
2.52	215.76	.182E+06	496.1	0.74	6.11
2.74	215.98	.211E+06	620.0	0.80	5.68
2.96	216.20	.241E+06	759.1	0.86	5.30
3.18	216.42	.272E+06	910.1	0.91	4.97
3.40	216.64	.302E+06	1072.7	0.97	4.70
3.61	216.85	.333E+06	1246.5	1.02	4.46
3.83	217.07	.365E+06	1429.4	1.07	4.25
4.05	217.29	.397E+06	1584.2	1.09	4.18

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2156)	358.40	33.28	5.25	101.27	0.82	0.42
OUTFLOW: ID= 1 (5166)	358.40	31.69	5.25	101.27	0.81	0.41

CALIB				
STANDHYD (0166)	Area (ha)= 11.81			
ID= 1 DT=15.0 min	Total Imp(%)= 83.00	Dir. Conn.(%)= 83.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.80	2.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	280.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	50.01
over (min)		15.00	30.00
Storage Coeff. (min)=		6.60 (ii)	37.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.43	0.21	1.623 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	93.71	109.72
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.82	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2166)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0166):	11.81	1.623	5.25	109.72
+ ID2= 2 (5166):	358.40	31.694	5.25	101.27
ID = 3 (2166):	370.21	33.317	5.25	101.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5160)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5160.0) ------>

Distance	Elevation	Manning	
0.00	220.97	0.1000	
17.68	215.64	0.1000	
29.90	215.85	0.1000	
34.23	215.87	0.1000	
296.26	212.66	0.1000	
299.34	211.63	0.1000 /0.0440	Main Channel
304.29	210.00	0.0440	Main Channel
306.02	209.43	0.0440	Main Channel
310.37	211.42	0.0440 /0.1000	Main Channel
313.87	213.06	0.1000	
653.61	215.18	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	209.71	.349E+02	0.1	0.37	7.47
0.57	210.00	.139E+03	0.5	0.59	4.70
0.85	210.28	.314E+03	1.5	0.77	3.50
1.14	210.57	.558E+03	3.1	0.93	2.96
1.42	210.85	.872E+03	5.7	1.08	2.55
1.71	211.14	.126E+04	9.3	1.22	2.26
1.99	211.42	.171E+04	14.0	1.35	2.04
2.30	211.73	.229E+04	21.6	1.56	1.77
2.62	212.05	.295E+04	31.5	1.76	1.56
2.93	212.36	.370E+04	43.1	1.92	1.43
3.24	212.67	.453E+04	56.3	2.05	1.34
3.56	212.99	.614E+04	71.7	1.93	1.43
3.87	213.30	.985E+04	92.0	1.54	1.79
4.18	213.61	.174E+05	125.0	1.19	2.32
4.50	213.93	.289E+05	175.6	1.00	2.75
4.81	214.24	.443E+05	248.2	0.93	2.98
5.12	214.55	.637E+05	346.9	0.90	3.06
5.44	214.87	.870E+05	475.7	0.90	3.05
5.75	215.18	.114E+06	638.0	0.92	2.98

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2166)	370.21	33.32	5.25	101.54	2.67	1.79
OUTFLOW: ID= 1 (5160)	370.21	33.06	5.25	101.54	2.66	1.78

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--------------------
| CALIB              |
| STANDHYD  (0160) |   Area    (ha)=  41.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  62.00   Dir. Conn.(%)=  62.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      25.50         15.63
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.70
     Length            (m)=     523.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         48.10
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       7.20 (ii)    42.60 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.71          1.44          5.050 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=     113.00         87.54         103.33
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.77          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2160) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0160):    41.13   5.050     5.25   103.33
       + ID2= 2 (5160):   370.21  33.064     5.25   101.54
         ================================================
         ID = 3 (2160):   411.34  38.115     5.25   101.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5164) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5164.0) ------>
              Distance      Elevation       Manning
                 0.00         212.78        0.1000
                18.70         212.77        0.1000
               200.84         210.24        0.1000
               234.88         210.16        0.1000
               258.11         210.46        0.1000
               258.43         210.47        0.1000
               263.50         208.74    0.1000 /0.0440  Main Channel
               269.32         206.81        0.0440      Main Channel
               277.54         208.63    0.0440 /0.1000  Main Channel
               291.76         210.46        0.1000
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               323.24         210.56        0.1000
               387.30         209.40        0.1000
               387.95         209.38        0.1000
               408.71         210.26        0.1000
               538.36         212.18        0.1000

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.26   207.07    .240E+03       0.1          0.34      45.94
       0.52   207.33    .959E+03       0.6          0.54      28.94
       0.78   207.59    .216E+04       1.6          0.71      22.08
       1.04   207.85    .384E+04       3.5          0.86      18.23
       1.30   208.11    .600E+04       6.4          1.00      15.71
       1.56   208.37    .863E+04      10.3          1.13      13.91
       1.82   208.63    .118E+05      15.6          1.25      12.55
       2.12   208.93    .160E+05      24.8          1.46      10.76
       2.41   209.22    .212E+05      36.3          1.62       9.71
       2.71   209.52    .278E+05      49.7          1.68       9.33
       3.00   209.81    .409E+05      66.9          1.54      10.19
       3.30   210.11    .613E+05      89.7          1.38      11.40
       3.60   210.41    .993E+05     119.8          1.14      13.82
       3.89   210.70    .165E+06     166.6          0.95      16.52
       4.19   211.00    .246E+06     238.9          0.91      17.18
       4.48   211.29    .339E+06     330.8          0.92      17.08
       4.78   211.59    .443E+06     443.5          0.94      16.66
       5.07   211.88    .559E+06     578.0          0.97      16.12
       5.37   212.18    .686E+06     735.6          1.01      15.55

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (2160)  411.34    38.11    5.25 101.72      2.45      1.63
     OUTFLOW: ID= 1 (5164)  411.34    36.74    5.25 101.72      2.42      1.62


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| CALIB              |
| STANDHYD  (0164) |   Area    (ha)=  45.17
|ID= 1 DT=15.0 min |   Total Imp(%)=  69.00   Dir. Conn.(%)=  69.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.17         14.00
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.20
     Length            (m)=     548.76         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         49.41
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.40 (ii)    48.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.54          1.29          5.732 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=     113.00         91.61         106.37
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.80          0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2164) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0164):    45.17   5.732     5.25   106.37
       + ID2= 2 (5164):   411.34  36.742     5.25   101.72
         ================================================
         ID = 3 (2164):   456.51  42.474     5.25   102.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0154) |   Area    (ha)=  31.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  61.00   Dir. Conn.(%)=  61.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      19.37         12.38
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.90
     Length            (m)=     460.07         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         48.77
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       7.20 (ii)    41.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.82          1.18          3.922 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=     113.00         89.55         103.85
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.79          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1159) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0154):    31.75   3.922     5.25   103.85
       + ID2= 2 (2164):   456.51  42.474     5.25   102.18
         ================================================
         ID = 3 (1159):   488.26  46.396     5.25   102.29
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5159) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5159.0) ------>
              Distance      Elevation       Manning
                 0.00         214.26        0.1000
                15.15         209.75        0.1000
               214.62         207.44        0.1000
               237.60         208.06        0.1000
               238.63         207.69    0.1000 /0.0440  Main Channel
               243.51         206.03        0.0440      Main Channel
               248.17         207.75    0.0440 /0.1000  Main Channel
               253.75         209.16        0.1000
               368.44         208.65        0.1000
               396.47         209.34        0.1000
               401.21         210.91        0.1000
               408.62         210.88        0.1000
               414.76         209.90        0.1000
               416.35         209.56        0.1000
               419.98         210.43        0.1000
               428.66         212.47        0.1000
               428.84         212.42        0.1000
               434.05         211.02        0.1000

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.24   206.27    .421E+02       0.1          0.36      12.23
       0.47   206.50    .169E+03       0.4          0.57       7.71
       0.71   206.74    .379E+03       1.1          0.75       5.88
       0.95   206.98    .674E+03       2.3          0.91       4.85
       1.19   207.22    .105E+04       4.2          1.06       4.18
       1.42   207.45    .152E+04       6.8          1.19       3.71
       1.66   207.69    .309E+04      11.0          0.94       4.70
       1.94   207.97    .738E+04      21.4          0.77       5.74
       2.21   208.24    .141E+05      39.7          0.74       5.94
       2.49   208.52    .228E+05      66.4          0.77       5.72
       2.77   208.80    .341E+05     102.4          0.80       5.55
       3.05   209.08    .521E+05     154.2          0.79       5.63
       3.32   209.35    .762E+05     230.1          0.80       5.52
       3.60   209.63    .103E+06     330.8          0.85       5.17
       3.88   209.91    .131E+06     461.9          0.94       4.72
       4.16   210.19    .159E+06     620.4          1.03       4.28
       4.43   210.46    .188E+06     798.9          1.12       3.93
       4.71   210.74    .218E+06     996.5          1.21       3.64
       4.99   211.02    .248E+06    1205.6          1.29       3.42

                                  <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1159)  488.26    46.40    5.25 102.29      2.28      0.75
     OUTFLOW: ID= 1 (5159)  488.26    44.50    5.25 102.29      2.27      0.75


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| CALIB              |
| STANDHYD  (0159) |   Area    (ha)=  10.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  77.00   Dir. Conn.(%)=  77.00
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                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        8.42          2.52
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          3.10
     Length            (m)=      270.06         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       52.42         50.57
                over (min)        15.00         15.00
     Storage Coeff.  (min)=        6.00 (ii)    34.80 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.10          0.03
                                                            *TOTALS*
     PEAK FLOW       (cms)=        1.23          0.28          1.509 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      113.00         95.87        109.06
     TOTAL RAINFALL   (mm)=      114.00        114.00        114.00
     RUNOFF COEFFICIENT   =        0.99          0.84          0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2159) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0159):    10.94   1.509     5.25   109.06
        + ID2= 2 (5159):   488.26  44.496     5.25   102.29
          ==================================================
          ID = 3 (2159):   499.20  46.005     5.25   102.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (1151) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2144):   370.20  19.263     5.25    92.27
        + ID2= 2 (2159):   499.20  46.005     5.25   102.43
          ==================================================
          ID = 3 (1151):   869.40  65.268     5.25    98.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5151) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5151.0) ------>
               Distance      Elevation       Manning
                   0.00        212.00         0.1000
                  50.00        204.31         0.1000
```



```
                 134.63        203.45         0.1000
                 205.73        202.20         0.1000
                 253.61        202.65         0.1000
                 253.97        202.65         0.1000
                 254.84        202.67         0.1000
                 258.44        201.10     0.1000 /0.0160  Main Channel
                 264.70        199.68         0.0160      Main Channel
                 267.15        200.66     0.0160 /0.1000  Main Channel
                 273.37        202.49         0.1000
                 291.37        202.23         0.1000
                 375.68        203.79         0.1000
                 411.05        210.16         0.1000
                 440.50        211.13         0.1000

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.49   200.17    .139E+04       1.8         2.11       13.18
       0.98   200.66    .554E+04      11.1         3.36        8.30
       1.60   201.28    .149E+05      43.4         4.85        5.74
       2.21   201.89    .283E+05     101.2         5.98        4.65
       2.83   202.51    .660E+05     179.5         4.54        6.13
       3.44   203.12    .221E+06     329.9         2.50       11.15
       4.06   203.74    .451E+06     567.3         2.10       13.24
       4.68   204.36    .760E+06     929.7         2.04       13.63
       5.29   204.97    .110E+07    1451.7         2.20       12.66
       5.91   205.59    .145E+07    2082.2         2.39       11.63
       6.52   206.20    .181E+07    2813.7         2.60       10.73
       7.14   206.82    .218E+07    3641.2         2.80        9.96
       7.75   207.43    .255E+07    4561.1         2.99        9.32
       8.37   208.05    .293E+07    5570.6         3.18        8.77
       8.99   208.67    .332E+07    6667.7         3.36        8.29
       9.60   209.28    .371E+07    7850.6         3.53        7.89
      10.22   209.90    .412E+07    9118.1         3.70        7.53
      10.83   210.51    .453E+07   10363.7         3.82        7.29
      11.45   211.13    .497E+07   11638.8         3.91        7.11

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (1151)  869.40    65.27    5.25  98.11      1.83       5.23
     OUTFLOW: ID= 1 (5151)  869.40    63.18    5.50  98.11      1.80       5.18

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--------------------
| CALIB            |
| STANDHYD  (0151) |   Area    (ha)=  74.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  72.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       53.97         20.99
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          2.60
     Length            (m)=      706.92         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       52.42         49.41
                over (min)        15.00         30.00
     Storage Coeff.  (min)=       10.80 (ii)    64.80 (ii)
     Unit Hyd. Tpeak (min)=       15.00         60.00
     Unit Hyd. peak  (cms)=        0.09          0.02
                                                            *TOTALS*
```



```
     PEAK FLOW       (cms)=        7.84          1.65          9.169 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.75          5.25
     RUNOFF VOLUME    (mm)=      113.00         91.61        107.01
     TOTAL RAINFALL   (mm)=      114.00        114.00        114.00
     RUNOFF COEFFICIENT   =        0.99          0.80          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2151) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0151):    74.96   9.169     5.25   107.01
        + ID2= 2 (5151):   869.40  63.183     5.50    98.11
          ==================================================
          ID = 3 (2151):   944.36  71.951     5.25    98.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0093) |   Area    (ha)= 175.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  42.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       89.49         85.99
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          3.30
     Length            (m)=     1081.60         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       52.42         56.74
                over (min)        15.00         30.00
     Storage Coeff.  (min)=       13.20 (ii)    77.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         75.00
     Unit Hyd. peak  (cms)=        0.08          0.01
                                                            *TOTALS*
     PEAK FLOW       (cms)=       10.66          6.81         15.167 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.00          5.25
     RUNOFF VOLUME    (mm)=      113.00         87.48         98.20
     TOTAL RAINFALL   (mm)=      114.00        114.00        114.00
     RUNOFF COEFFICIENT   =        0.99          0.77          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN (5549) |
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| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION (5549.0) ------>
               Distance      Elevation       Manning
                   0.00        227.98         0.1000
                  41.86        226.96         0.1000
                  67.38        227.16         0.1000
                 115.79        225.66         0.1000
                 158.71        225.52         0.1000
                 214.74        223.93         0.1000
                 246.25        223.89         0.1000
                 247.96        223.81         0.1000
                 263.08        220.73     0.1000 /0.0160  Main Channel
                 265.84        219.85         0.0160      Main Channel
                 269.95        220.94     0.0160 /0.1000  Main Channel
                 278.51        223.27         0.1000
                 327.48        223.31         0.1000
                 332.73        223.20         0.1000
                 383.18        224.76         0.1000
                 395.33        224.82         0.1000
                 445.70        224.10         0.1000
                 465.54        224.23         0.1000
                 609.26        227.27         0.1000

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.29   220.14    .215E+03       0.4         1.20       10.10
       0.59   220.44    .862E+03       2.3         1.90        6.36
       0.88   220.73    .194E+04       6.7         2.49        4.86
       1.29   221.14    .426E+04      19.9         3.38        3.57
       1.70   221.55    .763E+04      40.6         3.86        3.13
       2.11   221.96    .120E+05      67.6         4.07        2.97
       2.51   222.36    .175E+05     100.9         4.18        2.89
       2.92   222.77    .240E+05     140.3         4.24        2.85
       3.33   223.18    .315E+05     186.1         4.28        2.82
       3.74   223.59    .537E+05     239.9         3.24        3.73
       4.15   224.00    .867E+05     307.4         2.57        4.70
       4.56   224.41    .141E+06     403.2         2.08        5.81
       4.97   224.82    .218E+06     536.2         1.78        6.79
       5.38   225.23    .315E+06     732.9         1.69        7.17
       5.78   225.63    .423E+06     952.6         1.63        7.41
       6.19   226.04    .551E+06    1248.0         1.64        7.36
       6.60   226.45    .689E+06    1596.8         1.68        7.19
       7.01   226.86    .836E+06    1995.8         1.73        6.98
       7.42   227.27    .998E+06    2405.0         1.75        6.91

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0093)  175.48    15.17    5.25  98.20      1.14       3.00
     OUTFLOW: ID= 1 (5549)  175.48    14.93    5.25  98.20      1.13       2.98

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| CALIB            |
| STANDHYD  (0549) |   Area    (ha)=  32.18
|ID= 1 DT=15.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  40.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       16.09         16.09
     Dep. Storage     (mm)=        1.00          4.00
```

Average Slope	(%)=	1.00	3.60
Length	(m)=	463.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	58.32
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	45.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.02

		TOTALS
PEAK FLOW	(cms)=	1.87	1.77	3.513 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	89.51	98.90
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.79	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2549)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0549):	32.18	3.513	5.25	98.90
+ ID2= 2 (5549):	175.48	14.931	5.25	98.20
ID = 3 (2549):	207.66	18.445	5.25	98.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0531) | Area (ha)= 79.42
ID= 1 DT=15.0 min | Total Imp(%)= 35.00 Dir. Conn.(%)= 29.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.80	51.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.20
Length	(m)=	727.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	50.27
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	57.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.35	4.17	6.655 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	82.15	91.10
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.72	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1123)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0531):	79.42	6.655	5.25	91.10
+ ID2= 2 (2549):	207.66	18.445	5.25	98.31
ID = 3 (1123):	287.08	25.100	5.25	96.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5123)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5123.0) ------>

Distance	Elevation	Manning	
0.00	221.63	0.1000	
49.32	221.56	0.1000	
108.94	221.01	0.1000	
120.64	220.69	0.1000	
151.95	218.35	0.1000	
162.10	216.92	0.1000	
166.38	215.80	0.1000 /0.0160	Main Channel
169.01	215.15	0.0160	Main Channel
172.24	215.79	0.0160 /0.1000	Main Channel
191.35	219.36	0.1000	
202.67	220.68	0.1000	
243.44	220.80	0.1000	
288.84	220.47	0.1000	
300.34	220.10	0.1000	
334.49	221.22	0.1000	
348.80	221.25	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	215.47	.344E+03	0.9	2.00	6.15
0.64	215.79	.138E+04	5.9	3.18	3.87
0.96	216.11	.311E+04	19.0	4.52	2.72
1.28	216.43	.554E+04	38.2	5.09	2.42
1.60	216.75	.867E+04	63.0	5.37	2.29
1.92	217.07	.125E+05	93.3	5.51	2.24
2.25	217.40	.173E+05	129.4	5.53	2.23
2.57	217.72	.230E+05	171.5	5.50	2.24
2.89	218.04	.297E+05	219.7	5.47	2.25
3.21	218.36	.373E+05	274.3	5.43	2.27
3.53	218.68	.461E+05	334.3	5.35	2.30
3.85	219.00	.564E+05	402.0	5.27	2.34
4.17	219.32	.681E+05	477.6	5.18	2.38
4.49	219.64	.813E+05	560.0	5.09	2.42
4.82	219.97	.961E+05	651.4	5.01	2.46
5.14	220.29	.113E+06	734.6	4.78	2.57

5.46	220.61	.138E+06	824.5	4.43	2.78
5.78	220.93	.180E+06	935.3	3.84	3.20
6.10	221.25	.235E+06	1080.9	3.40	3.62

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1123)	287.08	25.10	5.25	96.31	1.06	4.69
OUTFLOW: ID= 1 (5123)	287.08	24.47	5.25	96.31	1.05	4.67

CALIB
STANDHYD (0123) | Area (ha)= 21.65
ID= 1 DT=15.0 min | Total Imp(%)= 42.00 Dir. Conn.(%)= 33.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.09	12.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	379.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	54.45
over (min)		15.00	15.00
Storage Coeff. (min)=		7.20 (ii)	40.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.04	1.32	2.263 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	85.21	94.38
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.75	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2123)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0123):	21.65	2.263	5.25	94.38
+ ID2= 2 (5123):	287.08	24.470	5.25	96.31
ID = 3 (2123):	308.73	26.733	5.25	96.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5445)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5445.0) ------>

Distance	Elevation	Manning	
0.00	217.15	0.1000	
23.77	216.85	0.1000	
57.10	215.44	0.1000	
113.41	215.01	0.1000	
116.54	215.05	0.1000	
139.11	215.26	0.1000	
185.92	215.20	0.1000	
230.25	214.45	0.1000	
235.73	214.29	0.1000	
267.98	213.04	0.1000 /0.0160	Main Channel
269.89	212.75	0.0160	Main Channel
271.26	212.92	0.0160 /0.1000	Main Channel
292.87	215.83	0.1000	
310.23	215.75	0.1000	
315.65	215.41	0.1000	
331.32	215.86	0.1000	
358.01	217.44	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	212.92	.531E+02	0.3	1.32	3.16
0.39	213.14	.305E+03	2.6	2.17	1.93
0.62	213.37	.935E+03	7.7	2.06	2.03
0.84	213.59	.198E+04	15.6	1.97	2.12
1.06	213.81	.343E+04	26.6	1.94	2.15
1.28	214.03	.530E+04	41.0	1.94	2.16
1.51	214.26	.758E+04	59.2	1.96	2.14
1.73	214.48	.103E+05	80.7	1.96	2.13
1.95	214.70	.138E+05	105.6	1.93	2.17
2.17	214.92	.180E+05	136.9	1.90	2.20
2.40	215.15	.237E+05	164.7	1.75	2.39
2.62	215.37	.341E+05	206.2	1.52	2.75
2.84	215.59	.473E+05	280.9	1.49	2.81
3.06	215.81	.617E+05	372.5	1.51	2.76
3.29	216.04	.777E+05	494.0	1.60	2.62
3.51	216.26	.942E+05	634.4	1.69	2.48
3.73	216.48	.111E+06	791.6	1.79	2.34
3.95	216.70	.129E+06	965.2	1.88	2.22
4.18	216.93	.147E+06	1146.8	1.96	2.13

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2123)	308.73	26.73	5.25	96.18	1.06	1.94
OUTFLOW: ID= 1 (5445)	308.73	26.23	5.25	96.18	1.05	1.94

CALIB
STANDHYD (0445) | Area (ha)= 47.14
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.98	22.16
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	560.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	61.46

over (min)	15.00	30.00	
Storage Coeff. (min)=	9.00 (ii)	51.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	2.88	2.50	5.198 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	113.00	93.56	101.73
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.82	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2445)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0445):	47.14	5.198	5.25	101.73
+ ID2= 2 (5445):	308.73	26.233	5.25	96.18
ID = 3 (2445):	355.87	31.431	5.25	96.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5121)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5121.0) ------>

Distance	Elevation	Manning	
0.00	209.51	0.1000	
18.50	208.32	0.1000	
51.25	205.70	0.1000	
100.36	204.89	0.1000	
124.00	203.76	0.1000	
172.44	203.13	0.1000	
180.24	202.88	0.1000	
186.88	202.01	0.1000 /0.0440	Main Channel
194.59	201.00	0.0440	Main Channel
200.49	202.11	0.0440 /0.1000	Main Channel
208.49	203.60	0.1000	
211.23	203.87	0.1000	
250.29	205.16	0.1000	
290.65	205.13	0.1000	
356.36	205.76	0.1000	
385.25	205.85	0.1000	
434.54	206.45	0.1000	
484.26	205.90	0.1000	
505.84	206.94	0.1000	
561.50	207.35	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.25	201.25	.658E+03	0.2	0.57	46.37
0.50	201.50	.263E+04	1.5	0.91	29.21
0.76	201.76	.592E+04	4.4	1.19	22.29
1.01	202.01	.105E+05	9.5	1.44	18.40
1.37	202.37	.193E+05	23.3	1.93	13.76
1.72	202.72	.306E+05	43.1	2.25	11.83
2.08	203.08	.453E+05	68.5	2.41	11.03
2.43	203.43	.703E+05	101.3	2.30	11.58
2.79	203.79	.112E+06	147.5	2.10	12.65
3.15	204.15	.166E+06	211.7	2.04	13.05
3.50	204.50	.230E+06	293.6	2.04	13.04
3.86	204.86	.304E+06	394.5	2.07	12.85
4.21	205.21	.397E+06	489.6	1.97	13.52
4.57	205.57	.538E+06	637.4	1.89	14.06
4.93	205.93	.714E+06	835.4	1.87	14.24
5.28	206.28	.931E+06	1091.8	1.87	14.21
5.64	206.64	.118E+07	1428.0	1.92	13.83
5.99	206.99	.145E+07	1832.3	2.02	13.18
6.35	207.35	.174E+07	2254.3	2.07	12.83

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2445)	355.87	31.43	5.25	96.91	1.51	2.05
OUTFLOW: ID= 1 (5121)	355.87	29.94	5.50	96.91	1.48	2.02

CALIB
STANDHYD (0121) Area (ha)= 133.85
ID= 1 DT=15.0 min Total Imp(%)= 55.00 Dir. Conn.(%)= 49.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.62	60.23
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.00
Length	(m)=	944.63	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	52.42	55.37
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.60 (ii)	73.80 (ii)
Unit Hyd. Tpeak (min)	=	15.00	75.00
Unit Hyd. peak (cms)	=	0.08	0.02

			TOTALS
PEAK FLOW	(cms)=	9.50	4.83	12.752 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	90.15	101.35
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.79	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2121)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0121):	133.85	12.752	5.25	101.35
+ ID2= 2 (5121):	355.87	29.942	5.50	96.91
ID = 3 (2121):	489.72	42.558	5.25	98.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5136)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5136.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.816E+02	0.0	0.27	52.78
0.20	195.20	.326E+03	0.2	0.42	33.25
0.29	195.29	.734E+03	0.5	0.56	25.37
0.39	195.39	.130E+04	1.0	0.68	20.88
0.49	195.49	.203E+04	1.9	0.79	17.97
0.61	195.61	.310E+04	3.6	0.99	14.22
0.74	195.74	.428E+04	5.9	1.16	12.15
0.86	195.86	.557E+04	8.6	1.31	10.82
0.98	195.98	.698E+04	12.0	1.46	9.68
1.11	196.11	.865E+04	16.0	1.57	9.01
1.23	196.23	.108E+05	20.6	1.62	8.74
1.35	196.35	.134E+05	25.9	1.64	8.63
1.48	196.48	.166E+05	32.0	1.64	8.61
1.60	196.60	.202E+05	38.9	1.64	8.63
1.73	196.73	.245E+05	46.4	1.61	8.80
1.85	196.85	.299E+05	55.2	1.57	9.02
1.97	196.97	.362E+05	65.3	1.53	9.25
2.10	197.10	.436E+05	76.7	1.49	9.48
2.22	197.22	.521E+05	89.7	1.46	9.68

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2121)	489.72	42.56	5.25	98.12	1.66	1.62
OUTFLOW: ID= 1 (5136)	489.72	40.46	5.50	98.12	1.63	1.63

CALIB
STANDHYD (0136) Area (ha)= 79.16
ID= 1 DT=15.0 min Total Imp(%)= 52.00 Dir. Conn.(%)= 43.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	41.16	38.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	726.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	52.42	58.31
over (min)		15.00	30.00
Storage Coeff. (min)	=	11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)	=	15.00	75.00
Unit Hyd. peak (cms)	=	0.08	0.02

			TOTALS
PEAK FLOW	(cms)=	4.94	3.34	7.222 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	91.07	100.50
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.80	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2136)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0136):	79.16	7.222	5.25	100.50
+ ID2= 2 (5136):	489.72	40.463	5.50	98.12
ID = 3 (2136):	568.88	46.628	5.25	98.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1149)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2136):	568.88	46.628	5.25	98.45
+ ID2= 2 (2151):	944.36	71.951	5.25	98.81
ID = 3 (1149):	1513.24	118.580	5.25	98.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5149)

| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5149.0) ------>

Distance	Elevation	Manning	
0.00	199.19	0.1000	
9.83	199.13	0.1000	
30.85	198.50	0.1000	
42.95	198.24	0.1000	
62.78	197.48	0.1000	
70.22	197.00	0.1000	
73.91	196.50	0.1000	
78.17	195.49	0.1000 /0.0440	Main Channel
80.50	195.00	0.0440	Main Channel
85.24	195.31	0.0440	Main Channel
87.89	195.49	0.0440	Main Channel
89.49	195.88	0.1000	
90.30	196.00	0.1000	
111.31	196.64	0.1000	
115.01	196.67	0.1000	
153.17	197.22	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	195.10	.366E+02	0.0	0.27	23.37
0.20	195.20	.146E+03	0.2	0.43	14.72
0.29	195.29	.329E+03	0.5	0.56	11.24
0.39	195.39	.585E+03	1.1	0.68	9.25
0.49	195.49	.911E+03	1.9	0.80	7.96
0.61	195.61	.139E+04	3.7	1.01	6.30
0.74	195.74	.192E+04	5.9	1.18	5.38
0.86	195.86	.250E+04	8.7	1.32	4.79
0.98	195.98	.313E+04	12.2	1.48	4.29
1.11	196.11	.388E+04	16.2	1.59	3.99
1.23	196.23	.485E+04	20.9	1.64	3.87
1.35	196.35	.603E+04	26.3	1.66	3.82
1.48	196.48	.742E+04	32.4	1.66	3.81
1.60	196.60	.904E+04	39.4	1.66	3.82
1.73	196.73	.110E+05	47.0	1.63	3.90
1.85	196.85	.134E+05	55.9	1.59	3.99
1.97	196.97	.163E+05	66.1	1.55	4.10
2.10	197.10	.196E+05	77.7	1.51	4.20
2.22	197.22	.234E+05	90.9	1.48	4.29

**** WARNING: TRAVEL TIME TABLE EXCEEDED

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1149)	1513.24	118.58	5.25	98.68	2.20	1.48
OUTFLOW: ID= 1 (5149)	1513.24	116.94	5.50	98.68	2.22	1.48

CALIB
STANDHYD (0149)
ID= 1 DT=15.0 min

Area (ha)= 3.06
Total Imp(%)= 34.00 Dir. Conn.(%)= 29.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.04	2.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.80
Length (m)=	142.83	40.00

Mannings n	= 0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	48.60
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.06
		TOTALS
PEAK FLOW (cms)=	0.13	0.26 0.385 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	113.00	80.04 89.59
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.70 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2149)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0149):	3.06	0.385	5.25	89.59
+ ID2= 2 (5149):	1513.24	116.942	5.50	98.68
ID = 3 (2149):	1516.30	117.135	5.50	98.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1150)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2149):	1516.30	117.135	5.50	98.66
+ ID2= 2 (2721):	1772.50	38.544	8.25	76.58
ID = 3 (1150):	3288.80	145.824	5.50	86.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5150)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5150.0) ------>

Distance	Elevation	Manning	
0.00	193.23	0.1000	
0.00	194.50	0.1000	
210.65	190.50	0.1000	
223.18	188.00	0.1000 /0.0440	Main Channel
226.63	187.00	0.0440	Main Channel
230.00	186.50	0.0440	Main Channel
233.00	186.50	0.0440	Main Channel
237.18	187.00	0.0440	Main Channel

241.05	188.00	0.0440 /0.1000	Main Channel
252.73	190.50	0.1000	
267.79	191.00	0.1000	
282.60	194.00	0.1000	
291.93	194.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	186.80	.773E+03	0.9	0.58	14.02
0.60	187.10	.219E+04	4.0	0.89	9.18
0.90	187.40	.401E+04	9.6	1.18	6.93
1.20	187.70	.615E+04	17.8	1.41	5.78
1.50	188.00	.862E+04	28.5	1.62	5.04
1.87	188.37	.122E+05	48.8	1.96	4.17
2.25	188.75	.165E+05	73.9	2.20	3.71
2.62	189.12	.214E+05	104.0	2.38	3.43
2.99	189.49	.270E+05	139.0	2.52	3.24
3.37	189.87	.332E+05	179.2	2.64	3.09
3.74	190.24	.401E+05	224.6	2.74	2.98
4.11	190.61	.479E+05	271.1	2.77	2.95
4.49	190.99	.602E+05	323.8	2.63	3.10
4.86	191.36	.773E+05	394.7	2.50	3.26
5.24	191.74	.984E+05	479.5	2.39	3.42
5.61	192.11	.123E+06	579.5	2.30	3.55
5.98	192.48	.152E+06	696.2	2.24	3.65
6.36	192.86	.185E+06	830.9	2.20	3.71
6.73	193.23	.222E+06	985.0	2.17	3.75

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1150)	3288.80	145.82	5.50	86.76	3.06	2.54
OUTFLOW: ID= 1 (5150)	3288.80	146.61	5.50	86.76	3.07	2.54

CALIB
STANDHYD (0150)
ID= 1 DT=15.0 min

Area (ha)= 55.43
Total Imp(%)= 73.00 Dir. Conn.(%)= 73.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	40.46	14.97
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	607.89	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	49.41
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	57.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	5.88	1.24 6.897 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	113.00	91.61 107.22
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.80 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2150)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0150):	55.43	6.897	5.25	107.22
+ ID2= 2 (5150):	3288.80	146.609	5.50	86.76
ID = 3 (2150):	3344.23	150.337	5.50	87.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5175)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5175.0) ------>

Distance	Elevation	Manning	
0.00	190.19	0.1000	
183.72	188.50	0.1000	
199.34	185.08	0.1000	
204.64	184.92	0.1000	
226.50	184.89	0.1000	
232.59	184.66	0.1000	
236.19	184.34	0.1000	
237.52	184.12	0.1000 /0.0440	Main Channel
237.54	182.90	0.0440	Main Channel
242.00	182.90	0.0440	Main Channel
242.55	184.03	0.0440 /0.1000	Main Channel
249.56	184.50	0.1000	
284.14	185.34	0.1000	
284.72	187.50	0.1000	
288.13	188.00	0.1000	
319.42	187.98	0.1000	
319.74	187.98	0.1000	
332.36	187.82	0.1000	
357.39	187.66	0.1000	
357.40	190.19	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	183.28	.193E+04	1.5	0.87	21.55
0.75	183.65	.393E+04	4.5	1.27	14.71
1.13	184.03	.602E+04	8.3	1.56	12.03
1.52	184.41	.975E+04	14.2	1.63	11.46
1.90	184.80	.190E+05	23.1	1.36	13.72
2.29	185.19	.457E+05	41.1	1.01	18.50
2.67	185.57	.824E+05	76.1	1.04	18.03
3.06	185.96	.120E+06	124.9	1.17	16.07
3.44	186.34	.159E+06	184.9	1.30	14.36
3.83	186.73	.199E+06	255.1	1.44	13.00
4.21	187.11	.239E+06	335.0	1.57	11.92
4.60	187.50	.281E+06	424.1	1.70	11.04
4.98	187.88	.328E+06	465.5	1.60	11.73

5.37	188.27	.397E+06	553.5	1.56	11.97	
5.75	188.65	.474E+06	659.3	1.56	11.98	
6.14	189.04	.565E+06	767.5	1.53	12.27	
6.52	189.42	.674E+06	931.4	1.55	12.07	
6.91	189.81	.802E+06	1138.5	1.60	11.74	
7.29	190.19	.947E+06	1387.0	1.64	11.38	

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2150)	3344.23	150.34	5.50	87.10	3.22	1.22
OUTFLOW: ID= 1 (5175)	3344.23	143.90	5.75	87.10	3.18	1.21

CALIB			
STANDHYD (0175)	Area (ha)= 60.91		
ID= 1 DT=15.0 min	Total Imp(%)= 69.00	Dir. Conn.(%)= 69.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	42.03	18.88
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.50
Length	(m)=	637.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.10
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	6.11	1.51	7.334 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	87.54	105.11
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.77	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2175)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0175):	60.91	7.334	5.25	105.11
	+ ID2= 2 (2175):	3344.23	143.899	5.75	87.10
	ID = 3 (2175):	3405.14	147.330	5.75	87.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

STANDHYD (0128)	Area (ha)= 191.08		
ID= 1 DT=15.0 min	Total Imp(%)= 56.00	Dir. Conn.(%)= 49.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	107.00	84.08
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.90
Length	(m)=	1128.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	57.41
over (min)		15.00	30.00
Storage Coeff. (min)=		15.60 (ii)	93.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	13.45	6.20	17.027 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	113.00	92.43	102.51
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.81	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2128)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0128):	191.08	17.027	5.25	102.51
	+ ID2= 2 (2175):	3405.14	147.330	5.75	87.42
	ID = 3 (2128):	3596.22	157.961	5.75	88.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 24.12
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	10.85	13.27
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	8.60
Length	(m)=	401.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	46.69
over (min)		15.00	15.00
Storage Coeff. (min)=		5.40 (ii)	31.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	1.58	1.34	2.924 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25

RUNOFF VOLUME	(mm)=	113.00	83.66	96.86	
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00	
RUNOFF COEFFICIENT	=	0.99	0.73	0.85	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9476)					
Inlet Cap.=0.030					
#of Inlets= 1					
Total(cms)= 0.0		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	24.12	2.92	5.25	96.86
	MAJOR SYS.(ID= 2):	22.80	2.89	5.25	96.86
	MINOR SYS.(ID= 3):	1.32	0.03	1.50	96.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6476)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0300	0.1280

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9476)	1.322	0.030	1.50	96.86
OUTFLOW: ID= 1 (6476)	1.322	0.019	12.75	96.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 61.83
TIME SHIFT OF PEAK FLOW (min)=675.00
MAXIMUM STORAGE USED (ha.m.)= 0.0793

ADD HYD (4476)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6476):	1.32	0.019	12.75	96.05
	+ ID2= 2 (9476):	22.80	2.894	5.25	96.86
	ID = 3 (4476):	24.12	2.902	5.25	96.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1171)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2128):	3596.22	157.961	5.75	88.22

+ ID2= 2 (4476):	24.12	2.902	5.25	96.82
ID = 3 (1171):	3620.34	159.385	5.75	88.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5171)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5171.0) ------>

Distance	Elevation	Manning	
0.00	182.62	0.1000	
70.19	179.50	0.1000	
139.11	179.00	0.1000 /0.0440	Main Channel
140.08	178.61	0.0440	Main Channel
140.35	177.50	0.0440	Main Channel
146.00	177.50	0.0440	Main Channel
146.96	178.83	0.0440	Main Channel
148.70	178.92	0.0440	Main Channel
148.90	179.00	0.0440 /0.1000	Main Channel
169.23	179.25	0.1000	
181.85	182.00	0.1000	
283.06	182.00	0.1000	
330.41	180.56	0.1000	
373.02	181.50	0.1000	
398.28	181.61	0.1000	
428.84	182.54	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	177.75	.105E+04	0.9	0.61	19.95
0.50	178.00	.214E+04	2.7	0.92	13.14
0.75	178.25	.328E+04	5.2	1.16	10.44
1.00	178.50	.446E+04	8.3	1.36	8.93
1.25	178.75	.570E+04	11.7	1.50	8.08
1.50	179.00	.723E+04	14.6	1.46	8.27
1.77	179.27	.151E+05	23.2	1.12	10.82
2.04	179.54	.322E+05	39.5	0.89	13.61
2.32	179.82	.530E+05	65.3	0.90	13.52
2.59	180.09	.753E+05	98.9	0.95	12.69
2.86	180.36	.990E+05	139.6	1.03	11.81
3.13	180.63	.124E+06	184.2	1.08	11.25
3.41	180.91	.154E+06	232.9	1.10	11.03
3.68	181.18	.190E+06	294.7	1.13	10.73
3.95	181.45	.231E+06	368.9	1.16	10.44
4.22	181.72	.280E+06	452.1	1.17	10.33
4.50	182.00	.336E+06	559.3	1.21	10.02
4.77	182.27	.416E+06	668.9	1.17	10.36
5.04	182.54	.499E+06	833.8	1.21	9.97

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1171)	3620.34	159.38	5.75	88.28	2.98	1.05
OUTFLOW: ID= 1 (5171)	3620.34	157.10	5.75	88.28	2.97	1.04

CALIB

| STANDHYD (****) | Area (ha)= 0.65
|ID= 1 DT=15.0 min | Total Imp(%)= 18.00 Dir. Conn.(%)= 18.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.12	0.53
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.50
Length (m)=	65.83	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	52.42	42.15	
over (min)	15.00	15.00	
Storage Coeff. (min)=	6.00 (ii)	35.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.10	0.03	
PEAK FLOW (cms)=	0.02	0.04	0.062 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	73.00	80.17
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.64	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (****) | Area (ha)= 11.04
|ID= 1 DT=15.0 min | Total Imp(%)= 18.00 Dir. Conn.(%)= 18.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.99	9.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.50
Length (m)=	271.29	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	52.42	42.15	
over (min)	15.00	15.00	
Storage Coeff. (min)=	6.00 (ii)	35.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.10	0.03	
PEAK FLOW (cms)=	0.29	0.76	1.050 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	73.00	80.20
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.64	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0339) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	11.04	1.050	5.25	80.20
+ ID2= 2 (****):	0.65	0.062	5.25	80.17
ID = 3 (0339):	11.69	1.112	5.25	80.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB |
| STANDHYD (****) | Area (ha)= 5.40
|ID= 1 DT=15.0 min | Total Imp(%)= 18.00 Dir. Conn.(%)= 18.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.97	4.43
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.50
Length (m)=	189.74	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	52.42	42.15	
over (min)	15.00	15.00	
Storage Coeff. (min)=	6.00 (ii)	35.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.10	0.03	
PEAK FLOW (cms)=	0.14	0.37	0.514 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	73.00	80.20
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.64	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0342) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0339):	11.69	1.112	5.25	80.20
+ ID2= 2 (****):	5.40	0.514	5.25	80.20
ID = 3 (0342):	17.09	1.626	5.25	80.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (2171) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0342):	17.09	1.626	5.25	80.20
+ ID2= 2 (5171):	3620.34	157.098	5.75	88.28
ID = 3 (2171):	3637.43	158.156	5.75	88.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB |
| STANDHYD (0659) | Area (ha)= 24.81
|ID= 1 DT=15.0 min | Total Imp(%)= 47.00 Dir. Conn.(%)= 47.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	11.66	13.15
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.20
Length (m)=	406.69	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	52.42	47.41	
over (min)	15.00	15.00	
Storage Coeff. (min)=	6.00 (ii)	35.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.10	0.03	
PEAK FLOW (cms)=	1.70	1.31	3.010 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	85.58	98.47
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.75	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| DUHYD (9475) |
| Inlet Cap.=0.060 |
| #of Inlets= 1 |
| Total(cms)= 0.1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.81	3.01	5.25	98.47
MAJOR SYS.(ID= 2):	22.37	2.95	5.25	98.47
MINOR SYS.(ID= 3):	2.44	0.06	2.50	98.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (6475) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min |

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.2570

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9475)	2.437	0.060	2.50	98.47
OUTFLOW: ID= 1 (6475)	2.437	0.036	12.50	98.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.25
TIME SHIFT OF PEAK FLOW (min)=600.00
MAXIMUM STORAGE USED (ha.m.)= 0.1523

| ADD HYD (4475) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6475):	2.44	0.036	12.50	98.03
+ ID2= 2 (9475):	22.37	2.950	5.25	98.47
ID = 3 (4475):	24.81	2.966	5.25	98.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB |
| STANDHYD (****) | Area (ha)= 0.70
|ID= 1 DT=15.0 min | Total Imp(%)= 61.00 Dir. Conn.(%)= 61.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.43	0.27
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	68.31	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	52.42	47.41	
over (min)	15.00	30.00	
Storage Coeff. (min)=	11.40 (ii)	68.40 (ii)	
Unit Hyd. Tpeak (min)=	15.00	75.00	
Unit Hyd. peak (cms)=	0.08	0.02	
PEAK FLOW (cms)=	0.06	0.02	0.075 (iii)
TIME TO PEAK (hrs)=	5.25	6.00	5.25
RUNOFF VOLUME (mm)=	113.00	85.58	102.24
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.75	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.32		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.20	0.12
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	46.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	47.41
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	0.03	0.01	0.034 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	85.58	102.19
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.75	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 100.13		
ID= 1 DT=15.0 min	Total Imp(%)= 61.00	Dir. Conn.(%)= 61.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	61.08	39.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	817.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	47.41
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	68.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	8.86	2.71	10.663 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	85.58	102.31
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.75	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0400)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (****):	100.13	10.663	5.25	102.31	
+ ID2= 2 (****):	0.32	0.034	5.25	102.19	
ID = 3 (0400):	100.45	10.697	5.25	102.31	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0401)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0400):	100.45	10.697	5.25	102.31	
+ ID2= 2 (****):	0.70	0.075	5.25	102.24	
ID = 3 (0401):	101.15	10.771	5.25	102.30	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2655)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0401):	101.15	10.771	5.25	102.30	
+ ID2= 2 (4475):	24.81	2.966	5.25	98.42	
ID = 3 (2655):	125.96	13.737	5.25	101.54	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1179)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (2171):	3637.43	158.156	5.75	88.24	
+ ID2= 2 (2655):	125.96	13.737	5.25	101.54	
ID = 3 (1179):	3763.39	165.223	5.75	88.69	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5179)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5179.0) ------>

Distance	Elevation	Manning
0.00	180.00	0.1000
19.81	179.88	0.1000

80.23	175.31	0.1000	
87.64	175.00	0.1000	
94.94	174.57	0.1000	
96.72	174.50	0.1000 /0.0440	Main Channel
98.15	174.00	0.0440	Main Channel
106.22	174.15	0.0440	Main Channel
107.82	174.50	0.0440 /0.1000	Main Channel
109.71	175.00	0.1000	
183.40	175.01	0.1000	
204.12	175.50	0.1000	
218.61	176.50	0.1000	
246.72	177.50	0.1000	
258.61	177.66	0.1000	
277.61	177.68	0.1000	
284.71	177.58	0.1000	
296.45	177.54	0.1000	
401.58	180.45	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	174.25	.162E+04	0.6	0.40	44.60
0.50	174.50	.432E+04	2.7	0.67	26.29
0.82	174.82	.947E+04	8.1	0.91	19.51
1.15	175.15	.285E+05	17.9	0.67	26.63
1.47	175.47	.682E+05	40.2	0.63	28.27
1.79	175.79	.113E+06	74.8	0.70	25.16
2.12	176.12	.161E+06	119.9	0.79	22.34
2.44	176.44	.212E+06	175.1	0.88	20.14
2.76	176.76	.266E+06	237.8	0.95	18.64
3.09	177.09	.325E+06	310.2	1.01	17.47
3.41	177.41	.389E+06	393.0	1.07	16.49
3.74	177.74	.463E+06	442.2	1.01	17.46
4.06	178.06	.554E+06	559.8	1.07	16.48
4.38	178.38	.650E+06	692.2	1.13	15.64
4.71	178.71	.751E+06	839.8	1.19	14.91
5.03	179.03	.858E+06	1002.8	1.24	14.26
5.35	179.35	.971E+06	1181.8	1.29	13.69
5.68	179.68	.109E+07	1377.0	1.34	13.18
6.00	180.00	.121E+07	1555.4	1.36	13.00

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1179)	3763.39	165.22	5.75	88.69	2.38	0.86
OUTFLOW: ID= 1 (5179)	3763.39	157.72	6.00	88.69	2.34	0.85

CALIB			
STANDHYD (****)	Area (ha)= 1.25		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.38	0.87
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	91.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	42.92
over (min)		15.00	30.00

Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.05	0.06	0.113 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	74.68	86.15
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.66	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.98		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.29	0.69
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	80.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	42.92
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	0.04	0.05	0.088 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	74.68	86.14
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.66	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0347)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (****):	1.25	0.113	5.25	86.15	
+ ID2= 2 (****):	0.98	0.088	5.25	86.14	
ID = 3 (0347):	2.23	0.201	5.25	86.15	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  37.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      11.40         26.59
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.70
     Length            (m)=     503.26         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         42.92
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       8.40 (ii)    48.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.09          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.66          1.97          3.428 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00         74.68          86.18
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.66           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0345) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0347):     2.23   0.201     5.25    86.15
      + ID2= 2 (****):    37.99   3.428     5.25    86.18
        ================================================
        ID = 3 (0345):    40.22   3.629     5.25    86.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (2179) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0345):    40.22   3.629     5.25    86.17
      + ID2= 2 (5179):  3763.39 157.715     6.00    88.69
        ================================================
        ID = 3 (2179):  3803.61 159.978     6.00    88.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5429) |
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| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION (5429.0) ------>
               Distance      Elevation       Manning
                   0.00         173.91        0.1110
                   0.00         176.00        0.1110
                   9.53         173.50        0.1110
                  25.59         171.50        0.1110
                  90.97         171.00        0.1110
                  96.91         170.58        0.1110
                  97.41         170.50        0.1110
                  98.56         170.14    0.1110 /0.0490  Main Channel
                  99.04         169.50        0.0490      Main Channel
                 103.00         169.50        0.0490      Main Channel
                 103.89         170.28    0.0490 /0.1110  Main Channel
                 105.84         170.39        0.1110
                 106.34         170.41        0.1110
                 106.80         170.50        0.1110
                 128.20         170.89        0.1110
                 130.65         171.00        0.1110
                 148.78         175.86        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.32   169.82    .693E+03        1.0          0.72      11.79
       0.64   170.14    .148E+04        3.1          1.07       7.94
       0.98   170.48    .268E+04        6.9          1.31       6.45
       1.33   170.83    .614E+04       13.2          1.09       7.74
       1.67   171.17    .138E+05       25.1          0.92       9.19
       2.02   171.52    .289E+05       47.4          0.83      10.16
       2.36   171.86    .480E+05       85.7          0.91       9.34
       2.71   172.21    .678E+05      135.8          1.02       8.32
       3.05   172.55    .884E+05      196.7          1.13       7.49
       3.40   172.90    .110E+06      267.9          1.24       6.82
       3.74   173.24    .132E+06      348.8          1.35       6.29
       4.09   173.59    .154E+06      440.0          1.45       5.84
       4.43   173.93    .177E+06      542.4          1.55       5.45
       4.78   174.28    .201E+06      653.2          1.65       5.13
       5.12   174.62    .225E+06      772.9          1.74       4.85
       5.47   174.97    .250E+06      901.1          1.83       4.62
       5.81   175.31    .275E+06     1037.8          1.92       4.41
       6.16   175.66    .300E+06     1183.0          2.00       4.23
       6.50   176.00    .326E+06     1339.1          2.09       4.06

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (2179) 3803.61   159.98    6.00  88.66      2.84      1.06
     OUTFLOW: ID= 1 (5429) 3803.61   159.67    6.25  88.66      2.84      1.06

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--------------------
| CALIB              |
| STANDHYD  (0429) |   Area    (ha)=  13.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  54.00   Dir. Conn.(%)=  54.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.51          6.39
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          4.80
     Length            (m)=     304.41         40.00
```



```
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         46.69
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       5.40 (ii)    32.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.09          0.64          1.736 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=     113.00         83.66          99.50
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.73           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2429) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0429):    13.90   1.736     5.25    99.50
      + ID2= 2 (5429):  3803.61 159.671     6.25    88.66
        ================================================
        ID = 3 (2429):  3817.51 160.315     6.25    88.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  91.84
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      52.35         39.49
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.70
     Length            (m)=     782.47         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         48.10
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.59          2.75          9.425 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=     113.00         87.54         102.05
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.77           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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```
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   1.44
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.82          0.62
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.70
     Length            (m)=      97.98         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         48.10
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.12          0.04          0.148 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=     113.00         87.54         102.02
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.77           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   6.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  57.00   Dir. Conn.(%)=  57.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.76          2.83
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.70
     Length            (m)=     209.60         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         48.10
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    71.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00         75.00
     Unit Hyd. peak  (cms)=       0.08          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.54          0.20          0.676 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=     113.00         87.54         102.05
     TOTAL RAINFALL   (mm)=     114.00        114.00         114.00
     RUNOFF COEFFICIENT   =       0.99          0.77           0.90
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0408)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	6.59	0.676	5.25	102.05
	+ ID2= 2 (****):	1.44	0.148	5.25	102.02
	ID = 3 (0408):	8.03	0.824	5.25	102.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0409)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0408):	8.03	0.824	5.25	102.04
	+ ID2= 2 (****):	91.84	9.425	5.25	102.05
	ID = 3 (0409):	99.87	10.249	5.25	102.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1443)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0409):	99.87	10.249	5.25	102.05
	+ ID2= 2 (2429):	3817.51	160.315	6.25	88.70
	ID = 3 (1443):	3917.38	165.636	6.25	89.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5443)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5443.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1110	
17.61	172.50	0.1110	
27.53	170.50	0.1110	
72.93	169.50	0.1110	
74.99	169.29	0.1110	
75.21	169.27	0.1110	
79.81	168.50	0.1110 /0.0490	Main Channel
79.88	168.48	0.0490	Main Channel
80.70	168.00	0.0490	Main Channel

82.05	167.90	0.0490	Main Channel
83.55	167.90	0.0490	Main Channel
85.02	168.50	0.0490 /0.1110	Main Channel
86.14	168.83	0.1110	
86.71	168.98	0.1110	
119.24	170.00	0.1110	
133.40	171.00	0.1110	
147.56	173.96	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	168.10	.106E+03	0.5	0.95	3.31
0.40	168.30	.254E+03	2.0	1.46	2.15
0.60	168.50	.434E+03	4.2	1.84	1.71
0.91	168.81	.828E+03	10.5	2.40	1.31
1.23	169.13	.145E+04	19.6	2.54	1.24
1.54	169.44	.271E+04	33.2	2.31	1.36
1.85	169.75	.495E+04	53.2	2.03	1.55
2.16	170.06	.859E+04	85.8	1.89	1.67
2.48	170.38	.134E+05	134.7	1.89	1.66
2.79	170.69	.192E+05	203.3	2.00	1.58
3.10	171.00	.255E+05	290.7	2.16	1.46
3.41	171.31	.319E+05	397.9	2.35	1.34
3.73	171.63	.386E+05	520.4	2.55	1.24
4.04	171.94	.455E+05	657.6	2.73	1.15
4.35	172.25	.525E+05	809.1	2.91	1.08
4.66	172.56	.597E+05	971.5	3.07	1.02
4.98	172.88	.672E+05	1136.3	3.19	0.99
5.29	173.19	.752E+05	1316.7	3.31	0.95
5.60	173.50	.836E+05	1513.2	3.42	0.92

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (1443)	3917.38	165.64	6.25	89.04	2.62	1.94
OUTFLOW:	ID= 1 (5443)	3917.38	165.75	6.25	89.04	2.62	1.94

CALIB			
STANDHYD (****)	Area	(ha)=	58.41
ID= 1 DT=15.0 min	Total Imp(%)=	59.00	Dir. Conn.(%)= 59.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	34.46	23.95
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	624.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.10
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	5.00 1.78 6.419 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	113.00 87.54 102.56
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.77 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area	(ha)=	0.93
ID= 1 DT=15.0 min	Total Imp(%)=	59.00	Dir. Conn.(%)= 59.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.55	0.38
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	78.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.10
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	0.08 0.03 0.102 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	113.00 87.54 102.52
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.77 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area	(ha)=	11.27
ID= 1 DT=15.0 min	Total Imp(%)=	59.00	Dir. Conn.(%)= 59.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.65	4.62
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	274.10	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.10
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	65.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	0.96 0.34 1.238 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25

RUNOFF VOLUME	(mm)=	113.00 87.54	102.56
TOTAL RAINFALL	(mm)=	114.00 114.00	114.00
RUNOFF COEFFICIENT	=	0.99 0.77	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0386)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	11.27	1.238	5.25	102.56
	+ ID2= 2 (****):	0.93	0.102	5.25	102.52
	ID = 3 (0386):	12.20	1.341	5.25	102.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0385)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0386):	12.20	1.341	5.25	102.56
	+ ID2= 2 (****):	58.41	6.419	5.25	102.56
	ID = 3 (0385):	70.61	7.759	5.25	102.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2443)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0385):	70.61	7.759	5.25	102.56
	+ ID2= 2 (5443):	3917.38	165.748	6.25	89.04
	ID = 3 (2443):	3987.99	169.396	6.25	89.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5181)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5181.0) ------>

Distance	Elevation	Manning	
0.00	171.99	0.1110	
16.11	168.50	0.1110	
29.63	167.81	0.1110	
33.91	167.00	0.1110 /0.0490	Main Channel
34.47	166.92	0.0490	Main Channel

35.37	166.79	0.0490	Main Channel
35.56	166.82	0.0490	Main Channel
36.36	167.00	0.0490 /0.1110	Main Channel
41.32	168.00	0.1110	
66.08	168.05	0.1110	
107.13	169.00	0.1110	
117.25	169.50	0.1110	
126.27	171.00	0.1110	
127.87	171.44	0.1110	
128.10	171.50	0.1110	
132.70	172.29	0.1110	
134.72	172.50	0.1110	
136.24	172.85	0.1110	
136.87	173.00	0.1110	
136.98	173.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	167.00	.227E+03	0.1	0.31	46.72
0.47	167.26	.109E+04	0.7	0.55	26.16
0.74	167.53	.256E+04	1.9	0.65	22.33
1.00	167.79	.465E+04	3.8	0.71	20.28
1.26	168.05	.824E+04	5.8	0.61	23.67
1.52	168.31	.195E+05	11.8	0.53	27.45
1.79	168.58	.344E+05	21.9	0.55	26.25
2.05	168.84	.524E+05	36.5	0.60	23.97
2.31	169.10	.732E+05	56.1	0.66	21.75
2.57	169.36	.957E+05	81.2	0.73	19.66
2.84	169.63	.120E+06	111.6	0.81	17.87
3.10	169.89	.144E+06	147.4	0.88	16.31
3.36	170.15	.170E+06	187.6	0.96	15.06
3.62	170.41	.196E+06	232.1	1.03	14.04
3.89	170.68	.222E+06	280.8	1.09	13.18
4.15	170.94	.249E+06	333.6	1.16	12.45
4.41	171.20	.277E+06	391.3	1.22	11.80
4.67	171.46	.305E+06	453.4	1.28	11.22
4.94	171.73	.334E+06	518.3	1.34	10.75

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2443)	3987.99	169.40	6.25	89.28	3.24	0.92
OUTFLOW: ID= 1 (5181)	3987.99	165.67	6.50	89.28	3.22	0.92

CALIB	
STANDHYD (0181)	Area (ha)= 136.82
ID= 1 DT=15.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.14	39.68
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	955.06	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	48.77
over (min)	15.00	30.00
Storage Coeff. (min)=	13.80 (ii)	82.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00

Unit Hyd. peak (cms)=	0.08	0.01				
					TOTALS	
PEAK FLOW (cms)=	14.03	2.59			15.511 (iii)	
TIME TO PEAK (hrs)=	5.25	6.25			5.25	
RUNOFF VOLUME (mm)=	113.00	89.55			106.20	
TOTAL RAINFALL (mm)=	114.00	114.00			114.00	
RUNOFF COEFFICIENT =	0.99	0.79			0.93	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2181)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0181):	136.82	15.511	5.25	106.20
	+ ID2= 2 (5181):	3987.99	165.666	6.50	89.28
	ID = 3 (2181):	4124.81	172.188	6.25	89.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5204)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5204.0) ------>

Distance	Elevation	Manning	
0.00	172.00	0.1110	
11.08	169.71	0.1110	
48.53	169.00	0.1110	
90.99	164.50	0.1110	
111.26	164.00	0.1110	
133.15	164.00	0.1110	
142.64	163.50	0.1110	
145.01	162.66	0.1110	
145.24	162.50	0.1110 /0.0490	Main Channel
146.03	161.80	0.0490	Main Channel
152.91	161.80	0.0490	Main Channel
153.42	162.68	0.0490 /0.1110	Main Channel
153.67	162.73	0.1110	
154.07	163.00	0.1110	
155.88	163.50	0.1110	
178.24	164.14	0.1110	
184.53	164.50	0.1110	
207.67	165.50	0.1110	
224.19	166.50	0.1110	
245.67	169.50	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	162.15	.121E+04	2.5	1.00	8.01
0.70	162.50	.253E+04	8.0	1.52	5.29
1.11	162.91	.426E+04	18.0	2.03	3.96

1.52	163.32	.641E+04	31.6	2.38	3.38
1.94	163.74	.971E+04	48.9	2.43	3.31
2.35	164.15	.187E+05	74.3	1.91	4.20
2.76	164.56	.356E+05	120.7	1.64	4.92
3.17	164.97	.559E+05	188.5	1.63	4.94
3.58	165.38	.789E+05	276.4	1.69	4.76
3.99	165.79	.104E+06	386.3	1.79	4.50
4.41	166.21	.132E+06	517.4	1.89	4.25
4.82	166.62	.162E+06	671.3	2.00	4.02
5.23	167.03	.193E+06	850.6	2.13	3.78
5.64	167.44	.226E+06	1051.0	2.25	3.58
6.05	167.85	.260E+06	1272.3	2.36	3.40
6.46	168.26	.295E+06	1514.8	2.48	3.25
6.88	168.68	.332E+06	1778.5	2.59	3.11
7.29	169.09	.370E+06	2042.5	2.66	3.02
7.70	169.50	.412E+06	2268.8	2.66	3.03

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2181)	4124.81	172.19	6.25	89.84	3.07	1.63
OUTFLOW: ID= 1 (5204)	4124.81	171.92	6.50	89.84	3.07	1.63

CALIB	
STANDHYD (0204)	Area (ha)= 12.60
ID= 1 DT=15.0 min	Total Imp(%)= 25.00 Dir. Conn.(%)= 25.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.15	9.45
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.10
Length (m)=	289.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	40.59
over (min)	15.00	15.00
Storage Coeff. (min)=	4.80 (ii)	28.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

			TOTALS
PEAK FLOW (cms)=	0.46	0.82	1.279 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	69.74	80.56
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.61	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2204)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	12.60	1.279	5.25	80.56
	+ ID2= 2 (5204):	4124.81	171.918	6.50	89.84
	ID = 3 (2204):	4137.41	172.342	6.50	89.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0742)	Area (ha)= 13.26
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.97	7.29
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.60
Length (m)=	297.32	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	44.45
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	34.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

			TOTALS
PEAK FLOW (cms)=	0.87	0.66	1.534 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	78.15	93.83
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.69	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9607)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.=0.144					
#of Inlets= 1					
Total(cms)= 0.1	TOTAL HYD.(ID= 1):	13.26	1.53	5.25	93.83
	MAJOR SYS.(ID= 2):	8.97	1.39	5.25	93.83
	MINOR SYS.(ID= 3):	4.29	0.14	3.50	93.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6607)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1					
DT= 15.0 min		0.0000	0.0000	0.1440	0.6200

	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9607)	4.294	0.144	3.50	93.83
OUTFLOW: ID= 1 (6607)	4.294	0.061	9.75	93.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 42.15
TIME SHIFT OF PEAK FLOW (min)=375.00
MAXIMUM STORAGE USED (ha.m.)= 0.2615

ADD HYD (4607)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6607):	4.29	0.061	9.75	93.58
+ ID2= 2 (9607):	8.97	1.390	5.25	93.83
ID = 3 (4607):	13.26	1.420	5.25	93.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2742)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2204):	4137.41	172.342	6.50	89.81
+ ID2= 2 (4607):	13.26	1.420	5.25	93.75
ID = 3 (2742):	4150.67	172.697	6.50	89.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0636) | Area (ha)= 167.13
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	75.21	91.92
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.40
Length	(m)=	1055.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	42.15
over (min)		15.00	30.00
Storage Coeff. (min)=		16.80 (ii)	99.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	105.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	10.75	4.31	12.654 (iii)
TIME TO PEAK	(hrs)=	5.25	6.50	5.25
RUNOFF VOLUME	(mm)=	113.00	73.00	91.00
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.64	0.80

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9605)
Inlet Cap.=0.240
#of Inlets= 1
Total(cms)= 0.2

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	167.13	12.65	5.25	91.00
MAJOR SYS.(ID= 2):	153.45	12.41	5.25	91.00
MINOR SYS.(ID= 3):	13.68	0.24	2.50	91.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6605)
IN= 2---> OUT= 1
DT= 15.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2400	1.9400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9605)	13.680	0.240	2.50	91.00
OUTFLOW: ID= 1 (6605)	13.680	0.107	15.50	90.85

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.78
TIME SHIFT OF PEAK FLOW (min)=780.00
MAXIMUM STORAGE USED (ha.m.)= 0.8687

ADD HYD (4605)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6605):	13.68	0.107	15.50	90.85
+ ID2= 2 (9605):	153.45	12.414	5.25	91.00
ID = 3 (4605):	167.13	12.452	5.25	90.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0641) | Area (ha)= 7.45
ID= 1 DT=15.0 min | Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.71	5.74
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.00
Length	(m)=	222.86	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	40.59
over (min)		15.00	15.00
Storage Coeff. (min)=		4.80 (ii)	26.40 (ii)

			TOTALS
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.11	0.04	
PEAK FLOW (cms)=	0.25	0.51	0.758 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	69.74	79.69
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.61	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2641)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0641):	7.45	0.758	5.25	79.69
+ ID2= 2 (4605):	167.13	12.452	5.25	90.99
ID = 3 (2641):	174.58	13.209	5.25	90.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1206)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2641):	174.58	13.209	5.25	90.51
+ ID2= 2 (2742):	4150.67	172.697	6.50	89.83
ID = 3 (1206):	4325.25	179.408	6.50	89.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5206)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5206.0) ------>

Distance	Elevation	Manning	
0.00	168.00	0.1110	
93.40	167.00	0.1110	
125.20	166.00	0.1110	
131.90	165.50	0.1110	
147.90	162.50	0.1110	
154.70	162.00	0.1110	
156.80	162.00	0.1110	
159.70	162.50	0.1110	
181.80	162.50	0.1110	
197.10	161.50	0.1110	
254.30	160.00	0.1110	
256.80	159.00	0.1110 /0.0490	Main Channel
257.00	158.60	0.0490	Main Channel

266.00	158.60	0.0490	Main Channel
266.30	159.00	0.0490 /0.1110	Main Channel
270.90	160.00	0.1110	
308.40	162.00	0.1110	
338.30	168.50	0.1110	
351.00	169.00	0.1110	
400.10	169.50	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	159.00	.108E+04	3.3	0.88	5.51
0.87	159.47	.263E+04	12.5	1.39	3.49
1.35	159.95	.464E+04	26.9	1.70	2.87
1.82	160.42	.840E+04	46.9	1.63	2.98
2.29	160.89	.159E+05	79.2	1.46	3.34
2.77	161.37	.271E+05	128.0	1.38	3.53
3.24	161.84	.416E+05	199.3	1.40	3.48
3.72	162.32	.587E+05	291.2	1.45	3.36
4.19	162.79	.800E+05	403.7	1.47	3.30
4.66	163.26	.103E+06	565.2	1.60	3.04
5.14	163.74	.127E+06	752.2	1.73	2.82
5.61	164.21	.152E+06	963.8	1.86	2.62
6.08	164.68	.177E+06	1199.2	1.98	2.46
6.56	165.16	.203E+06	1457.9	2.10	2.32
7.03	165.63	.229E+06	1734.7	2.21	2.20
7.51	166.11	.257E+06	2012.4	2.29	2.13
7.98	166.58	.286E+06	2284.4	2.33	2.09
8.45	167.05	.318E+06	2571.2	2.36	2.06
8.93	167.53	.355E+06	2790.7	2.29	2.12

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1206)	4325.25	179.41	6.50	89.85	3.11	1.39
OUTFLOW: ID= 1 (5206)	4325.25	179.77	6.50	89.85	3.11	1.39

CALIB
STANDHYD (0206) | Area (ha)= 4.99
ID= 1 DT=15.0 min | Total Imp(%)= 14.00 Dir. Conn.(%)= 14.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	4.29
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	7.50
Length	(m)=	182.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	39.82
over (min)		15.00	15.00
Storage Coeff. (min)=		3.60 (ii)	21.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.11	0.06

		TOTALS
PEAK FLOW	(cms)=	0.10	0.43	0.527 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	113.00	68.16	74.44
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.60	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2206)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0206):		4.99	0.527	5.25	74.44
+ ID2= 2 (5206):		4325.25	179.772	6.50	89.85
ID = 3 (2206):		4330.24	179.906	6.50	89.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0638)	Area (ha)=	51.20	
ID= 1 DT=15.0 min	Total Imp(%)=	84.00	Dir. Conn.(%)= 84.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.01	8.19
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	1.80
Length	(m)=	584.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	51.07
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	6.25	0.69	6.817 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	98.08	110.61
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.86	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 95.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1635)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0638):		51.20	6.817	5.25	110.61

+ ID2= 2 (2206):		4330.24	179.906	6.50	89.84
ID = 3 (1635):		4381.44	181.604	6.50	90.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0642)	Area (ha)=	81.09	
ID= 1 DT=15.0 min	Total Imp(%)=	58.00	Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	47.03	34.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	735.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	47.41
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	6.83	2.45	8.758 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	85.58	101.48
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.75	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9609)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=*****					
#of Inlets= 1					
Total(cms)= 14.1		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		81.09	8.76	5.25	101.48
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		81.09	8.76	5.25	101.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6609)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE	
	(cms)	(ha.m.)	(cms)	(ha.m.)	
	0.0000	0.0000	0.3680	1.3972	
	0.1520	0.0433	2.7440	1.7980	
	0.2370	0.2233	9.7830	2.5193	
	0.2980	0.5550	12.8700	3.3070	

0.3490 1.1433 | 14.0910 3.8116

		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (9609)		81.090	8.758	5.25	101.48
OUTFLOW: ID= 1 (6609)		81.090	7.459	5.25	101.48

PEAK FLOW REDUCTION [Qout/Qin](%)= 85.17
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 2.3396

ADD HYD (4609)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G : HYDROGRAPH 9609 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (6609):		81.09	7.459	5.25	101.48
+ ID2= 2 (9609):		0.00	0.000	0.00	0.00
ID = 3 (4609):		81.09	7.459	5.25	101.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2642)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1635):		4381.44	181.604	6.50	90.08
+ ID2= 2 (4609):		81.09	7.459	5.25	101.48
ID = 3 (2642):		4462.53	185.673	6.50	90.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5635)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5635.0) ------>

Distance	Elevation	Manning	
0.00	162.99	0.1110	
23.31	157.07	0.1110	
32.56	156.00	0.1110	
59.26	155.00	0.1110	
62.94	154.00	0.1110	
63.09	153.97	0.1110	
63.13	153.97	0.1110	
63.76	153.82	0.1110 /0.0490	Main Channel
63.87	153.50	0.0490	Main Channel
66.42	153.50	0.0490	Main Channel
67.30	153.81	0.0490 /0.1110	Main Channel
68.02	153.82	0.1110	
68.09	153.82	0.1110	
71.13	155.00	0.1110	
91.29	155.00	0.1110	
108.35	155.11	0.1110	

126.23	155.50	0.1110
133.49	156.00	0.1110
156.41	161.00	0.1110
158.20	161.50	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.31	153.81	.112E+04	0.7	0.77	25.85
0.71	154.21	.384E+04	3.7	1.13	17.50
1.12	154.62	.780E+04	8.8	1.34	14.81
1.52	155.02	.136E+05	14.9	1.30	15.22
1.93	155.43	.423E+05	32.3	0.91	21.79
2.33	155.83	.835E+05	67.6	0.96	20.59
2.74	156.24	.132E+06	122.0	1.10	18.03
3.14	156.64	.183E+06	193.8	1.26	15.76
3.55	157.05	.237E+06	280.8	1.41	14.09
3.95	157.45	.294E+06	384.2	1.56	12.73
4.36	157.86	.351E+06	501.9	1.70	11.67
4.76	158.26	.411E+06	633.4	1.83	10.81
5.17	158.67	.472E+06	778.3	1.96	10.11
5.57	159.07	.535E+06	936.5	2.08	9.52
5.98	159.48	.599E+06	1107.8	2.20	9.02
6.38	159.88	.666E+06	1292.3	2.31	8.58
6.79	160.29	.733E+06	1489.8	2.42	8.20
7.19	160.69	.803E+06	1700.4	2.52	7.87
7.60	161.10	.874E+06	1924.8	2.62	7.57

		AREA	QPEAK	TPEAK	R.V.	<---- hydrograph ----> MAX DEPTH	<-pipe / channel-> MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2642)		4462.53	185.67	6.50	90.29	3.10	1.24
OUTFLOW: ID= 1 (5635)		4462.53	182.60	6.75	90.29	3.08	1.23

CALIB			
STANDHYD (0635)	Area (ha)=	73.01	
ID= 1 DT=15.0 min	Total Imp(%)=	39.00	Dir. Conn.(%)= 39.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.47	44.54
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.70
Length	(m)=	697.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	42.92
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	63.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.14	2.83	6.304 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	74.68	89.63
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.66	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2635)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0635):	73.01	6.304	5.25	89.63
	+ ID2= 2 (5635):	4462.53	182.602	6.75	90.29
	ID = 3 (2635):	4535.54	185.360	6.75	90.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0186)	Area (ha)= 388.73		
ID= 1 DT=15.0 min	Total Imp(%)= 44.00	Dir. Conn.(%)= 44.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	171.04	217.69
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	1609.82	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	42.92
over (min)	15.00	30.00
Storage Coeff. (min)=	19.20 (ii)	112.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01

		TOTALS
PEAK FLOW (cms)=	24.20	9.84	28.492 (iii)
TIME TO PEAK (hrs)=	5.25	6.75	5.25
RUNOFF VOLUME (mm)=	113.00	74.68	91.54
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.66	0.80

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9611)				
Inlet Cap.=1.944				
#of Inlets= 1				
Total(cms)= 1.9	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	388.73	28.49	5.25	91.54
MAJOR SYS.(ID= 2):	296.82	26.55	5.25	91.54
MINOR SYS.(ID= 3):	91.91	1.94	2.50	91.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6611)		
IN= 2---> OUT= 1		
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000
	OUTFLOW (cms)	STORAGE (ha.m.)
	1.9440	8.4000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9611)	91.911	1.944	2.50	91.54
OUTFLOW: ID= 1 (6611)	91.911	1.139	13.25	91.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 58.57
TIME SHIFT OF PEAK FLOW (min)=645.00
MAXIMUM STORAGE USED (ha.m.)= 4.9197

ADD HYD (4611)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6611):	91.91	1.139	13.25	91.53
	+ ID2= 2 (9611):	296.82	26.548	5.25	91.54
	ID = 3 (4611):	388.73	26.994	5.25	91.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1637)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2635):	4535.54	185.360	6.75	90.28
	+ ID2= 2 (4611):	388.73	26.994	5.25	91.54
	ID = 3 (1637):	4924.27	198.509	6.75	90.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5637)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5637.0) ------>

Distance	Elevation	Manning	
0.00	159.54	0.1110	
26.71	153.00	0.1110	
28.32	152.50	0.1110	
28.88	152.18	0.1110	
29.32	152.00	0.1110	
29.68	151.83	0.1110	
31.21	151.87	0.1110 /0.0490	Main Channel
31.97	151.50	0.0490	Main Channel
36.66	151.50	0.0490	Main Channel
36.81	151.73	0.0490	Main Channel
37.62	151.95	0.0490 /0.1110	Main Channel
37.67	151.96	0.1110	

37.83	152.00	0.1110	
38.03	152.07	0.1110	
39.32	152.50	0.1110	
39.70	152.62	0.1110	
40.47	152.84	0.1110	
41.06	153.00	0.1110	
66.35	154.00	0.1110	
91.54	159.93	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	151.87	.213E+04	1.2	0.59	30.61
0.77	152.27	.599E+04	4.8	0.87	20.60
1.18	152.68	.107E+05	10.8	1.08	16.65
1.58	153.08	.167E+05	18.7	1.20	14.91
1.98	153.48	.266E+05	29.4	1.19	15.07
2.39	153.89	.416E+05	44.4	1.15	15.58
2.79	154.29	.607E+05	65.7	1.16	15.41
3.20	154.70	.815E+05	92.5	1.22	14.69
3.60	155.10	.104E+06	124.2	1.29	13.93
4.00	155.50	.128E+06	160.9	1.36	13.21
4.41	155.91	.153E+06	202.4	1.43	12.57
4.81	156.31	.179E+06	249.0	1.49	12.00
5.21	156.71	.207E+06	300.6	1.56	11.50
5.62	157.12	.237E+06	357.3	1.62	11.05
6.02	157.52	.268E+06	419.3	1.68	10.65
6.43	157.93	.300E+06	486.5	1.74	10.29
6.83	158.33	.334E+06	559.2	1.80	9.97
7.23	158.73	.370E+06	637.5	1.86	9.67
7.64	159.14	.407E+06	721.3	1.91	9.40

	AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1637)	4924.27	198.51	6.75	90.38	4.37	1.42
OUTFLOW: ID= 1 (5637)	4924.27	196.29	6.75	90.38	4.35	1.42

CALIB			
STANDHYD (0637)	Area (ha)= 30.59		
ID= 1 DT=15.0 min	Total Imp(%)= 16.00	Dir. Conn.(%)= 16.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.89	25.70
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.50
Length (m)=	451.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	39.82
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	36.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03

		TOTALS
PEAK FLOW (cms)=	0.71	1.99	2.700 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	68.16	75.34
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.60	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20% YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2637)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0637):	30.59	2.700	5.25	75.34
	+ ID2= 2 (5637):	4924.27	196.286	6.75	90.38
	ID = 3 (2637):	4954.86	197.222	6.75	90.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1717)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2237):	10472.54	187.249	7.00	76.07
	+ ID2= 2 (2637):	4954.86	197.222	6.75	90.28
	ID = 3 (1717):	15427.40	383.314	6.75	80.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5717)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5717.0) ------>

Distance	Elevation	Manning	
0.00	159.92	0.1110	
16.17	156.24	0.1110	
31.63	155.13	0.1110	
53.62	154.50	0.1110	
65.20	152.50	0.1110	
91.81	150.00	0.1110	
110.61	150.00	0.1110	
111.90	149.13	0.1110 /0.0490	Main Channel
112.55	148.60	0.0490	Main Channel
125.01	148.60	0.0490	Main Channel
125.79	149.17	0.0490 /0.1110	Main Channel
127.48	149.50	0.1110	
210.24	149.92	0.1110	
212.41	150.00	0.1110	
224.55	150.00	0.1110	
334.54	151.50	0.1110	
364.54	157.50	0.1110	
384.84	164.02	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	149.13	.527E+04	4.4	0.63	19.84
1.10	149.70	.148E+05	16.1	0.82	15.33
1.67	150.27	.628E+05	47.3	0.57	22.13
2.23	150.83	.140E+06	112.6	0.61	20.66
2.80	151.40	.237E+06	212.9	0.68	18.54
3.37	151.97	.349E+06	364.8	0.79	15.94
3.94	152.54	.465E+06	556.7	0.90	13.92
4.51	153.11	.584E+06	785.4	1.02	12.40
5.07	153.67	.706E+06	1047.1	1.12	11.24
5.64	154.24	.831E+06	1340.6	1.22	10.33
6.21	154.81	.959E+06	1648.4	1.30	9.70
6.78	155.38	.110E+07	1991.0	1.37	9.17
7.34	155.94	.124E+07	2379.5	1.45	8.67
7.91	156.51	.138E+07	2806.9	1.53	8.22
8.48	157.08	.153E+07	3272.6	1.61	7.81
9.05	157.65	.168E+07	3771.6	1.69	7.45
9.62	158.22	.184E+07	4307.0	1.77	7.11
10.18	158.78	.199E+07	4873.0	1.85	6.82
10.75	159.35	.215E+07	5469.0	1.92	6.55

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1717) *******	383.31	6.75	80.63	3.42	0.80	
OUTFLOW: ID= 1 (5717) *******	379.17	7.00	80.63	3.41	0.80	

CALIB	
STANDHYD (0717)	Area (ha)= 33.60
ID= 1 DT=15.0 min	Total Imp(%)= 17.00 Dir. Conn.(%)= 17.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.71	27.89
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	7.70
Length (m)=	473.29	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	39.05
over (min)	15.00	15.00
Storage Coeff. (min)=	6.00 (ii)	36.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	0.83	2.10 2.920 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	113.00	66.62 74.50
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.58 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2717)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0717):	33.60	2.920	5.25	74.50	
+ ID2= 2 (5717):	15427.40	379.169	7.00	80.63	
ID = 3 (2717):	15461.00	380.055	7.00	80.62	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0257)	Area (ha)= 75.57
ID= 1 DT=15.0 min	Total Imp(%)= 83.00 Dir. Conn.(%)= 83.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	62.72	12.85
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	1.50
Length (m)=	709.79	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	50.57
over (min)	15.00	30.00
Storage Coeff. (min)=	13.20 (ii)	76.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	75.00
Unit Hyd. peak (cms)=	0.08	0.01
		TOTALS
PEAK FLOW (cms)=	0.07	0.96 9.732 (iii)
TIME TO PEAK (hrs)=	5.25	6.00 5.25
RUNOFF VOLUME (mm)=	113.00	95.87 110.09
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.84 0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2257)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0257):	75.57	9.732	5.25	110.09	
+ ID2= 2 (2717):	15461.00	380.055	7.00	80.62	
ID = 3 (2257):	15536.57	382.198	7.00	80.76	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5240)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5240.0) ------>

Distance	Elevation	Manning	
0.00	156.50	0.1110	
20.51	149.00	0.1110	
31.95	149.00	0.1110	
39.82	148.00	0.1110	
48.42	148.00	0.1110	
51.87	147.50	0.1110	
73.08	147.00	0.1110	
76.22	146.00	0.1110 /0.0490	Main Channel
77.04	145.00	0.0490	Main Channel
87.93	145.00	0.0490	Main Channel
88.30	146.00	0.0490 /0.1110	Main Channel
89.26	146.52	0.1110	
90.21	147.00	0.1110	
114.82	147.00	0.1110	
123.73	146.85	0.1110	
126.70	147.00	0.1110	
143.61	152.00	0.1110	
155.99	159.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	145.50	.727E+04	5.6	1.01	21.49
1.00	146.00	.149E+05	17.6	1.53	14.15
1.62	146.62	.259E+05	40.8	2.05	10.57
2.24	147.24	.531E+05	74.9	1.83	11.81
2.85	147.85	.113E+06	140.3	1.61	13.45
3.47	148.47	.186E+06	235.4	1.65	13.14
4.09	149.09	.266E+06	354.8	1.73	12.51
4.71	149.71	.359E+06	517.8	1.87	11.55
5.32	150.32	.455E+06	710.3	2.03	10.67
5.94	150.94	.553E+06	930.7	2.19	9.91
6.56	151.56	.655E+06	1178.2	2.34	9.26
7.18	152.18	.760E+06	1453.5	2.49	8.71
7.79	152.79	.867E+06	1758.1	2.64	8.22
8.41	153.41	.976E+06	2087.9	2.78	7.79
9.03	154.03	.109E+07	2442.5	2.92	7.42
9.65	154.65	.120E+07	2821.5	3.05	7.10
10.26	155.26	.132E+07	3224.5	3.18	6.81
10.88	155.88	.144E+07	3651.5	3.30	6.55
11.50	156.50	.156E+07	4102.3	3.42	6.32

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2257) *******	382.20	7.00	80.76	4.19	1.75	
OUTFLOW: ID= 1 (5240) *******	380.29	7.25	80.76	4.18	1.75	

CALIB	
STANDHYD (0240)	Area (ha)= 49.43
ID= 1 DT=15.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 35.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.30	32.13
Dep. Storage (mm)=	1.00	4.00

Average Slope (%)=	1.00	8.70
Length (m)=	574.05	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	41.37
over (min)	15.00	15.00
Storage Coeff. (min)=	6.60 (ii)	39.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	2.52	2.45 4.739 (iii)
TIME TO PEAK (hrs)=	5.25	5.50 5.25
RUNOFF VOLUME (mm)=	113.00	71.35 85.93
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.63 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2240)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0240):	49.43	4.739	5.25	85.93	
+ ID2= 2 (5240):	15536.57	380.289	7.25	80.76	
ID = 3 (2240):	15586.00	381.585	7.25	80.78	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0634)	Area (ha)= 320.52
ID= 1 DT=15.0 min	Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	115.39	205.13
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.10
Length (m)=	1461.78	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	41.37
over (min)	15.00	30.00
Storage Coeff. (min)=	18.00 (ii)	106.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01
		TOTALS
PEAK FLOW (cms)=	16.42	9.08 20.334 (iii)
TIME TO PEAK (hrs)=	5.25	6.75 5.25
RUNOFF VOLUME (mm)=	113.00	71.35 86.35
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.63 0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9604)					
Inlet Cap.=1.303					
#of Inlets= 1					
Total(cms)= 1.3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	320.52	20.33	5.25	86.35
	MAJOR SYS.(ID= 2):	253.13	19.03	5.25	86.35
	MINOR SYS.(ID= 3):	67.39	1.30	2.50	86.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6604)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.3030	5.6300

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9604)	67.391	1.303	2.50	86.35
OUTFLOW: ID= 1 (6604)	67.391	0.781	13.75	86.33

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.96
TIME SHIFT OF PEAK FLOW (min)=675.00
MAXIMUM STORAGE USED (ha.m.)= 3.3767

ADD HYD (4604)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6604):	67.39	0.781	13.75	86.33
	+ ID2= 2 (9604):	253.13	19.031	5.25	86.35
	ID = 3 (4604):	320.52	19.330	5.25	86.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1264)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2240):	15586.00	381.585	7.25	80.78
	+ ID2= 2 (4604):	320.52	19.330	5.25	86.34
	ID = 3 (1264):	15906.52	391.630	7.25	80.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5264)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<----- DATA FOR SECTION (5264.0) ------>

Distance	Elevation	Manning	
0.00	159.01	0.1110	
18.68	154.00	0.1110	
32.14	153.50	0.1110	
59.08	147.50	0.1110	
71.63	147.50	0.1110	
77.74	146.50	0.1110	
81.24	145.00	0.1110 /0.0490	Main Channel
81.73	143.80	0.0490	Main Channel
88.41	143.80	0.0490	Main Channel
89.20	145.00	0.0490 /0.1110	Main Channel
101.11	147.50	0.1110	
105.58	148.00	0.1110	
134.97	150.00	0.1110	
141.87	151.00	0.1110	
157.92	151.30	0.1110	
158.71	151.50	0.1110	
160.99	151.50	0.1110	
169.62	154.50	0.1110	
171.70	155.00	0.1110	
177.64	156.04	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	144.40	.305E+04	3.2	0.77	15.68
1.20	145.00	.637E+04	10.0	1.14	10.64
1.85	145.65	.112E+05	21.9	1.42	8.51
2.50	146.30	.182E+05	38.8	1.55	7.83
3.15	146.95	.277E+05	61.0	1.60	7.56
3.80	147.60	.413E+05	88.5	1.55	7.78
4.45	148.25	.639E+05	129.3	1.47	8.24
5.10	148.90	.920E+05	183.3	1.44	8.37
5.75	149.55	.126E+06	252.5	1.45	8.32
6.40	150.20	.166E+06	339.8	1.49	8.13
7.04	150.84	.210E+06	447.2	1.55	7.81
7.69	151.49	.260E+06	556.6	1.55	7.80
8.34	152.14	.318E+06	709.7	1.62	7.47
8.99	152.79	.378E+06	886.6	1.70	7.10
9.64	153.44	.440E+06	1083.6	1.79	6.77
10.29	154.09	.507E+06	1263.9	1.81	6.69
10.94	154.74	.579E+06	1512.2	1.90	6.38
11.59	155.39	.653E+06	1776.3	1.97	6.13
12.24	156.04	.730E+06	2060.1	2.05	5.91

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1264)	*******	391.63	7.25	80.89	6.71	1.52
OUTFLOW: ID= 1 (5264)	*******	389.14	7.25	80.89	6.70	1.51

CALIB			
STANDHYD (0264)	Area (ha)=	37.54	
ID= 1 DT=15.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 21.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	7.88	29.66
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.60
Length (m)=	500.27	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	38.28
over (min)	15.00	15.00
Storage Coeff. (min)=	6.60 (ii)	39.60 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.03

			TOTALS
PEAK FLOW (cms)=	1.15	2.04	2.983 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	113.00	65.10	75.16
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.57	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2264)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0264):	37.54	2.983	5.25	75.16
	+ ID2= 2 (5264):	15906.52	389.143	7.25	80.89
	ID = 3 (2264):	15944.06	390.104	7.25	80.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0631)	Area (ha)=	49.79	
ID= 1 DT=15.0 min	Total Imp(%)=	18.00	Dir. Conn.(%)= 18.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.96	40.83
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.70
Length (m)=	576.14	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	37.52
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	48.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

			TOTALS
PEAK FLOW (cms)=	1.30	2.53	3.538 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	113.00	63.61	72.50

TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.56	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9606)					
Inlet Cap.=0.099					
#of Inlets= 1					
Total(cms)= 0.1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	49.79	3.54	5.25	72.50
	MAJOR SYS.(ID= 2):	44.19	3.44	5.25	72.50
	MINOR SYS.(ID= 3):	5.60	0.10	2.50	72.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6606)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0990	0.4270

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9606)	5.599	0.099	2.50	72.50
OUTFLOW: ID= 1 (6606)	5.599	0.059	13.00	72.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.25
TIME SHIFT OF PEAK FLOW (min)=630.00
MAXIMUM STORAGE USED (ha.m.)= 0.2533

ADD HYD (4606)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (6606):	5.60	0.059	13.00	72.31
	+ ID2= 2 (9606):	44.19	3.439	5.25	72.50
	ID = 3 (4606):	49.79	3.462	5.25	72.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (3264)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

```
  ID1= 1 (2264): 15944.06 390.104     7.25    80.88
+ ID2= 2 (4606):    49.79   3.462     5.25    72.48
  ================================================
  ID = 3 (3264): 15993.85 391.385     7.25    80.85

NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0276) |   Area    (ha)= 265.62
|ID= 1 DT=15.0 min |   Total Imp(%)=  77.00   Dir. Conn.(%)=  77.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    204.53        61.09
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.30
     Length            (m)=   1330.71        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     52.42        49.41
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     16.80 (ii)   97.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00       105.00
     Unit Hyd. peak  (cms)=      0.07         0.01
                                                    *TOTALS*
     PEAK FLOW       (cms)=     29.25         3.69        31.082 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.50         5.25
     RUNOFF VOLUME    (mm)=    113.00        91.61       108.08
     TOTAL RAINFALL   (mm)=    114.00       114.00       114.00
     RUNOFF COEFFICIENT   =      0.99         0.80         0.95


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0438) |   Area    (ha)=  65.06
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     48.79        16.26
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    658.58        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     52.42        48.77
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     11.40 (ii)   67.20 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      7.08         1.22         8.059 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75         5.25
     RUNOFF VOLUME    (mm)=    113.00        89.55       107.14
     TOTAL RAINFALL   (mm)=    114.00       114.00       114.00
     RUNOFF COEFFICIENT   =      0.99         0.79         0.94
```



```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1435) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0276):   265.62  31.082     5.25   108.08
       + ID2= 2 (0438):    65.06   8.059     5.25   107.14
         ================================================
         ID = 3 (1435):   330.68  39.142     5.25   107.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0435) |   Area    (ha)=  78.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  72.00   Dir. Conn.(%)=  72.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     56.18        21.85
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         1.90
     Length            (m)=    721.25        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     52.42        48.10
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   72.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        75.00
     Unit Hyd. peak  (cms)=      0.08         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      8.15         1.52         9.156 (iii)
     TIME TO PEAK    (hrs)=      5.25         6.00         5.25
     RUNOFF VOLUME    (mm)=    113.00        87.54       105.87
     TOTAL RAINFALL   (mm)=    114.00       114.00       114.00
     RUNOFF COEFFICIENT   =      0.99         0.77         0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2435) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0435):    78.03   9.156     5.25   105.87
       + ID2= 2 (1435):   330.68  39.142     5.25   107.89
```



```
  ================================================
  ID = 3 (2435):   408.71  48.297     5.25   107.51

NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1616) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2435):   408.71  48.297     5.25   107.51
       + ID2= 2 (3264): 15993.85 391.385     7.25    80.85
         ================================================
         ID = 3 (1616): 16402.56 403.300     7.25    81.51

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0632) |   Area    (ha)=  43.94
|ID= 1 DT=15.0 min |   Total Imp(%)=  21.00   Dir. Conn.(%)=  21.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      9.23        34.71
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.00
     Length            (m)=    541.23        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     52.42        40.59
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      9.00 (ii)   52.80 (ii)
     Unit Hyd. Tpeak (min)=     15.00        60.00
     Unit Hyd. peak  (cms)=      0.09         0.02
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.34         2.22         3.049 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.75         5.25
     RUNOFF VOLUME    (mm)=    113.00        69.74        83.83
     TOTAL RAINFALL   (mm)=    114.00       114.00       114.00
     RUNOFF COEFFICIENT   =      0.99         0.61         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (9603) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.94      3.05      5.25   78.83
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  43.94      3.05      5.25   78.83
```



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    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (6603) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.7000      2.4800

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9603)    43.940     3.049      5.25      78.83
    OUTFLOW: ID= 1 (6603)    43.940     0.656      8.50      78.81

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.50
               TIME SHIFT OF PEAK FLOW          (min)=195.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  2.3235

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (4603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9603 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6603):    43.94   0.656     8.50    78.81
       + ID2= 2 (9603):     0.00   0.000     0.00     0.00
         ================================================
         ID = 3 (4603):    43.94   0.656     8.50    78.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0633) |   Area    (ha)=  19.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  20.00   Dir. Conn.(%)=  20.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      3.88        15.50
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         3.60
     Length            (m)=    359.44        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     52.42        42.92
               over (min)       15.00        15.00
     Storage Coeff.  (min)=      6.60 (ii)   39.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        45.00
     Unit Hyd. peak  (cms)=      0.10         0.03
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.56         1.25         1.704 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.50         5.25
     RUNOFF VOLUME    (mm)=    113.00        74.68        82.34
     TOTAL RAINFALL   (mm)=    114.00       114.00       114.00
     RUNOFF COEFFICIENT   =      0.99         0.66         0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| DUHYD     (9602) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  19.38      1.70      5.25   82.34
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  19.38      1.70      5.25   82.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (6602) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.8000      0.4900
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9602)     19.380     1.704     5.25      82.34
     OUTFLOW: ID= 1 (6602)     19.380     0.913     6.50      82.34

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.57
                   TIME SHIFT OF PEAK FLOW          (min)= 75.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.5633

-------------------------------------------------------------------------------

-------------------
| ADD HYD   (4602) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9602 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6602):    19.38   0.913     6.50    82.34
      + ID2= 2 (9602):     0.00   0.000     0.00     0.00
        ==========================================================
        ID = 3 (4602):    19.38   0.913     6.50    82.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (0630) |   Area    (ha)= 120.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  27.00   Dir. Conn.(%)=  27.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      32.57        88.07
```



```
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.60
     Length            (m)=     896.81        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        42.92
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   74.40 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.72         5.06          7.885 (iii)
     TIME TO PEAK    (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME    (mm)=     113.00        74.68          85.03
     TOTAL RAINFALL   (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT   =       0.99         0.66           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| DUHYD     (9601) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 120.64      7.88      5.25   85.03
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 120.64      7.88      5.25   85.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (6601) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  2.0000      3.5700
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9601)    120.640     7.885     5.25      85.03
     OUTFLOW: ID= 1 (6601)    120.640     2.945     8.00      85.02

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 37.36
                   TIME SHIFT OF PEAK FLOW          (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  5.2622

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-------------------
| ADD HYD   (4601) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
```



```
*** W A R N I N G :  HYDROGRAPH 9601 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6601):   120.64   2.945     8.00    85.02
      + ID2= 2 (9601):     0.00   0.000     0.00     0.00
        ==========================================================
        ID = 3 (4601):   120.64   2.945     8.00    85.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (2601) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4601):   120.64   2.945     8.00    85.02
      + ID2= 2 (4602):    19.38   0.913     6.50    82.34
        ==========================================================
        ID = 3 (2601):   140.02   3.677     7.50    84.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (1602) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2601):   140.02   3.677     7.50    84.65
      + ID2= 2 (4603):    43.94   0.656     8.50    78.81
        ==========================================================
        ID = 3 (1602):   183.96   4.305     7.50    83.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1602):   183.96   4.305     7.50    83.26
      + ID2= 2 (1616): 16402.56 403.300     7.25    81.51
        ==========================================================
        ID = 3 (1603): 16586.52 407.575     7.25    81.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| ROUTE CHN (5616) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5616.0) ------>
              Distance      Elevation       Manning
                  0.00         155.00        0.1110
                 50.69         148.87        0.1110
                 67.28         145.00        0.1110
                 75.68         144.20        0.1110
                 78.03         143.38        0.1110
                 78.57         143.00    0.1110 /0.0490  Main Channel
                 78.71         141.40        0.0490      Main Channel
```



```
                91.20         141.40        0.0490      Main Channel
                92.33         143.00    0.0490 /0.1110  Main Channel
                93.98         143.50        0.1110
               211.31         144.60        0.1110
               232.18         145.00        0.1110
               242.93         145.50        0.1110
               278.58         153.02        0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.53   141.93    .821E+04       4.9          0.72      27.93
       1.07   142.47    .167E+05      15.1          1.10      18.40
       1.60   143.00    .254E+05      29.0          1.38      14.62
       2.23   143.63    .380E+05      51.7          1.64      12.28
       2.85   144.25    .869E+05      87.9          1.22      16.49
       3.48   144.88    .187E+06     155.9          1.01      20.03
       4.10   145.50    .316E+06     268.0          1.03      19.65
       4.73   146.13    .453E+06     422.4          1.13      17.87
       5.36   146.76    .594E+06     610.6          1.24      16.22
       5.98   147.38    .740E+06     830.5          1.36      14.85
       6.61   148.01    .890E+06    1080.9          1.47      13.72
       7.24   148.64    .104E+07    1361.0          1.58      12.79
       7.86   149.26    .120E+07    1667.3          1.68      12.02
       8.49   149.89    .137E+07    2001.7          1.77      11.39
       9.11   150.51    .154E+07    2366.3          1.86      10.84
       9.74   151.14    .172E+07    2760.9          1.95      10.36
      10.37   151.77    .190E+07    3185.8          2.03       9.94
      10.99   152.39    .209E+07    3641.0          2.11       9.56
      11.62   153.02    .229E+07    4127.0          2.19       9.23

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1603) ******* 407.57    7.25  81.53      4.67      1.12
     OUTFLOW: ID= 1 (5616) ******* 401.24    7.50  81.53      4.65      1.11

-------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (0616) |   Area    (ha)= 105.56
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      55.95        49.61
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         6.00
     Length            (m)=     838.89        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        45.21
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       9.60 (ii)   55.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        60.00
     Unit Hyd. peak  (cms)=       0.09         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.14         3.60         10.973 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.75           5.25
     RUNOFF VOLUME    (mm)=     113.00        79.95          97.47
     TOTAL RAINFALL   (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT   =       0.99         0.70           0.85
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2616)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0616):		105.56	10.973	5.25	97.47
+ ID2= 2 (5616):		16586.52	401.238	7.50	81.53
ID = 3 (2616):		16692.08	403.730	7.50	81.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0293)	Area (ha)= 152.56		
ID= 1 DT=15.0 min	Total Imp(%)= 79.00	Dir. Conn.(%)= 79.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	120.52	32.04
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	1008.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	49.41
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	81.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS
PEAK FLOW	(cms)=	17.40 2.20 18.878 (iii)
TIME TO PEAK	(hrs)=	5.25 6.00 5.25
RUNOFF VOLUME	(mm)=	113.00 91.61 108.51
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.80 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 92.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1300)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0293):		152.56	18.878	5.25	108.51
+ ID2= 2 (2616):		16692.08	403.730	7.50	81.63

ID = 3 (1300): 16844.64 407.055 7.50 81.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5300)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5300.0) ------>

Distance	Elevation	Manning	
0.00	144.96	0.1110	
34.18	134.00	0.1110	
50.16	133.00	0.1110	
68.52	132.51	0.1110	
90.08	132.00	0.1110	
110.50	131.00	0.1110	
111.48	131.00	0.1110 /0.0490	Main Channel
114.14	130.50	0.0490	Main Channel
123.12	130.50	0.0490	Main Channel
124.57	131.00	0.0490 /0.1110	Main Channel
124.89	131.00	0.1110	
133.94	145.00	0.1110	
152.13	145.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	131.00	.181E+05	4.0	0.73	75.07
1.23	131.73	.716E+05	23.7	1.09	50.39
1.97	132.47	.170E+06	60.5	1.17	46.89
2.70	133.20	.337E+06	124.6	1.21	45.12
3.44	133.94	.544E+06	220.9	1.33	41.04
4.17	134.67	.770E+06	352.8	1.51	36.40
4.91	135.41	.100E+07	512.5	1.68	32.64
5.64	136.14	.124E+07	697.6	1.84	29.71
6.38	136.88	.149E+07	907.0	2.00	27.38
7.11	137.61	.174E+07	1139.9	2.15	25.49
7.85	138.35	.200E+07	1395.8	2.29	23.92
8.58	139.08	.227E+07	1674.1	2.42	22.60
9.32	139.82	.254E+07	1974.6	2.55	21.47
10.05	140.55	.282E+07	2297.1	2.67	20.49
10.79	141.29	.311E+07	2641.3	2.79	19.63
11.52	142.02	.340E+07	3007.1	2.90	18.86
12.26	142.76	.370E+07	3394.4	3.01	18.18
12.99	143.49	.401E+07	3803.3	3.12	17.57
13.73	144.23	.432E+07	4233.6	3.22	17.02

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1300) *******	407.05	7.50	81.88		4.42	1.56
OUTFLOW: ID= 1 (5300) *******	391.96	8.00	81.88		4.35	1.54

CALIB			
STANDHYD (0300)	Area (ha)= 140.00		
ID= 1 DT=15.0 min	Total Imp(%)= 39.00	Dir. Conn.(%)= 36.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	54.60	85.40

Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	8.20
Length	(m)=	966.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	44.82
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	54.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	7.33 6.05 12.033 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	113.00 74.34 88.26
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.65 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2300)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0300):		140.00	12.033	5.25	88.26
+ ID2= 2 (5300):		16844.64	391.957	8.00	81.88
ID = 3 (2300):		16984.64	394.795	8.00	81.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0614)	Area (ha)= 16.47		
ID= 1 DT=15.0 min	Total Imp(%)= 85.00	Dir. Conn.(%)= 85.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.00	2.47
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.30
Length	(m)=	331.36	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	50.57
over (min)		15.00	30.00
Storage Coeff. (min)=		7.20 (ii)	42.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	2.04 0.25 2.273 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	113.00 95.87 110.43
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.84 0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9614)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.=4.124					
#of Inlets= 1					
Total(cms)= 4.1		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		16.47	2.27	5.25	110.43
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		16.47	2.27	5.25	110.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0728)	Area (ha)= 12.10		
ID= 1 DT=15.0 min	Total Imp(%)= 68.00	Dir. Conn.(%)= 68.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.23	3.87
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	4.10
Length	(m)=	284.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.77
over (min)		15.00	15.00
Storage Coeff. (min)=		5.40 (ii)	33.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	1.20 0.41 1.613 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	113.00 89.55 105.50
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.79 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2728)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0728):		12.10	1.613	5.25	105.50
+ ID2= 2 (9614):		16.47	2.273	5.25	110.43

ID = 3 (2728):	28.57	3.886	5.25	108.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9270)				
Inlet Cap.=8.836				
#of Inlets= 1				
Total(cms)= 8.8	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	28.57	3.89	5.25	108.34
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	28.57	3.89	5.25	108.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6270)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.5480	0.8200
	0.0870	0.6030	4.3140	0.8520
	0.2750	0.6330	5.1300	0.8840
	0.6180	0.6640	5.9920	0.9160
	1.0600	0.6950	6.8990	0.9480
	1.5840	0.7260	7.8470	0.9800
	2.1780	0.7570	8.8360	1.0120
	2.8350	0.7890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9270)	28.570	3.886	5.25	108.34
OUTFLOW: ID= 1 (6270)	28.570	3.838	5.25	108.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 98.76
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.8343

ADD HYD (4270)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G :	HYDROGRAPH 9270 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6270):	28.57	3.838	5.25	108.28	
+ ID2= 2 (9270):	0.00	0.000	0.00	0.00	
ID = 3 (4270):	28.57	3.838	5.25	108.28	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1427)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2300):	16984.64	394.795	8.00	81.93
+ ID2= 2 (4270):	28.57	3.838	5.25	108.28
ID = 3 (1427):	17013.21	395.238	8.00	81.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0606)	Area (ha)= 53.10		
ID= 1 DT=15.0 min	Total Imp(%)= 55.00	Dir. Conn.(%)= 55.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	29.20	23.89	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	3.80	
Length (m)=	594.98	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	52.42	45.96	
over (min)	15.00	30.00	
Storage Coeff. (min)=	9.00 (ii)	52.20 (ii)	
Unit Hyd. Tpeak (min)=	15.00	45.00	
Unit Hyd. peak (cms)=	0.09	0.02	
			TOTALS
PEAK FLOW (cms)=	4.25	1.88	5.952 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	113.00	81.78	98.95
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.72	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9269)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	53.10	5.95	5.25	98.95
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	53.10	5.95	5.25	98.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6269)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3230	1.1320

0.0860	0.3350	3.0230	1.4270
0.1240	0.6920	8.0750	1.7920
0.1530	1.0380	9.7660	1.9010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9269)	53.100	5.952	5.25	98.95
OUTFLOW: ID= 1 (6269)	53.100	5.372	5.25	98.93

PEAK FLOW REDUCTION [Qout/Qin](%)= 90.26
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 1.6228

ADD HYD (4269)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
*** W A R N I N G :	HYDROGRAPH 9269 <ID= 2> IS DRY.				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6269):	53.10	5.372	5.25	98.93	
+ ID2= 2 (9269):	0.00	0.000	0.00	0.00	
ID = 3 (4269):	53.10	5.372	5.25	98.93	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2606)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1427):	17013.21	395.238	8.00	81.97
+ ID2= 2 (4269):	53.10	5.372	5.25	98.93
ID = 3 (2606):	17066.31	396.329	8.00	82.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5427)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5427.0) ------>

Distance	Elevation	Manning	
0.00	130.04	0.1110	
10.57	125.00	0.1110	
81.38	125.00	0.1110	
102.44	125.68	0.1110	
131.41	124.00	0.1110	
136.25	123.00	0.1110	
143.40	123.00	0.1110 /0.0490	Main Channel
144.00	122.20	0.0490	Main Channel
150.83	122.20	0.0490	Main Channel
153.56	123.00	0.0490 /0.1110	Main Channel
154.90	123.00	0.1110	
156.48	124.00	0.1110	
164.24	125.00	0.1110	
200.91	125.50	0.1110	

246.89	125.00	0.1110	
283.84	125.00	0.1110	
303.71	126.00	0.1110	
334.11	130.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	122.60	.199E+04	2.1	0.69	15.73
0.80	123.00	.441E+04	7.0	1.02	10.56
1.21	123.41	.975E+04	16.7	1.11	9.71
1.62	123.82	.158E+05	30.7	1.26	8.56
2.04	124.24	.229E+05	47.9	1.36	7.96
2.45	124.65	.325E+05	69.8	1.39	7.77
2.86	125.06	.493E+05	86.0	1.13	9.55
3.27	125.47	.108E+06	147.0	0.88	12.25
3.68	125.88	.184E+06	253.0	0.89	12.15
4.09	126.29	.263E+06	398.4	0.98	11.02
4.51	126.71	.344E+06	576.0	1.09	9.94
4.92	127.12	.425E+06	782.8	1.20	9.04
5.33	127.53	.507E+06	1017.2	1.30	8.31
5.74	127.94	.591E+06	1277.8	1.40	7.70
6.15	128.35	.675E+06	1563.6	1.50	7.19
6.56	128.76	.760E+06	1873.9	1.60	6.76
6.98	129.18	.847E+06	2207.9	1.69	6.39
7.39	129.59	.935E+06	2565.3	1.78	6.07
7.80	130.00	.102E+07	2945.4	1.87	5.79

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
	<---- hydrograph ---->				<-pipe / channel->	
INFLOW : ID= 2 (2606) *******	396.33	8.00	82.03		4.09	0.98
OUTFLOW: ID= 1 (5427) *******	395.36	8.25	82.03		4.08	0.98

CALIB			
STANDHYD (0427)	Area (ha)= 22.52		
ID= 1 DT=15.0 min	Total Imp(%)= 17.00	Dir. Conn.(%)= 14.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	3.83	18.69	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	5.60	
Length (m)=	387.47	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	52.42	39.41	
over (min)	15.00	15.00	
Storage Coeff. (min)=	6.00 (ii)	36.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	0.46	1.42	1.872 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	113.00	64.68	71.44
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.57	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2427)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0427):	22.52	1.872	5.25	71.44
	+ ID2= 2 (5427):	17066.31	395.365	8.25	82.03
	ID = 3 (2427):	17088.84	395.661	8.25	82.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0312)	Area (ha)= 233.87			
ID= 1 DT=15.0 min	Total Imp(%)= 46.00	Dir. Conn.(%)= 38.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	107.58	126.29
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.90
Length (m)=	1248.65	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	53.33
over (min)	15.00	30.00
Storage Coeff. (min)=	15.00 (ii)	88.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW (cms)=	12.79	8.48	17.449 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	113.00	83.35	94.62
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.73	0.83

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1341)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0312):	233.87	17.449	5.25	94.62
	+ ID2= 2 (2427):	17088.84	395.661	8.25	82.01
	ID = 3 (1341):	17322.71	401.522	8.25	82.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5341)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5341.0) ------>

Distance	Elevation	Manning	
0.00	129.00	0.1110	
19.97	122.00	0.1110	
43.39	121.83	0.1110	
70.95	121.00	0.1110	
78.38	122.00	0.1110	
110.84	122.00	0.1110	
127.33	120.00	0.1110	
127.83	120.00	0.1110 /0.0490	Main Channel
128.71	118.60	0.0490	Main Channel
147.85	118.60	0.0490	Main Channel
147.86	120.00	0.0490 /0.1110	Main Channel
148.30	120.00	0.1110	
149.10	120.67	0.1110	
154.79	121.69	0.1110	
172.71	122.26	0.1110	
194.33	126.00	0.1110	
343.54	129.42	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	119.07	.628E+04	3.7	0.41	28.15
0.93	119.53	.127E+05	11.6	0.64	18.23
1.40	120.00	.191E+05	22.3	0.81	14.29
1.96	120.56	.284E+05	39.9	0.98	11.86
2.53	121.12	.403E+05	62.0	1.07	10.83
3.09	121.69	.615E+05	90.7	1.03	11.29
3.65	122.25	.106E+06	130.5	0.86	13.58
4.21	122.81	.167E+06	196.4	0.82	14.21
4.78	123.38	.231E+06	279.4	0.85	13.75
5.34	123.94	.296E+06	378.0	0.89	13.03
5.90	124.50	.362E+06	491.4	0.95	12.29
6.46	125.06	.431E+06	619.1	1.00	11.61
7.03	125.63	.502E+06	760.5	1.06	11.00
7.59	126.19	.575E+06	906.8	1.10	10.57
8.15	126.75	.656E+06	1059.7	1.13	10.32
8.71	127.31	.748E+06	1236.5	1.15	10.08
9.28	127.88	.850E+06	1435.7	1.18	9.87
9.84	128.44	.962E+06	1657.4	1.20	9.68
10.40	129.00	.108E+07	1902.7	1.22	9.50

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1341)	*******	401.52	8.25	82.18	5.45	0.90
OUTFLOW: ID= 1 (5341)	*******	394.59	8.25	82.18	5.43	0.90

CALIB				
STANDHYD (0341)	Area (ha)= 71.87			
ID= 1 DT=15.0 min	Total Imp(%)= 39.00	Dir. Conn.(%)= 32.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	28.03	43.84
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.00
Length (m)=	692.19	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	49.96
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW (cms)=	3.34	3.50	6.106 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	113.00	79.26	90.06
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.70	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2341)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0341):	71.87	6.106	5.25	90.06
	+ ID2= 2 (5341):	17322.71	394.594	8.25	82.18
	ID = 3 (2341):	17394.58	395.985	8.25	82.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5328)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5328.0) ------>

Distance	Elevation	Manning	
0.00	122.83	0.1110	
38.42	122.00	0.1110	
76.21	122.00	0.1110	
99.10	119.00	0.1110	
111.79	118.00	0.1110	
116.05	117.00	0.1110	
120.04	117.00	0.1110 /0.0490	Main Channel
121.01	116.40	0.0490	Main Channel
129.65	116.40	0.0490	Main Channel
129.67	117.00	0.0490 /0.1110	Main Channel
130.14	117.00	0.1110	
130.87	118.00	0.1110	
139.94	119.00	0.1110	
157.92	118.89	0.1110	
175.26	119.00	0.1110	
192.73	119.00	0.1110	

216.81	119.91	0.1110
239.98	121.57	0.1110
256.21	122.00	0.1110
324.25	122.00	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	116.60	.235E+04	1.2	0.66	33.87
0.40	116.80	.478E+04	3.6	1.01	21.95
0.60	117.00	.731E+04	7.1	1.29	17.19
0.91	117.31	.135E+05	15.3	1.51	14.73
1.22	117.62	.204E+05	26.4	1.73	12.86
1.54	117.94	.278E+05	40.1	1.92	11.57
1.85	118.25	.367E+05	55.9	2.03	10.94
2.16	118.56	.483E+05	75.3	2.08	10.70
2.47	118.87	.628E+05	98.7	2.10	10.60
2.79	119.19	.962E+05	129.5	1.80	12.38
3.10	119.50	.140E+06	176.6	1.68	13.22
3.41	119.81	.188E+06	235.3	1.67	13.34
3.72	120.12	.241E+06	306.8	1.70	13.08
4.04	120.44	.296E+06	390.4	1.76	12.64
4.35	120.75	.354E+06	485.2	1.83	12.17
4.66	121.06	.415E+06	591.3	1.90	11.70
4.97	121.37	.479E+06	708.7	1.97	11.26
5.29	121.69	.546E+06	831.7	2.03	10.93
5.60	122.00	.618E+06	958.2	2.07	10.74

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2341)	*******	395.98	8.25	82.22	4.06	1.76
OUTFLOW: ID= 1 (5328)	*******	394.72	8.50	82.22	4.04	1.76

CALIB				
STANDHYD (0328)	Area (ha)= 240.00			
ID= 1 DT=15.0 min	Total Imp(%)= 56.00	Dir. Conn.(%)= 49.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	134.40	105.60
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.80
Length (m)=	1264.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	55.39
over (min)	15.00	30.00
Storage Coeff. (min)=	15.00 (ii)	88.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	90.00
Unit Hyd. peak (cms)=	0.07	0.01

		TOTALS
PEAK FLOW (cms)=	16.92	7.48	21.117 (iii)
TIME TO PEAK (hrs)=	5.25	6.25	5.25
RUNOFF VOLUME (mm)=	113.00	87.03	99.75
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.76	0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2328)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0328):		240.00	21.117	5.25	99.75
+ ID2= 2 (5328):		17394.58	394.717	8.50	82.22
ID = 3 (2328):		17634.58	399.477	8.50	82.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0274)	Area (ha)=	98.82	
ID= 1 DT=15.0 min	Total Imp(%)=	58.00	Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.32	41.50
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	811.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	46.69
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	70.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS	
PEAK FLOW	(cms)=	8.31	2.77 10.121 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00 5.25
RUNOFF VOLUME	(mm)=	113.00	83.66 100.68
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.73 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0287)	Area (ha)=	145.43	
ID= 1 DT=15.0 min	Total Imp(%)=	51.00	Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	74.17	71.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.40
Length	(m)=	984.65	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		52.42	43.69
over (min)		15.00	30.00
Storage Coeff. (min)=		13.80 (ii)	80.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.01

		TOTALS	
PEAK FLOW	(cms)=	10.71	4.04 13.235 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25 5.25
RUNOFF VOLUME	(mm)=	113.00	76.40 95.07
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.67 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1301)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0274):		98.82	10.121	5.25	100.68
+ ID2= 2 (0287):		145.43	13.235	5.25	95.07
ID = 3 (1301):		244.25	23.356	5.25	97.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0301)	Area (ha)=	32.30	
ID= 1 DT=15.0 min	Total Imp(%)=	21.00	Dir. Conn.(%)= 17.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.78	25.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	464.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	43.32
over (min)		15.00	30.00
Storage Coeff. (min)=		7.80 (ii)	44.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS	
PEAK FLOW	(cms)=	0.80	1.94 2.548 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	113.00	71.16 78.27
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.62 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2301)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0301):		32.30	2.548	5.25	78.27
+ ID2= 2 (1301):		244.25	23.356	5.25	97.34
ID = 3 (2301):		276.55	25.904	5.25	95.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0683)	Area (ha)=	98.00	
ID= 1 DT=15.0 min	Total Imp(%)=	57.00	Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.86	42.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	808.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.68
over (min)		15.00	30.00
Storage Coeff. (min)=		11.40 (ii)	66.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS	
PEAK FLOW	(cms)=	7.96	3.12 10.431 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	113.00	86.10 101.16
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.76 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0263)	Area (ha)=	112.72	
ID= 1 DT=15.0 min	Total Imp(%)=	20.00	Dir. Conn.(%)= 16.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.54	90.18
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.20
Length	(m)=	866.87	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		52.42	42.50
over (min)		15.00	30.00
Storage Coeff. (min)=		10.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS	
PEAK FLOW	(cms)=	2.62	5.72 6.966 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	113.00	69.58 76.53
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.61 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2263)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0263):		112.72	6.966	5.25	76.53
+ ID2= 2 (0683):		98.00	10.431	5.25	101.16
ID = 3 (2263):		210.72	17.397	5.25	87.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1428)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2263):		210.72	17.397	5.25	87.99
+ ID2= 2 (2301):		276.55	25.904	5.25	95.11
ID = 3 (1428):		487.27	43.301	5.25	92.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5428)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5428.0) ------>

Distance	Elevation	Manning	
0.00	138.98	0.1110	
32.39	138.00	0.1110	
48.96	135.08	0.1110	
48.99	135.08	0.1110	
49.39	135.00	0.1110	
58.21	134.38	0.1110	
80.35	133.30	0.1110 /0.0490	Main Channel

85.70	132.80	0.0490	Main Channel
88.03	132.80	0.0490	Main Channel
90.50	133.26	0.0490 /0.1110	Main Channel
97.60	134.00	0.1110	
112.23	135.00	0.1110	
113.23	135.00	0.1110	
127.46	137.03	0.1110	
133.90	137.78	0.1110	
136.01	138.00	0.1110	
139.38	138.17	0.1110	
153.22	139.00	0.1110	
157.75	139.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	133.03	.593E+03	0.3	0.31	33.11
0.46	133.26	.171E+04	1.3	0.46	22.49
0.80	133.60	.470E+04	4.9	0.64	16.06
1.13	133.93	.980E+04	11.1	0.70	14.66
1.47	134.27	.171E+05	20.4	0.74	13.98
1.81	134.61	.268E+05	33.4	0.77	13.36
2.14	134.94	.385E+05	50.4	0.81	12.73
2.48	135.28	.520E+05	72.5	0.86	11.95
2.82	135.62	.664E+05	99.1	0.92	11.16
3.15	135.95	.817E+05	129.9	0.98	10.48
3.49	136.29	.979E+05	164.7	1.04	9.91
3.82	136.62	.115E+06	203.6	1.09	9.41
4.16	136.96	.133E+06	246.6	1.14	8.99
4.50	137.30	.152E+06	293.4	1.19	8.63
4.83	137.63	.172E+06	344.5	1.24	8.31
5.17	137.97	.193E+06	399.7	1.28	8.03
5.51	138.31	.216E+06	441.5	1.26	8.14
5.84	138.64	.242E+06	492.5	1.25	8.20
6.18	138.98	.272E+06	553.1	1.25	8.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1428)	487.27	43.30	5.25	92.03	2.00	0.79
OUTFLOW: ID= 1 (5428)	487.27	39.67	5.25	92.03	1.94	0.78

CALIB
STANDHYD (0428)
ID= 1 DT=15.0 min

Area (ha)= 43.25
Total Imp(%)= 53.00 Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.92	20.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.20
Length	(m)=	536.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	60.84
over (min)		15.00	30.00
Storage Coeff. (min)=		9.00 (ii)	51.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	2.64	2.24 4.710 (iii)

TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	113.00	91.80 100.71
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.81 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2428)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0428):	43.25	4.710	5.25	100.71
+ ID2= 2 (5428):	487.27	39.667	5.25	92.03
ID = 3 (2428):	530.52	44.377	5.25	92.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5309)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5309.0) ------>

Distance	Elevation	Manning	
0.00	135.01	0.1110	
88.30	132.00	0.1110	
91.73	132.10	0.1110	
100.02	131.00	0.1110	
103.43	130.00	0.1110 /0.0490	Main Channel
105.04	128.50	0.0490	Main Channel
106.10	128.50	0.0490	Main Channel
107.39	130.00	0.0490 /0.1110	Main Channel
107.67	130.05	0.1110	
111.76	131.00	0.1110	
120.80	132.00	0.1110	
120.87	132.00	0.1110	
133.03	133.00	0.1110	
148.52	134.00	0.1110	
172.34	134.99	0.1110	
172.97	134.99	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	128.80	.529E+03	0.2	0.59	37.05
0.60	129.10	.129E+04	0.8	0.83	26.15
0.90	129.40	.227E+04	1.8	1.02	21.39
1.20	129.70	.348E+04	3.1	1.18	18.51
1.50	130.00	.492E+04	5.0	1.32	16.50
1.86	130.36	.743E+04	8.6	1.51	14.46
2.21	130.71	.112E+05	13.4	1.55	14.02
2.57	131.07	.163E+05	19.5	1.56	13.97
2.93	131.43	.237E+05	27.3	1.50	14.49
3.28	131.78	.339E+05	37.6	1.45	14.99

3.64	132.14	.475E+05	49.5 1.36 16.01
4.00	132.50	.688E+05	67.2 1.28 17.08
4.35	132.85	.970E+05	91.4 1.23 17.70
4.71	133.21	.132E+06	122.7 1.21 17.95
5.06	133.56	.175E+06	162.7 1.22 17.90
5.42	133.92	.225E+06	212.7 1.24 17.62
5.78	134.28	.283E+06	271.6 1.26 17.34
6.13	134.63	.349E+06	343.0 1.28 16.98
6.49	134.99	.425E+06	427.8 1.32 16.56

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2428)	530.52	44.38	5.25	92.74	3.48	1.40
OUTFLOW: ID= 1 (5309)	530.52	40.30	5.50	92.74	3.37	1.43

CALIB
STANDHYD (0309)
ID= 1 DT=15.0 min

Area (ha)= 68.51
Total Imp(%)= 45.00 Dir. Conn.(%)= 35.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.83	37.68
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.90
Length	(m)=	675.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	55.91
over (min)		15.00	30.00
Storage Coeff. (min)=		9.60 (ii)	55.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02
			TOTALS
PEAK FLOW	(cms)=	3.49	3.47 6.284 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75 5.25
RUNOFF VOLUME	(mm)=	113.00	85.73 95.27
TOTAL RAINFALL	(mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT	=	0.99	0.75 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2309)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0309):	68.51	6.284	5.25	95.27
+ ID2= 2 (5309):	530.52	40.304	5.50	92.74
ID = 3 (2309):	599.03	45.101	5.50	93.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5615)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5615.0) ------>

Distance	Elevation	Manning	
0.00	126.00	0.1110	
5.19	124.23	0.1110	
5.94	124.00	0.1110	
8.92	123.00	0.1110	
9.88	122.62	0.1110	
11.32	122.00	0.1110	
12.54	122.00	0.1110 /0.0490	Main Channel
13.18	121.10	0.0490	Main Channel
14.84	121.10	0.0490	Main Channel
15.91	122.00	0.0490 /0.1110	Main Channel
20.85	123.00	0.1110	
21.91	123.56	0.1110	
25.11	125.00	0.1110	
26.34	125.69	0.1110	
28.50	126.85	0.1110	
28.61	126.92	0.1110	
30.55	128.00	0.1110	
32.32	128.23	0.1110	
34.17	128.53	0.1110	
36.76	129.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	121.33	.431E+03	0.3	0.79	21.69
0.45	121.55	.960E+03	1.1	1.14	14.94
0.67	121.77	.159E+04	2.2	1.40	12.17
0.90	122.00	.231E+04	3.7	1.61	10.55
1.17	122.27	.383E+04	6.6	1.76	9.69
1.43	122.53	.587E+04	10.5	1.83	9.28
1.70	122.80	.845E+04	15.6	1.89	9.01
1.97	123.07	.116E+05	22.0	1.94	8.77
2.23	123.33	.151E+05	29.7	2.01	8.46
2.50	123.60	.189E+05	38.7	2.09	8.15
2.77	123.87	.232E+05	49.1	2.16	7.87
3.03	124.13	.278E+05	60.8	2.23	7.62
3.30	124.40	.328E+05	74.0	2.30	7.39
3.57	124.67	.382E+05	88.7	2.37	7.18
3.83	124.93	.440E+05	105.0	2.44	6.98
4.10	125.20	.501E+05	123.0	2.51	6.79
4.37	125.47	.566E+05	142.7	2.58	6.61
4.63	125.73	.634E+05	164.1	2.65	6.44
4.90	126.00	.706E+05	187.1	2.71	6.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2309)	599.03	45.10	5.50	93.03	2.66	2.13
OUTFLOW: ID= 1 (5615)	599.03	44.82	5.50	93.03	2.66	2.13

CALIB
STANDHYD (0615)
ID= 1 DT=15.0 min

Area (ha)= 31.22
Total Imp(%)= 34.00 Dir. Conn.(%)= 27.00

```
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      10.61         20.61
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          6.40
     Length            (m)=     456.22         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         49.49
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       6.60 (ii)    37.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.23          1.97          3.045 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=     113.00         79.06         88.22
     TOTAL RAINFALL   (mm)=     114.00        114.00        114.00
     RUNOFF COEFFICIENT   =       0.99          0.69          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2615) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0615):    31.22   3.045     5.25    88.22
       + ID2= 2 (5615):   599.03  44.817     5.50    93.03
         ==========================================
         ID = 3 (2615):   630.25  47.221     5.50    92.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (1335) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2328): 17634.58 399.477     8.50    82.46
       + ID2= 2 (2615):   630.25  47.221     5.50    92.79
         ==========================================
         ID = 3 (1335): 18264.83 412.832     8.50    82.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (5335) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION (5335.0) ------>
              Distance      Elevation       Manning
                 0.00         125.00        0.1110
                40.36         116.00        0.1110
```



```
                 71.40        114.00        0.1110
                 88.94        113.71        0.1110
                106.14        114.00        0.1110
                116.89        114.00        0.1110
                122.13        112.00        0.1110
                122.45        112.00        0.1110
                122.47        112.00    0.1110 /0.0490  Main Channel
                122.55        111.50       0.0490       Main Channel
                131.77        111.50       0.0490       Main Channel
                131.80        112.00    0.0490 /0.1110  Main Channel
                132.16        112.00        0.1110
                134.04        113.00        0.1110
                155.71        114.00        0.1110
                250.45        117.00        0.1110
                599.03        117.00        0.1110
                740.01        120.00        0.1110

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)    (cu.m.)       (cms)        (m/s)      (min)
       0.25   111.75    .868E+03         1.2         0.54      11.65
       0.50   112.00    .174E+04         3.8         0.83       7.57
       0.97   112.47    .370E+04        11.8         1.20       5.21
       1.44   112.94    .603E+04        23.5         1.46       4.27
       1.91   113.41    .937E+04        38.9         1.56       4.02
       2.38   113.88    .154E+05        58.7         1.43       4.37
       2.85   114.35    .305E+05        94.5         1.16       5.38
       3.32   114.82    .503E+05       150.1         1.12       5.59
       3.79   115.29    .740E+05       225.3         1.14       5.47
       4.26   115.76    .102E+06       321.5         1.19       5.27
       4.74   116.24    .133E+06       443.1         1.25       5.00
       5.21   116.71    .168E+06       591.2         1.32       4.72
       5.68   117.18    .228E+06       663.8         1.09       5.73
       6.15   117.65    .331E+06       985.9         1.12       5.60
       6.62   118.12    .439E+06      1389.2         1.19       5.27
       7.09   118.59    .551E+06      1868.4         1.27       4.91
       7.56   119.06    .667E+06      2420.4         1.36       4.59
       8.03   119.53    .787E+06      3043.6         1.45       4.31
       8.50   120.00    .912E+06      3736.8         1.54       4.07

                                  <---- hydrograph ---->   <-pipe / channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (1335) *******   412.83    8.50  82.81      4.62      1.23
     OUTFLOW: ID= 1 (5335) *******   413.19    8.50  82.81      4.61      1.23


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-------------------
| CALIB             |
| STANDHYD  (0335) |   Area    (ha)=  17.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  43.00   Dir. Conn.(%)=  36.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       7.49          9.93
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          5.90
     Length            (m)=     340.78         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         51.18
               over (min)        15.00         15.00
     Storage Coeff.  (min)=       5.40 (ii)    32.40 (ii)
```



```
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.11          0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.91          1.08          1.997 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=     113.00         81.12         92.59
     TOTAL RAINFALL   (mm)=     114.00        114.00        114.00
     RUNOFF COEFFICIENT   =       0.99          0.71          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (2335) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0335):    17.42   1.997     5.25    92.59
       + ID2= 2 (5335): 18264.83 413.194     8.50    82.81
         ==========================================
         ID = 3 (2335): 18282.24 413.375     8.50    82.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0672) |   Area    (ha)= 420.75
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  52.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     252.45        168.30
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.70
     Length            (m)=    1674.81         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         58.99
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      18.00 (ii)   106.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00        105.00
     Unit Hyd. peak  (cms)=       0.06          0.01
                                                      *TOTALS*
     PEAK FLOW       (cms)=      31.13         11.59         36.854 (iii)
     TIME TO PEAK    (hrs)=       5.25          6.50          5.25
     RUNOFF VOLUME    (mm)=     113.00         91.27        102.57
     TOTAL RAINFALL   (mm)=     114.00        114.00        114.00
     RUNOFF COEFFICIENT   =       0.99          0.80          0.90


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| DUHYD     (9672) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1): 420.75     36.85      5.25  102.57
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3): 420.75     36.85      5.25  102.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (6672) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   3.0660     11.8000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (9672)    420.750     36.854      5.25     102.57
     OUTFLOW: ID= 1 (6672)    420.750      7.189      9.00     102.57

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.51
               TIME SHIFT OF PEAK FLOW       (min)=225.00
               MAXIMUM  STORAGE   USED      (ha.m.)= 27.6741

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-------------------
| ADD HYD   (4672) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9672 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (6672):   420.75   7.189     9.00   102.57
       + ID2= 2 (9672):     0.00   0.000     0.00     0.00
         ==========================================
         ID = 3 (4672):   420.75   7.189     9.00   102.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0322) |   Area    (ha)= 139.97
|ID= 1 DT=15.0 min |   Total Imp(%)=  56.00   Dir. Conn.(%)=  46.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      78.38         61.59
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.50
     Length            (m)=     965.99         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         60.47
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      13.20 (ii)    79.20 (ii)
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```
    Unit Hyd. Tpeak (min)=      15.00        75.00
    Unit Hyd. peak  (cms)=       0.08         0.01
                                                      *TOTALS*
    PEAK FLOW       (cms)=       9.31         5.26        12.858 (iii)
    TIME TO PEAK    (hrs)=       5.25         6.00         5.25
    RUNOFF VOLUME    (mm)=     113.00        91.70       101.50
    TOTAL RAINFALL   (mm)=     114.00       114.00       114.00
    RUNOFF COEFFICIENT   =       0.99         0.80         0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2322) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0322):   139.97  12.858     5.25   101.50
       + ID2= 2 (4672):   420.75   7.189     9.00   102.57
         ================================================
         ID = 3 (2322):   560.72  16.502     5.25   102.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2322):   560.72  16.502     5.25   102.30
       + ID2= 2 (2335): 18282.24 413.375     8.50    82.82
         ================================================
         ID = 3 (1346): 18842.96 423.190     8.50    83.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5346) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5346.0) ------>
              Distance      Elevation       Manning
                  0.00         119.00        0.1110
                  0.00         117.00        0.1110
                 13.24         112.00        0.1110
                 20.29         111.00        0.1110
                 39.56         110.00        0.1110
                 39.81         110.00        0.1110
                 44.05         109.55        0.1110
                 47.94         109.01        0.1110
                 47.99         109.00        0.1110
                 48.77         109.00    0.1110 /0.0490  Main Channel
                 50.01         108.50        0.0490      Main Channel
                 66.15         108.50        0.0490      Main Channel
                 68.59         109.00    0.0490 /0.1110  Main Channel
```



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                 68.90         109.00        0.1110
                 70.88         110.00        0.1110
                 80.34         116.00        0.1110
                 82.24         117.02        0.1110
                 82.27         117.04        0.1110
                 86.00         118.64        0.1110
                 86.92         119.00        0.1110

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.50   109.00    .644E+04       12.3         1.37       8.73
       1.03   109.53    .152E+05       45.2         2.13       5.61
       1.55   110.05    .261E+05       95.1         2.61       4.57
       2.08   110.58    .403E+05      162.3         2.88       4.14
       2.61   111.11    .587E+05      250.2         3.05       3.91
       3.13   111.63    .796E+05      361.0         3.25       3.68
       3.66   112.16    .102E+06      492.6         3.46       3.46
       4.18   112.68    .126E+06      645.9         3.68       3.24
       4.71   113.21    .150E+06      817.9         3.90       3.06
       5.24   113.74    .175E+06     1008.2         4.12       2.90
       5.76   114.26    .202E+06     1216.4         4.32       2.76
       6.29   114.79    .228E+06     1442.2         4.52       2.64
       6.82   115.32    .256E+06     1685.5         4.71       2.53
       7.34   115.84    .285E+06     1946.1         4.89       2.44
       7.87   116.37    .314E+06     2223.6         5.07       2.36
       8.39   116.89    .345E+06     2518.3         5.23       2.28
       8.92   117.42    .376E+06     2837.9         5.41       2.21
       9.45   117.95    .407E+06     3175.6         5.58       2.14
       9.97   118.47    .439E+06     3529.2         5.75       2.08

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1346) *******   423.19    8.50  83.40      3.38      3.34
    OUTFLOW: ID= 1 (5346) *******   423.36    8.50  83.40      3.37      3.34


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0346) |   Area    (ha)=  29.38
|ID= 1 DT=15.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  68.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      19.98         9.40
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         5.40
    Length            (m)=     442.57        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      52.42        46.69
              over (min)        15.00        15.00
    Storage Coeff.  (min)=       6.60 (ii)   39.00 (ii)
    Unit Hyd. Tpeak (min)=      15.00        45.00
    Unit Hyd. peak  (cms)=       0.10         0.03
                                                      *TOTALS*
    PEAK FLOW       (cms)=       2.91         0.85         3.702 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.50         5.25
    RUNOFF VOLUME    (mm)=     113.00        83.66       103.61
    TOTAL RAINFALL   (mm)=     114.00       114.00       114.00
    RUNOFF COEFFICIENT   =       0.99         0.73         0.91
```



```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  88.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2346) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0346):    29.38   3.702     5.25   103.61
       + ID2= 2 (5346): 18842.96 423.355     8.50    83.40
         ================================================
         ID = 3 (2346): 18872.34 423.636     8.50    83.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0356) |   Area    (ha)=  67.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      50.34        16.78
    Dep. Storage     (mm)=       1.00         4.00
    Average Slope     (%)=       1.00         3.40
    Length            (m)=     668.93        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      52.42        49.41
              over (min)        15.00        30.00
    Storage Coeff.  (min)=       9.60 (ii)   57.60 (ii)
    Unit Hyd. Tpeak (min)=      15.00        60.00
    Unit Hyd. peak  (cms)=       0.09         0.02
                                                      *TOTALS*
    PEAK FLOW       (cms)=       7.32         1.39         8.456 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.75         5.25
    RUNOFF VOLUME    (mm)=     113.00        91.61       107.65
    TOTAL RAINFALL   (mm)=     114.00       114.00       114.00
    RUNOFF COEFFICIENT   =       0.99         0.80         0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (1355) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0356):    67.12   8.456     5.25   107.65
       + ID2= 2 (2346): 18872.34 423.636     8.50    83.43
         ================================================
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         ID = 3 (1355): 18939.46 424.388     8.50    83.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5355) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5355.0) ------>
              Distance      Elevation       Manning
                  0.00         113.00        0.1110
                 27.22         105.00        0.1110
                 79.42         103.00        0.1110
                 81.02         102.67    0.1110 /0.0490  Main Channel
                 84.17         102.00        0.0490      Main Channel
                 84.81         102.00        0.0490      Main Channel
                 87.18         101.40        0.0490      Main Channel
                 94.91         101.40        0.0490      Main Channel
                 97.82         102.00        0.0490      Main Channel
                 98.24         102.00        0.0490      Main Channel
                 98.77         103.00    0.0490 /0.1110  Main Channel
                100.12         106.88        0.1110
                100.16         107.00        0.1110
                108.13         108.00        0.1110
                111.00         109.00        0.1110
                115.64         112.00        0.1110
                133.82         113.00        0.1110

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.42   101.82    .720E+04        3.0         0.73      40.33
       0.85   102.25    .175E+05       10.6         1.08      27.37
       1.27   102.67    .298E+05       23.5         1.40      21.16
       1.92   103.32    .538E+05       55.5         1.83      16.16
       2.56   103.96    .953E+05      102.9         1.92      15.44
       3.21   104.61    .156E+06      169.3         1.92      15.39
       3.85   105.25    .236E+06      260.4         1.96      15.08
       4.50   105.90    .321E+06      378.0         2.09      14.15
       5.14   106.54    .409E+06      516.3         2.24      13.20
       5.79   107.19    .500E+06      674.0         2.39      12.36
       6.44   107.84    .598E+06      851.6         2.53      11.70
       7.08   108.48    .703E+06     1050.5         2.65      11.16
       7.73   109.13    .813E+06     1270.1         2.77      10.67
       8.37   109.77    .927E+06     1510.1         2.89      10.24
       9.02   110.42    .105E+07     1769.8         3.00       9.84
       9.66   111.06    .117E+07     2049.2         3.12       9.49
      10.31   111.71    .129E+07     2348.2         3.22       9.17
      10.95   112.35    .142E+07     2654.6         3.31       8.93
      11.60   113.00    .157E+07     2983.1         3.38       8.76

                                  <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
    INFLOW : ID= 2 (1355) *******   424.39    8.50  83.52      4.71      2.14
    OUTFLOW: ID= 1 (5355) *******   422.49    8.75  83.52      4.70      2.13


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| CALIB            |
| STANDHYD  (0355) |   Area    (ha)=  83.93
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|ID= 1 DT=15.0 min | Total Imp(%)= 56.00 Dir. Conn.(%)= 56.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	47.00	36.93
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.50
Length (m)=	748.02	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	44.45
over (min)	15.00	30.00
Storage Coeff. (min)=	8.40 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	6.84 2.80 9.359 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	113.00 78.15 97.67
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.69 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2355)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0355):		83.93	9.359	5.25	97.67
+ ID2= 2 (5355):		18939.46	422.493	8.75	83.52
ID = 3 (2355):		19023.39	423.344	8.75	83.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0314)	Area (ha)= 515.06				
ID= 1 DT=15.0 min	Total Imp(%)= 62.00	Dir. Conn.(%)= 60.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	319.34	195.72
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.60
Length (m)=	1853.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	50.28
over (min)	15.00	30.00
Storage Coeff. (min)=	18.00 (ii)	104.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	105.00
Unit Hyd. peak (cms)=	0.06	0.01

		TOTALS
PEAK FLOW	(cms)=	43.97 11.34 49.382 (iii)
TIME TO PEAK	(hrs)=	5.25 6.50 5.25

	IMPERVIOUS	PERVIOUS (i)
RUNOFF VOLUME (mm)=	113.00	86.73 102.49
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.76 0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2314)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G : HYDROGRAPH 9614 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (0314):		515.06	49.382	5.25	102.49
+ ID2= 2 (9614):		0.00	0.000	0.00	0.00
ID = 3 (2314):		515.06	49.382	5.25	102.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0675)	Area (ha)= 71.22				
ID= 1 DT=15.0 min	Total Imp(%)= 34.00	Dir. Conn.(%)= 27.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.21	47.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	3.30
Length (m)=	689.06	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	46.31
over (min)	15.00	30.00
Storage Coeff. (min)=	16.20 (ii)	59.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.07	0.02

		TOTALS
PEAK FLOW	(cms)=	2.76 3.29 5.280 (iii)
TIME TO PEAK	(hrs)=	5.25 5.75 5.25
RUNOFF VOLUME	(mm)=	113.00 72.62 83.52
TOTAL RAINFALL	(mm)=	114.00 114.00 114.00
RUNOFF COEFFICIENT	=	0.99 0.64 0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9153)
Inlet Cap.=*****

#of Inlets= 1
Total(cms)=*****

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	71.22	5.28	5.25	83.52
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	71.22	5.28	5.25	83.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6153)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	7.2100	0.1500
	3.5200	0.0800	9.2000	0.2500
	5.8400	0.1100	12.9500	0.3500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9153)	71.220	5.280	5.25	83.52
OUTFLOW: ID= 1 (6153)	71.220	5.144	5.25	83.52

PEAK FLOW REDUCTION [Qout/Qin](%)= 97.43
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.1071

ADD HYD (4153)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9153 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6153):	71.22	5.144	5.25	83.52
+ ID2= 2 (9153):	0.00	0.000	0.00	0.00
ID = 3 (4153):	71.22	5.144	5.25	83.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9152)
Inlet Cap.=*****
#of Inlets= 1
Total(cms)=*****

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	71.22	5.14	5.25	83.52
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	71.22	5.14	5.25	83.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6152)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.0000	1.1800
	0.8000	0.3000	1.9000	1.4000
	0.9000	0.7000	3.5000	1.9100

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9152)	71.220	5.144	5.25	83.52
OUTFLOW: ID= 1 (6152)	71.220	3.405	6.50	83.52

PEAK FLOW REDUCTION [Qout/Qin](%)= 66.19
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 1.8819

ADD HYD (4152)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 9152 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (6152):	71.22	3.405	6.50	83.52
+ ID2= 2 (9152):	0.00	0.000	0.00	0.00
ID = 3 (4152):	71.22	3.405	6.50	83.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1314)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2314):	515.06	49.382	5.25	102.49
+ ID2= 2 (4152):	71.22	3.405	6.50	83.52
ID = 3 (1314):	586.28	50.379	5.25	100.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0670)	Area (ha)= 43.66				
ID= 1 DT=15.0 min	Total Imp(%)= 70.00	Dir. Conn.(%)= 70.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	30.56	13.10
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.40
Length (m)=	539.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	49.41
over (min)	15.00	30.00
Storage Coeff. (min)=	9.60 (ii)	56.40 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02

TOTALS

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     PEAK FLOW      (cms)=       4.44         1.09          5.341 (iii)
     TIME TO PEAK   (hrs)=       5.25         5.75           5.25
     RUNOFF VOLUME   (mm)=     113.00        91.61         106.58
     TOTAL RAINFALL  (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT  =       0.99         0.80           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  92.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (8607) |
| Inlet Cap.=5.000 |
| #of Inlets=    1 |
| Total(cms)=  5.0 |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  43.66      5.34      5.25  106.58
     ==================================================
     MAJOR SYS.(ID= 2):   0.36      0.34      5.25  106.58
     MINOR SYS.(ID= 3):  43.30      5.00      5.00  106.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  68.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  49.00   Dir. Conn.(%)=  49.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.63        35.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     676.46        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        47.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=       4.87         2.33          6.398 (iii)
     TIME TO PEAK   (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME   (mm)=     113.00        85.58          99.01
     TOTAL RAINFALL  (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT  =       0.99         0.75           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  15.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      13.43         2.37
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     324.55        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        47.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=       1.94         0.16          2.048 (iii)
     TIME TO PEAK   (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME   (mm)=     113.00        85.58         108.89
     TOTAL RAINFALL  (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT  =       0.99         0.75           0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.80      2.05      5.25  108.89
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.80      2.05      5.25  108.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.6600      1.5800

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     15.800     2.048     5.25     108.89
     OUTFLOW: ID= 1 (****)     15.800     0.444     6.75     108.85

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.65
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0622

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (****):    15.80   0.444     6.75   108.85
       + ID2= 2 (****):     0.00   0.000     0.00     0.00
         ==================================================
         ID = 3 (****):    15.80   0.444     6.75   108.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  44.69
|ID= 1 DT=15.0 min |   Total Imp(%)=  85.00   Dir. Conn.(%)=  85.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.99         6.70
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.70
     Length            (m)=     545.83        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      52.42        47.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.60 (ii)   75.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        75.00
     Unit Hyd. peak  (cms)=       0.08         0.02
                                                        *TOTALS*
     PEAK FLOW      (cms)=       5.50         0.45          5.794 (iii)
     TIME TO PEAK   (hrs)=       5.25         6.00           5.25
     RUNOFF VOLUME   (mm)=     113.00        85.58         108.89
     TOTAL RAINFALL  (mm)=     114.00       114.00         114.00
     RUNOFF COEFFICIENT  =       0.99         0.75           0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  89.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| DUHYD     (****) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  44.69      5.79      5.25  108.89
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  44.69      5.79      5.25  108.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (****) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  1.8800      4.4690

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     44.690     5.794     5.25     108.89
     OUTFLOW: ID= 1 (****)     44.690     1.261     6.75     108.87

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.77
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.9985

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
         ID1= 1 (****):    44.69   1.261     6.75   108.87
       + ID2= 2 (****):     0.00   0.000     0.00     0.00
         ==================================================
         ID = 3 (****):    44.69   1.261     6.75   108.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    15.80   0.444     6.75   108.85
       + ID2= 2 (****):    44.69   1.261     6.75   108.87
         ==================================================
         ID = 3 (****):    60.49   1.704     6.75   108.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (****) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    68.64   6.398     5.25    99.01
       + ID2= 2 (****):    60.49   1.704     6.75   108.87
         ==================================================
         ID = 3 (****):   129.13   7.715     5.25   103.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (2599) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (8607):	43.30	5.000	5.00	106.58
+ ID2= 2 (****):	129.13	7.715	5.25	103.63
ID = 3 (2599):	172.43	12.715	5.25	104.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9964)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	172.43	12.71	5.25	104.37
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	172.43	12.71	5.25	104.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6964) | IN= 2---> OUT= 1 | DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3000	2.2107
0.0400	0.1758	0.3200	2.4327
0.0700	0.3516	0.3400	2.6546
0.1100	0.5274	0.3500	2.8766
0.1500	0.7032	0.3700	3.0985
0.1800	0.8790	0.3800	3.3711
0.2000	1.1010	0.3900	3.6437
0.2300	1.3229	0.7400	3.9163
0.2500	1.5449	0.7600	4.1889
0.2700	1.7668	0.0000	0.0000
0.2900	1.9888	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9964)	172.435	12.715	5.25	104.37
OUTFLOW: ID= 1 (6964)	172.435	1.971	10.25	104.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.50
TIME SHIFT OF PEAK FLOW (min)=300.00
MAXIMUM STORAGE USED (ha.m.)= 10.8666

ADD HYD (4964) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6964):	172.43	1.971	10.25	104.36
+ ID2= 2 (9964):	0.00	0.000	0.00	0.00
ID = 3 (4964):	172.43	1.971	10.25	104.36

*** W A R N I N G : HYDROGRAPH 9964 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (****) | ID= 1 DT=15.0 min | Area (ha)= 72.09 | Total Imp(%)= 45.00 | Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	39.65
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	693.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	46.69
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	4.71	2.82	6.927 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	83.66	96.86
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.73	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | STANDHYD (****) | ID= 1 DT=15.0 min | Area (ha)= 85.85 | Total Imp(%)= 85.00 | Dir. Conn.(%)= 85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.82	4.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	423.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	46.69
over (min)		15.00	30.00
Storage Coeff. (min)=		10.80 (ii)	64.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	60.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	3.31	0.29	3.540 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	113.00	83.66	108.60
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.73	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 88.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (****) | Inlet Cap.=***** | #of Inlets= 1 | Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	26.85	3.54	5.25	108.60
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	26.85	3.54	5.25	108.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (****) | IN= 2---> OUT= 1 | DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.1300	2.6850

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	26.850	3.540	5.25	108.60
OUTFLOW: ID= 1 (****)	26.850	0.764	6.75	108.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.57
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 1.8157

ADD HYD (****) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	26.85	0.764	6.75	108.58
+ ID2= 2 (****):	0.00	0.000	0.00	0.00
ID = 3 (****):	26.85	0.764	6.75	108.58

*** W A R N I N G : HYDROGRAPH **** <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (****) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	72.09	6.927	5.25	96.86
+ ID2= 2 (****):	26.85	0.764	6.75	108.58
ID = 3 (****):	98.94	7.528	5.25	100.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (9963) | Inlet Cap.=***** | #of Inlets= 1 | Total(cms)=*****

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	98.94	7.53	5.25	100.04
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	98.94	7.53	5.25	100.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6963) | IN= 2---> OUT= 1 | DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1600	1.2340
0.0200	0.0978	0.1700	1.3620
0.0400	0.1956	0.1800	1.6181
0.0600	0.2934	0.1900	1.7409
0.0800	0.3911	0.2000	1.9865
0.0900	0.4889	0.4400	2.1093
0.1100	0.5867	0.4600	2.3550
0.1200	0.6845	0.4700	2.5275
0.1300	0.7823	0.4800	2.7000
0.1400	0.8801	0.0000	0.0000
0.1500	1.1059	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9963)	98.940	7.528	5.25	100.04
OUTFLOW: ID= 1 (6963)	98.940	1.115	10.00	100.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.81
TIME SHIFT OF PEAK FLOW (min)=285.00
MAXIMUM STORAGE USED (ha.m.)= 6.2721

ADD HYD (4963) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6963):	98.94	1.115	10.00	100.03
+ ID2= 2 (9963):	0.00	0.000	0.00	0.00
ID = 3 (4963):	98.94	1.115	10.00	100.03

*** W A R N I N G : HYDROGRAPH 9963 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1598)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (4963):	98.94	1.115	10.00	100.03
	+ ID2= 2 (4964):	172.43	1.971	10.25	104.36
	ID = 3 (1598):	271.38	3.085	10.25	102.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5598)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5598.0) ------>

Distance	Elevation	Manning	
0.00	178.57	0.1110	
19.93	178.35	0.1110	
22.69	178.35	0.1110	
34.83	178.58	0.1110	
49.82	178.60	0.1110	
87.96	179.03	0.1110	
96.42	177.27	0.1110 /0.0490	Main Channel
97.49	177.31	0.0490	Main Channel
109.98	177.60	0.0490 /0.1110	Main Channel
112.52	177.61	0.1110	
121.23	177.69	0.1110	
124.63	177.56	0.1110	
134.04	178.00	0.1110	
155.00	178.79	0.1110	
163.70	178.63	0.1110	
200.02	178.57	0.1110	
211.27	178.56	0.1110	
222.53	178.69	0.1110	
241.93	178.51	0.1110	
275.14	178.54	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	177.36	.149E+03	0.0	0.20	80.33
0.19	177.46	.675E+03	0.2	0.32	48.76
0.28	177.55	.159E+04	0.7	0.43	36.60
0.37	177.64	.314E+04	1.7	0.52	30.31
0.46	177.73	.586E+04	3.5	0.56	27.95
0.56	177.83	.896E+04	6.0	0.63	25.06
0.65	177.92	.123E+05	9.0	0.70	22.66
0.74	178.01	.158E+05	12.7	0.76	20.79
0.83	178.10	.195E+05	16.8	0.81	19.37
0.93	178.20	.236E+05	21.6	0.86	18.22
1.02	178.29	.278E+05	26.9	0.91	17.27
1.11	178.38	.325E+05	32.1	0.94	16.85
1.20	178.47	.385E+05	38.5	0.95	16.65
1.30	178.57	.474E+05	40.9	0.82	19.32
1.39	178.66	.642E+05	49.0	0.72	21.84
1.48	178.75	.849E+05	63.4	0.71	22.32
1.57	178.84	.107E+06	81.3	0.72	21.95
1.67	178.94	.130E+06	102.1	0.74	21.22
1.76	179.03	.154E+06	125.6	0.77	20.41

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1598)	271.38	3.09	10.25	102.78	0.44	0.55
OUTFLOW: ID= 1 (5598)	271.38	3.08	10.75	102.78	0.44	0.55

CALIB			
STANDHYD (0598)	Area (ha)=	75.95	
ID= 1 DT=15.0 min	Total Imp(%)=	52.00	Dir. Conn.(%)= 52.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.49	36.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.90
Length	(m)=	711.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	45.21
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	51.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

				TOTALS
PEAK FLOW	(cms)=	5.75	2.83	8.305 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	79.95	97.14
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.70	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2598)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0598):	75.95	8.305	5.25	97.14
	+ ID2= 2 (5598):	271.38	3.079	10.75	102.78
	ID = 3 (2598):	347.32	9.189	5.25	101.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5299)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5299.0) ------>

Distance	Elevation	Manning
0.00	161.64	0.1110
34.74	161.51	0.1110
56.59	160.87	0.1110
67.95	160.99	0.1110

90.67	160.84	0.1110	
101.14	160.42	0.1110	
118.03	158.89	0.1110	
128.87	156.59	0.1110 /0.0490	Main Channel
130.10	156.35	0.0490	Main Channel
133.94	156.82	0.0490 /0.1110	Main Channel
146.85	159.32	0.1110	
163.58	161.17	0.1110	
166.21	161.74	0.1110	
176.37	161.83	0.1110	
182.39	161.67	0.1110	
190.74	162.12	0.1110	
232.24	162.94	0.1110	
274.39	164.95	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	156.59	.282E+03	0.2	0.58	21.17
0.51	156.86	.124E+04	1.7	0.99	12.45
0.77	157.12	.278E+04	5.0	1.34	9.20
1.04	157.39	.482E+04	10.1	1.55	7.95
1.30	157.65	.739E+04	17.0	1.70	7.24
1.57	157.92	.105E+05	25.8	1.82	6.76
1.83	158.18	.141E+05	36.6	1.92	6.40
2.10	158.45	.182E+05	49.5	2.01	6.11
2.37	158.72	.228E+05	64.7	2.10	5.87
2.63	158.98	.279E+05	81.8	2.16	5.69
2.90	159.25	.339E+05	100.9	2.20	5.59
3.16	159.51	.407E+05	122.6	2.22	5.53
3.43	159.78	.486E+05	147.6	2.24	5.48
3.70	160.05	.575E+05	176.6	2.27	5.43
3.96	160.31	.674E+05	209.6	2.29	5.36
4.23	160.58	.786E+05	244.4	2.29	5.36
4.49	160.84	.914E+05	283.0	2.28	5.38
4.76	161.11	.111E+06	309.9	2.06	5.96
5.02	161.37	.134E+06	376.8	2.07	5.94

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2598)	347.32	9.19	5.25	101.55	0.99	1.50
OUTFLOW: ID= 1 (5299)	347.32	8.80	5.25	101.55	0.97	1.49

CALIB			
STANDHYD (0299)	Area (ha)=	97.19	
ID= 1 DT=15.0 min	Total Imp(%)=	76.00	Dir. Conn.(%)= 76.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.86	23.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.50
Length	(m)=	804.94	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	50.01
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	70.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

				TOTALS
PEAK FLOW	(cms)=	10.71	1.76	11.924 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	93.71	108.37
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.82	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2299)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0299):	97.19	11.924	5.25	108.37
	+ ID2= 2 (5299):	347.32	8.795	5.25	101.55
	ID = 3 (2299):	444.51	20.719	5.25	103.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5303)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5303.0) ------>

Distance	Elevation	Manning	
0.00	153.79	0.1110	
19.01	151.85	0.1110	
37.34	151.82	0.1110	
41.85	151.52	0.1110	
47.90	151.66	0.1110	
87.41	151.69	0.1110	
105.06	149.50	0.1110	
125.35	148.50	0.1110	
125.85	148.42	0.1110 /0.0490	Main Channel
127.68	148.13	0.0490	Main Channel
128.23	147.30	0.0490	Main Channel
130.21	147.30	0.0490	Main Channel
131.55	148.23	0.0490	Main Channel
132.42	148.32	0.0490 /0.1110	Main Channel
137.58	148.90	0.1110	
138.78	149.00	0.1110	
150.21	149.50	0.1110	
156.60	150.50	0.1110	
175.54	151.00	0.1110	
263.18	153.41	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	147.56	.857E+03	0.5	0.81	30.68
0.51	147.81	.192E+04	1.5	1.18	21.08
0.77	148.07	.318E+04	3.1	1.45	17.13
1.02	148.32	.486E+04	4.6	1.42	17.54

1.36	148.66	.944E+04	10.5	1.66	14.97
1.70	149.00	.187E+05	20.4	1.62	15.34
2.04	149.34	.344E+05	35.2	1.53	16.26
2.38	149.68	.568E+05	58.3	1.53	16.23
2.72	150.02	.822E+05	89.6	1.63	15.29
3.06	150.36	.110E+06	128.2	1.74	14.32
3.40	150.70	.141E+06	169.5	1.79	13.91
3.73	151.03	.180E+06	219.3	1.82	13.69
4.07	151.37	.227E+06	281.8	1.86	13.40
4.41	151.71	.285E+06	310.6	1.63	15.27
4.75	152.05	.377E+06	412.0	1.63	15.26
5.09	152.39	.481E+06	550.2	1.71	14.57
5.43	152.73	.593E+06	713.3	1.80	13.85
5.77	153.07	.712E+06	901.5	1.89	13.17
6.11	153.41	.840E+06	1115.6	1.99	12.55

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2299)	444.51	20.72	5.25	103.04	1.71	1.62
OUTFLOW: ID= 1 (5303)	444.51	18.93	5.25	103.04	1.65	1.63

CALIB
STANDHYD (0303)
ID= 1 DT=15.0 min

Area (ha)= 227.30
Total Imp(%)= 65.00 Dir. Conn.(%)= 65.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	147.75	79.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	5.00
Length	(m)=	1230.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	48.10
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	73.80 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	21.40	5.46	25.022 (iii)
TIME TO PEAK	(hrs)=	5.25	6.00	5.25
RUNOFF VOLUME	(mm)=	113.00	87.54	104.09
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.77	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2303)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0303):	227.30	25.022	5.25	104.09

+ ID2= 2 (5303):	444.51	18.933	5.25	103.04
ID = 3 (2303):	671.82	43.955	5.25	103.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5306)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5306.0) ------>

Distance	Elevation	Manning	
0.00	145.38	0.1110	
57.12	144.00	0.1110	
73.05	143.00	0.1110	
79.09	141.50	0.1110	
80.80	140.20	0.1110 /0.0490	Main Channel
81.66	139.77	0.0490	Main Channel
83.06	139.50	0.0490	Main Channel
84.74	139.32	0.0490	Main Channel
85.03	139.00	0.0490	Main Channel
85.78	139.00	0.0490	Main Channel
87.80	139.39	0.0490	Main Channel
89.94	139.50	0.0490	Main Channel
94.17	140.00	0.0490 /0.1110	Main Channel
97.58	140.50	0.1110	
127.69	142.00	0.1110	
132.10	144.00	0.1110	
141.18	144.50	0.1110	
164.76	144.55	0.1110	
191.51	145.00	0.1110	
226.92	145.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	139.25	.425E+03	0.2	0.50	37.48
0.50	139.50	.153E+04	0.8	0.57	32.75
0.75	139.75	.394E+04	2.9	0.83	22.69
1.00	140.00	.722E+04	6.8	1.06	17.70
1.33	140.33	.126E+05	16.0	1.43	13.15
1.67	140.67	.193E+05	28.8	1.68	11.15
2.00	141.00	.284E+05	45.5	1.80	10.41
2.33	141.33	.402E+05	66.5	1.86	10.08
2.67	141.67	.547E+05	92.2	1.90	9.89
3.00	142.00	.722E+05	123.3	1.92	9.76
3.33	142.33	.915E+05	162.2	1.99	9.40
3.67	142.67	.112E+06	206.6	2.08	9.01
4.00	143.00	.133E+06	256.3	2.17	8.62
4.33	143.33	.155E+06	310.0	2.25	8.34
4.67	143.67	.180E+06	370.0	2.32	8.10
5.00	144.00	.207E+06	436.4	2.37	7.90
5.33	144.33	.239E+06	495.1	2.33	8.03
5.67	144.67	.282E+06	525.8	2.10	8.93
6.00	145.00	.341E+06	609.9	2.01	9.33

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2303)	671.82	43.96	5.25	103.40	1.97	1.79
OUTFLOW: ID= 1 (5306)	671.82	41.99	5.25	103.39	1.93	1.77

CALIB
STANDHYD (0306)
ID= 1 DT=15.0 min

Area (ha)= 195.25
Total Imp(%)= 79.00 Dir. Conn.(%)= 79.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	154.25	41.00
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.80
Length	(m)=	1140.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	50.01
over (min)		15.00	30.00
Storage Coeff. (min)=		14.40 (ii)	84.60 (ii)
Unit Hyd. Tpeak (min)=		15.00	90.00
Unit Hyd. peak (cms)=		0.07	0.01

		TOTALS
PEAK FLOW	(cms)=	22.24	2.78	23.870 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	113.00	93.71	108.95
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.82	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2306)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0306):	195.25	23.870	5.25	108.95
+ ID2= 2 (5306):	671.82	41.987	5.25	103.39
ID = 3 (2306):	867.07	65.857	5.25	104.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5314)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5314.0) ------>

Distance	Elevation	Manning	
0.00	140.46	0.1110	
17.34	140.00	0.1110	
23.79	140.00	0.1110	
36.31	139.52	0.1110	
67.27	139.06	0.1110	
99.03	138.86	0.1110	
131.93	136.23	0.1110 /0.0490	Main Channel
135.37	135.79	0.0490	Main Channel
137.27	135.30	0.0490	Main Channel

139.14	135.30	0.0490	Main Channel
143.23	135.76	0.0490	Main Channel
147.44	136.00	0.0490 /0.1110	Main Channel
161.11	136.74	0.1110	
190.39	137.50	0.1110	
204.58	137.50	0.1110	
211.94	139.50	0.1110	
219.37	139.79	0.1110	
272.20	138.00	0.1110	
297.42	138.00	0.1110	
390.77	140.46	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	135.53	.686E+03	0.4	0.52	28.15
0.47	135.77	.198E+04	1.7	0.76	19.22
0.70	136.00	.418E+04	4.1	0.86	16.87
0.98	136.28	.842E+04	10.9	1.13	12.91
1.26	136.56	.147E+05	21.8	1.30	11.18
1.54	136.84	.231E+05	36.7	1.39	10.49
1.81	137.11	.347E+05	56.1	1.42	10.30
2.09	137.39	.498E+05	81.3	1.43	10.21
2.37	137.67	.700E+05	112.5	1.41	10.37
2.65	137.95	.928E+05	155.2	1.46	9.96
2.93	138.23	.123E+06	195.9	1.39	10.50
3.21	138.51	.161E+06	255.7	1.39	10.47
3.49	138.79	.204E+06	327.5	1.41	10.36
3.77	139.07	.255E+06	399.4	1.37	10.64
4.04	139.34	.318E+06	500.8	1.38	10.59
4.32	139.62	.391E+06	621.2	1.39	10.49
4.60	139.90	.472E+06	768.9	1.43	10.23
4.88	140.18	.559E+06	940.3	1.47	9.91
5.16	140.46	.652E+06	1136.8	1.53	9.55

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2306)	867.07	65.86	5.25	104.65	1.92	1.42
OUTFLOW: ID= 1 (5314)	867.07	62.17	5.25	104.65	1.88	1.42

ADD HYD (3314)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1314):	586.28	50.379	5.25	100.19
+ ID2= 2 (5314):	867.07	62.170	5.25	104.65
ID = 3 (3314):	1453.34	112.548	5.25	102.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5349)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5349.0) ------>

Distance	Elevation	Manning
0.00	136.55	0.1110

0.00	135.00	0.1110	
31.90	134.50	0.1110	
37.07	134.28	0.1110	
50.37	134.19	0.1110	
65.47	134.50	0.1110	
85.81	134.00	0.1110	
128.41	131.00	0.1110	
135.25	130.00	0.1110	
136.03	129.98	0.1110 /0.0490	Main Channel
139.71	129.30	0.0490	Main Channel
144.95	129.30	0.0490	Main Channel
145.11	129.76	0.0490 /0.1110	Main Channel
150.30	130.50	0.1110	
165.12	134.00	0.1110	
169.18	134.50	0.1110	
187.64	135.50	0.1110	
226.77	135.49	0.1110	
233.13	135.35	0.1110	
285.67	136.55	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	129.53	.178E+04	0.6	0.41	52.79
0.46	129.76	.396E+04	1.9	0.62	35.44
0.86	130.16	.958E+04	6.3	0.86	25.49
1.26	130.56	.182E+05	13.9	1.00	21.93
1.66	130.96	.294E+05	24.6	1.10	19.93
2.06	131.36	.435E+05	38.4	1.16	18.89
2.46	131.76	.615E+05	56.1	1.20	18.27
2.86	132.16	.834E+05	78.2	1.23	17.77
3.26	132.56	.109E+06	105.0	1.26	17.31
3.66	132.96	.139E+06	137.0	1.30	16.87
4.05	133.35	.172E+06	174.4	1.33	16.44
4.45	133.75	.209E+06	217.8	1.37	16.02
4.85	134.15	.251E+06	263.1	1.38	15.89
5.25	134.55	.312E+06	297.4	1.25	17.51
5.65	134.95	.395E+06	363.3	1.21	18.13
6.05	135.35	.490E+06	459.6	1.23	17.78
6.45	135.75	.609E+06	550.5	1.19	18.43
6.85	136.15	.745E+06	696.6	1.23	17.82
7.25	136.55	.890E+06	863.1	1.27	17.19

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3314)	1453.34	112.55	5.25	102.85	3.35	1.27
OUTFLOW: ID= 1 (5349)	1453.34	100.60	5.50	102.85	3.19	1.26

CALIB
STANDHYD (0349)
ID= 1 DT=15.0 min

Area (ha)= 324.03
Total Imp(%)= 44.00 Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	142.57	181.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.30
Length	(m)=	1469.76	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		52.42	51.30			
over (min)		15.00	30.00			
Storage Coeff. (min)=		16.20 (ii)	93.60 (ii)			
Unit Hyd. Tpeak (min)=		15.00	90.00			
Unit Hyd. peak (cms)=		0.07	0.01			
				TOTALS		
PEAK FLOW	(cms)=	17.18	11.25	23.244 (iii)		
TIME TO PEAK	(hrs)=	5.25	6.25	5.25		
RUNOFF VOLUME	(mm)=	113.00	81.16	92.94		
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00		
RUNOFF COEFFICIENT	=	0.99	0.71	0.82		

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2349)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0349):	324.03	23.244	5.25	92.94
+ ID2= 2 (5349):	1453.34	100.602	5.50	102.85
ID = 3 (2349):	1777.38	121.887	5.25	101.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5364)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5364.0) ------>

Distance	Elevation	Manning	
0.00	131.00	0.1110	
136.00	129.99	0.1110	
155.89	129.00	0.1110	
172.09	127.83	0.1110	
181.41	127.29	0.1110	
190.94	127.00	0.1110	
195.38	127.00	0.1110	
195.81	126.76	0.1110	
198.20	126.00	0.1110 /0.0490	Main Channel
200.00	125.00	0.0490	Main Channel
207.00	125.00	0.0490	Main Channel
207.99	126.00	0.0490 /0.1110	Main Channel
210.39	126.42	0.1110	
214.18	126.91	0.1110	
215.71	127.00	0.1110	
249.46	127.00	0.1110	
263.00	128.00	0.1110	
269.13	129.00	0.1110	
275.81	129.51	0.1110	
283.52	130.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.25	125.25	.202E+04	1.0	0.57	32.17
0.50	125.50	.422E+04	3.3	0.87	21.07
0.75	125.75	.662E+04	6.6	1.10	16.62
1.00	126.00	.922E+04	10.9	1.23	14.13
1.27	126.27	.124E+05	17.1	1.51	12.10
1.53	126.53	.163E+05	24.7	1.66	11.04
1.80	126.80	.211E+05	33.6	1.75	10.45
2.07	127.07	.296E+05	43.4	1.61	11.37
2.33	127.33	.494E+05	60.0	1.33	13.74
2.60	127.60	.721E+05	82.1	1.25	14.64
2.87	127.87	.971E+05	109.3	1.23	14.82
3.13	128.13	.124E+06	142.1	1.25	14.58
3.40	128.40	.153E+06	180.5	1.29	14.15
3.67	128.67	.184E+06	223.9	1.34	13.67
3.93	128.93	.216E+06	272.5	1.39	13.19
4.20	129.20	.249E+06	323.7	1.42	12.85
4.47	129.47	.286E+06	379.6	1.46	12.55
4.73	129.73	.325E+06	440.5	1.49	12.29
5.00	130.00	.367E+06	506.2	1.52	12.08

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2349)	1777.38	121.89	5.25	101.04	2.97	1.24
OUTFLOW: ID= 1 (5364)	1777.38	113.50	5.50	101.04	2.90	1.24

CALIB
STANDHYD (0364)
ID= 1 DT=15.0 min

Area (ha)= 187.80
Total Imp(%)= 50.00 Dir. Conn.(%)= 41.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	93.90	93.90
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.90
Length	(m)=	1118.93	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		52.42	55.81	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.80 (ii)	82.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	90.00	
Unit Hyd. peak (cms)=		0.08	0.01	
				TOTALS
PEAK FLOW	(cms)=	11.12	6.89	14.986 (iii)
TIME TO PEAK	(hrs)=	5.25	6.25	5.25
RUNOFF VOLUME	(mm)=	113.00	85.69	96.89
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.75	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2364)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0364):	187.80	14.986	5.25	96.89
+ ID2= 2 (5364):	1777.38	113.495	5.50	101.04
ID = 3 (2364):	1965.17	124.268	5.50	100.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5361)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5361.0) ------>

Distance	Elevation	Manning	
0.00	129.00	0.1110	
0.38	129.00	0.1110	
13.51	128.00	0.1110	
18.25	127.00	0.1110	
41.14	126.00	0.1110	
49.43	125.20	0.1110	
51.30	125.00	0.1110	
54.61	124.00	0.1110	
56.73	124.00	0.1110 /0.0490	Main Channel
61.39	123.80	0.0490	Main Channel
63.13	123.80	0.0490	Main Channel
64.17	124.00	0.0490 /0.1110	Main Channel
65.93	124.00	0.1110	
70.09	124.99	0.1110	
70.11	124.99	0.1110	
70.14	125.00	0.1110	
73.16	125.00	0.1110	
79.53	125.23	0.1110	
104.69	126.00	0.1110	
114.76	128.97	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	124.00	.961E+03	0.4	0.42	41.30
0.46	124.26	.433E+04	2.9	0.71	24.65
0.72	124.52	.823E+04	7.3	0.93	18.67
0.98	124.78	.127E+05	13.5	1.11	15.69
1.25	125.05	.178E+05	20.6	1.21	14.43
1.51	125.31	.256E+05	30.0	1.22	14.25
1.77	125.57	.364E+05	42.4	1.22	14.31
2.03	125.83	.503E+05	58.5	1.22	14.32
2.29	126.09	.672E+05	79.0	1.23	14.16
2.55	126.35	.862E+05	104.9	1.27	13.69
2.82	126.62	.107E+06	135.5	1.32	13.16
3.08	126.88	.130E+06	171.1	1.38	12.65
3.34	127.14	.154E+06	212.9	1.44	12.08
3.60	127.40	.179E+06	260.6	1.52	11.48
3.86	127.66	.205E+06	312.9	1.60	10.93
4.12	127.92	.232E+06	369.6	1.67	10.45
4.39	128.19	.259E+06	428.4	1.73	10.06
4.65	128.45	.287E+06	490.9	1.79	9.74
4.91	128.71	.316E+06	558.1	1.85	9.45

	<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2364)	1965.17	124.27	5.50	100.64	2.72	1.31
OUTFLOW: ID= 1 (5361)	1965.17	121.27	5.75	100.64	2.69	1.30

CALIB			
STANDHYD (0361)	Area (ha)=	35.90	
ID= 1 DT=15.0 min	Total Imp(%)=	46.00	Dir. Conn.(%)= 37.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.51	19.39
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.40
Length	(m)=	489.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	43.84
over (min)		15.00	30.00
Storage Coeff. (min)=		8.40 (ii)	47.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.09	0.02

		TOTALS
PEAK FLOW	(cms)=	1.93 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	113.00
TOTAL RAINFALL	(mm)=	114.00
RUNOFF COEFFICIENT	=	0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2361)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0361):	35.90	3.187	5.25	82.12	
+ ID2= 2 (5361):	1965.17	121.266	5.75	100.64	
ID = 3 (2361):	2001.07	123.255	5.75	100.31	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5357)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5357.0) ------>

Distance	Elevation	Manning
0.00	123.98	0.1110
7.26	122.14	0.1110
10.93	121.00	0.1110
13.86	120.00	0.1110
18.79	119.00	0.1110
24.81	118.00	0.1110
26.76	117.00	0.1110
28.16	117.00	0.1110 /0.0490 Main Channel
29.00	116.20	0.0490 Main Channel
34.00	116.20	0.0490 Main Channel
34.48	117.00	0.0490 /0.1110 Main Channel
36.38	117.00	0.1110
39.42	118.00	0.1110
44.78	119.00	0.1110
47.65	120.00	0.1110
50.41	121.00	0.1110
57.87	121.95	0.1110
58.40	122.00	0.1110
58.65	122.00	0.1110

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	116.47	.174E+04	0.9	0.64	32.42
0.53	116.73	.363E+04	2.8	0.97	21.46
0.80	117.00	.566E+04	5.5	1.22	17.09
1.11	117.31	.973E+04	10.5	1.35	15.49
1.42	117.62	.144E+05	17.0	1.48	14.11
1.74	117.94	.197E+05	25.1	1.59	13.07
2.05	118.25	.258E+05	34.5	1.67	12.49
2.36	118.56	.334E+05	45.7	1.72	12.15
2.67	118.87	.423E+05	59.1	1.75	11.91
2.99	119.19	.525E+05	75.1	1.79	11.65
3.30	119.50	.637E+05	93.5	1.84	11.35
3.61	119.81	.759E+05	114.3	1.88	11.06
3.92	120.12	.889E+05	137.6	1.94	10.77
4.24	120.44	.103E+06	163.7	1.99	10.46
4.55	120.75	.117E+06	192.3	2.05	10.17
4.86	121.06	.133E+06	222.6	2.10	9.92
5.17	121.37	.149E+06	253.5	2.13	9.79
5.49	121.69	.167E+06	287.6	2.16	9.66
5.80	122.00	.186E+06	324.8	2.19	9.53

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2361)	2001.07	123.26	5.75	100.31	3.73	1.90
OUTFLOW: ID= 1 (5357)	2001.07	121.26	6.00	100.31	3.71	1.90

CALIB			
STANDHYD (0357)	Area (ha)=	135.25	
ID= 1 DT=15.0 min	Total Imp(%)=	57.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	77.09	58.16
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.10
Length	(m)=	949.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	51.80
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	73.20 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	12.445 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	95.86
TOTAL RAINFALL	(mm)=	114.00
RUNOFF COEFFICIENT	=	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2357)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0357):	135.25	12.445	5.25	95.86	
+ ID2= 2 (5357):	2001.07	121.255	6.00	100.31	
ID = 3 (2357):	2136.32	128.382	6.00	100.03	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5363)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5363.0) ------>

Distance	Elevation	Manning	
0.00	116.00	0.1110	
3.24	115.00	0.1110	
7.85	114.00	0.1110	
11.35	113.00	0.1110	
15.57	112.00	0.1110	
15.63	111.99	0.1110	
15.65	111.98	0.1110	
20.70	111.00	0.1110	
22.85	111.00	0.1110 /0.0490	Main Channel
26.11	110.00	0.0490	Main Channel
29.00	110.00	0.0490	Main Channel
29.19	111.00	0.0490 /0.1110	Main Channel
32.26	111.00	0.1110	
35.40	112.00	0.1110	
37.70	112.15	0.1110	
53.24	113.00	0.1110	
53.72	113.00	0.1110	
79.32	114.00	0.1110	
92.95	115.00	0.1110	
115.26	115.98	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	110.25	.368E+03	0.8	0.92	8.07
0.50	110.50	.833E+03	2.5	1.34	5.51
0.75	110.75	.139E+04	5.2	1.66	4.46
1.00	111.00	.205E+04	8.9	1.92	3.85
1.33	111.33	.395E+04	17.7	1.98	3.73
1.66	111.66	.627E+04	29.9	2.12	3.49
2.00	112.00	.898E+04	45.6	2.26	3.28
2.33	112.33	.124E+05	64.0	2.29	3.23
2.66	112.66	.169E+05	87.7	2.31	3.21
2.99	112.99	.225E+05	117.5	2.32	3.19
3.32	113.32	.294E+05	153.2	2.31	3.20
3.66	113.66	.377E+05	197.3	2.32	3.19
3.99	113.99	.475E+05	250.6	2.34	3.16
4.32	114.32	.584E+05	316.2	2.40	3.08
4.65	114.65	.703E+05	391.6	2.47	2.99
4.98	114.98	.830E+05	476.9	2.55	2.90
5.32	115.32	.968E+05	568.4	2.61	2.84
5.65	115.65	.112E+06	671.3	2.66	2.78
5.98	115.98	.128E+06	786.6	2.72	2.72

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2357)	2136.32	128.38	6.00	100.03	3.09	2.32
OUTFLOW: ID= 1 (5363)	2136.32	128.49	6.00	100.03	3.10	2.32

CALIB			
STANDHYD (0363)	Area (ha)=	99.54	
ID= 1 DT=15.0 min	Total Imp(%)=	71.00	Dir. Conn.(%)= 68.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.67	28.87
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.20
Length	(m)=	814.62	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		52.42	53.06
over (min)		15.00	30.00
Storage Coeff. (min)=		12.60 (ii)	74.40 (ii)
Unit Hyd. Tpeak (min)=		15.00	75.00
Unit Hyd. peak (cms)=		0.08	0.02

		TOTALS
PEAK FLOW	(cms)=	11.253 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	104.92
TOTAL RAINFALL	(mm)=	114.00
RUNOFF COEFFICIENT	=	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 89.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2363)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0363):	99.54	11.253	5.25	104.92	

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       + ID2= 2 (5363):  2136.32 128.491     6.00   100.03
         ================================================
         ID = 3 (2363):  2235.86 133.656     6.00   100.25

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (5368) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5368.0) ------>
              Distance      Elevation       Manning
                  0.00         109.72        0.1110
                  5.88         105.92        0.1110
                  7.79         105.00        0.1110
                 12.32         103.17        0.1110
                 12.72         103.00        0.1110
                 26.16         103.00        0.1110
                 40.07         102.16        0.1110
                 41.21         102.13        0.1110
                 42.95         102.00        0.1110
                 44.48         102.00    0.1110 /0.0490  Main Channel
                 46.98         101.70        0.0490      Main Channel
                 51.64         101.70        0.0490      Main Channel
                 52.36         102.00    0.0490 /0.1110  Main Channel
                 52.69         102.00        0.1110
                 54.36         102.70        0.1110
                 55.02         103.00        0.1110
                 55.44         103.16        0.1110
                 57.25         104.00        0.1110
                 67.26         109.40        0.1110
                 68.34         109.93        0.1110

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.30   102.00    .139E+04        1.7          0.91      13.57
      0.71   102.41    .548E+04        9.9          1.33       9.25
      1.11   102.81    .119E+05       25.0          1.55       7.96
      1.52   103.22    .226E+05       48.0          1.57       7.85
      1.93   103.63    .359E+05       85.5          1.76       7.00
      2.33   104.03    .498E+05      132.8          1.97       6.24
      2.74   104.44    .641E+05      189.4          2.18       5.64
      3.14   104.84    .791E+05      254.7          2.38       5.17
      3.55   105.25    .945E+05      328.7          2.57       4.79
      3.96   105.66    .110E+06      411.1          2.75       4.48
      4.36   106.06    .127E+06      501.8          2.92       4.21
      4.77   106.47    .144E+06      600.9          3.09       3.98
      5.18   106.88    .161E+06      707.8          3.25       3.79
      5.58   107.28    .179E+06      822.5          3.40       3.62
      5.99   107.69    .197E+06      944.7          3.55       3.47
      6.39   108.09    .215E+06     1074.5          3.69       3.34
      6.80   108.50    .234E+06     1211.9          3.82       3.22
      7.21   108.91    .253E+06     1356.7          3.95       3.11
      7.61   109.31    .273E+06     1509.1          4.08       3.02

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (2363) 2235.86   133.66    6.00 100.25      2.34      1.97
    OUTFLOW: ID= 1 (5368) 2235.86   133.04    6.00 100.25      2.33      1.97
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| CALIB              |
| STANDHYD  (0368)   |   Area    (ha)=  23.76
|ID= 1 DT=15.0 min   |   Total Imp(%)=  64.00   Dir. Conn.(%)=  64.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       15.21          8.55
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          8.50
     Length            (m)=      397.99         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       52.42         45.21
               over (min)         15.00         15.00
     Storage Coeff.  (min)=        5.40 (ii)    31.80 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.11          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        2.21          0.83          3.040 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      113.00         79.95         101.10
     TOTAL RAINFALL   (mm)=      114.00        114.00         114.00
     RUNOFF COEFFICIENT   =        0.99          0.70           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (2368) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0368):    23.76   3.040     5.25   101.10
        + ID2= 2 (5368):  2235.86 133.037     6.00   100.25
          ================================================
          ID = 3 (2368):  2259.62 134.166     6.00   100.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (1365) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2355): 19023.39 423.344     8.75    83.58
        + ID2= 2 (2368):  2259.62 134.166     6.00   100.26
          ================================================
          ID = 3 (1365): 21283.02 482.863     8.50    85.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (5365) |
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```
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION (5365.0) ------>
              Distance      Elevation       Manning
                  0.00         110.00        0.1110
                  7.40         110.00        0.1110
                 15.33         109.51        0.1110
                 47.93          98.00        0.1110
                 65.73          98.00        0.1110
                114.24          97.34        0.1110
                131.22          97.00        0.1110
                141.72          95.00    0.1110 /0.0490  Main Channel
                142.05          94.60        0.0490      Main Channel
                155.43          94.60        0.0490      Main Channel
                155.44          95.00    0.0490 /0.1110  Main Channel
                161.18          95.00        0.1110
                168.95          96.00        0.1110
                203.06          97.00        0.1110
                211.77          97.00        0.1110
                222.30         108.79        0.1110
                223.07         109.00        0.1110

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.40    95.00    .538E+04        4.5          0.83      19.81
      1.14    95.74    .231E+05       29.7          1.27      12.99
      1.87    96.47    .508E+05       74.2          1.45      11.41
      2.61    97.21    .101E+06      146.9          1.45      11.44
      3.35    97.95    .186E+06      275.5          1.47      11.23
      4.08    98.68    .306E+06      482.4          1.56      10.57
      4.82    99.42    .429E+06      757.2          1.75       9.45
      5.56   100.16    .555E+06     1088.0          1.95       8.50
      6.29   100.89    .682E+06     1470.4          2.14       7.73
      7.03   101.63    .811E+06     1901.3          2.33       7.11
      7.77   102.37    .943E+06     2378.5          2.50       6.61
      8.51   103.11    .108E+07     2900.2          2.68       6.18
      9.24   103.84    .121E+07     3465.1          2.84       5.83
      9.98   104.58    .135E+07     4071.9          3.00       5.52
     10.72   105.32    .149E+07     4719.8          3.15       5.26
     11.45   106.05    .163E+07     5407.9          3.29       5.02
     12.19   106.79    .177E+07     6135.7          3.43       4.82
     12.93   107.53    .192E+07     6902.4          3.57       4.63
     13.66   108.26    .207E+07     7707.8          3.70       4.47

                                <---- hydrograph ---->   <-pipe / channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
    INFLOW : ID= 2 (1365) *******   482.86    8.50  85.35      4.09      1.57
    OUTFLOW: ID= 1 (5365) *******   481.13    8.50  85.35      4.08      1.56

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--------------------
| CALIB              |
| STANDHYD  (0365)   |   Area    (ha)= 165.69
|ID= 1 DT=15.0 min   |   Total Imp(%)=  59.00   Dir. Conn.(%)=  56.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       97.76         67.93
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          4.10
     Length            (m)=     1051.00         40.00
```



```
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       52.42         46.91
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       12.00 (ii)    71.40 (ii)
     Unit Hyd. Tpeak (min)=       15.00         75.00
     Unit Hyd. peak  (cms)=        0.08          0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       13.45          4.39         16.241 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.00           5.25
     RUNOFF VOLUME    (mm)=      113.00         76.60          96.98
     TOTAL RAINFALL   (mm)=      114.00        114.00         114.00
     RUNOFF COEFFICIENT   =        0.99          0.67           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (2365) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0365):   165.69  16.241     5.25    96.98
        + ID2= 2 (5365): 21283.02 481.127     8.50    85.35
          ================================================
          ID = 3 (2365): 21448.71 483.619     8.50    85.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0671)   |   Area    (ha)= 266.27
|ID= 1 DT=15.0 min   |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      213.02         53.25
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          3.70
     Length            (m)=     1332.34         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       52.42         48.10
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       14.40 (ii)    84.60 (ii)
     Unit Hyd. Tpeak (min)=       15.00         90.00
     Unit Hyd. peak  (cms)=        0.07          0.01
                                                          *TOTALS*
     PEAK FLOW       (cms)=       30.71          3.36         32.604 (iii)
     TIME TO PEAK    (hrs)=        5.25          6.25           5.25
     RUNOFF VOLUME    (mm)=      113.00         87.54         107.91
     TOTAL RAINFALL   (mm)=      114.00        114.00         114.00
     RUNOFF COEFFICIENT   =        0.99          0.77           0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (9671)				
Inlet Cap.=*****				
#of Inlets= 1				
Total(cms)=*****	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	266.27	32.60	5.25	107.91
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	266.27	32.60	5.25	107.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (6671)
IN= 2---> OUT= 1
DT= 15.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.4020	9.4300

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (9671)	266.270	32.604	5.25	107.91
OUTFLOW: ID= 1 (6671)	266.270	6.525	7.50	107.91

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.01
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 18.1171

ADD HYD (4671)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G :	HYDROGRAPH 9671 <ID= 2> IS DRY.			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
*** W A R N I N G :	HYDROGRAPH 0003 = HYDROGRAPH 0001			
ID1= 1 (6671):	266.27	6.525	7.50	107.91
+ ID2= 2 (9671):	0.00	0.000	0.00	0.00
ID = 3 (4671):	266.27	6.525	7.50	107.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1372)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2365):	21448.71	483.619	8.50	85.44
+ ID2= 2 (4671):	266.27	6.525	7.50	107.91
ID = 3 (1372):	21714.98	489.927	8.50	85.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5372)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5372.0) ------>

Distance	Elevation	Manning	
0.00	105.00	0.1110	
20.51	95.49	0.1110	
91.87	93.94	0.1110	
96.84	93.74	0.1110	
105.67	92.57	0.1110	
106.66	92.00	0.1110 /0.0490	Main Channel
109.09	90.50	0.0490	Main Channel
122.15	90.50	0.0490	Main Channel
123.13	92.00	0.0490 /0.1110	Main Channel
127.73	92.00	0.1110	
158.37	93.00	0.1110	
213.54	94.00	0.1110	
217.83	95.00	0.1110	
233.02	105.00	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	91.25	.531E+04	25.0	2.40	3.53
1.50	92.00	.113E+05	79.9	3.61	2.35
2.26	92.76	.243E+05	179.6	3.75	2.26
3.03	93.53	.500E+05	338.8	3.44	2.46
3.79	94.29	.949E+05	604.9	3.24	2.62
4.56	95.06	.157E+06	1023.9	3.33	2.55
5.32	95.82	.231E+06	1611.1	3.54	2.39
6.09	96.59	.310E+06	2362.5	3.88	2.18
6.85	97.35	.389E+06	3246.6	4.25	2.00
7.62	98.12	.469E+06	4254.1	4.61	1.84
8.38	98.88	.550E+06	5378.1	4.97	1.71
9.15	99.65	.633E+06	6613.7	5.32	1.59
9.91	100.41	.716E+06	7956.7	5.65	1.50
10.68	101.18	.801E+06	9403.9	5.97	1.42
11.44	101.94	.887E+06	10952.7	6.28	1.35
12.21	102.71	.974E+06	12600.7	6.58	1.29
12.97	103.47	.106E+07	14346.0	6.88	1.23
13.74	104.24	.115E+07	16186.9	7.16	1.18
14.50	105.00	.124E+07	18122.2	7.43	1.14

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (1372)	*******	489.93	8.50	85.72	3.46	3.33
OUTFLOW: ID= 1 (5372)	*******	489.30	8.75	85.72	3.46	3.33

CALIB
STANDHYD (0372) | Area (ha)= 47.90
ID= 1 DT=15.0 min | Total Imp(%)= 49.00 Dir. Conn.(%)= 41.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	23.47	24.43

Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	5.50	
Length	(m)=	565.10	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		52.42	48.25	
over (min)		15.00	15.00	
Storage Coeff. (min)=		7.20 (ii)	43.80 (ii)	
Unit Hyd. Tpeak (min)=		15.00	45.00	
Unit Hyd. peak (cms)=		0.10	0.03	
				TOTALS
PEAK FLOW	(cms)=	2.86	2.09	4.751 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	113.00	72.35	89.01
TOTAL RAINFALL	(mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT	=	0.99	0.63	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2372)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0372):	47.90	4.751	5.25	89.01
+ ID2= 2 (5372):	21714.98	489.302	8.75	85.72
ID = 3 (2372):	21762.88	489.850	8.50	85.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5373)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5373.0) ------>

Distance	Elevation	Manning	
0.00	101.00	0.1110	
12.77	94.00	0.1110	
32.99	89.39	0.1110	
76.52	87.19	0.1110	
79.48	87.00	0.1110	
80.86	86.13	0.1110	
81.09	86.00	0.1110	
81.97	86.00	0.1110 /0.0490	Main Channel
82.61	85.50	0.0490	Main Channel
88.00	85.50	0.0490	Main Channel
89.14	86.00	0.0490 /0.1110	Main Channel
95.90	86.00	0.1110	
106.27	87.00	0.1110	
106.34	87.01	0.1110	
117.67	87.86	0.1110	
158.30	88.14	0.1110	
158.41	88.15	0.1110	
185.29	101.86	0.1110	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.50	86.00	.231E+04	2.5	0.81	15.12
1.29	86.79	.137E+05	18.4	0.99	12.36
2.08	87.58	.328E+05	49.8	1.12	11.00
2.87	88.37	.764E+05	104.1	1.00	12.24
3.66	89.16	.143E+06	224.2	1.16	10.62
4.45	89.95	.217E+06	398.3	1.35	9.10
5.24	90.74	.295E+06	619.7	1.55	7.94
6.03	91.53	.376E+06	883.1	1.73	7.10
6.82	92.32	.460E+06	1187.0	1.90	6.45
7.61	93.11	.546E+06	1530.0	2.06	5.95
8.39	93.89	.636E+06	1911.6	2.21	5.54
9.18	94.68	.728E+06	2340.7	2.37	5.18
9.97	95.47	.821E+06	2808.2	2.52	4.87
10.76	96.26	.917E+06	3312.0	2.66	4.61
11.55	97.05	.101E+07	3851.3	2.80	4.39
12.34	97.84	.111E+07	4425.6	2.93	4.19
13.13	98.63	.121E+07	5034.5	3.05	4.02
13.92	99.42	.132E+07	5677.8	3.18	3.86
14.71	100.21	.142E+07	6355.0	3.30	3.72

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW : ID= 2 (2372)	*******	489.85	8.50	85.72	4.77	1.42
OUTFLOW: ID= 1 (5373)	*******	490.11	8.75	85.72	4.77	1.42

CALIB
STANDHYD (0373) | Area (ha)= 86.20
ID= 1 DT=15.0 min | Total Imp(%)= 35.00 Dir. Conn.(%)= 28.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	30.17	56.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	4.10
Length (m)=	758.07	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	39.19
over (min)	15.00	30.00
Storage Coeff. (min)=	10.20 (ii)	58.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	60.00
Unit Hyd. peak (cms)=	0.09	0.02
		TOTALS
PEAK FLOW (cms)=	3.51	3.20 5.878 (iii)
TIME TO PEAK (hrs)=	5.25	5.75 5.25
RUNOFF VOLUME (mm)=	113.00	59.72 74.64
TOTAL RAINFALL (mm)=	114.00	114.00 114.00
RUNOFF COEFFICIENT =	0.99	0.52 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD   (2373) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0373):    86.20   5.878     5.25    74.64
      + ID2= 2 (5373): 21762.88 490.107     8.75    85.72
        ================================================
        ID = 3 (2373): 21849.08 491.165     8.75    85.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5374) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
                  <------ DATA FOR SECTION (5374.0) ------>
                 Distance      Elevation      Manning
                     0.00         98.97       0.1110
                    36.91         86.49       0.1110
                   134.42         84.00    0.1110 /0.0490  Main Channel
                   141.69         83.20       0.0490       Main Channel
                   152.50         83.20       0.0490       Main Channel
                   159.42         84.00    0.0490 /0.1110  Main Channel
                   175.53         98.00       0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.40     83.60    .239E+04        4.2         0.73       9.54
       0.80     84.00    .596E+04       15.3         1.07       6.49
       1.62     84.82    .202E+05       72.8         1.50       4.63
       2.45     85.65    .459E+05      179.3         1.63       4.26
       3.27     86.47    .829E+05      344.5         1.73       4.01
       4.09     87.29    .126E+06      593.4         1.95       3.55
       4.92     88.12    .171E+06      902.7         2.20       3.16
       5.74     88.94    .217E+06     1267.1         2.43       2.85
       6.56     89.76    .264E+06     1683.7         2.66       2.61
       7.39     90.59    .312E+06     2150.3         2.87       2.42
       8.21     91.41    .362E+06     2665.3         3.07       2.26
       9.04     92.24    .412E+06     3227.6         3.26       2.13
       9.86     93.06    .464E+06     3836.1         3.44       2.01
      10.68     93.88    .516E+06     4490.2         3.62       1.92
      11.51     94.71    .570E+06     5189.2         3.79       1.83
      12.33     95.53    .626E+06     5932.8         3.95       1.76
      13.15     96.35    .682E+06     6720.5         4.10       1.69
      13.98     97.18    .739E+06     7552.1         4.25       1.63
      14.80     98.00    .798E+06     8427.5         4.40       1.58

                                  <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK    R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)    (mm)       (m)      (m/s)
    INFLOW : ID= 2 (2373) *******   491.17    8.75  85.68      3.76      1.86
    OUTFLOW: ID= 1 (5374) *******   491.27    8.75  85.68      3.74      1.85

| CALIB             |
| STANDHYD  (0673) |   Area    (ha)= 211.75
```



```
|ID= 1 DT=15.0 min |   Total Imp(%)=  65.00   Dir. Conn.(%)=  58.00
                                IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      137.64        74.11
    Dep. Storage     (mm)=        1.00         4.00
    Average Slope     (%)=        1.00         1.60
    Length            (m)=     1188.14        40.00
    Mannings n           =       0.013        0.250

    Max.Eff.Inten.(mm/hr)=       52.42        56.16
              over (min)         15.00        30.00
    Storage Coeff.  (min)=       17.40 (ii)  103.20 (ii)
    Unit Hyd. Tpeak (min)=       15.00       105.00
    Unit Hyd. peak  (cms)=        0.07         0.01
                                                      *TOTALS*
    PEAK FLOW       (cms)=       17.52         4.78        19.776 (iii)
    TIME TO PEAK    (hrs)=        5.25         6.50         5.25
    RUNOFF VOLUME    (mm)=      113.00        84.39       100.98
    TOTAL RAINFALL   (mm)=      114.00       114.00       114.00
    RUNOFF COEFFICIENT   =        0.99         0.74         0.89

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| DUHYD     (9673) |
| Inlet Cap.=***** |
| #of Inlets=    1 |
| Total(cms)=***** |      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1): 211.75     19.78      5.25  100.98
    ================================================
    MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
    MINOR SYS.(ID= 3): 211.75     19.78      5.25  100.98

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (6673) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   1.7310     6.2000
    **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (9673)    211.750     19.776      5.25     100.98
    OUTFLOW: ID= 1 (6673)    211.750      3.791      8.75     100.98

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.17
                TIME SHIFT OF PEAK FLOW          (min)=210.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 13.5885
```



```
| ADD HYD   (4673) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH 9673 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
*** W A R N I N G :  HYDROGRAPH 0003 = HYDROGRAPH 0001
        ID1= 1 (6673):   211.75   3.791     8.75   100.98
      + ID2= 2 (9673):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (4673):   211.75   3.791     8.75   100.98

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD   (1374) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (4673):   211.75   3.791     8.75   100.98
      + ID2= 2 (5374): 21849.08 491.268     8.75    85.68
        ================================================
        ID = 3 (1374): 22060.83 495.059     8.75    85.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB             |
| STANDHYD  (0374) |   Area    (ha)=  32.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  35.00
                                IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       14.69        17.95
    Dep. Storage     (mm)=        1.00         4.00
    Average Slope     (%)=        1.00         4.80
    Length            (m)=      466.48        40.00
    Mannings n           =       0.013        0.250

    Max.Eff.Inten.(mm/hr)=       52.42        49.60
              over (min)         15.00        15.00
    Storage Coeff.  (min)=        7.20 (ii)   42.00 (ii)
    Unit Hyd. Tpeak (min)=       15.00        45.00
    Unit Hyd. peak  (cms)=        0.10         0.03
                                                      *TOTALS*
    PEAK FLOW       (cms)=        1.66         1.61         3.126 (iii)
    TIME TO PEAK    (hrs)=        5.25         5.50         5.25
    RUNOFF VOLUME    (mm)=      113.00        72.94        86.96
    TOTAL RAINFALL   (mm)=      114.00       114.00       114.00
    RUNOFF COEFFICIENT   =        0.99         0.64         0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD   (2374) |
```



```
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0374):    32.64   3.126     5.25    86.96
      + ID2= 2 (1374): 22060.83 495.059     8.75    85.83
        ================================================
        ID = 3 (2374): 22093.47 495.398     8.75    85.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (5396) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
                  <------ DATA FOR SECTION (5396.0) ------>
                 Distance      Elevation      Manning
                     0.00         97.95       0.1110
                    17.75         83.00       0.1110
                    23.72         82.08       0.1110
                    24.22         82.00       0.1110
                    25.33         82.00    0.1110 /0.0490  Main Channel
                    26.00         81.40       0.0490       Main Channel
                    33.68         81.40       0.0490       Main Channel
                    35.87         82.00    0.0490 /0.1110  Main Channel
                    43.42         82.00       0.1110
                    69.25         82.98       0.1110
                   140.88         83.00       0.1110
                   166.30         97.94       0.1110

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.60     82.00    .162E+04        6.3         1.16       4.27
       1.44     82.84    .981E+04       41.2         1.24       3.97
       2.28     83.68    .373E+05      147.1         1.17       4.23
       3.12     84.52    .687E+05      348.9         1.50       3.28
       3.96     85.36    .101E+06      621.1         1.83       2.70
       4.79     86.19    .133E+06      955.6         2.12       2.32
       5.63     87.03    .167E+06     1347.8         2.40       2.06
       6.47     87.87    .200E+06     1794.3         2.65       1.86
       7.31     88.71    .235E+06     2292.7         2.89       1.71
       8.15     89.55    .270E+06     2841.1         3.12       1.58
       8.99     90.39    .305E+06     3438.0         3.34       1.48
       9.83     91.23    .342E+06     4082.2         3.54       1.39
      10.67     92.07    .378E+06     4772.8         3.74       1.32
      11.51     92.91    .416E+06     5508.8         3.93       1.26
      12.35     93.75    .454E+06     6289.6         4.11       1.20
      13.18     94.58    .492E+06     7114.7         4.28       1.15
      14.02     95.42    .532E+06     7983.6         4.45       1.11
      14.86     96.26    .571E+06     8895.9         4.61       1.07
      15.70     97.10    .612E+06     9851.2         4.77       1.04

                                  <---- hydrograph ---->   <-pipe / channel->
                           AREA    QPEAK   TPEAK    R.V.   MAX DEPTH  MAX VEL
                           (ha)    (cms)   (hrs)    (mm)       (m)      (m/s)
    INFLOW : ID= 2 (2374) *******   495.40    8.75  85.83      3.57      1.66
    OUTFLOW: ID= 1 (5396) *******   495.46    8.75  85.83      3.55      1.66

| CALIB             |
| STANDHYD  (0396) |   Area    (ha)=   4.65
```

|ID= 1 DT=15.0 min | Total Imp(%)= 17.00 Dir. Conn.(%)= 15.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.79	3.86
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	16.10
Length (m)=	176.07	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	34.98
over (min)	15.00	15.00
Storage Coeff. (min)=	3.00 (ii)	16.20 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.11	0.07

		TOTALS
PEAK FLOW (cms)=	0.10	0.35	0.448 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	113.00	57.34	65.68
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.50	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2396)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0396):		4.65	0.448	5.25	65.68
+ ID2= 2 (5396):		22093.47	495.460	8.75	85.83
ID = 3 (2396):		22098.12	495.487	8.75	85.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)= 52.21
STANDHYD (0375)		
ID= 1 DT=15.0 min		Total Imp(%)= 20.00 Dir. Conn.(%)= 16.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.44	41.77
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	5.30
Length (m)=	589.97	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	29.75
over (min)	15.00	30.00
Storage Coeff. (min)=	7.80 (ii)	46.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.02

TOTALS

PEAK FLOW (cms)=	1.22	1.98	2.916 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	113.00	46.98	57.54
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.41	0.50

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1376)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0375):		52.21	2.916	5.25	57.54
+ ID2= 2 (2396):		22098.12	495.487	8.75	85.82
ID = 3 (1376):		22150.33	495.967	8.75	85.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5376)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5376.0) ------>

Distance	Elevation	Manning	
0.00	85.02	0.1110	
7.10	80.04	0.1110	
61.55	79.68	0.1110	
116.38	79.93	0.1110	
143.52	79.00	0.1110	
158.92	78.00	0.1110	
166.66	76.00	0.1110	
167.10	75.50	0.0490	Main Channel
200.00	75.50	0.0490	Main Channel
202.57	76.00	0.0490 /0.1110	Main Channel
207.88	78.85	0.1110	
214.22	80.17	0.1110	
238.13	81.00	0.1110	
277.55	82.00	0.1110	
278.31	83.03	0.1110	
282.09	84.00	0.1110	
288.47	83.19	0.1110	
296.01	84.00	0.1110	
384.91	84.00	0.1110	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	75.95	.696E+04	12.6	0.82	9.22
0.89	76.39	.145E+05	41.2	1.30	5.84
1.34	76.84	.225E+05	82.6	1.67	4.54
1.79	77.29	.310E+05	135.2	1.98	3.83

2.24	77.74	.401E+05	198.5	2.25	3.37
2.68	78.18	.498E+05	271.2	2.48	3.06
3.13	78.63	.608E+05	354.3	2.65	2.86
3.58	79.08	.735E+05	448.2	2.77	2.73
4.03	79.53	.888E+05	553.5	2.83	2.68
4.47	79.97	.114E+06	661.9	2.63	2.88
4.92	80.42	.157E+06	829.0	2.40	3.15
5.37	80.87	.202E+06	1031.7	2.32	3.26
5.82	81.32	.250E+06	1266.7	2.30	3.29
6.26	81.76	.302E+06	1534.7	2.31	3.28
6.71	82.21	.357E+06	1840.9	2.35	3.23
7.16	82.66	.412E+06	2183.9	2.41	3.15
7.61	83.11	.468E+06	2556.2	2.48	3.05
8.05	83.55	.525E+06	2944.5	2.55	2.97
8.50	84.00	.584E+06	3359.5	2.61	2.90

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1376) *******	495.97	8.75	85.76		3.78	2.80
OUTFLOW: ID= 1 (5376) *******	495.51	8.75	85.76		3.78	2.80

CALIB		Area (ha)= 61.67
STANDHYD (0376)		
ID= 1 DT=15.0 min		Total Imp(%)= 39.00 Dir. Conn.(%)= 33.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.05	37.62
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	6.30
Length (m)=	641.20	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	52.42	44.29
over (min)	15.00	15.00
Storage Coeff. (min)=	7.80 (ii)	46.80 (ii)
Unit Hyd. Tpeak (min)=	15.00	45.00
Unit Hyd. peak (cms)=	0.10	0.02

		TOTALS
PEAK FLOW (cms)=	2.96	2.85	5.505 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	113.00	69.36	83.76
TOTAL RAINFALL (mm)=	114.00	114.00	114.00
RUNOFF COEFFICIENT =	0.99	0.61	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2376)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0376):		61.67	5.505	5.25	83.76

ID2= 2 (5376):		22150.33	495.511	8.75	85.76
ID = 3 (2376):		22212.00	496.178	8.75	85.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (5395)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (5395.0) ------>

Distance	Elevation	Manning	
0.00	80.00	0.0700	
23.38	80.00	0.0700	
28.10	79.57	0.0700	
49.96	79.59	0.0700	
59.82	79.36	0.0700	
73.05	78.62	0.0700	
86.41	78.00	0.0700	
92.93	77.00	0.0700	
131.54	76.00	0.0700	
223.71	75.98	0.0700 /0.0490	Main Channel
232.74	74.00	0.0490	Main Channel
260.75	74.00	0.0490	Main Channel
263.06	76.00	0.0490 /0.0700	Main Channel
265.52	76.00	0.0700	
297.15	77.04	0.0700	
323.06	78.00	0.0700	
327.20	79.00	0.0700	
341.44	79.37	0.0700	
370.62	80.00	0.0700	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	74.28	.496E+04	7.0	0.86	11.77
0.57	74.57	.102E+05	22.5	1.34	7.56
0.85	74.85	.157E+05	44.5	1.72	5.88
1.13	75.13	.215E+05	72.6	2.05	4.93
1.41	75.41	.276E+05	106.4	2.35	4.32
1.70	75.70	.339E+05	145.6	2.61	3.88
1.98	75.98	.405E+05	190.4	2.86	3.55
2.31	76.31	.693E+05	278.8	2.45	4.14
2.65	76.65	.103E+06	406.6	2.39	4.24
2.98	76.98	.142E+06	571.0	2.44	4.15
3.32	77.32	.185E+06	780.5	2.57	3.94
3.65	77.65	.229E+06	1027.4	2.72	3.72
3.99	77.99	.276E+06	1310.5	2.88	3.51
4.32	78.32	.325E+06	1625.0	3.04	3.34
4.66	78.66	.376E+06	1974.5	3.19	3.17
4.99	78.99	.428E+06	2362.2	3.35	3.02
5.33	79.33	.483E+06	2754.4	3.46	2.93
5.66	79.66	.544E+06	3054.6	3.41	2.97
6.00	80.00	.613E+06	3561.5	3.53	2.87

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2376) *******	496.18	8.75	85.75		2.83	2.42
OUTFLOW: ID= 1 (5395) *******	495.98	9.00	85.75		2.83	2.42

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| CALIB              |
| STANDHYD  (0395)   |   Area    (ha)=  36.20
|ID= 1 DT=15.0 min   |   Total Imp(%)=  35.00   Dir. Conn.(%)=  30.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       12.67         23.53
     Dep. Storage     (mm)=        1.00          4.00
     Average Slope     (%)=        1.00          3.90
     Length            (m)=      491.26         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      52.42         47.11
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       7.20 (ii)    43.80 (ii)
     Unit Hyd. Tpeak (min)=      15.00         45.00
     Unit Hyd. peak  (cms)=       0.10          0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.58          2.00          3.403 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=     113.00         76.69         87.58
     TOTAL RAINFALL   (mm)=     114.00        114.00        114.00
     RUNOFF COEFFICIENT   =       0.99          0.67          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (2395) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0395):    36.20   3.403     5.25    87.58
       + ID2= 2 (5395): 22212.00 495.977     9.00    85.75
         ==========================================
         ID = 3 (2395): 22248.20 496.326     9.00    85.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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Mimico Watershed

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I      SS   U   U  AAAAA  L
        V  V    I       SS  U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial


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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\P006437C\AppData\Local\Temp\73400444-e18a-4654-b0cf-6b261e438f30\Scen
ario.out
  Summary filename:
C:\Users\P006437C\AppData\Local\Temp\73400444-e18a-4654-b0cf-6b261e438f30\Scen
ario.sum


DATE: 11/07/2017                          TIME: 11:15:03

USER:


COMMENTS: _____________________________________________________


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  ******************************
  ** SIMULATION NUMBER:  13 **
  ******************************


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|    READ STORM    |    Filename: C:\Users\P006437C\AppD

|                  |              ata\Local\Temp\

|                  |
73400444-e18a-4654-b0cf-6b261e438f30\246a29d1
| Ptotal= 42.00 mm |    Comments: 2yr/12hr
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50    7.14 |  6.75    2.94 | 10.00    0.42
               0.50    0.42 |  3.75    7.14 |  7.00    2.94 | 10.25    0.42
               0.75    0.42 |  4.00    7.14 |  7.25    2.94 | 10.50    0.42
               1.00    0.42 |  4.25    7.14 |  7.50    1.68 | 10.75    0.42
               1.25    0.42 |  4.50   19.32 |  7.75    1.68 | 11.00    0.42
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               1.50    0.42 |  4.75   19.32 |  8.00    1.68 | 11.25    0.42
               1.75    0.42 |  5.00   19.32 |  8.25    1.68 | 11.50    0.42
               2.00    0.42 |  5.25   19.32 |  8.50    0.84 | 11.75    0.42
               2.25    0.42 |  5.50    5.46 |  8.75    0.84 | 12.00    0.42
               2.50    2.52 |  5.75    5.46 |  9.00    0.84 | 12.25    0.42
               2.75    2.52 |  6.00    5.46 |  9.25    0.84 |
               3.00    2.52 |  6.25    5.46 |  9.50    0.42 |
               3.25    2.52 |  6.50    2.94 |  9.75    0.42 |

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| CALIB           |
| NASHYD   (0170) |   Area    (ha)=  30.06   Curve Number   (CN)= 86.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 5.00
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.474

     PEAK FLOW       (cms)=   0.622 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  16.065
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.382

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (0100) |   Area    (ha)= 100.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.12        62.20
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     817.80        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         8.90
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.05         1.44          3.489 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      40.00        14.72          24.33
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.35           0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0600) |
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| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  10.8200     0.0500
                         3.9300     0.0019   |  12.9600     0.1100
                         4.0000     0.0021   |  17.5400     0.1905
                         5.0000     0.0100   |  27.0100     0.4570
                        10.7300     0.0438   |  37.7400     0.8003

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0100)    100.320      3.489      5.25      24.33
     OUTFLOW: ID= 1 (0600)    100.320      3.505      5.25      24.33

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.46
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0024

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| CALIB           |
| STANDHYD  (0101) |   Area    (ha)=  74.02
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.21        51.81
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     702.47        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         8.90
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.19         1.20          2.394 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      40.00        14.72          22.31
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.35           0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******     0.0010

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0101)     74.020      2.394      5.25      22.31
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     OUTFLOW: ID= 1 (0601)     74.020      2.392      5.25      28.50

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.89
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0002

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| ADD HYD   (0200) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0600):   100.32   3.505     5.25    24.33
        + ID2= 2 (0601):    74.02   2.392     5.25    28.50
          ================================================
          ID = 3 (0200):   174.34   5.897     5.25    26.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0300) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------

                <------ DATA FOR SECTION ( 400.0) ------>
                Distance      Elevation       Manning
                    0.00         214.00        0.0800
                   19.00         214.00        0.0800
                   28.00         213.00        0.0800
                   34.00         212.00    0.0800 /0.0600  Main Channel
                   35.00         211.50        0.0600      Main Channel
                   37.00         212.00    0.0600 /0.0600  Main Channel
                   43.00         213.00        0.0600
                   54.00         214.00        0.0600
                   74.00         214.50        0.0600
                   80.00         215.00        0.0600

       <--------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
         0.12   211.62    .649E+02       0.0          0.29      80.17
         0.25   211.75    .260E+03       0.1          0.46      50.51
         0.37   211.88    .584E+03       0.3          0.60      38.54
         0.50   212.00    .104E+04       0.5          0.73      31.82
         0.63   212.13    .174E+04       1.1          0.91      25.48
         0.77   212.27    .274E+04       2.0          1.02      22.72
         0.90   212.40    .403E+04       3.2          1.11      20.89
         1.03   212.53    .562E+04       4.8          1.19      19.44
         1.17   212.67    .750E+04       6.9          1.27      18.24
         1.30   212.80    .968E+04       9.4          1.34      17.19
         1.43   212.93    .122E+05      12.4          1.42      16.28
         1.57   213.07    .150E+05      15.9          1.47      15.67
         1.70   213.20    .182E+05      19.9          1.52      15.23
         1.83   213.33    .220E+05      24.8          1.56      14.78
         1.97   213.47    .262E+05      30.5          1.61      14.32
         2.10   213.60    .310E+05      37.2          1.66      13.87
         2.23   213.73    .362E+05      44.9          1.72      13.43
         2.37   213.87    .419E+05      53.7          1.78      13.00
         2.50   214.00    .481E+05      63.7          1.83      12.60

                                     <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
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	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0200)	174.34	5.90	5.25	26.10	1.10	1.23
OUTFLOW: ID= 1 (0300)	174.34	5.19	5.25	26.09	1.06	1.20

CALIB			
STANDHYD (0103)	Area (ha)= 118.55		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	45.05	73.50
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	889.01	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.31
over (min)	15.00	45.00
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.08	0.06

		TOTALS
PEAK FLOW (cms)=	2.41	1.78	4.191 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	15.36	24.72
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.37	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0202)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0103):	118.55	4.191	5.25	24.72
+ ID2= 2 (0300):	174.34	5.191	5.25	26.09
ID = 3 (0202):	292.89	9.381	5.25	25.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0109)	Area (ha)= 49.01		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	29.41	19.60
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	571.61	40.00
Mannings n =	0.013	0.250

	IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=	19.32	10.19
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	1.58	0.52	2.099 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	30.70
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0609)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	5.7500	10.0000
	5.7120	0.8320	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	49.010	2.099	5.25	30.70
OUTFLOW: ID= 1 (0609)	49.010	1.808	5.25	30.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 86.14
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.2765

ADD HYD (0203)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	292.89	9.381	5.25	25.54
+ ID2= 2 (0609):	49.01	1.808	5.25	30.70
ID = 3 (0203):	341.90	11.190	5.25	26.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0301)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (401.0) ------>

Distance	Elevation	Manning
0.00	205.00	0.0800
20.00	204.50	0.0800
80.00	204.50	0.0800
105.00	204.00	0.0800

113.00	203.50	0.0800 /0.0600	Main Channel
124.00	203.50	0.0600	Main Channel
130.00	203.50	0.0600 /0.0800	Main Channel
195.00	204.00	0.0800	
250.00	205.00	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	203.58	.225E+04	0.4	0.22	93.84
0.16	203.66	.564E+04	1.4	0.32	65.10
0.24	203.74	.102E+05	3.2	0.39	53.26
0.32	203.82	.158E+05	5.7	0.45	46.34
0.39	203.89	.226E+05	9.1	0.50	41.62
0.47	203.97	.306E+05	13.4	0.55	38.10
0.55	204.05	.396E+05	18.9	0.60	34.96
0.63	204.13	.495E+05	25.6	0.65	32.25
0.71	204.21	.601E+05	33.3	0.69	30.06
0.79	204.29	.716E+05	42.3	0.74	28.26
0.87	204.37	.839E+05	52.3	0.78	26.74
0.95	204.45	.971E+05	63.6	0.82	25.44
1.03	204.53	.113E+06	73.3	0.81	25.69
1.11	204.61	.134E+06	89.2	0.84	24.96
1.18	204.68	.155E+06	107.2	0.87	24.10
1.26	204.76	.177E+06	127.1	0.90	23.22
1.34	204.84	.200E+06	149.0	0.93	22.37
1.42	204.92	.224E+06	172.9	0.97	21.56
1.50	205.00	.248E+06	198.7	1.00	20.80

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0203)	341.90	11.19	5.25	26.28	0.43	0.52
OUTFLOW: ID= 1 (0301)	341.90	8.12	5.50	26.28	0.37	0.49

CALIB			
STANDHYD (0108)	Area (ha)= 121.56		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	64.43	57.13
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	900.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.19
over (min)	15.00	45.00
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.08	0.06

		TOTALS
PEAK FLOW (cms)=	3.44	1.52	4.962 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	29.07
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0608)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0001

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	121.560	4.962	5.25	29.07
OUTFLOW: ID= 1 (0608)	121.560	4.962	5.25	29.07

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

ADD HYD (0204)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0301):	341.90	8.118	5.50	26.28
+ ID2= 2 (0608):	121.56	4.962	5.25	29.07
ID = 3 (0204):	463.46	12.200	5.25	27.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0302)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (402.0) ------>

Distance	Elevation	Manning	
0.00	202.00	0.1200	
200.00	200.00	0.1200	
212.00	197.00	0.1200	
229.00	195.80	0.1200 /0.0600	Main Channel
229.01	195.60	0.0600	Main Channel
231.00	195.60	0.0600 /0.1200	Main Channel
231.01	195.80	0.1200	
250.00	197.00	0.1200	
260.00	200.00	0.1200	
455.00	203.00	0.1200	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	195.94	.970E+03	0.6	0.60	28.09
0.67	196.27	.479E+04	2.8	0.60	28.31
1.01	196.61	.121E+05	8.0	0.68	25.01
1.35	196.95	.228E+05	17.3	0.77	21.99
1.68	197.28	.360E+05	32.8	0.92	18.33
2.02	197.62	.502E+05	53.1	1.07	15.75

2.36	197.96	.651E+05	77.7	1.21	13.97
2.69	198.29	.809E+05	106.6	1.34	12.66
3.03	198.63	.976E+05	139.6	1.45	11.65
3.37	198.97	.115E+06	177.0	1.56	10.84
3.71	199.31	.133E+06	218.6	1.66	10.18
4.04	199.64	.153E+06	264.5	1.76	9.62
4.38	199.98	.173E+06	314.8	1.85	9.14
4.72	200.32	.202E+06	280.8	1.41	11.96
5.05	200.65	.249E+06	310.4	1.26	13.39
5.39	200.99	.316E+06	378.3	1.21	13.93
5.73	201.33	.402E+06	480.1	1.21	13.96
6.06	201.66	.507E+06	616.9	1.24	13.70
6.40	202.00	.631E+06	791.4	1.27	13.28

<---- hydrograph ----> <-pipe /
channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0204)		463.46	12.20	5.25	27.01	1.16	0.72
OUTFLOW: ID= 1 (0302)		463.46	10.28	5.50	27.01	1.09	0.70

CALIB	
STANDHYD (0107)	Area (ha)= 98.53
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	44.34	54.19
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	810.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.73
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.38 1.38 3.755 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	40.00 16.03 26.82
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.38 0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0111)	Area (ha)= 94.42
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.04	44.38

Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	793.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.69 1.18 3.865 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	40.00 16.76 29.07
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.40 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0205)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0107):		98.53	3.755	5.25	26.82
+ ID2= 2 (0111):		94.42	3.865	5.25	29.07
ID = 3 (0205):		192.95	7.621	5.25	27.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0206)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0205):		192.95	7.621	5.25	27.92
+ ID2= 2 (0302):		463.46	10.277	5.50	27.01
ID = 3 (0206):		656.41	16.610	5.25	27.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0611)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	2.8300	8.7600
0.8400	0.1100	15.9200	12.4000
1.3200	0.4400	39.5200	16.3100
1.6700	1.1900	69.9800	20.4700
1.9600	2.3800	*******	24.9000
2.4300	5.4000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0206)	656.410	16.610	5.25	27.28
OUTFLOW: ID= 1 (0611)	656.410	5.555	7.50	27.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 33.44
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 9.5187

CALIB	
STANDHYD (0110)	Area (ha)= 56.33
ID= 1 DT=15.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.80	22.53
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	612.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.81 0.60 2.413 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	40.00 16.76 30.70
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.40 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0610)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	*******	0.0001

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0110)	56.330	2.413	5.25	30.70
OUTFLOW: ID= 1 (0610)	56.330	2.413	5.25	30.70

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0207)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0610):		56.33	2.413	5.25	30.70
+ ID2= 2 (0611):		656.41	5.555	7.50	27.28
ID = 3 (0207):		712.74	5.819	7.50	27.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0303)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (403.0) ------>

Distance	Elevation	Manning	
0.00	188.10	0.1100	
12.00	184.70	0.1100 /0.0700	Main Channel
15.00	184.40	0.0700	Main Channel
18.00	184.70	0.0700 /0.1100	Main Channel
30.00	188.10	0.1100	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	184.55	.166E+03	0.1	0.28	44.28
0.30	184.70	.663E+03	0.4	0.44	27.89
0.50	184.90	.165E+04	1.7	0.74	16.62
0.70	185.10	.285E+04	3.6	0.94	13.03
0.90	185.30	.425E+04	6.3	1.10	11.17
1.10	185.50	.587E+04	9.8	1.23	9.99
1.30	185.70	.769E+04	14.0	1.34	9.17
1.50	185.90	.972E+04	18.9	1.44	8.55
1.70	186.10	.120E+05	24.7	1.52	8.06
1.90	186.30	.144E+05	31.3	1.60	7.66
2.10	186.50	.171E+05	38.8	1.68	7.32
2.30	186.70	.199E+05	47.2	1.75	7.03
2.50	186.90	.230E+05	56.5	1.81	6.77
2.70	187.10	.263E+05	66.8	1.88	6.55
2.90	187.30	.297E+05	78.1	1.94	6.35
3.10	187.50	.334E+05	90.4	1.99	6.16
3.30	187.70	.373E+05	103.8	2.05	6.00
3.50	187.90	.415E+05	118.2	2.10	5.85
3.70	188.10	.458E+05	133.7	2.15	5.70

<---- hydrograph ----> <-pipe /
channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0207)		712.74	5.82	7.50	27.55	0.86	1.07
OUTFLOW: ID= 1 (0303)		712.74	5.79	7.75	27.55	0.86	1.06

CALIB	
STANDHYD (0116)	Area (ha)= 106.86
ID= 1 DT=15.0 min	Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	24.58	82.28	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	844.04	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	10.19	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	1.32	2.19	3.507 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	22.10
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0616)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0001

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0116)	106.860	3.507	5.25	22.10
OUTFLOW: ID= 1 (0616)	106.860	3.507	5.25	22.10

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0208)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0303):	712.74	5.787	7.75	27.55
	+ ID2= 2 (0616):	106.86	3.507	5.25	22.10
	ID = 3 (0208):	819.60	7.942	5.25	26.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0304)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (404.0) ------>

Distance	Elevation	Manning	
0.00	181.00	0.1100	
15.00	178.30	0.1100	
29.00	177.80	0.1100 /0.0700	Main Channel
31.50	177.20	0.0700	Main Channel
35.00	177.70	0.0700 /0.1100	Main Channel
44.00	178.10	0.1100	
50.00	178.10	0.1100	
52.00	178.30	0.1100	
63.00	179.70	0.1100	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	177.32	.813E+02	0.0	0.16	98.74
0.25	177.45	.325E+03	0.1	0.25	62.20
0.37	177.57	.732E+03	0.3	0.33	47.47
0.50	177.70	.130E+04	0.6	0.40	39.18
0.63	177.83	.223E+04	1.1	0.47	32.98
0.77	177.97	.388E+04	2.0	0.49	31.66
0.90	178.10	.637E+04	3.4	0.50	31.30
1.03	178.23	.103E+05	5.4	0.49	32.02
1.17	178.37	.149E+05	8.3	0.52	30.04
1.30	178.50	.197E+05	11.9	0.56	27.63
1.43	178.63	.247E+05	16.2	0.61	25.52
1.57	178.77	.300E+05	21.1	0.65	23.75
1.70	178.90	.355E+05	26.6	0.70	22.26
1.83	179.03	.412E+05	32.7	0.74	21.00
1.97	179.17	.471E+05	39.4	0.78	19.92
2.10	179.30	.533E+05	46.8	0.82	18.98
2.23	179.43	.597E+05	54.8	0.86	18.15
2.37	179.57	.663E+05	63.4	0.89	17.43
2.50	179.70	.731E+05	72.6	0.93	16.78

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0208)	819.60	7.94	5.25	26.84	1.15	0.51
OUTFLOW: ID= 1 (0304)	819.60	6.29	5.50	26.83	1.08	0.49

CALIB			
STANDHYD (0119)	Area (ha)=	52.33	
ID= 1 DT=15.0 min	Total Imp(%)=	30.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.70	36.63
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	590.65	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.84	0.97 1.816 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25

RUNOFF VOLUME	(mm)=	40.00	16.76	23.73
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0619)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0119)	52.330	1.816	5.25	23.73
OUTFLOW: ID= 1 (0619)	52.330	1.816	5.25	23.73

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

ADD HYD (0209)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0304):	819.60	6.294	5.50	26.83
	+ ID2= 2 (0619):	52.33	1.816	5.25	23.73
	ID = 3 (0209):	871.93	7.804	5.25	26.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0305)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (405.0) ------>

Distance	Elevation	Manning	
0.00	175.00	0.1200	
10.00	172.40	0.1200	
37.00	171.90	0.1200 /0.0600	Main Channel
38.50	171.40	0.0600	Main Channel
40.50	171.40	0.0600	Main Channel
42.00	171.90	0.0600 /0.1200	Main Channel
69.00	172.40	0.1200	
75.00	175.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	171.57	.573E+03	0.1	0.28	82.03
0.33	171.73	.138E+04	0.4	0.41	55.76

0.50	171.90	.241E+04	0.9	0.51	44.71
0.69	172.09	.653E+04	2.1	0.44	51.93
0.89	172.29	.162E+05	4.5	0.38	59.58
1.08	172.48	.310E+05	9.1	0.40	56.98
1.28	172.68	.470E+05	15.9	0.47	49.23
1.47	172.87	.634E+05	24.5	0.53	43.16
1.66	173.06	.800E+05	34.6	0.59	38.57
1.86	173.26	.970E+05	46.1	0.65	35.03
2.05	173.45	.114E+06	59.1	0.71	32.23
2.24	173.64	.132E+06	73.4	0.77	29.94
2.44	173.84	.150E+06	89.0	0.82	28.05
2.63	174.03	.168E+06	105.9	0.87	26.44
2.83	174.23	.187E+06	124.0	0.91	25.07
3.02	174.42	.205E+06	143.4	0.96	23.88
3.21	174.61	.225E+06	164.0	1.00	22.83
3.41	174.81	.244E+06	185.8	1.05	21.90
3.60	175.00	.264E+06	208.7	1.09	21.08

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0209)	871.93	7.80	5.25	26.65	1.03	0.40
OUTFLOW: ID= 1 (0305)	871.93	5.75	8.50	26.65	0.94	0.39

CALIB			
STANDHYD (0121)	Area (ha)=	53.31	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.99	29.32
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	596.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	1.29	0.78 2.067 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	16.76 27.22
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.40 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0621)	
IN= 2---> OUT= 1	

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	53.310	2.067	5.25	27.22
OUTFLOW: ID= 1 (0621)	53.310	2.064	5.25	35.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.87
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0002

ADD HYD (0210)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0305):	871.93	5.751	8.50	26.65
+ ID2= 2 (0621):	53.31	2.064	5.25	35.81
ID = 3 (0210):	925.24	6.117	6.25	27.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0118) | Area (ha)= 57.78
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.62	27.16
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	620.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.64	0.72	2.365 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	29.07
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0618)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0118)	57.780	2.365	5.25	29.07
OUTFLOW: ID= 1 (0618)	57.780	2.365	5.25	29.07

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

CALIB
STANDHYD (****) | Area (ha)= 114.26
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	60.56	53.70
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	872.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	3.24	1.43	4.664 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	29.07
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 7.45
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.95	3.50
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	222.86	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	0.21	0.09	0.304 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	29.07
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 2.40
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.27	1.13
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	126.49	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	0.07	0.03	0.098 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	29.07
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0276)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	114.26	4.664	5.25	29.07
+ ID2= 2 (****):	7.45	0.304	5.25	29.07
ID = 3 (0276):	121.71	4.968	5.25	29.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0276)
1 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0276):	121.71	4.968	5.25	29.07
+ ID2= 2 (****):	2.40	0.098	5.25	29.07
ID = 1 (0276):	124.11	5.066	5.25	29.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0617)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	29.0800	0.5230
	0.1200	0.1560	30.5000	0.5500
	0.1800	0.3485	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0276)	124.110	5.066	5.25	29.07
OUTFLOW: ID= 1 (0617)	124.110	5.150	5.25	29.07

PEAK FLOW REDUCTION [Qout/Qin](%)=101.66
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.3823

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0211)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0617):	124.11	5.150	5.25	29.07
+ ID2= 2 (0618):	57.78	2.365	5.25	29.07
ID = 3 (0211):	181.89	7.515	5.25	29.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0115) | Area (ha)= 210.14
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	111.37	98.77
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1183.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

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                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.95         2.14          8.089 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50          5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76         29.07
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.95         0.40          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0615) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******      0.0010

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0115)    210.140     8.089     5.25        29.07
     OUTFLOW: ID= 1 (0615)    210.140     8.089     5.25        29.07

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| ADD HYD   (0213) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0211):   181.89   7.515     5.25     29.07
        + ID2= 2 (0615):   210.14   8.089     5.25     29.07
          ================================================
          ID = 3 (0213):   392.03  15.604     5.25     29.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0214) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0210):   925.24   6.117     6.25     27.17
        + ID2= 2 (0213):   392.03  15.604     5.25     29.07
          ================================================
          ID = 3 (0214):  1317.27  21.598     5.25     27.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  17.78
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|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
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                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           9.42          8.36
     Dep. Storage     (mm)=           2.00          6.00
     Average Slope     (%)=           1.00          1.00
     Length            (m)=         344.29         40.00
     Mannings n             =         0.013         0.250

     Max.Eff.Inten.(mm/hr)=          19.32         10.19
               over (min)            15.00         30.00
     Storage Coeff.  (min)=           6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=          15.00         15.00
     Unit Hyd. peak  (cms)=           0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=           0.51          0.22          0.728 (iii)
     TIME TO PEAK    (hrs)=           5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=          40.00         16.76         29.07
     TOTAL RAINFALL   (mm)=          42.00         42.00         42.00
     RUNOFF COEFFICIENT   =           0.95          0.40          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  49.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
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                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          26.13         23.18
     Dep. Storage     (mm)=           2.00          6.00
     Average Slope     (%)=           1.00          1.00
     Length            (m)=        573.35         40.00
     Mannings n             =         0.013         0.250

     Max.Eff.Inten.(mm/hr)=          19.32         10.19
               over (min)            15.00         30.00
     Storage Coeff.  (min)=           6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=          15.00         15.00
     Unit Hyd. peak  (cms)=           0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=           1.40          0.62          2.019 (iii)
     TIME TO PEAK    (hrs)=           5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=          40.00         16.76         29.07
     TOTAL RAINFALL   (mm)=          42.00         42.00         42.00
     RUNOFF COEFFICIENT   =           0.95          0.40          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   2.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
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                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           1.20          1.07
     Dep. Storage     (mm)=           2.00          6.00
     Average Slope     (%)=           1.00          1.00
     Length            (m)=        123.02         40.00
     Mannings n             =         0.013         0.250

     Max.Eff.Inten.(mm/hr)=          19.32         10.19
               over (min)            15.00         30.00
     Storage Coeff.  (min)=           6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=          15.00         15.00
     Unit Hyd. peak  (cms)=           0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=           0.06          0.03          0.093 (iii)
     TIME TO PEAK    (hrs)=           5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=          40.00         16.76         29.07
     TOTAL RAINFALL   (mm)=          42.00         42.00         42.00
     RUNOFF COEFFICIENT   =           0.95          0.40          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0215) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0214):  1317.27  21.598     5.25     27.74
        + ID2= 2 (****):    17.78   0.728     5.25     29.07
          ================================================
          ID = 3 (0215):  1335.05  22.326     5.25     27.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0215) |
|   3 +  2 =   1   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0215):  1335.05  22.326     5.25     27.76
        + ID2= 2 (****):    49.31   2.019     5.25     29.07
          ================================================
          ID = 1 (0215):  1384.36  24.344     5.25     27.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0215) |
|   3 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
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          ID1= 1 (0215):  1384.36  24.344     5.25     27.80
        + ID2= 2 (****):     2.27   0.093     5.25     29.07
          ================================================
          ID = 3 (0215):  1386.63  24.437     5.25     27.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0306) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION ( 406.0) ------>
                Distance      Elevation       Manning
                    0.00         173.50        0.1200
                   71.00         172.00        0.1200
                  170.00         170.00        0.1200
                  202.00         168.50    0.1200 /0.0600  Main Channel
                  202.00         168.60    0.1200 /0.0600  Main Channel
                  208.00         168.60    0.0600 /0.1200  Main Channel
                  208.00         168.80    0.0600 /0.1200  Main Channel
                  240.00         170.00        0.1200
                  340.00         172.00        0.1200
                  450.00         173.50        0.1200

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.26   168.76    .306E+04        0.3        0.17      177.67
       0.53   169.03    .110E+05        1.6        0.25      116.39
       0.79   169.29    .249E+05        4.2        0.30       99.32
       1.05   169.55    .446E+05        8.4        0.34       88.49
       1.32   169.82    .703E+05       14.6        0.37       80.40
       1.58   170.08    .102E+06       22.5        0.39       75.76
       1.84   170.34    .145E+06       32.5        0.40       74.29
       2.11   170.61    .200E+06       46.4        0.41       71.63
       2.37   170.87    .267E+06       64.9        0.43       68.52
       2.63   171.13    .346E+06       88.3        0.45       65.33
       2.89   171.39    .438E+06      117.2        0.48       62.24
       3.16   171.66    .541E+06      152.1        0.50       59.35
       3.42   171.92    .658E+06      193.4        0.52       56.66
       3.68   172.18    .787E+06      240.2        0.54       54.58
       3.95   172.45    .930E+06      294.3        0.56       52.69
       4.21   172.71    .109E+07      356.9        0.58       50.85
       4.47   172.97    .126E+07      428.6        0.60       49.10
       4.74   173.24    .145E+07      509.8        0.63       47.44
       5.00   173.50    .165E+07      601.0        0.65       45.87

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0215) 1386.63    24.44     5.25  27.81      1.63      0.39
     OUTFLOW: ID= 1 (0306) 1386.63    13.22     5.50  27.80      1.26      0.36


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| CALIB            |
| STANDHYD  (0131) |   Area    (ha)= 123.35
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------

                                 IMPERVIOUS    PERVIOUS (i)
```

Surface Area	(ha)=	28.37	94.98	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	906.83	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	9.73	
over (min)		15.00	45.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.08	0.06	
				TOTALS
PEAK FLOW	(cms)=	1.52	2.41	3.927 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	16.03	21.55
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.38	0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0216)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0131):	123.35	3.927	5.25	21.55
+ ID2= 2 (0306):	1386.63	13.217	5.50	27.80
ID = 3 (0216):	1509.98	15.923	5.25	27.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (9500)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	7.2600	12.6630
1.7300	1.5060	20.9800	24.7470
4.8900	2.4510	35.0000	38.4350
6.9200	9.8410	80.0000	39.9350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0216)	1509.980	15.923	5.25	27.29
OUTFLOW: ID= 1 (9500)	1509.980	7.023	10.00	27.29

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.11
TIME SHIFT OF PEAK FLOW (min)=285.00
MAXIMUM STORAGE USED (ha.m.)= 10.7021

ROUTE CHN (0307)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (407.0) ------>

Distance	Elevation	Manning	
0.00	175.00	0.1000	
0.01	168.00	0.1000	
28.00	168.00	0.1000	
65.00	164.30	0.1000 /0.0600	Main Channel
65.01	164.10	0.0600	Main Channel
71.00	164.10	0.0600 /0.1000	Main Channel
71.01	164.30	0.1000	
83.00	169.00	0.1000	
138.00	169.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	164.36	.147E+04	0.6	0.41	37.70
0.52	164.62	.348E+04	2.2	0.58	26.76
0.77	164.87	.627E+04	4.6	0.68	22.75
1.03	165.13	.984E+04	8.0	0.76	20.45
1.29	165.39	.142E+05	12.5	0.83	18.85
1.55	165.65	.193E+05	18.3	0.88	17.63
1.81	165.91	.252E+05	25.3	0.94	16.65
2.06	166.16	.319E+05	33.6	0.98	15.81
2.32	166.42	.394E+05	43.5	1.03	15.10
2.58	166.68	.476E+05	54.9	1.08	14.47
2.84	166.94	.567E+05	67.9	1.12	13.91
3.09	167.19	.665E+05	82.6	1.16	13.41
3.35	167.45	.771E+05	99.2	1.20	12.95
3.61	167.71	.884E+05	117.6	1.24	12.53
3.87	167.97	.101E+06	138.0	1.28	12.15
4.13	168.23	.119E+06	145.9	1.14	13.62
4.38	168.48	.139E+06	178.2	1.20	12.98
4.64	168.74	.159E+06	213.6	1.26	12.37
4.90	169.00	.178E+06	252.1	1.32	11.80

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (9500)	1509.98	7.02	10.00	27.29	0.96	0.74
OUTFLOW: ID= 1 (0307)	1509.98	7.02	10.25	27.29	0.96	0.74

CALIB
STANDHYD (0130)
ID= 1 DT=15.0 min

Area (ha)= 42.30
Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.07	26.23
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	531.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.73
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.86	0.67	1.528 (iii)

TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	16.03	25.14
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.38	0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0217)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0130):	42.30	1.528	5.25	25.14
+ ID2= 2 (0307):	1509.98	7.021	10.25	27.29
ID = 3 (0217):	1552.28	7.065	9.25	27.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 240.54
Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.16	168.38
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1266.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		30.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW	(cms)=	3.86	3.65	7.500 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	23.73
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)

Area (ha)= 22.17

ID= 1 DT=15.0 min | Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.65	15.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	384.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW	(cms)=	0.36	0.34	0.691 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	23.73
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 4.13
Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.24	2.89
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	165.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW	(cms)=	0.07	0.06	0.129 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	23.72
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0269)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):		240.54	7.500	5.25	23.73
+ ID2= 2 (****):		22.17	0.691	5.25	23.73
ID = 3 (0269):		262.71	8.191	5.25	23.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0269)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0269):		262.71	8.191	5.25	23.73
+ ID2= 2 (****):		4.13	0.129	5.25	23.72
ID = 1 (0269):		266.84	8.320	5.25	23.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (****)	Area (ha)=	11.98		
ID= 1 DT=15.0 min	Total Imp(%)=	30.00	Dir. Conn.(%)=	30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.59	8.39
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	282.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.19	0.18	0.374 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	23.73
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area (ha)=	20.98		
ID= 1 DT=15.0 min	Total Imp(%)=	30.00	Dir. Conn.(%)=	30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.29	14.69
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	373.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.34	0.32	0.654 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	23.73
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area (ha)=	0.47		
ID= 1 DT=15.0 min	Total Imp(%)=	30.00	Dir. Conn.(%)=	30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.14	0.33
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.01	0.01	0.015 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	23.70
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0268)

1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):		20.98	0.654	5.25	23.73
+ ID2= 2 (****):		11.98	0.374	5.25	23.73
ID = 3 (0268):		32.96	1.028	5.25	23.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0268)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0268):		32.96	1.028	5.25	23.73
+ ID2= 2 (****):		0.47	0.015	5.25	23.70
ID = 1 (0268):		33.43	1.042	5.25	23.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0270)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0268):		33.43	1.042	5.25	23.73
+ ID2= 2 (0269):		266.84	8.320	5.25	23.73
ID = 3 (0270):		300.27	9.362	5.25	23.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0620)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE	
	(cms)	(ha.m.)	(cms)	(ha.m.)	
	0.0000	0.0000	*******	0.0010	

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0270)	300.270	9.362	5.25	23.73
OUTFLOW: ID= 1 (0620)	300.270	9.362	5.25	23.73

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

ROUTE CHN (0501)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (601.0) ------>

Distance	Elevation	Manning
0.00	172.00	0.1000
29.33	172.00	0.1000
43.69	171.00	0.1000

60.63	170.00	0.1000 /0.0600	Main Channel	
110.21	171.00	0.0600	Main Channel	
119.74	172.00	0.1000		
133.28	172.00	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	170.11	.427E+03	0.0	0.13	145.32
0.21	170.21	.171E+04	0.3	0.21	91.55
0.32	170.32	.384E+04	0.9	0.28	69.86
0.42	170.42	.683E+04	2.0	0.33	57.67
0.53	170.53	.107E+05	3.6	0.39	49.70
0.63	170.63	.154E+05	5.8	0.44	44.01
0.74	170.74	.209E+05	8.8	0.49	39.71
0.84	170.84	.273E+05	12.5	0.53	36.33
0.95	170.95	.346E+05	17.2	0.58	33.59
1.05	171.05	.426E+05	23.3	0.63	30.46
1.16	171.16	.511E+05	31.0	0.70	27.41
1.26	171.26	.598E+05	39.7	0.77	25.10
1.37	171.37	.688E+05	49.3	0.83	23.27
1.47	171.47	.782E+05	59.8	0.89	21.79
1.58	171.58	.878E+05	71.2	0.94	20.56
1.68	171.68	.978E+05	83.5	0.99	19.52
1.79	171.79	.108E+06	96.7	1.04	18.62
1.89	171.89	.119E+06	110.8	1.08	17.85
2.00	172.00	.129E+06	125.7	1.13	17.16

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0620)	300.27	9.36	5.25	23.73	0.75	0.49
OUTFLOW: ID= 1 (0501)	300.27	6.77	5.50	23.73	0.66	0.45

CALIB				
STANDHYD (0133)	Area (ha)=	112.19		
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)=	45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.49	61.70
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	864.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.73
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.71	1.57	4.276 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	16.03	26.82
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.38	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0218)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0133):		112.19	4.276	5.25	26.82
+ ID2= 2 (0501):		300.27	6.774	5.50	23.73
ID = 3 (0218):		412.46	10.388	5.25	24.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0502) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (602.0) ------>

Distance	Elevation	Manning	
23.46	169.00	0.1000	
72.48	168.00	0.1000	
96.12	167.00	0.1000	
110.97	165.00	0.1000 /0.0600	Main Channel
116.24	164.00	0.0600	Main Channel
118.36	164.00	0.0600	Main Channel
124.43	165.00	0.0600 /0.1000	Main Channel
141.85	167.00	0.1000	
162.34	168.00	0.1000	
224.13	169.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	164.25	.752E+03	0.3	0.33	42.64
0.50	164.50	.211E+04	1.2	0.49	29.06
0.75	164.75	.406E+04	2.9	0.61	23.08
1.00	165.00	.662E+04	5.7	0.73	19.52
1.27	165.27	.102E+05	10.7	0.90	15.79
1.53	165.53	.147E+05	17.4	1.01	14.06
1.80	165.80	.202E+05	25.8	1.09	13.03
2.07	166.07	.266E+05	36.1	1.15	12.31
2.33	166.33	.341E+05	48.3	1.21	11.75
2.60	166.60	.425E+05	62.7	1.25	11.29
2.87	166.87	.519E+05	79.3	1.30	10.90
3.13	167.13	.624E+05	97.0	1.32	10.73
3.40	167.40	.755E+05	117.0	1.32	10.75
3.67	167.67	.912E+05	141.0	1.31	10.77
3.93	167.93	.110E+06	169.4	1.31	10.78
4.20	168.20	.132E+06	197.1	1.27	11.14
4.47	168.47	.160E+06	232.0	1.23	11.53
4.73	168.73	.196E+06	276.3	1.20	11.82
5.00	169.00	.238E+06	330.6	1.18	12.00

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

INFLOW : ID= 2 (0218)	412.46	10.39	5.25	24.57	1.25	0.88
OUTFLOW: ID= 1 (0502)	412.46	9.38	5.50	24.57	1.19	0.84

CALIB | STANDHYD (0135) | ID= 1 DT=15.0 min | Area (ha)= 55.00 Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.90	34.10
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	605.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.90
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.12 0.79 1.913 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	40.00 14.72 24.33
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.35 0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0212)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0135):		55.00	1.913	5.25	24.33
+ ID2= 2 (0502):		412.46	9.377	5.50	24.57
ID = 3 (0212):		467.46	10.710	5.25	24.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0219)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0212):		467.46	10.710	5.25	24.54
+ ID2= 2 (0217):		1552.28	7.065	9.25	27.23
ID = 3 (0219):		2019.74	15.464	5.25	26.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0308) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (408.0) ------>

Distance	Elevation	Manning	
0.00	174.00	0.1000	
0.00	167.00	0.1000	
31.00	165.00	0.1000	
57.00	163.00	0.1000	
63.00	161.20	0.1000 /0.0600	Main Channel
63.00	161.00	0.0600	Main Channel
67.00	161.00	0.0600 /0.1000	Main Channel
67.00	161.20	0.1000	
95.00	165.00	0.1000	
148.00	167.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	161.32	.221E+04	0.4	0.32	86.34
0.63	161.63	.584E+04	1.5	0.42	65.04
0.95	161.95	.112E+05	3.3	0.49	56.53
1.26	162.26	.184E+05	6.0	0.54	51.16
1.58	162.58	.273E+05	9.7	0.59	47.17
1.89	162.89	.380E+05	14.4	0.63	43.99
2.21	163.21	.509E+05	20.0	0.65	42.31
2.53	163.53	.670E+05	27.2	0.67	41.00
2.84	163.84	.864E+05	36.3	0.70	39.69
3.16	164.16	.109E+06	47.4	0.72	38.38
3.47	164.47	.135E+06	60.9	0.74	37.09
3.79	164.79	.165E+06	76.8	0.77	35.83
4.11	165.11	.198E+06	93.6	0.78	35.27
4.42	165.42	.237E+06	111.4	0.78	35.53
4.74	165.74	.284E+06	134.0	0.78	35.28
5.05	166.05	.337E+06	161.5	0.79	34.76
5.37	166.37	.397E+06	194.1	0.81	34.07
5.68	166.68	.464E+06	232.3	0.83	33.29
6.00	167.00	.538E+06	276.2	0.85	32.46

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0219)	2019.74	15.46	5.25	26.61	1.95	0.63
OUTFLOW: ID= 1 (0308)	2019.74	12.78	6.25	26.60	1.79	0.61

CALIB | STANDHYD (0128) | ID= 1 DT=15.0 min | Area (ha)= 59.80 Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.94	41.86
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	631.40	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19

over (min)		15.00	30.00			
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)			
Unit Hyd. Tpeak (min)=		15.00	15.00			
Unit Hyd. peak (cms)=		0.10	0.06			

		TOTALS
PEAK FLOW	(cms)=	0.96 1.11 2.076 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	40.00 16.76 23.73
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.40 0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0628) | IN= 2---> OUT= 1 | DT= 15.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.4900	1.2490
0.0700	0.4550	1.8500	1.4280
0.3100	0.6550	2.0300	1.6290
0.7400	0.8680	2.1300	1.8297
1.0800	1.0380	2.2500	2.0702

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0128)	59.800	2.076	5.25	23.73
OUTFLOW: ID= 1 (0628)	59.800	0.625	6.25	23.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.12
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.8147

CALIB | STANDHYD (0134) | ID= 1 DT=15.0 min | Area (ha)= 105.90 Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.24	65.66
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	840.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.52
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.16 1.46 3.618 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	40.00 14.12 23.96
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.34 0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0298)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0134):		105.90	3.618	5.25	23.96
+ ID2= 2 (0628):		59.80	0.625	6.25	23.70
ID = 3 (0298):		165.70	3.921	5.25	23.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0220)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0298):		165.70	3.921	5.25	23.86
+ ID2= 2 (0308):		2019.74	12.776	6.25	26.60
ID = 3 (0220):		2185.44	14.596	6.25	26.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0136)	Area	(ha)= 156.42	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.39	86.03
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1021.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.73
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	3.76	2.18 5.946 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	16.03 26.82
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.38 0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0221)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0136):		156.42	5.946	5.25	26.82
+ ID2= 2 (0220):		2185.44	14.596	6.25	26.40
ID = 3 (0221):		2341.86	17.973	5.25	26.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area	(ha)= 19.42	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.74	10.68
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	359.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.52
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.47	0.24 0.706 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	14.12 25.77
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.34 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0105)	Area	(ha)= 77.03	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	34.66	42.37
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	716.61	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		19.32	8.90
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	1.86	0.98 2.844 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	14.72 26.10
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.35 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area	(ha)= 0.73	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.33	0.40
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	69.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.52
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.02	0.01 0.027 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	14.12 25.76
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.34 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area	(ha)= 0.50	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.28
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00

Length	(m)=	57.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.52
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.01	0.01 0.018 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	14.12 25.76
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.34 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0222)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0105):		77.03	2.844	5.25	26.10
+ ID2= 2 (****):		0.50	0.018	5.25	25.76
ID = 3 (0222):		77.53	2.862	5.25	26.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0222):		77.53	2.862	5.25	26.10
+ ID2= 2 (****):		19.42	0.706	5.25	25.77
ID = 1 (0222):		96.95	3.568	5.25	26.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0222):		96.95	3.568	5.25	26.03
+ ID2= 2 (****):		0.73	0.027	5.25	25.76
ID = 3 (0222):		97.68	3.595	5.25	26.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0309) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION ( 409.0) ------>
               Distance      Elevation       Manning
                  0.00         195.00        0.1000
                 11.00         194.00        0.1000
                 20.00         192.00        0.1000
                 27.00         191.00        0.1000
                 46.00         190.00    0.1000 /0.0600  Main Channel
                 50.00         189.30       0.0600       Main Channel
                 69.00         190.00    0.0600 /0.1000  Main Channel
                 74.00         191.00        0.1000
                 84.00         194.00        0.1000
                 90.00         195.00        0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.23   189.53    .206E+04       0.4         0.45      84.92
      0.47   189.77    .825E+04       2.6         0.72      53.50
      0.70   190.00    .186E+05       7.6         0.94      40.83
      1.01   190.31    .379E+05      22.3         1.36      28.24
      1.32   190.62    .625E+05      44.3         1.63      23.55
      1.64   190.94    .926E+05      73.7         1.83      20.95
      1.95   191.25    .127E+06     111.7         2.03      18.97
      2.26   191.56    .164E+06     157.5         2.21      17.37
      2.58   191.88    .203E+06     210.6         2.39      16.09
      2.89   192.19    .245E+06     271.5         2.56      15.02
      3.20   192.50    .288E+06     340.1         2.72      14.12
      3.51   192.81    .333E+06     415.7         2.88      13.35
      3.83   193.13    .380E+06     498.6         3.03      12.70
      4.14   193.44    .428E+06     588.5         3.17      12.13
      4.45   193.75    .479E+06     685.6         3.30      11.64
      4.76   194.06    .531E+06     787.9         3.42      11.23
      5.08   194.38    .586E+06     890.7         3.51      10.97
      5.39   194.69    .645E+06    1002.4         3.58      10.73
      5.70   195.00    .708E+06    1123.3         3.66      10.51

                                  <---- hydrograph ---->   <-pipe /
channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0222)   97.68     3.59    5.25  26.03      0.51      0.76
     OUTFLOW: ID= 1 (0309)   97.68     2.31    5.25  26.02      0.44      0.67


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| CALIB            |
| STANDHYD  (0112) |   Area    (ha)= 155.68
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      59.16        96.52
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1018.76        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.19
               over (min)        15.00        45.00
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                    407 TWY 3 - Mimico - 12hr AES (EX)
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.16         2.57         5.728 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76        25.59
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.40         0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0227) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0112):   155.68   5.728     5.25     25.59
        + ID2= 2 (0309):    97.68   2.309     5.25     26.02
          ================================================
          ID = 3 (0227):   253.36   8.037     5.25     25.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0113) |   Area    (ha)= 172.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      65.45       106.78
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1071.54        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.19
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.50         2.84         6.337 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76        25.59
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.40         0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (0228) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0113):   172.23   6.337     5.25     25.59
        + ID2= 2 (0227):   253.36   8.037     5.25     25.76
          ================================================
          ID = 3 (0228):   425.59  14.374     5.25     25.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0310) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 410.0) ------>
               Distance      Elevation       Manning
                  0.00         185.00        0.1000
                 41.00         184.00        0.1000
                 85.00         183.00        0.1000
                 90.00         182.00    0.1000 /0.0600  Main Channel
                 99.00         180.00       0.0600       Main Channel
                106.00         181.00       0.0600       Main Channel
                109.00         182.00    0.0600 /0.1000  Main Channel
                117.00         183.00        0.1000
                142.00         184.00        0.1000
                211.00         185.00        0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   180.25    .341E+03       0.1         0.37      42.84
      0.50   180.50    .136E+04       0.8         0.59      26.99
      0.75   180.75    .307E+04       2.5         0.77      20.59
      1.00   181.00    .545E+04       5.3         0.93      17.00
      1.25   181.25    .840E+04       9.9         1.12      14.12
      1.50   181.50    .118E+05      16.0         1.28      12.31
      1.75   181.75    .156E+05      23.6         1.43      11.03
      2.00   182.00    .199E+05      32.9         1.57      10.07
      2.27   182.27    .253E+05      47.7         1.79       8.83
      2.55   182.55    .316E+05      65.0         1.95       8.09
      2.82   182.82    .388E+05      85.1         2.08       7.59
      3.09   183.09    .471E+05     107.4         2.16       7.31
      3.36   183.36    .594E+05     133.7         2.13       7.41
      3.64   183.64    .766E+05     166.2         2.06       7.68
      3.91   183.91    .987E+05     206.0         1.98       7.99
      4.18   184.18    .126E+06     252.1         1.89       8.35
      4.45   184.45    .161E+06     309.2         1.82       8.70
      4.73   184.73    .204E+06     379.5         1.76       8.97
      5.00   185.00    .255E+06     464.5         1.73       9.15

                                  <---- hydrograph ---->   <-pipe /
channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0228)  425.59    14.37    5.25  25.69      1.43      1.24
     OUTFLOW: ID= 1 (0310)  425.59    13.38    5.25  25.69      1.39      1.21


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| CALIB            |
| STANDHYD  (0114) |   Area    (ha)= 165.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.47        77.57
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1048.94        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.73
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.67         1.97         6.644 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      40.00        16.03        28.74
     TOTAL RAINFALL   (mm)=      42.00        42.00        42.00
     RUNOFF COEFFICIENT   =       0.95         0.38         0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0614) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  25.0000     0.2500
                          0.3900     0.1050   |  40.0000     0.2600
                          6.5900     0.2338   |  45.0000     0.2800

                            AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0114)  165.040     6.644      5.25      28.74
     OUTFLOW: ID= 1 (0614)  165.040     6.577      5.25      28.74

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.99
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2365

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| ADD HYD   (0229) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0310):   425.59  13.378     5.25     25.69
        + ID2= 2 (0614):   165.04   6.577     5.25     28.74
          ================================================
          ID = 3 (0229):   590.63  19.955     5.25     26.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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ROUTE CHN (0311)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (411.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
85.00	179.00	0.1000	
96.00	178.00	0.1000	
127.00	177.00	0.1000	
160.00	176.20	0.1000	
186.00	176.00	0.1000 /0.0600	Main Channel
192.00	175.30	0.0600	Main Channel
196.00	176.00	0.0600 /0.1000	Main Channel
232.00	179.00	0.1000	
257.00	179.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	175.48	.211E+03	0.0	0.21	77.93
0.35	175.65	.844E+03	0.3	0.33	49.09
0.53	175.83	.190E+04	0.8	0.43	37.47
0.70	176.00	.338E+04	1.8	0.52	30.93
0.93	176.23	.931E+04	4.9	0.50	31.85
1.17	176.47	.198E+05	10.9	0.53	30.26
1.40	176.70	.330E+05	19.9	0.58	27.59
1.63	176.93	.490E+05	32.3	0.64	25.30
1.87	177.17	.677E+05	48.6	0.69	23.23
2.10	177.40	.887E+05	68.8	0.75	21.49
2.33	177.63	.112E+06	93.0	0.80	20.07
2.57	177.87	.137E+06	121.3	0.85	18.88
2.80	178.10	.165E+06	155.2	0.91	17.73
3.03	178.33	.194E+06	195.2	0.97	16.58
3.27	178.57	.224E+06	239.5	1.03	15.61
3.50	178.80	.256E+06	288.3	1.09	14.79
3.73	179.03	.289E+06	337.2	1.13	14.27
3.97	179.27	.326E+06	369.5	1.09	14.72
4.20	179.50	.371E+06	413.9	1.08	14.94

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0229)	590.63	19.95	5.25	26.54	1.40	0.58
OUTFLOW: ID= 1 (0311)	590.63	16.02	5.50	26.54	1.30	0.56

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 22.22	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.11	17.11
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	384.88	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	10.19
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	0.27	0.45	0.729 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	22.10
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 147.52	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	33.93	113.59
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	991.70	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	10.19
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	1.82	3.02	4.841 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	22.10
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 4.39	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.33	2.06
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	171.08	40.00

Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.19
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	0.12	0.05	0.180 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	29.07
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0272)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):		22.22	0.729	5.25	22.10
+ ID2= 2 (****):		147.52	4.841	5.25	22.10
ID = 3 (0272):		169.74	5.570	5.25	22.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0272)	3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0272):		169.74	5.570	5.25	22.10
+ ID2= 2 (****):		4.39	0.180	5.25	29.07
ID = 1 (0272):		174.13	5.750	5.25	22.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0623)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.5800	0.5400
			0.2100	0.1580	0.8200	0.7657
			0.3100	0.3380	0.9400	0.9136
			0.5600	0.3765	21.0800	1.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0272)	174.130	5.750	5.25	22.28
OUTFLOW: ID= 1 (0623)	174.130	6.709	5.25	22.28

PEAK FLOW REDUCTION [Qout/Qin](%)=	116.68	
TIME SHIFT OF PEAK FLOW	(min)=	0.00
MAXIMUM STORAGE USED	(ha.m.)=	0.9815

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0230)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0311):		590.63	16.025	5.50	26.54
+ ID2= 2 (0623):		174.13	6.709	5.25	22.28
ID = 3 (0230):		764.76	21.160	5.25	25.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0312)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (412.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1000	
35.00	172.00	0.1000	
85.00	171.00	0.1000	
94.00	168.50	0.1000 /0.0600	Main Channel
94.00	168.30	0.1000 /0.0600	Main Channel
97.00	168.30	0.0600 /0.1000	Main Channel
97.00	168.50	0.0600 /0.1000	Main Channel
99.00	169.00	0.1000	
125.00	174.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	168.57	.150E+04	0.4	0.42	71.21
0.55	168.85	.374E+04	1.2	0.57	52.20
0.82	169.12	.701E+04	2.6	0.66	45.23
1.09	169.39	.114E+05	4.6	0.72	41.28
1.37	169.67	.170E+05	7.4	0.77	38.38
1.64	169.94	.238E+05	11.0	0.82	36.03
1.92	170.22	.317E+05	15.5	0.87	34.04
2.19	170.49	.408E+05	21.1	0.92	32.31
2.46	170.76	.511E+05	27.7	0.96	30.79
2.74	171.04	.626E+05	34.6	0.98	30.18
3.01	171.31	.792E+05	41.3	0.93	31.95
3.28	171.58	.103E+06	52.5	0.91	32.75
3.56	171.86	.134E+06	67.6	0.89	33.15
3.83	172.13	.173E+06	87.9	0.91	32.73
4.11	172.41	.215E+06	113.5	0.94	31.60
4.38	172.68	.261E+06	143.4	0.98	30.38
4.65	172.95	.312E+06	177.9	1.02	29.19
4.93	173.23	.365E+06	217.1	1.06	28.05
5.20	173.50	.423E+06	261.3	1.10	27.00

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0230)	764.76	21.16	5.25	25.57	2.19	0.92
OUTFLOW: ID= 1 (0312)	764.76	15.80	5.75	25.57	1.93	0.87

CALIB			
STANDHYD (0126)	Area (ha)= 105.36		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	40.04	65.32
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	838.09	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	8.90
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	2.15	1.52	3.665 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	14.72	24.33
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.35	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0231)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0126):	105.36	3.665	5.25	24.33
+ ID2= 2 (0312):	764.76	15.795	5.75	25.57
ID = 3 (0231):	870.12	17.140	5.75	25.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 84.16		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	50.50	33.66
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	749.04	40.00
Mannings n =	0.013	0.250

	IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=	19.32	10.19
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	2.71	0.90	3.605 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	30.70
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.10		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.06	0.04
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	25.82	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.19
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	0.00	0.00	0.004 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	30.67
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0273)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	84.16	3.605	5.25	30.70
+ ID2= 2 (****):	0.10	0.004	5.25	30.67
ID = 3 (0273):	84.26	3.609	5.25	30.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0313)					
IN= 2---> OUT= 1	Routing time step (min)'= 15.00				

<---- DATA FOR SECTION (413.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
17.49	180.00	0.1000	
117.61	179.00	0.1000 /0.0600	Main Channel
149.88	178.00	0.0600	Main Channel
158.35	178.00	0.0600	Main Channel
166.10	179.00	0.0600 /0.1000	Main Channel
307.85	180.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	178.10	.981E+03	0.2	0.17	89.26
0.20	178.20	.234E+04	0.6	0.26	60.26
0.30	178.30	.407E+04	1.4	0.32	48.14
0.40	178.40	.617E+04	2.5	0.38	41.07
0.50	178.50	.865E+04	4.0	0.43	36.27
0.60	178.60	.115E+05	5.9	0.48	32.74
0.70	178.70	.147E+05	8.2	0.52	30.00
0.80	178.80	.183E+05	11.0	0.56	27.79
0.90	178.90	.223E+05	14.3	0.60	25.96
1.00	179.00	.267E+05	18.2	0.64	24.42
1.10	179.10	.324E+05	23.8	0.69	22.70
1.21	179.21	.413E+05	31.0	0.70	22.19
1.32	179.32	.531E+05	39.8	0.70	22.24
1.43	179.43	.676E+05	50.2	0.70	22.44
1.54	179.54	.850E+05	62.6	0.69	22.63
1.66	179.66	.105E+06	77.1	0.69	22.74
1.77	179.77	.128E+06	93.8	0.69	22.76
1.88	179.88	.154E+06	113.0	0.69	22.69
1.99	179.99	.182E+06	134.9	0.69	22.54

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0273)	84.26	3.61	5.25	30.70	0.47	0.42
OUTFLOW: ID= 1 (0313)	84.26	2.86	5.25	30.70	0.42	0.39

CALIB			
STANDHYD (0106)	Area (ha)= 23.78		
ID= 1 DT=15.0 min	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.47	18.31
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	398.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.19

	IMPERVIOUS	PERVIOUS (i)
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	0.29	0.49	0.780 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	22.10
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 43.89		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.68	27.21
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	540.93	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.19
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	0.90	0.72	1.619 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	25.59
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.19		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.07	0.12
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	35.59	40.00
Mannings n =	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      19.32        10.19
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00       0.007 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76       25.55
     TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
     RUNOFF COEFFICIENT   =       0.95         0.40        0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.05         0.07
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      28.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.19
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00       0.004 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76       25.55
     TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
     RUNOFF COEFFICIENT   =       0.95         0.40        0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0271) |
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    43.89   1.619     5.25    25.59
      + ID2= 2 (****):     0.19   0.007     5.25    25.55
        ================================================
        ID = 3 (0271):    44.08   1.626     5.25    25.59
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0271) |
|  1 +  2 =  1     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (0271):    44.08   1.626     5.25    25.59
      + ID2= 2 (****):     0.12   0.004     5.25    25.55
        ================================================
        ID = 1 (0271):    44.20   1.630     5.25    25.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-
--------------------
| ADD HYD   (0235) |
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0106):    23.78   0.780     5.25    22.10
      + ID2= 2 (0271):    44.20   1.630     5.25    25.59
        ================================================
        ID = 3 (0235):    67.98   2.410     5.25    24.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0235) |
|  3 +  2 =  1     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (0235):    67.98   2.410     5.25    24.37
      + ID2= 2 (0313):    84.26   2.860     5.25    30.70
        ================================================
        ID = 1 (0235):   152.24   5.270     5.25    27.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  57.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.82        35.60
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     618.71        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.19
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.17         0.95       2.118 (iii)
```



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     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76       25.59
     TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
     RUNOFF COEFFICIENT   =       0.95         0.40        0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.56
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.21         0.35
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      61.10        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.19
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01       0.021 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76       25.57
     TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
     RUNOFF COEFFICIENT   =       0.95         0.40        0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.02
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.39         0.63
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      82.46        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.19
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
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                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02       0.038 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      40.00        16.75       25.58
     TOTAL RAINFALL   (mm)=      42.00        42.00       42.00
     RUNOFF COEFFICIENT   =       0.95         0.40        0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0236) |
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0235):   152.24   5.270     5.25    27.87
      + ID2= 2 (****):     1.02   0.038     5.25    25.58
        ================================================
        ID = 3 (0236):   153.26   5.308     5.25    27.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0236) |
|  3 +  2 =  1     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (0236):   153.26   5.308     5.25    27.86
      + ID2= 2 (****):    57.42   2.118     5.25    25.59
        ================================================
        ID = 1 (0236):   210.68   7.425     5.25    27.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0236) |
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0236):   210.68   7.425     5.25    27.24
      + ID2= 2 (****):     0.56   0.021     5.25    25.57
        ================================================
        ID = 3 (0236):   211.24   7.446     5.25    27.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0314) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION ( 414.0) ------>
              Distance      Elevation       Manning
                  0.00         173.00        0.1000
```

```
                107.79       172.00    0.1000 /0.0600  Main Channel
                112.20       171.00       0.0600       Main Channel
                119.59       171.00       0.0600       Main Channel
                125.21       172.00    0.0600 /0.1000  Main Channel
                137.91       173.00       0.1000
                156.48       173.00       0.1000
                191.39       172.00       0.1000
                197.94       172.00       0.1000
                204.07       173.00       0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)       (m)    (cu.m.)       (cms)         (m/s)       (min)
        0.10   171.10    .111E+04         0.2          0.29       81.52
        0.20   171.20    .236E+04         0.7          0.44       53.20
        0.30   171.30    .376E+04         1.5          0.56       41.84
        0.40   171.40    .529E+04         2.5          0.66       35.43
        0.50   171.50    .697E+04         3.7          0.75       31.22
        0.60   171.60    .878E+04         5.2          0.83       28.19
        0.70   171.70    .107E+05         6.9          0.91       25.88
        0.80   171.80    .128E+05         8.9          0.98       24.04
        0.90   171.90    .151E+05        11.2          1.04       22.53
        1.00   172.00    .175E+05        13.7          1.10       21.26
        1.11   172.11    .226E+05        17.7          1.10       21.32
        1.22   172.22    .306E+05        22.7          1.05       22.45
        1.33   172.33    .413E+05        29.0          0.99       23.76
        1.44   172.44    .549E+05        36.9          0.94       24.84
        1.56   172.56    .713E+05        46.5          0.92       25.58
        1.67   172.67    .905E+05        58.0          0.90       26.00
        1.78   172.78    .113E+06        71.7          0.90       26.14
        1.89   172.89    .137E+06        87.8          0.90       26.07
        2.00   173.00    .165E+06       103.2          0.88       26.63

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL                                                                       
                              (ha)    (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0236)  211.24     7.45     5.25   27.23      0.73      0.92
     OUTFLOW: ID= 1 (0314)  211.24     6.02     5.25   27.23      0.65      0.87


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--------------------
| CALIB            |
| STANDHYD  (0127) |   Area    (ha)=  63.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       33.45         29.66
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=      648.64         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       19.32          8.90
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.80          0.69          2.483 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=       40.00         14.72         28.12
     TOTAL RAINFALL   (mm)=       42.00         42.00         42.00
```



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     RUNOFF COEFFICIENT   =        0.95          0.35          0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0232) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0127):    63.11    2.483     5.25    28.12
        + ID2= 2 (0314):   211.24    6.021     5.25    27.23
          ================================================
          ID = 3 (0232):   274.35    8.504     5.25    27.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0234) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0231):   870.12   17.140     5.75    25.42
        + ID2= 2 (0232):   274.35    8.504     5.25    27.44
          ================================================
          ID = 3 (0234):  1144.47   23.485     5.25    25.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0315) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 415.0) ------>
               Distance      Elevation       Manning
                  0.00         164.00        0.1000
                 34.00         164.30        0.1000
                 37.00         163.10        0.1000
                 38.60         163.00    0.1000 /0.0800  Main Channel
                 40.00         163.00       0.0800       Main Channel
                 42.30         163.00    0.0800 /0.1000  Main Channel
                 43.90         163.10        0.1000
                 46.00         164.30        0.1000
                 80.00         164.30        0.1000
                100.00         168.00        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME     FLOW RATE     VELOCITY   TRAV.TIME
         (m)       (m)    (cu.m.)       (cms)         (m/s)       (min)
        0.05   163.05    .424E+03         0.0          0.09      338.86
        0.11   163.11    .101E+04         0.1          0.13      228.21
        0.16   163.16    .166E+04         0.2          0.17      174.49
        0.21   163.21    .234E+04         0.3          0.20      144.34
        0.26   163.26    .304E+04         0.4          0.24      124.91
        0.32   163.32    .376E+04         0.6          0.27      111.22
```



```
        0.37   163.37    .450E+04         0.7          0.29      100.98
        0.42   163.42    .526E+04         0.9          0.32       92.99
        0.47   163.47    .604E+04         1.2          0.34       86.55
        0.53   163.53    .685E+04         1.4          0.36       81.22
        0.58   163.58    .767E+04         1.7          0.39       76.73
        0.63   163.63    .852E+04         1.9          0.41       72.89
        0.68   163.68    .938E+04         2.2          0.43       69.55
        0.74   163.74    .103E+05         2.6          0.44       66.63
        0.79   163.79    .112E+05         2.9          0.46       64.03
        0.84   163.84    .121E+05         3.3          0.48       61.71
        0.89   163.89    .131E+05         3.6          0.50       59.62
        0.95   163.95    .140E+05         4.0          0.51       57.73
        1.00   164.00    .150E+05         4.5          0.53       56.00

     **** WARNING:  TRAVEL TIME TABLE EXCEEDED
                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL                                                                       
                              (ha)    (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0234) 1144.47    23.49     5.25   25.90      0.98      0.52
     OUTFLOW: ID= 1 (0315) 1144.47    17.08     6.50   25.90      1.00      0.53


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| CALIB            |
| STANDHYD  (0129) |   Area    (ha)= 146.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       66.13         80.83
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=      989.81         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       19.32          8.90
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.53          1.88          5.410 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=       40.00         14.72         26.10
     TOTAL RAINFALL   (mm)=       42.00         42.00         42.00
     RUNOFF COEFFICIENT   =        0.95          0.35          0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0237) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0129):   146.96    5.410     5.25    26.10
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        + ID2= 2 (0315):  1144.47  17.085     6.50    25.90
          ================================================
          ID = 3 (0237):  1291.43  18.395     6.25    25.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0138) |   Area    (ha)= 184.05
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       69.94        114.11
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=     1107.70         40.00
     Mannings n            =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       19.32          8.90
               over (min)         15.00         45.00
     Storage Coeff.  (min)=       12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.74          2.16          5.870 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=       40.00         14.72         24.33
     TOTAL RAINFALL   (mm)=       42.00         42.00         42.00
     RUNOFF COEFFICIENT   =        0.95          0.35          0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0238) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0138):   184.05    5.870     5.25    24.33
        + ID2= 2 (0237):  1291.43  18.395     6.25    25.92
          ================================================
          ID = 3 (0238):  1475.48  20.634     6.25    25.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0139) |   Area    (ha)=  21.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       11.21          9.95
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=      375.59         40.00
```

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.73
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		0.60	0.25 0.854 (iii)
TIME TO PEAK (hrs)=		5.25	5.25 5.25
RUNOFF VOLUME (mm)=		40.00	16.03 28.74
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.38 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0239)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0139):		21.16	0.854	5.25	28.74
+ ID2= 2 (0238):		1475.48	20.634	6.25	25.72
ID = 3 (0239):		1496.64	21.055	5.25	25.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0233)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0221):		2341.86	17.973	5.25	26.43
+ ID2= 2 (0239):		1496.64	21.055	5.25	25.77
ID = 3 (0233):		3838.50	39.028	5.25	26.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0316)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (416.0) ------>

Distance	Elevation	Manning	
0.00	165.00	0.1200	
10.00	160.00	0.1200	
14.00	158.00	0.1200 /0.0600	Main Channel
15.00	157.20	0.0600	Main Channel
18.00	157.20	0.0600	Main Channel
24.00	158.00	0.0600 /0.1200	Main Channel
28.00	159.00	0.1200	
130.00	161.00	0.1200	

250.00	163.00	0.1200
310.00	164.00	0.1200

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	157.47	.146E+04	0.3	0.26	84.50
0.53	157.73	.373E+04	1.1	0.38	57.82
0.80	158.00	.681E+04	2.5	0.47	46.30
1.17	158.37	.123E+05	6.1	0.65	33.48
1.55	158.75	.188E+05	11.2	0.78	28.11
1.92	159.12	.270E+05	17.5	0.85	25.76
2.30	159.50	.430E+05	26.1	0.80	27.45
2.67	159.87	.688E+05	38.4	0.73	29.84
3.05	160.25	.104E+06	55.4	0.70	31.39
3.42	160.62	.150E+06	77.9	0.68	32.01
3.80	161.00	.205E+06	106.7	0.68	31.95
4.17	161.37	.270E+06	142.0	0.69	31.72
4.55	161.75	.347E+06	185.6	0.70	31.20
4.92	162.12	.436E+06	238.2	0.72	30.49
5.30	162.50	.536E+06	300.9	0.74	29.68
5.67	162.87	.647E+06	374.2	0.76	28.82
6.05	163.25	.770E+06	458.9	0.78	27.96
6.42	163.62	.904E+06	555.8	0.81	27.11
6.80	164.00	.105E+07	665.5	0.83	26.29

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0233)	3838.50	39.03	5.25	26.17	2.69	0.73
OUTFLOW: ID= 1 (0316)	3838.50	35.11	6.50	26.17	2.58	0.75

CALIB	
STANDHYD (0137)	Area (ha)= 151.99
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	68.40	83.59
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1006.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW (cms)=		3.65	2.22 5.878 (iii)
TIME TO PEAK (hrs)=		5.25	5.25 5.25
RUNOFF VOLUME (mm)=		40.00	16.76 27.22
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.40 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0240)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0137):		151.99	5.878	5.25	27.22
+ ID2= 2 (0316):		3838.50	35.106	6.50	26.17
ID = 3 (0240):		3990.49	36.438	6.50	26.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0317)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (417.0) ------>

Distance	Elevation	Manning	
0.00	165.50	0.1200	
13.00	165.00	0.1200	
21.00	160.00	0.1200	
31.00	155.50	0.1200 /0.0600	Main Channel
31.01	155.30	0.0600	Main Channel
39.00	155.30	0.0600 /0.1200	Main Channel
39.01	155.50	0.1200	
135.00	157.00	0.1200	
167.00	160.00	0.1200	
200.00	163.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	155.71	.363E+04	1.4	0.31	42.78
0.81	156.11	.147E+05	6.2	0.33	39.56
1.22	156.52	.344E+05	16.2	0.37	35.35
1.62	156.92	.625E+05	32.9	0.41	31.66
2.03	157.33	.969E+05	60.1	0.49	26.90
2.43	157.73	.133E+06	95.4	0.56	23.27
2.84	158.14	.171E+06	137.8	0.63	20.69
3.24	158.54	.211E+06	187.1	0.70	18.76
3.65	158.95	.252E+06	243.1	0.76	17.26
4.05	159.35	.295E+06	305.8	0.81	16.06
4.46	159.76	.339E+06	375.1	0.87	15.07
4.86	160.16	.385E+06	451.1	0.92	14.24
5.27	160.57	.433E+06	533.7	0.96	13.53
5.67	160.97	.483E+06	622.9	1.01	12.91
6.08	161.38	.534E+06	718.9	1.05	12.37
6.48	161.78	.586E+06	821.6	1.10	11.89
6.89	162.19	.640E+06	931.2	1.14	11.46
7.29	162.59	.696E+06	1047.7	1.18	11.08
7.70	163.00	.754E+06	1171.2	1.22	10.73

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0240)	3990.49	36.44	6.50	26.21	1.67	0.42
OUTFLOW: ID= 1 (0317)	3990.49	35.27	7.00	26.21	1.65	0.42

CALIB	
STANDHYD (0140)	Area (ha)= 106.10
ID= 1 DT=15.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	63.66	42.44
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	841.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.90
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		3.42	0.99 4.401 (iii)
TIME TO PEAK (hrs)=		5.25	5.25 5.25
RUNOFF VOLUME (mm)=		40.00	14.72 29.89
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.35 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0241)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0140):		106.10	4.401	5.25	29.89
+ ID2= 2 (0317):		3990.49	35.274	7.00	26.21
ID = 3 (0241):		4096.59	36.018	7.00	26.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0141)	Area (ha)= 125.58
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.67	87.91
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	914.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.73
over (min)		15.00	45.00

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     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.01         2.23          4.245 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      40.00        16.03          23.22
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.38           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0223) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0141):   125.58   4.245     5.25    23.22
      + ID2= 2 (0241):  4096.59  36.018     7.00    26.30
        ================================================
        ID = 3 (0223):  4222.17  36.831     7.00    26.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0318) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 418.0) ------>
               Distance      Elevation       Manning
                   0.00         165.00        0.1200
                  22.00         160.00        0.1200
                  43.00         160.00        0.1200
                 136.00         156.00    0.1200 /0.0600  Main Channel
                 145.00         152.60        0.0600      Main Channel
                 156.00         152.60        0.0600      Main Channel
                 170.00         158.00    0.0600 /0.1200  Main Channel
                 180.00         162.00        0.1200
                 187.00         162.40        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.49   153.09    .371E+04       3.6         0.60       17.17
        0.97   153.57    .820E+04      12.0         0.91       11.43
        1.46   154.06    .135E+05      24.6         1.14        9.10
        1.94   154.54    .195E+05      41.8         1.34        7.77
        2.43   155.03    .263E+05      63.6         1.51        6.88
        2.91   155.51    .338E+05      90.5         1.67        6.23
        3.40   156.00    .422E+05     122.6         1.81        5.73
        3.93   156.53    .540E+05     168.9         1.95        5.33
        4.47   157.07    .705E+05     224.8         1.99        5.22
        5.00   157.60    .915E+05     292.3         1.99        5.22
        5.53   158.13    .117E+06     375.1         2.00        5.20
        6.07   158.67    .147E+06     479.8         2.03        5.12
        6.60   159.20    .182E+06     600.9         2.06        5.05
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        7.13   159.73    .221E+06     739.5         2.08        4.99
        7.67   160.27    .268E+06     885.7         2.06        5.05
        8.20   160.80    .320E+06    1081.6         2.10        4.94
        8.73   161.33    .374E+06    1298.4         2.17        4.80
        9.27   161.87    .428E+06    1535.4         2.23        4.65
        9.80   162.40    .485E+06    1788.6         2.30        4.52

                                    <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL                         (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0223) 4222.17    36.83     7.00   26.21      1.80      1.27
     OUTFLOW: ID= 1 (0318) 4222.17    36.80     7.00   26.21      1.80      1.27


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| CALIB             |
| STANDHYD  (0142) |   Area    (ha)= 132.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      79.74        53.16
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     941.28        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.31
                 over (min)      15.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.26         1.29          5.551 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      40.00        15.36          30.14
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.37           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (9501) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0142):   132.90   5.551     5.25    30.14
      + ID2= 2 (0318):  4222.17  36.804     7.00    26.21
        ================================================
        ID = 3 (9501):  4355.07  37.760     7.00    26.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0161) |   Area    (ha)= 259.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     137.70       122.12
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1316.11        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.31
                 over (min)      30.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.36         2.42          9.753 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      40.00        15.36          28.42
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.37           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0224) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0161):   259.82   9.753     5.25    28.42
      + ID2= 2 (9501):  4355.07  37.760     7.00    26.33
        ================================================
        ID = 3 (0224):  4614.89  43.511     5.25    26.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0319) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 418.0) ------>
               Distance      Elevation       Manning
                   0.00         163.50        0.1000
                  28.00         163.00        0.1000
                  84.00         151.20    0.1000 /0.0600  Main Channel
                  84.00         151.00    0.1000 /0.0600  Main Channel
                  92.00         151.00    0.0600 /0.1000  Main Channel
                  92.00         151.20    0.0600 /0.1000  Main Channel
                  98.00         153.00        0.1000
                 148.00         155.00        0.1000
                 158.00         160.00        0.1000
                 248.00         161.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
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       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.53   151.53    .865E+04       2.1         0.45       69.80
        1.05   152.05    .212E+05       7.1         0.63       49.68
        1.58   152.58    .379E+05      15.2         0.75       41.66
        2.11   153.11    .590E+05      26.1         0.82       37.68
        2.63   153.63    .919E+05      41.2         0.84       37.20
        3.16   154.16    .140E+06      63.2         0.84       36.97
        3.68   154.68    .204E+06      93.5         0.86       36.33
        4.21   155.21    .282E+06     135.3         0.90       34.71
        4.74   155.74    .365E+06     189.9         0.97       32.07
        5.26   156.26    .453E+06     253.9         1.05       29.71
        5.79   156.79    .543E+06     326.9         1.12       27.69
        6.32   157.32    .637E+06     409.0         1.20       25.97
        6.84   157.84    .735E+06     499.9         1.27       24.50
        7.37   158.37    .836E+06     599.6         1.34       23.24
        7.89   158.89    .941E+06     708.2         1.40       22.14
        8.42   159.42    .105E+07     825.6         1.47       21.17
        8.95   159.95    .116E+07     951.9         1.53       20.31
        9.47   160.47    .129E+07     945.7         1.36       22.80
       10.00   161.00    .148E+07    1018.3         1.29       24.15

                                    <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL                         (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0224) 4614.89    43.51     5.25   26.45      2.69      0.84
     OUTFLOW: ID= 1 (0319) 4614.89    39.04     7.25   26.45      2.56      0.83


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| CALIB             |
| STANDHYD  (0160) |   Area    (ha)=  38.29
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      14.55        23.74
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     505.24        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.19
                 over (min)      15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.78         0.63          1.412 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76          25.59
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.40           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0225) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0160):    38.29   1.412     5.25    25.59
        + ID2= 2 (0319):  4614.89  39.035     7.25    26.45
          ================================================
          ID = 3 (0225):  4653.18  39.289     7.25    26.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0143) |   Area    (ha)=  64.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.47        25.64
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     653.76        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.31
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.06         0.62      2.687 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      40.00        15.36      30.14
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.95         0.37       0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0643) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   2.3600      1.3663
                          0.4900     0.9264   |   2.9600      1.5789
                          1.0100     1.1079   |   6.7000      2.1840

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0143)     64.110     2.687      5.25      30.14
     OUTFLOW: ID= 1 (0643)     64.110     0.893      5.75      30.14

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.23
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0671
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| CALIB              |
| STANDHYD  (0156) |   Area    (ha)=  51.93
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.16        20.77
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     588.39        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.31
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.67         0.50      2.176 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      40.00        15.36      30.14
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.95         0.37       0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0226) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0156):    51.93   2.176     5.25    30.14
        + ID2= 2 (0643):    64.11   0.893     5.75    30.14
          ================================================
          ID = 3 (0226):   116.04   2.734     5.25    30.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| STANDHYD  (0145) |   Area    (ha)=  27.64
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.58        11.06
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     429.26        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         8.52
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
```



```
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.89         0.25      1.136 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      40.00        14.12      29.65
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.95         0.34       0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0645) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.7100      0.8050
                          0.1300     0.7000   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0145)     27.640     1.136      5.25      29.65
     OUTFLOW: ID= 1 (0645)     27.640     0.116      7.75      29.60

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.20
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6237

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| CALIB              |
| STANDHYD  (0157) |   Area    (ha)=  52.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      31.49        20.99
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     591.50        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         8.90
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.69         0.49      2.177 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      40.00        14.72      29.89
     TOTAL RAINFALL   (mm)=      42.00        42.00      42.00
     RUNOFF COEFFICIENT   =       0.95         0.35       0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0657) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.0000      1.7050
                          0.3100     1.7000   |  15.9900      1.7100

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0157)     52.480     2.177      5.25      29.89
     OUTFLOW: ID= 1 (0657)     52.480     0.218      7.75      29.86

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.03
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1974

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| ADD HYD   (0242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0645):    27.64   0.116     7.75    29.60
        + ID2= 2 (0657):    52.48   0.218     7.75    29.86
          ================================================
          ID = 3 (0242):    80.12   0.334     7.75    29.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0243) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0226):   116.04   2.734     5.25    30.14
        + ID2= 2 (0242):    80.12   0.334     7.75    29.77
          ================================================
          ID = 3 (0243):   196.16   2.970     5.25    29.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (0159) |   Area    (ha)= 122.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.69        49.13
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     904.88        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.19
```

over (min)	15.00	45.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.08	0.06	
			TOTALS
PEAK FLOW (cms)=	3.94	1.31	5.244 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	30.70
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0248)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0159):	122.82	5.244	5.25	30.70
+ ID2= 2 (0243):	196.16	2.970	5.25	29.99
ID = 3 (0248):	318.98	8.215	5.25	30.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0251)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0225):	4653.18	39.289	7.25	26.44
+ ID2= 2 (0248):	318.98	8.215	5.25	30.26
ID = 3 (0251):	4972.16	41.504	7.25	26.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0320)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (420.0) ------>

Distance	Elevation	Manning	
0.00	154.00	0.1000	
9.00	149.00	0.1000	
11.00	148.00	0.1000 /0.0600	Main Channel
12.00	146.80	0.0600	Main Channel
19.00	146.80	0.0600	Main Channel
20.00	147.00	0.0600 /0.1000	Main Channel
22.00	148.00	0.1000	
142.00	150.00	0.1000	
144.00	152.00	0.1000	
161.00	155.00	0.1000	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	147.00	.195E+04	0.4	0.24	89.36
0.57	147.37	.608E+04	2.2	0.47	45.34
0.94	147.74	.107E+05	5.3	0.63	33.88
1.31	148.11	.162E+05	9.3	0.74	29.19
1.67	148.47	.300E+05	15.7	0.68	31.77
2.04	148.84	.546E+05	26.3	0.62	34.57
2.41	149.21	.900E+05	42.5	0.61	35.34
2.78	149.58	.136E+06	65.4	0.62	34.74
3.15	149.95	.193E+06	96.2	0.64	33.50
3.52	150.32	.257E+06	141.4	0.71	30.34
3.88	150.68	.322E+06	195.9	0.78	27.41
4.25	151.05	.387E+06	258.0	0.86	25.02
4.62	151.42	.453E+06	327.4	0.93	23.05
4.99	151.79	.519E+06	403.8	1.00	21.42
5.36	152.16	.586E+06	485.6	1.07	20.11
5.73	152.53	.654E+06	572.0	1.13	19.05
6.09	152.89	.723E+06	664.7	1.19	18.12
6.46	153.26	.793E+06	763.7	1.24	17.32
6.83	153.63	.865E+06	868.7	1.29	16.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0251)	4972.16	41.50	7.25	26.69	2.39	0.61
OUTFLOW: ID= 1 (0320)	4972.16	40.35	7.50	26.69	2.36	0.61

CALIB
STANDHYD (0162) Area (ha)= 117.83
ID= 1 DT=15.0 min Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	53.02	64.81
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	886.30	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		19.32	8.90
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	2.83	1.50 4.338 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	14.72 26.10
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.35 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0254)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0162):	117.83	4.338	5.25	26.10
+ ID2= 2 (0320):	4972.16	40.345	7.50	26.69
ID = 3 (0254):	5089.99	40.898	7.50	26.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0321)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<------ DATA FOR SECTION (421.0) ------>

Distance	Elevation	Manning	
0.00	154.00	0.1000	
26.00	150.00	0.1000	
128.00	148.50	0.1000	
170.00	148.00	0.1000	
175.00	147.00	0.1000 /0.0600	Main Channel
176.00	146.60	0.0600	Main Channel
182.00	146.60	0.0600	Main Channel
185.00	147.00	0.0600 /0.1000	Main Channel
187.00	148.00	0.1000	
227.00	154.00	0.1000	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	146.80	.232E+04	0.4	0.28	96.99
0.40	147.00	.530E+04	1.4	0.42	65.03
0.81	147.41	.131E+05	5.5	0.69	39.69
1.22	147.82	.229E+05	12.0	0.87	31.65
1.64	148.24	.384E+05	20.7	0.89	30.89
2.05	148.65	.770E+05	36.3	0.78	35.32
2.46	149.06	.137E+06	62.2	0.75	36.79
2.87	149.47	.219E+06	100.7	0.76	36.20
3.28	149.88	.321E+06	154.1	0.79	34.73
3.69	150.29	.440E+06	231.8	0.87	31.64
4.11	150.71	.563E+06	328.9	0.97	28.55
4.52	151.12	.690E+06	441.6	1.06	26.05
4.93	151.53	.821E+06	569.3	1.15	24.03
5.34	151.94	.955E+06	711.7	1.23	22.37
5.75	152.35	.109E+07	868.5	1.31	20.98
6.16	152.76	.124E+07	1039.6	1.39	19.80
6.58	153.18	.138E+07	1224.8	1.47	18.79
6.99	153.59	.153E+07	1424.0	1.54	17.91
7.40	154.00	.168E+07	1637.2	1.61	17.13

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0254)	5089.99	40.90	7.50	26.67	2.12	0.78
OUTFLOW: ID= 1 (0321)	5089.99	39.83	8.25	26.67	2.10	0.78

CALIB
STANDHYD (0163) Area (ha)= 103.27
ID= 1 DT=15.0 min Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.24	64.03
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	829.74	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		19.32	8.90
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.11	1.49 3.592 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	14.72 24.33
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.35 0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0255)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0163):	103.27	3.592	5.25	24.33
+ ID2= 2 (0321):	5089.99	39.831	8.25	26.67
ID = 3 (0255):	5193.26	40.207	8.25	26.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0168) Area (ha)= 182.67
ID= 1 DT=15.0 min Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	82.20	100.47
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1103.54	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		19.32	8.52
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

				TOTALS
PEAK FLOW (cms)=	4.39	1.82		6.185 (iii)
TIME TO PEAK (hrs)=	5.25	5.50		5.25
RUNOFF VOLUME (mm)=	40.00	14.12		25.77
TOTAL RAINFALL (mm)=	42.00	42.00		42.00
RUNOFF COEFFICIENT =	0.95	0.34		0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0256)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0168):	182.67	6.185	5.25	25.77
+ ID2= 2 (0255):	5193.26	40.207	8.25	26.62
ID = 3 (0256):	5375.93	40.907	8.25	26.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0158) | Area (ha)= 28.59
ID= 1 DT=15.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.15	11.44
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	436.58	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW (cms)=	0.92	1.225 (iii)
TIME TO PEAK (hrs)=	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	30.70
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0658)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.6450	0.5926
0.0440	0.1178	1.0280	0.7036
0.0470	0.2198	1.4580	0.8166
0.0490	0.3238	1.6970	0.8738
0.3350	0.4836	1.9480	1.1200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0158)	28.590	1.225	5.25	30.70
OUTFLOW: ID= 1 (0658)	28.590	0.397	6.00	30.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.43
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.5060

CALIB
STANDHYD (0164) | Area (ha)= 109.27
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.91	51.36
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	853.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.19
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW (cms)=	3.11	1.37	4.473 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	16.76	29.07
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.40	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0257)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0164):	109.27	4.473	5.25	29.07
+ ID2= 2 (0658):	28.59	0.397	6.00	30.68
ID = 3 (0257):	137.86	4.750	5.25	29.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0244)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0256):	5375.93	40.907	8.25	26.60
+ ID2= 2 (0257):	137.86	4.750	5.25	29.41
ID = 3 (0244):	5513.79	41.569	8.25	26.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0322)
IN= 2---> OUT= 1 Routing time step (min)'= 15.00

<---- DATA FOR SECTION (422.0) ------>

Distance	Elevation	Manning	
0.00	146.00	0.1000	
10.00	144.00	0.1000	
50.00	143.00	0.1000	
61.00	142.50	0.1000 /0.0300	Main Channel
72.00	138.00	0.0300	Main Channel
72.00	137.80	0.0300	Main Channel
75.00	137.80	0.0300	Main Channel
75.00	138.00	0.0300	Main Channel
86.00	142.50	0.0300 /0.1000	Main Channel
108.00	150.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	138.23	.221E+04	1.2	0.83	31.62
0.85	138.65	.568E+04	4.3	1.19	22.02
1.28	139.08	.105E+05	10.0	1.49	17.62
1.71	139.51	.168E+05	18.7	1.75	14.96
2.14	139.94	.245E+05	31.1	2.00	13.14
2.56	140.36	.336E+05	47.5	2.22	11.79
2.99	140.79	.441E+05	68.3	2.44	10.75
3.42	141.22	.560E+05	94.1	2.65	9.91
3.85	141.65	.692E+05	125.2	2.84	9.22
4.27	142.07	.839E+05	161.9	3.03	8.64
4.70	142.50	.100E+06	204.7	3.22	8.14
5.14	142.94	.121E+06	267.2	3.47	7.55
5.58	143.38	.151E+06	338.2	3.51	7.46
6.01	143.81	.195E+06	419.9	3.39	7.73
6.45	144.25	.249E+06	515.7	3.25	8.06
6.89	144.69	.307E+06	625.1	3.20	8.19
7.33	145.13	.367E+06	746.1	3.19	8.21
7.76	145.56	.430E+06	878.6	3.21	8.16
8.20	146.00	.495E+06	1022.1	3.25	8.07

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0244)	5513.79	41.57	8.25	26.67	2.41	2.14
OUTFLOW: ID= 1 (0322)	5513.79	41.52	8.25	26.67	2.41	2.14

CALIB
STANDHYD (0167) | Area (ha)= 67.37
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.32	37.05
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	670.17	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.31
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW (cms)=	1.63	0.90	2.526 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	15.36	26.45
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.37	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0245)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0167):	67.37	2.526	5.25	26.45
+ ID2= 2 (0322):	5513.79	41.524	8.25	26.67
ID = 3 (0245):	5581.16	41.781	8.25	26.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0169) | Area (ha)= 180.24
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	68.49	111.75
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1096.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.90
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00

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     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.66         2.11          5.749 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      40.00        14.72          24.33
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.35           0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0246) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0169):    180.24   5.749     5.25    24.33
       + ID2= 2 (0245):   5581.16  41.781     8.25    26.66
         ================================================
         ID = 3 (0246):   5761.40  42.463     8.25    26.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0323) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 423.0) ------>
               Distance      Elevation       Manning
                  0.00         145.00        0.1200
                 90.00         136.00        0.1200
                 95.00         134.90    0.1200 /0.0600  Main Channel
                 95.00         134.70    0.1200 /0.0600  Main Channel
                105.00         134.70    0.0600 /0.1200  Main Channel
                105.00         134.90    0.0600 /0.1200  Main Channel
                108.00         136.00        0.1200
                255.00         136.00        0.1200
                308.00         145.00        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.54   135.24    .548E+04       3.3          0.56      27.64
       1.08   135.78    .128E+05      11.0          0.81      19.38
       1.63   136.33    .675E+05      33.0          0.46      34.09
       2.17   136.87    .156E+06      92.4          0.55      28.17
       2.71   137.41    .249E+06     180.6          0.68      23.00
       3.25   137.95    .347E+06     294.4          0.80      19.62
       3.79   138.49    .448E+06     432.5          0.90      17.28
       4.34   139.04    .554E+06     594.0          1.00      15.56
       4.88   139.58    .665E+06     778.4          1.10      14.24
       5.42   140.12    .780E+06     985.6          1.18      13.19
       5.96   140.66    .899E+06    1215.3          1.27      12.33
       6.51   141.21    .102E+07    1467.6          1.34      11.62
       7.05   141.75    .115E+07    1742.4          1.42      11.01
       7.59   142.29    .128E+07    2040.0          1.49      10.48
       8.13   142.83    .142E+07    2360.4          1.56      10.03
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       8.67   143.37    .156E+07    2703.8          1.62       9.62
       9.22   143.92    .171E+07    3070.5          1.69       9.25
       9.76   144.46    .186E+07    3460.6          1.75       8.94
      10.30   145.00    .201E+07    3874.4          1.81       8.65

                                  <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0246) 5761.40    42.46    8.25  26.59      1.71      0.47
     OUTFLOW: ID= 1 (0323) 5761.40    41.82    8.50  26.59      1.70      0.47


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| ADD HYD   (0247) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0170):    30.06   0.622     5.50    16.06
       + ID2= 2 (0323):  5761.40  41.825     8.50    26.59
         ================================================
         ID = 3 (0247):  5791.46  41.924     8.50    26.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0166) |   Area    (ha)= 260.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     117.43        143.53
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1318.99         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32          9.31
                 over (min)      30.00         45.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.28          2.84          9.089 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      40.00         15.36          26.45
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.37           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0249) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0166):    260.96   9.089     5.25    26.45
       + ID2= 2 (0247):  5791.46  41.924     8.50    26.54
         ================================================
         ID = 3 (0249):  6052.42  42.780     8.25    26.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION ( 424.0) ------>
               Distance      Elevation       Manning
                  0.00         138.00        0.1000
                 34.00         130.00        0.1000
                 35.00         129.70    0.1000 /0.0600  Main Channel
                 41.00         129.70    0.0600 /0.1000  Main Channel
                 42.00         130.00        0.1000
                 44.00         131.00        0.1000
                 98.00         132.00        0.1000
                122.00         133.00        0.1000
                150.00         140.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.44   130.14    .561E+04       1.5          0.46      62.25
       0.87   130.57    .133E+05       5.1          0.67      43.14
       1.31   131.01    .231E+05      10.7          0.80      35.80
       1.75   131.45    .438E+05      19.1          0.75      38.25
       2.18   131.88    .837E+05      34.5          0.71      40.41
       2.62   132.32    .140E+06      60.4          0.74      38.66
       3.06   132.76    .206E+06      96.4          0.81      35.64
       3.49   133.19    .281E+06     144.5          0.89      32.39
       3.93   133.63    .359E+06     205.4          0.99      29.15
       4.37   134.07    .440E+06     276.2          1.08      26.58
       4.81   134.51    .524E+06     356.4          1.17      24.51
       5.24   134.94    .611E+06     446.1          1.26      22.82
       5.68   135.38    .700E+06     544.9          1.34      21.41
       6.12   135.82    .792E+06     652.9          1.42      20.21
       6.55   136.25    .887E+06     770.1          1.50      19.19
       6.99   136.69    .984E+06     896.3          1.57      18.30
       7.43   137.13    .108E+07    1031.7          1.64      17.51
       7.86   137.56    .119E+07    1176.1          1.71      16.82
       8.30   138.00    .129E+07    1329.8          1.77      16.20

                                  <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0249) 6052.42    42.78    8.25  26.53      2.32      0.72
     OUTFLOW: ID= 1 (0324) 6052.42    41.88    9.00  26.53      2.30      0.72


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| CALIB            |
| STANDHYD  (0171) |   Area    (ha)= 277.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     105.48        172.11
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1360.37         40.00
     Mannings n          =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32          9.31
                 over (min)      30.00         45.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.64          3.40          9.011 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50           5.25
     RUNOFF VOLUME    (mm)=      40.00         15.36          24.72
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.95          0.37           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0171):    277.59   9.011     5.25    24.72
       + ID2= 2 (0324):  6052.42  41.878     9.00    26.53
         ================================================
         ID = 3 (0250):  6330.01  42.463     8.75    26.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0325) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 425.0) ------>
               Distance      Elevation       Manning
                  0.00         135.00        0.1200
                 30.00         133.00        0.1200
                 53.00         130.00        0.1200
                 70.00         127.00    0.1200 /0.0800  Main Channel
                 74.00         126.30        0.0800      Main Channel
                 78.00         126.30        0.0800      Main Channel
                 82.00         127.00    0.0800 /0.1200  Main Channel
                 96.00         129.00        0.1200
                118.00         135.00        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.35   126.65    .244E+04       0.6          0.28      69.40
       0.70   127.00    .651E+04       2.3          0.41      47.37
       1.17   127.47    .147E+05       7.6          0.60      32.40
```

1.64	127.94	.262E+05	16.0	0.71	27.32
2.11	128.41	.409E+05	27.9	0.79	24.46
2.58	128.88	.589E+05	43.6	0.86	22.49
3.05	129.35	.799E+05	63.9	0.93	20.83
3.52	129.82	.103E+06	88.6	1.00	19.43
3.99	130.29	.129E+06	117.5	1.06	18.34
4.46	130.76	.158E+06	151.0	1.11	17.45
4.94	131.24	.190E+06	189.7	1.16	16.68
5.41	131.71	.224E+06	233.7	1.21	16.01
5.88	132.18	.262E+06	283.4	1.26	15.41
6.35	132.65	.303E+06	339.0	1.30	14.88
6.82	133.12	.346E+06	399.4	1.34	14.44
7.29	133.59	.394E+06	463.2	1.37	14.17
7.76	134.06	.446E+06	535.2	1.39	13.90
8.23	134.53	.504E+06	615.8	1.42	13.63
8.70	135.00	.566E+06	705.3	1.45	13.37

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0250)	6330.01	42.46	8.75	26.45	2.55	0.86
OUTFLOW: ID= 1 (0325)	6330.01	42.29	9.25	26.45	2.54	0.86

CALIB			
STANDHYD (0172)	Area	(ha)= 182.59	
ID= 1 DT=15.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	69.38	113.21
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1103.30	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.90
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	3.71	2.14	5.824 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	14.72	24.33
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.35	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0252)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0172):	182.59	5.824	5.25	24.33
+ ID2= 2 (0325):	6330.01	42.292	9.25	26.45
ID = 3 (0252):	6512.60	42.646	9.25	26.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0173)	Area	(ha)= 162.52	
ID= 1 DT=15.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	61.76	100.76
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1040.90	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.31
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	3.30	2.44	5.745 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	15.36	24.72
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.37	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0253)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0173):	162.52	5.745	5.25	24.72
+ ID2= 2 (0252):	6512.60	42.646	9.25	26.39
ID = 3 (0253):	6675.12	42.956	9.00	26.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0326)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (426.0) ------>

Distance	Elevation	Manning
0.00	137.00	0.1200
45.00	135.00	0.1200

53.00	130.00	0.1200		
137.00	125.20	0.1200 /0.0800	Main Channel	
137.00	125.00	0.1200 /0.0800	Main Channel	
143.00	125.00	0.0800 /0.1200	Main Channel	
143.00	125.20	0.0800 /0.1200	Main Channel	
195.00	126.00	0.1200		
260.00	130.00	0.1200		
325.00	135.00	0.1200		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	125.53	.747E+04	2.3	0.30	54.64
1.05	126.05	.359E+05	14.2	0.39	42.17
1.58	126.58	.789E+05	42.5	0.53	30.93
2.11	127.11	.131E+06	86.4	0.65	25.33
2.63	127.63	.193E+06	146.7	0.75	21.91
3.16	128.16	.264E+06	224.7	0.84	19.56
3.68	128.68	.344E+06	321.8	0.93	17.80
4.21	129.21	.433E+06	439.3	1.00	16.43
4.74	129.74	.532E+06	578.4	1.08	15.32
5.26	130.26	.639E+06	748.6	1.16	14.22
5.79	130.79	.751E+06	949.8	1.25	13.17
6.32	131.32	.867E+06	1173.6	1.34	12.31
6.84	131.84	.987E+06	1419.9	1.42	11.58
7.37	132.37	.111E+07	1688.7	1.51	10.96
7.89	132.89	.124E+07	1980.1	1.58	10.42
8.42	133.42	.137E+07	2294.3	1.66	9.95
8.95	133.95	.151E+07	2631.2	1.73	9.54
9.47	134.47	.165E+07	2991.2	1.80	9.17
10.00	135.00	.179E+07	3374.5	1.87	8.84

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0253)	6675.12	42.96	9.00	26.35	1.58	0.53
OUTFLOW: ID= 1 (0326)	6675.12	42.82	9.25	26.35	1.58	0.53

CALIB			
NASHYD (0176)	Area	(ha)= 51.49	Curve Number (CN)= 85.0
ID= 1 DT=15.0 min	Ia	(mm)= 7.00	# of Linear Res.(N)= 5.00
	U.H. Tp(hrs)=	1.03	

Unit Hyd Qpeak (cms)= 2.756

PEAK FLOW (cms)= 0.806 (i)
TIME TO PEAK (hrs)= 6.000
RUNOFF VOLUME (mm)= 15.348
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.365

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0258)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0176):	51.49	0.806	6.00	15.35
+ ID2= 2 (0326):	6675.12	42.822	9.25	26.35
ID = 3 (0258):	6726.61	42.957	9.25	26.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0174)	Area	(ha)= 177.89	
ID= 1 DT=15.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.60	110.29
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1089.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.52
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	3.61	2.00	5.580 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	14.12	23.96
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.34	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0174):	177.89	5.580	5.25	23.96
+ ID2= 2 (0258):	6726.61	42.957	9.25	26.27
ID = 3 (0259):	6904.50	43.297	9.25	26.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0327)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (427.0) ------>

Distance	Elevation	Manning
0.00	130.00	0.1200
45.00	124.00	0.1200
85.00	123.00	0.1200

```
                91.00        120.40    0.1200 /0.0800  Main Channel
                91.00        120.20    0.1200 /0.0800  Main Channel
                98.00        120.20    0.0800 /0.1200  Main Channel
                98.00        120.40    0.0800 /0.1200  Main Channel
               115.00        123.00        0.1200
               195.00        123.00        0.1200
               210.00        130.00        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.52   120.72    .450E+04       2.3          0.56       32.81
       1.03   121.23    .114E+05       8.1          0.78       23.58
       1.55   121.75    .209E+05      17.6          0.93       19.79
       2.06   122.26    .331E+05      31.4          1.05       17.54
       2.58   122.78    .478E+05      49.9          1.16       15.97
       3.09   123.29    .930E+05      70.1          0.84       22.09
       3.61   123.81    .169E+06     135.6          0.89       20.81
       4.13   124.33    .256E+06     232.6          1.01       18.35
       4.64   124.84    .346E+06     357.4          1.15       16.16
       5.16   125.36    .440E+06     506.4          1.28       14.47
       5.67   125.87    .536E+06     678.4          1.41       13.16
       6.19   126.39    .635E+06     872.8          1.53       12.12
       6.71   126.91    .736E+06    1089.1          1.64       11.27
       7.22   127.42    .841E+06    1326.9          1.75       10.56
       7.74   127.94    .948E+06    1586.0          1.86        9.96
       8.25   128.45    .106E+07    1866.4          1.96        9.45
       8.77   128.97    .117E+07    2167.8          2.05        9.01
       9.28   129.48    .129E+07    2490.3          2.15        8.62
       9.80   130.00    .141E+07    2833.8          2.24        8.27

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0259) 6904.50    43.30    9.25  26.21      2.39      1.12
     OUTFLOW: ID= 1 (0327) 6904.50    43.21    9.50  26.21      2.39      1.12


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| CALIB            |
| NASHYD    (0175) |   Area    (ha)=  18.01   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 5.00
--------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   1.672

     PEAK FLOW       (cms)=   0.327 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  13.529
     TOTAL RAINFALL   (mm)=  42.000
     RUNOFF COEFFICIENT   =   0.322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0175):    18.01   0.327     5.50    13.53
```



```
       + ID2= 2 (0327):  6904.50  43.206     9.50    26.21
         ================================================
         ID = 3 (0260):  6922.51  43.231     9.50    26.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 428.0) ------>
               Distance      Elevation       Manning
-                 0.00         116.00         0.1200
                 26.00         110.00    0.1200 /0.0800  Main Channel
                 28.00         109.70         0.0800      Main Channel
                 36.00         109.70         0.0800      Main Channel
                 37.00         110.00    0.0800 /0.1200  Main Channel
                 55.00         115.00         0.1200
                 60.00         115.50         0.1200
                 70.00         116.00         0.1200
                110.00         117.00         0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.30   110.00    .387E+04       1.0          0.36       63.21
       0.62   110.32    .912E+04       3.9          0.58       38.81
       0.93   110.63    .154E+05       8.4          0.74       30.61
       1.25   110.95    .228E+05      14.5          0.86       26.27
       1.56   111.26    .313E+05      22.2          0.96       23.51
       1.88   111.58    .409E+05      31.6          1.05       21.56
       2.19   111.89    .515E+05      42.7          1.13       20.08
       2.51   112.21    .632E+05      55.7          1.20       18.92
       2.83   112.53    .759E+05      70.5          1.26       17.96
       3.14   112.84    .898E+05      87.2          1.32       17.15
       3.46   113.16    .105E+06     106.0          1.37       16.45
       3.77   113.47    .121E+06     126.9          1.43       15.85
       4.09   113.79    .138E+06     149.9          1.48       15.31
       4.41   114.11    .156E+06     175.2          1.53       14.83
       4.72   114.42    .175E+06     202.8          1.57       14.39
       5.04   114.74    .195E+06     232.7          1.62       13.99
       5.35   115.05    .217E+06     264.5          1.66       13.66
       5.67   115.37    .240E+06     296.6          1.68       13.47
       5.98   115.68    .265E+06     329.5          1.69       13.40

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0260) 6922.51    43.23    9.50  26.18      2.21      1.13
     OUTFLOW: ID= 1 (0328) 6922.51    43.13    9.75  26.18      2.20      1.13


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| CALIB            |
| STANDHYD  (0177) |   Area    (ha)= 265.44
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     119.45       145.99
     Dep. Storage     (mm)=       2.00         6.00
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     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1330.26        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         6.66
               over (min)        30.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.38         2.06          8.388 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      40.00        11.15          24.13
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.27           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0261) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0177):   265.44   8.388     5.25    24.13
       + ID2= 2 (0328):  6922.51  43.125     9.75    26.18
         ================================================
         ID = 3 (0261):  7187.95  43.460     9.50    26.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0178) |   Area    (ha)= 271.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     122.34       149.52
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1346.25        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         6.93
               over (min)        30.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.54         2.20          8.678 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      40.00        11.58          24.37
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.28           0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  77.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0262) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0178):   271.86   8.678     5.25    24.37
       + ID2= 2 (0261):  7187.95  43.460     9.50    26.10
         ================================================
         ID = 3 (0262):  7459.81  43.921     9.25    26.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0329) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 429.0) ------>
               Distance      Elevation       Manning
                  0.00         112.00         0.1800
                 42.00         110.00         0.1800
                 69.00         107.00         0.1800
                 72.00         106.20         0.1800
                 72.00         106.00    0.1800 /0.0700  Main Channel
                 82.00         106.00    0.0700 /0.1800  Main Channel
                 82.00         106.20    0.0700 /0.1800  Main Channel
                 86.00         107.00         0.1800
                102.00         109.00         0.1800
                169.00         111.00         0.1800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.26   106.26    .682E+04       1.4          0.52       82.26
       0.53   106.53    .147E+05       4.4          0.78       55.27
       0.79   106.79    .242E+05       8.9          0.95       45.23
       1.05   107.05    .353E+05      14.7          1.07       39.91
       1.32   107.32    .489E+05      21.9          1.15       37.24
       1.58   107.58    .656E+05      30.6          1.20       35.72
       1.84   107.84    .853E+05      41.0          1.24       34.70
       2.11   108.11    .108E+06      53.1          1.26       33.92
       2.37   108.37    .134E+06      67.0          1.29       33.27
       2.63   108.63    .163E+06      82.9          1.31       32.70
       2.89   108.89    .194E+06     100.8          1.33       32.16
       3.16   109.16    .230E+06     119.2          1.33       32.18
       3.42   109.42    .273E+06     140.0          1.32       32.50
       3.68   109.68    .323E+06     164.3          1.31       32.80
       3.95   109.95    .381E+06     192.3          1.30       33.06
       4.21   110.21    .448E+06     222.3          1.28       33.57
       4.47   110.47    .524E+06     256.6          1.26       34.02
       4.74   110.74    .609E+06     295.8          1.25       34.34
       5.00   111.00    .705E+06     340.1          1.24       34.53

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
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	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0262)	7459.81	43.92	9.25	26.04	1.91	1.24
OUTFLOW: ID= 1 (0329)	7459.81	43.56	10.00	26.04	1.90	1.24

CALIB			
STANDHYD (0179)	Area (ha)= 85.00		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.30	52.70
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	752.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.66
over (min)		15.00	45.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	1.73	0.91 2.647 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	11.15 22.11
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.27 0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0263)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0179):	85.00	2.647	5.25	22.11	
+ ID2= 2 (0329):	7459.81	43.560	10.00	26.04	
ID = 3 (0263):	7544.81	43.632	10.00	25.99	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0182)	Area (ha)= 183.03		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	97.01	86.02
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1104.63	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		19.32	6.16			
over (min)		15.00	45.00			
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)			
Unit Hyd. Tpeak (min)=		15.00	30.00			
Unit Hyd. peak (cms)=		0.08	0.04			
				TOTALS		
PEAK FLOW	(cms)=	5.18	1.12	6.272 (iii)		
TIME TO PEAK	(hrs)=	5.25	5.50	5.25		
RUNOFF VOLUME	(mm)=	40.00	10.35	26.06		
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00		
RUNOFF COEFFICIENT	=	0.95	0.25	0.62		

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0264)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0182):	183.03	6.272	5.25	26.06
+ ID2= 2 (0263):	7544.81	43.632	10.00	25.99
ID = 3 (0264):	7727.84	43.827	9.75	25.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0330)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (430.0) ------>

Distance	Elevation	Manning	
0.00	90.00	0.1200	
7.00	85.00	0.1200	
10.00	83.00	0.1200	
10.00	82.80	0.1200 /0.0800	Main Channel
19.00	82.80	0.0800	Main Channel
19.00	83.00	0.0800 /0.1200	Main Channel
20.00	84.00	0.1200	
45.00	85.00	0.1200	
85.00	90.00	0.1200	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	83.18	.243E+04	1.8	0.53	21.92
0.76	83.56	.507E+04	5.9	0.82	14.23
1.14	83.94	.796E+04	11.9	1.05	11.19
1.52	84.32	.120E+05	19.7	1.16	10.14
1.89	84.69	.186E+05	30.7	1.16	10.08
2.27	85.07	.279E+05	46.3	1.17	10.04
2.65	85.45	.386E+05	67.3	1.22	9.57
3.03	85.83	.504E+05	93.0	1.30	9.03
3.41	86.21	.631E+05	123.2	1.37	8.53
3.79	86.59	.767E+05	158.1	1.45	8.08

4.17	86.97	.913E+05	197.8	1.52	7.69	
4.55	87.35	.107E+06	242.4	1.60	7.34	
4.93	87.73	.123E+06	292.0	1.67	7.04	
5.31	88.11	.141E+06	346.7	1.73	6.76	
5.68	88.48	.159E+06	406.7	1.80	6.52	
6.06	88.86	.178E+06	472.2	1.86	6.30	
6.44	89.24	.199E+06	543.2	1.92	6.09	
6.82	89.62	.220E+06	620.0	1.98	5.91	
7.20	90.00	.242E+06	702.7	2.04	5.74	

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0264)	7727.84	43.83	9.75	25.99	2.21	1.17
OUTFLOW: ID= 1 (0330)	7727.84	43.81	10.00	25.99	2.21	1.17

CALIB			
STANDHYD (0181)	Area (ha)= 55.83		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.75	39.08
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	610.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.16
over (min)		15.00	45.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.90	0.63 1.525 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	40.00	10.35 19.24
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.25 0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0265)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0181):	55.83	1.525	5.25	19.24
+ ID2= 2 (0330):	7727.84	43.812	10.00	25.99
ID = 3 (0265):	7783.67	43.856	10.00	25.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0183)	Area (ha)= 330.88		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	175.37	155.51
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1485.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.16
over (min)		30.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW	(cms)=	9.37	2.03 11.339 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	40.00	10.35 26.06
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.25 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0266)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0183):	330.88	11.339	5.25	26.06
+ ID2= 2 (0265):	7783.67	43.856	10.00	25.95
ID = 3 (0266):	8114.55	44.177	10.00	25.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0331)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (431.0) ------>

Distance	Elevation	Manning	
0.00	90.00	0.1200	
7.00	85.00	0.1200	
10.00	83.00	0.1200	
10.00	82.80	0.1200 /0.0600	Main Channel
19.00	82.80	0.0600	Main Channel
19.00	83.00	0.0600 /0.1200	Main Channel
20.00	84.00	0.1200	
45.00	85.00	0.1200	
85.00	90.00	0.1200	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	83.18	.218E+04	2.8	0.81	13.04
0.76	83.56	.456E+04	8.9	1.24	8.50
1.14	83.94	.716E+04	17.8	1.57	6.71
1.52	84.32	.107E+05	29.3	1.72	6.11
1.89	84.69	.167E+05	45.0	1.70	6.19
2.27	85.07	.250E+05	66.2	1.67	6.30
2.65	85.45	.347E+05	94.2	1.71	6.15
3.03	85.83	.453E+05	127.7	1.78	5.91
3.41	86.21	.567E+05	166.8	1.86	5.66
3.79	86.59	.689E+05	211.6	1.94	5.43
4.17	86.97	.820E+05	262.2	2.02	5.22
4.55	87.35	.960E+05	318.6	2.10	5.02
4.93	87.73	.111E+06	381.1	2.17	4.85
5.31	88.11	.126E+06	449.7	2.25	4.69
5.68	88.48	.143E+06	524.7	2.32	4.54
6.06	88.86	.160E+06	606.1	2.39	4.41
6.44	89.24	.179E+06	694.2	2.46	4.29
6.82	89.62	.198E+06	789.1	2.52	4.18
7.20	90.00	.218E+06	890.9	2.59	4.07

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0266)	8114.55	44.18	10.00	25.95	1.87	1.70
OUTFLOW: ID= 1 (0331)	8114.55	44.17	10.00	25.95	1.87	1.70

CALIB	
STANDHYD (0180)	Area (ha)= 157.15
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	59.72	97.43
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1023.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.16
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	3.19	1.27	4.424 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.35	21.62
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.25	0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0267)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0180):	157.15	4.424	5.25	21.62
+ ID2= 2 (0331):	8114.55	44.173	10.00	25.95
ID = 3 (0267):	8271.70	44.348	9.50	25.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

** SIMULATION NUMBER: 14 **

READ STORM	Filename: C:\Users\P006437C\AppData\Local\Temp\73400444-e18a-4654-b0cf-6b261e438f30\c9596dd8
Ptotal= 54.38 mm	Comments: 5yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB	
NASHYD (0170)	Area (ha)= 30.06 Curve Number (CN)= 86.0
ID= 1 DT=15.0 min	Ia (mm)= 7.00 # of Linear Res.(N)= 5.00
	U.H. Tp(hrs)= 0.67

Unit Hyd Qpeak (cms)= 2.474

PEAK FLOW (cms)= 1.000 (i)
TIME TO PEAK (hrs)= 5.500
RUNOFF VOLUME (mm)= 25.332
TOTAL RAINFALL (mm)= 54.380
RUNOFF COEFFICIENT = 0.466

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0100)	Area (ha)= 100.32
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.12	62.20
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	817.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.93
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.65	2.27	4.920 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	23.31	34.36
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.43	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0600)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	10.8200	0.0500
	3.9300	0.0019	12.9600	0.1100
	4.0000	0.0021	17.5400	0.1905
	5.0000	0.0100	27.0100	0.4570
	10.7300	0.0438	37.7400	0.8003

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0100)	100.320	4.920	5.25	34.36
OUTFLOW: ID= 1 (0600)	100.320	4.915	5.25	34.40

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.90
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0096

CALIB	
STANDHYD (0101)	Area (ha)= 74.02
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.21	51.81
Dep. Storage	(mm)=	2.00	6.00

Average Slope	(%)=	1.00	1.00
Length	(m)=	702.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.93
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.54	1.89	3.435 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	23.31	32.03
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.43	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0601)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0101)	74.020	3.435	5.25	32.03
OUTFLOW: ID= 1 (0601)	74.020	3.432	5.25	38.22

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.92
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0002

ADD HYD (0200)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0600):	100.32	4.915	5.25	34.40
+ ID2= 2 (0601):	74.02	3.432	5.25	38.22
ID = 3 (0200):	174.34	8.347	5.25	36.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0300)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (400.0) ------>

Distance	Elevation	Manning
0.00	214.00	0.0800
19.00	214.00	0.0800

```
                28.00        213.00         0.0800
                34.00        212.00    0.0800 /0.0600  Main Channel
                35.00        211.50         0.0600      Main Channel
                37.00        212.00    0.0600 /0.0600  Main Channel
                43.00        213.00         0.0600
                54.00        214.00         0.0600
                74.00        214.50         0.0600
                80.00        215.00         0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.12   211.62    .649E+02       0.0         0.29      80.17
       0.25   211.75    .260E+03       0.1         0.46      50.51
       0.37   211.88    .584E+03       0.3         0.60      38.54
       0.50   212.00    .104E+04       0.5         0.73      31.82
       0.63   212.13    .174E+04       1.1         0.91      25.48
       0.77   212.27    .274E+04       2.0         1.02      22.72
       0.90   212.40    .403E+04       3.2         1.11      20.89
       1.03   212.53    .562E+04       4.8         1.19      19.44
       1.17   212.67    .750E+04       6.9         1.27      18.24
       1.30   212.80    .968E+04       9.4         1.34      17.19
       1.43   212.93    .122E+05      12.4         1.42      16.28
       1.57   213.07    .150E+05      15.9         1.47      15.67
       1.70   213.20    .182E+05      19.9         1.52      15.23
       1.83   213.33    .220E+05      24.8         1.56      14.78
       1.97   213.47    .262E+05      30.5         1.61      14.32
       2.10   213.60    .310E+05      37.2         1.66      13.87
       2.23   213.73    .362E+05      44.9         1.72      13.43
       2.37   213.87    .419E+05      53.7         1.78      13.00
       2.50   214.00    .481E+05      63.7         1.83      12.60

                                  <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0200)  174.34     8.35    5.25  36.03      1.25      1.31
     OUTFLOW: ID= 1 (0300)  174.34     7.46    5.25  36.02      1.20      1.28


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| CALIB            |
| STANDHYD  (0103) |   Area    (ha)= 118.55
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      45.05         73.50
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     889.01         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         14.46
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.12          2.79          5.905 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      52.38         24.19         34.90
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.96          0.44          0.64
```



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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0202) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0103):   118.55   5.905     5.25     34.90
        + ID2= 2 (0300):   174.34   7.460     5.25     36.02
          ================================================
          ID = 3 (0202):   292.89  13.365     5.25     35.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0109) |   Area    (ha)=  49.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.41         19.60
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     571.61         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         15.61
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.04          0.80          2.847 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      52.38         26.09         41.86
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.96          0.48          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0609) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   5.7500     10.0000
                         5.7120     0.8320    |   0.0000      0.0000
```



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                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0109)     49.010     2.847      5.25      41.86
     OUTFLOW: ID= 1 (0609)     49.010     2.456      5.25      41.86

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 86.27
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3753

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| ADD HYD   (0203) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0202):   292.89  13.365     5.25     35.57
        + ID2= 2 (0609):    49.01   2.456     5.25     41.86
          ================================================
          ID = 3 (0203):   341.90  15.821     5.25     36.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0301) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 401.0) ------>
               Distance      Elevation       Manning
                  0.00         205.00         0.0800
                 20.00         204.50         0.0800
                 80.00         204.50         0.0800
                105.00         204.00         0.0800
                113.00         203.50    0.0800 /0.0600  Main Channel
                124.00         203.50         0.0600      Main Channel
                130.00         203.50    0.0600 /0.0800  Main Channel
                195.00         204.00         0.0800
                250.00         205.00         0.0800

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.08   203.58    .225E+04       0.4         0.22      93.84
       0.16   203.66    .564E+04       1.4         0.32      65.10
       0.24   203.74    .102E+05       3.2         0.39      53.26
       0.32   203.82    .158E+05       5.7         0.45      46.34
       0.39   203.89    .226E+05       9.1         0.50      41.62
       0.47   203.97    .306E+05      13.4         0.55      38.10
       0.55   204.05    .396E+05      18.9         0.60      34.96
       0.63   204.13    .495E+05      25.6         0.65      32.25
       0.71   204.21    .601E+05      33.3         0.69      30.06
       0.79   204.29    .716E+05      42.3         0.74      28.26
       0.87   204.37    .839E+05      52.3         0.78      26.74
       0.95   204.45    .971E+05      63.6         0.82      25.44
       1.03   204.53    .113E+06      73.3         0.81      25.69
       1.11   204.61    .134E+06      89.2         0.84      24.96
       1.18   204.68    .155E+06     107.2         0.87      24.10
       1.26   204.76    .177E+06     127.1         0.90      23.22
       1.34   204.84    .200E+06     149.0         0.93      22.37
       1.42   204.92    .224E+06     172.9         0.97      21.56
       1.50   205.00    .248E+06     198.7         1.00      20.80

                                  <---- hydrograph ---->   <-pipe /
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channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0203)  341.90    15.82    5.25  36.47      0.51      0.57
     OUTFLOW: ID= 1 (0301)  341.90    11.86    5.50  36.46      0.44      0.53


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| CALIB            |
| STANDHYD  (0108) |   Area    (ha)= 121.56
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      64.43         57.13
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     900.22         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         15.61
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.46          2.34          6.800 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      52.38         26.09         40.02
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.96          0.48          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0608) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  *******      0.0001

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0108)    121.560     6.800      5.25      40.02
     OUTFLOW: ID= 1 (0608)    121.560     6.800      5.25      40.02

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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ADD HYD (0204)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0301):	341.90	11.860	5.50	36.46
+ ID2= 2 (0608):	121.56	6.800	5.25	40.02
ID = 3 (0204):	463.46	17.489	5.25	37.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0302)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (402.0) ------>

Distance	Elevation	Manning	
0.00	202.00	0.1200	
200.00	200.00	0.1200	
212.00	197.00	0.1200	
229.00	195.80	0.1200 /0.0600	Main Channel
229.01	195.60	0.0600	Main Channel
231.00	195.60	0.0600 /0.1200	Main Channel
231.01	195.80	0.1200	
250.00	197.00	0.1200	
260.00	200.00	0.1200	
455.00	203.00	0.1200	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	195.94	.970E+03	0.6	0.60	28.09
0.67	196.27	.479E+04	2.8	0.60	28.31
1.01	196.61	.121E+05	8.0	0.68	25.01
1.35	196.95	.228E+05	17.3	0.77	21.99
1.68	197.28	.360E+05	32.8	0.92	18.33
2.02	197.62	.502E+05	53.1	1.07	15.75
2.36	197.96	.651E+05	77.7	1.21	13.97
2.69	198.29	.809E+05	106.6	1.34	12.66
3.03	198.63	.976E+05	139.6	1.45	11.65
3.37	198.97	.115E+06	177.0	1.56	10.84
3.71	199.31	.133E+06	218.6	1.66	10.18
4.04	199.64	.153E+06	264.5	1.76	9.62
4.38	199.98	.173E+06	314.8	1.85	9.14
4.72	200.32	.202E+06	280.8	1.41	11.96
5.05	200.65	.249E+06	310.4	1.26	13.39
5.39	200.99	.316E+06	378.3	1.21	13.93
5.73	201.33	.402E+06	480.1	1.21	13.96
6.06	201.66	.507E+06	616.9	1.24	13.70
6.40	202.00	.631E+06	791.4	1.27	13.28

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0204)	463.46	17.49	5.25	37.38	1.35	0.77
OUTFLOW: ID= 1 (0302)	463.46	15.07	5.50	37.40	1.27	0.74

CALIB	
STANDHYD (0107)	Area (ha)= 98.53

ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	44.34	54.19
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	810.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.02
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.08	2.14	5.217 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	25.11	37.38
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.46	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0111)	Area (ha)= 94.42
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.04	44.38
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	793.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.48	1.82	5.296 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	40.02
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0205)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0107):	98.53	5.217	5.25	37.38
+ ID2= 2 (0111):	94.42	5.296	5.25	40.02
ID = 3 (0205):	192.95	10.514	5.25	38.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0206)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0205):	192.95	10.514	5.25	38.67
+ ID2= 2 (0302):	463.46	15.072	5.50	37.40
ID = 3 (0206):	656.41	23.796	5.25	37.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0611)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.8300	8.7600
	0.8400	0.1100	15.9200	12.4000
	1.3200	0.4400	39.5200	16.3100
	1.6700	1.1900	69.9800	20.4700
	1.9600	2.3800	*******	24.9000
	2.4300	5.4000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0206)	656.410	23.796	5.25	37.77
OUTFLOW: ID= 1 (0611)	656.410	11.572	6.75	37.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 48.63
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 11.1994

CALIB	
STANDHYD (0110)	Area (ha)= 56.33
ID= 1 DT=15.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.80	22.53
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	612.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00

Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.35	0.92	3.272 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	41.86
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0610)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0001

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0110)	56.330	3.272	5.25	41.86
OUTFLOW: ID= 1 (0610)	56.330	3.272	5.25	41.86

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0207)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0610):	56.33	3.272	5.25	41.86
+ ID2= 2 (0611):	656.41	11.572	6.75	37.77
ID = 3 (0207):	712.74	12.141	6.75	38.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0303)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (403.0) ------>

Distance	Elevation	Manning	
0.00	188.10	0.1100	
12.00	184.70	0.1100 /0.0700	Main Channel
15.00	184.40	0.0700	Main Channel
18.00	184.70	0.0700 /0.1100	Main Channel
30.00	188.10	0.1100	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.15	184.55	.166E+03	0.1	0.28	44.28
0.30	184.70	.663E+03	0.4	0.44	27.89
0.50	184.90	.165E+04	1.7	0.74	16.62
0.70	185.10	.285E+04	3.6	0.94	13.03
0.90	185.30	.425E+04	6.3	1.10	11.17
1.10	185.50	.587E+04	9.8	1.23	9.99
1.30	185.70	.769E+04	14.0	1.34	9.17
1.50	185.90	.972E+04	18.9	1.44	8.55
1.70	186.10	.120E+05	24.7	1.52	8.06
1.90	186.30	.144E+05	31.3	1.60	7.66
2.10	186.50	.171E+05	38.8	1.68	7.32
2.30	186.70	.199E+05	47.2	1.75	7.03
2.50	186.90	.230E+05	56.5	1.81	6.77
2.70	187.10	.263E+05	66.8	1.88	6.55
2.90	187.30	.297E+05	78.1	1.94	6.35
3.10	187.50	.334E+05	90.4	1.99	6.16
3.30	187.70	.373E+05	103.8	2.05	6.00
3.50	187.90	.415E+05	118.2	2.10	5.85
3.70	188.10	.458E+05	133.7	2.15	5.70

<---- hydrograph ----> <-pipe /

channel-> VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0207)	712.74	12.14	6.75	38.09	1.21	1.29
OUTFLOW: ID= 1 (0303)	712.74	12.09	6.75	38.09	1.21	1.29

CALIB STANDHYD (0116) ID= 1 DT=15.0 min	Area (ha)= 106.86 Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.58	82.28
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	844.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.71	3.37	5.080 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	32.13
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

1.83	179.03	.412E+05	32.7	0.74	21.00
1.97	179.17	.471E+05	39.4	0.78	19.92
2.10	179.30	.533E+05	46.8	0.82	18.98
2.23	179.43	.597E+05	54.8	0.86	18.15
2.37	179.57	.663E+05	63.4	0.89	17.43
2.50	179.70	.731E+05	72.6	0.93	16.78

<---- hydrograph ----> <-pipe /

channel-> VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0208)	819.60	13.12	6.75	37.32	1.34	0.57
OUTFLOW: ID= 1 (0304)	819.60	12.58	7.25	37.31	1.32	0.57

CALIB STANDHYD (0119) ID= 1 DT=15.0 min	Area (ha)= 52.33 Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.70	36.63
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	590.65	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.09	1.50	2.592 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	33.97
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0619) IN= 2---> OUT= 1 DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0119)	52.330	2.592	5.25	33.97
OUTFLOW: ID= 1 (0619)	52.330	2.592	5.25	33.97

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00

RESERVOIR (0616) IN= 2---> OUT= 1 DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0001

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0116)	106.860	5.080	5.25	32.13
OUTFLOW: ID= 1 (0616)	106.860	5.080	5.25	32.13

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0208) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0303):	712.74	12.094	6.75	38.09
+ ID2= 2 (0616):	106.86	5.080	5.25	32.13
ID = 3 (0208):	819.60	13.119	6.75	37.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0304) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (404.0) ------>

Distance	Elevation	Manning	
0.00	181.00	0.1100	
15.00	178.30	0.1100	
29.00	177.80	0.1100 /0.0700	Main Channel
31.50	177.20	0.0700	Main Channel
35.00	177.70	0.0700 /0.1100	Main Channel
44.00	178.10	0.1100	
50.00	178.10	0.1100	
52.00	178.30	0.1100	
63.00	179.70	0.1100	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	177.32	.813E+02	0.0	0.16	98.74
0.25	177.45	.325E+03	0.1	0.25	62.20
0.37	177.57	.732E+03	0.3	0.33	47.47
0.50	177.70	.130E+04	0.6	0.40	39.18
0.63	177.83	.223E+04	1.1	0.47	32.98
0.77	177.97	.388E+04	2.0	0.49	31.66
0.90	178.10	.637E+04	3.4	0.50	31.30
1.03	178.23	.103E+05	5.4	0.49	32.02
1.17	178.37	.149E+05	8.3	0.52	30.04
1.30	178.50	.197E+05	11.9	0.56	27.63
1.43	178.63	.247E+05	16.2	0.61	25.52
1.57	178.77	.300E+05	21.1	0.65	23.75
1.70	178.90	.355E+05	26.6	0.70	22.26

MAXIMUM STORAGE USED (ha.m.)= 0.0000

ADD HYD (0209) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0304):	819.60	12.576	7.25	37.31
+ ID2= 2 (0619):	52.33	2.592	5.25	33.97
ID = 3 (0209):	871.93	13.045	7.25	37.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0305) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (405.0) ------>

Distance	Elevation	Manning	
0.00	175.00	0.1200	
10.00	172.40	0.1200	
37.00	171.90	0.1200 /0.0600	Main Channel
38.50	171.40	0.0600	Main Channel
40.50	171.40	0.0600	Main Channel
42.00	171.90	0.0600 /0.1200	Main Channel
69.00	172.40	0.1200	
75.00	175.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	171.57	.573E+03	0.1	0.28	82.03
0.33	171.73	.138E+04	0.4	0.41	55.76
0.50	171.90	.241E+04	0.9	0.51	44.71
0.69	172.09	.653E+04	2.1	0.44	51.93
0.89	172.29	.162E+05	4.5	0.38	59.58
1.08	172.48	.310E+05	9.1	0.40	56.98
1.28	172.68	.470E+05	15.9	0.47	49.23
1.47	172.87	.634E+05	24.5	0.53	43.16
1.66	173.06	.800E+05	34.6	0.59	38.57
1.86	173.26	.970E+05	46.1	0.65	35.03
2.05	173.45	.114E+06	59.1	0.71	32.23
2.24	173.64	.132E+06	73.4	0.77	29.94
2.44	173.84	.150E+06	89.0	0.82	28.05
2.63	174.03	.168E+06	105.9	0.87	26.44
2.83	174.23	.187E+06	124.0	0.91	25.07
3.02	174.42	.205E+06	143.4	0.96	23.88
3.21	174.61	.225E+06	164.0	1.00	22.83
3.41	174.81	.244E+06	185.8	1.05	21.90
3.60	175.00	.264E+06	208.7	1.09	21.08

<---- hydrograph ----> <-pipe /

channel-> VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0209)	871.93	13.04	7.25	37.11	1.19	0.44
OUTFLOW: ID= 1 (0305)	871.93	11.71	7.75	37.11	1.16	0.42

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| CALIB            |
| STANDHYD  (0121) |   Area    (ha)=  53.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.99         29.32
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     596.15         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         15.61
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.67          1.20          2.869 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38         26.09          37.92
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.96          0.48           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0621) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     0.0010

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0121)     53.310     2.869      5.25      37.92
     OUTFLOW: ID= 1 (0621)     53.310     2.866      5.25      46.51

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 99.91
                  TIME SHIFT OF PEAK FLOW       (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0002

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| ADD HYD   (0210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0305):   871.93  11.713     7.75    37.11
       + ID2= 2 (0621):    53.31   2.866     5.25    46.51
         ==========================================
         ID = 3 (0210):   925.24  12.013     7.75    37.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0118) |   Area    (ha)=  57.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.62         27.16
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     620.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         15.61
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.13          1.11          3.241 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38         26.09          40.02
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.96          0.48           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0618) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     0.0010

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0118)     57.780     3.241      5.25      40.02
     OUTFLOW: ID= 1 (0618)     57.780     3.241      5.25      40.02

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                  TIME SHIFT OF PEAK FLOW       (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 114.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.56         53.70
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     872.77         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         15.61
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               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.19          2.20          6.392 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38         26.09          40.02
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.96          0.48           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   7.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.95          3.50
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     222.86         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         15.61
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.27          0.14          0.417 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38         26.09          40.02
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.96          0.48           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   2.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.27          1.13
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     126.49         40.00
     Mannings n           =      0.013         0.250
```



```
     Max.Eff.Inten.(mm/hr)=      25.02         15.61
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09          0.05          0.134 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38         26.09          40.02
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.96          0.48           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0276) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):   114.26   6.392     5.25    40.02
       + ID2= 2 (****):     7.45   0.417     5.25    40.02
         ==========================================
         ID = 3 (0276):   121.71   6.808     5.25    40.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-

--------------------
| ADD HYD   (0276) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0276):   121.71   6.808     5.25    40.02
       + ID2= 2 (****):     2.40   0.134     5.25    40.02
         ==========================================
         ID = 1 (0276):   124.11   6.943     5.25    40.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0617) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  29.0800     0.5230
                          0.1200     0.1560   |  30.5000     0.5500
                          0.1800     0.3485   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0276)    124.110     6.943      5.25      40.02
     OUTFLOW: ID= 1 (0617)    124.110     6.956      5.25      40.02

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.19
```

TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.3900

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0211)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0617):		124.11	6.956	5.25	40.02
+ ID2= 2 (0618):		57.78	3.241	5.25	40.02
ID = 3 (0211):		181.89	10.197	5.25	40.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)= 210.14		
STANDHYD (0115)				
ID= 1 DT=15.0 min		Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	111.37	98.77
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1183.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	7.71	3.39	11.098 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	40.02
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0615)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1					
DT= 15.0 min		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	*******	0.0010

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0115)	210.140	11.098	5.25	40.02
OUTFLOW: ID= 1 (0615)	210.140	11.098	5.25	40.02

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

ADD HYD (0213)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0211):		181.89	10.197	5.25	40.02
+ ID2= 2 (0615):		210.14	11.098	5.25	40.02
ID = 3 (0213):		392.03	21.294	5.25	40.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0214)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0210):		925.24	12.013	7.75	37.65
+ ID2= 2 (0213):		392.03	21.294	5.25	40.02
ID = 3 (0214):		1317.27	29.650	5.25	38.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)= 17.78		
STANDHYD (****)				
ID= 1 DT=15.0 min		Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.42	8.36
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	344.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.65	0.34	0.997 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	40.02
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)= 49.31		
STANDHYD (****)				
ID= 1 DT=15.0 min		Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.13	23.18
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	573.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.82	0.95	2.766 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	40.02
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)= 2.27		
STANDHYD (****)				
ID= 1 DT=15.0 min		Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.20	1.07
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	123.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.08	0.04	0.127 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	40.02
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0215)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0214):		1317.27	29.650	5.25	38.36
+ ID2= 2 (****):		17.78	0.997	5.25	40.02
ID = 3 (0215):		1335.05	30.647	5.25	38.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0215)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0215):		1335.05	30.647	5.25	38.38
+ ID2= 2 (****):		49.31	2.766	5.25	40.02
ID = 1 (0215):		1384.36	33.413	5.25	38.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0215)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0215):		1384.36	33.413	5.25	38.44
+ ID2= 2 (****):		2.27	0.127	5.25	40.02
ID = 3 (0215):		1386.63	33.541	5.25	38.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0306)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (406.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1200	
71.00	172.00	0.1200	
170.00	170.00	0.1200	
202.00	168.50	0.1200 /0.0600	Main Channel
202.00	168.60	0.1200 /0.0600	Main Channel
208.00	168.60	0.0600 /0.1200	Main Channel
208.00	168.80	0.0600 /0.1200	Main Channel
240.00	170.00	0.1200	
340.00	172.00	0.1200	
450.00	173.50	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.26	168.76	.306E+04	0.3	0.17	177.67
0.53	169.03	.110E+05	1.6	0.25	116.39
0.79	169.29	.249E+05	4.2	0.30	99.32
1.05	169.55	.446E+05	8.4	0.34	88.49
1.32	169.82	.703E+05	14.6	0.37	80.40
1.58	170.08	.102E+06	22.5	0.39	75.76
1.84	170.34	.145E+06	32.5	0.40	74.29
2.11	170.61	.200E+06	46.4	0.41	71.63
2.37	170.87	.267E+06	64.9	0.43	68.52
2.63	171.13	.346E+06	88.3	0.45	65.33
2.89	171.39	.438E+06	117.2	0.48	62.24
3.16	171.66	.541E+06	152.1	0.50	59.35
3.42	171.92	.658E+06	193.4	0.52	56.66
3.68	172.18	.787E+06	240.2	0.54	54.58
3.95	172.45	.930E+06	294.3	0.56	52.69
4.21	172.71	.109E+07	356.9	0.58	50.85
4.47	172.97	.126E+07	428.6	0.60	49.10
4.74	173.24	.145E+07	509.8	0.63	47.44
5.00	173.50	.165E+07	601.0	0.65	45.87

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0215)	1386.63	33.54	5.25	38.44	1.86	0.40
OUTFLOW: ID= 1 (0306)	1386.63	18.83	5.50	38.44	1.46	0.38

CALIB	
STANDHYD (0131)	Area (ha)= 123.35
ID= 1 DT=15.0 min	Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.37	94.98
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	906.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.02
over (min)		15.00	45.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	1.96	3.74	5.707 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	25.11	31.38
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.46	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0216)	
1 + 2 = 3	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0131):	123.35	5.707	5.25	31.38
+ ID2= 2 (0306):	1386.63	18.832	5.50	38.44
ID = 3 (0216):	1509.98	22.821	5.25	37.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (9500)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	7.2600	12.6630
	1.7300	1.5060	20.9800	24.7470
	4.8900	2.4510	35.0000	38.4350
	6.9200	9.8410	80.0000	39.9350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0216)	1509.980	22.821	5.25	37.86
OUTFLOW: ID= 1 (9500)	1509.980	12.473	9.50	37.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.66
TIME SHIFT OF PEAK FLOW (min)=255.00
MAXIMUM STORAGE USED (ha.m.)= 17.2609

ROUTE CHN (0307)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (407.0) ------>

Distance	Elevation	Manning	
0.00	175.00	0.1000	
0.01	168.00	0.1000	
28.00	168.00	0.1000	
65.00	164.30	0.1000 /0.0600	Main Channel
65.01	164.10	0.0600	Main Channel
71.00	164.10	0.0600 /0.1000	Main Channel
71.01	164.30	0.1000	
83.00	169.00	0.1000	
138.00	169.00	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	164.36	.147E+04	0.6	0.41	37.70
0.52	164.62	.348E+04	2.2	0.58	26.76
0.77	164.87	.627E+04	4.6	0.68	22.75
1.03	165.13	.984E+04	8.0	0.76	20.45
1.29	165.39	.142E+05	12.5	0.83	18.85
1.55	165.65	.193E+05	18.3	0.88	17.63
1.81	165.91	.252E+05	25.3	0.94	16.65
2.06	166.16	.319E+05	33.6	0.98	15.81
2.32	166.42	.394E+05	43.5	1.03	15.10
2.58	166.68	.476E+05	54.9	1.08	14.47
2.84	166.94	.567E+05	67.9	1.12	13.91
3.09	167.19	.665E+05	82.6	1.16	13.41

3.35	167.45	.771E+05	99.2	1.20	12.95
3.61	167.71	.884E+05	117.6	1.24	12.53
3.87	167.97	.101E+06	138.0	1.28	12.15
4.13	168.23	.119E+06	145.9	1.14	13.62
4.38	168.48	.139E+06	178.2	1.20	12.98
4.64	168.74	.159E+06	213.6	1.26	12.37
4.90	169.00	.178E+06	252.1	1.32	11.80

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (9500)	1509.98	12.47	9.50	37.86	1.29	0.82
OUTFLOW: ID= 1 (0307)	1509.98	12.42	9.75	37.86	1.28	0.82

CALIB	
STANDHYD (0130)	Area (ha)= 42.30
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.07	26.23
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	531.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.02
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.12	1.03	2.151 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	25.11	35.47
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.46	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0217)	
1 + 2 = 3	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0130):	42.30	2.151	5.25	35.47
+ ID2= 2 (0307):	1509.98	12.425	9.75	37.86
ID = 3 (0217):	1552.28	12.485	9.75	37.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 240.54
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.16	168.38
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1266.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	45.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	4.99	5.78	10.774 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	33.97
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 22.17
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.65	15.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	384.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	45.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.46	0.53	0.993 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	33.97
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   4.13
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.24         2.89
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     165.93        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.61
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.10      0.185 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      52.38        26.09      33.97
     TOTAL RAINFALL   (mm)=      54.38        54.38      54.38
     RUNOFF COEFFICIENT   =       0.96         0.48       0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0269) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):   240.54  10.774     5.25    33.97
       + ID2= 2 (****):    22.17   0.993     5.25    33.97
         ================================================
         ID = 3 (0269):   262.71  11.767     5.25    33.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0269) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0269):   262.71  11.767     5.25    33.97
       + ID2= 2 (****):     4.13   0.185     5.25    33.97
         ================================================
         ID = 1 (0269):   266.84  11.952     5.25    33.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
| STANDHYD  (****) |   Area    (ha)=  11.98
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.59         8.39
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     282.61        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.61
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.25         0.29      0.537 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      52.38        26.09      33.97
     TOTAL RAINFALL   (mm)=      54.38        54.38      54.38
     RUNOFF COEFFICIENT   =       0.96         0.48       0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (****) |   Area    (ha)=  20.98
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.29        14.69
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     373.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.61
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.44         0.50      0.940 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      52.38        26.09      33.97
     TOTAL RAINFALL   (mm)=      54.38        54.38      54.38
     RUNOFF COEFFICIENT   =       0.96         0.48       0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   0.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.14         0.33
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      55.98        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.61
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01      0.021 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      52.38        26.09      33.94
     TOTAL RAINFALL   (mm)=      54.38        54.38      54.38
     RUNOFF COEFFICIENT   =       0.96         0.48       0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0268) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    20.98   0.940     5.25    33.97
       + ID2= 2 (****):    11.98   0.537     5.25    33.97
         ================================================
         ID = 3 (0268):    32.96   1.476     5.25    33.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0268) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0268):    32.96   1.476     5.25    33.97
       + ID2= 2 (****):     0.47   0.021     5.25    33.94
         ================================================
         ID = 1 (0268):    33.43   1.497     5.25    33.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0270) |
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|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0268):    33.43   1.497     5.25    33.97
       + ID2= 2 (0269):   266.84  11.952     5.25    33.97
         ================================================
         ID = 3 (0270):   300.27  13.449     5.25    33.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0620) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******      0.0010

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0270)    300.270    13.449      5.25      33.97
     OUTFLOW: ID= 1 (0620)    300.270    13.449      5.25      33.97

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| ROUTE CHN (0501) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
             <----- DATA FOR SECTION ( 601.0) ------>
            Distance      Elevation       Manning
               0.00         172.00        0.1000
              29.33         172.00        0.1000
              43.69         171.00        0.1000
              60.63         170.00    0.1000 /0.0600  Main Channel
             110.21         171.00        0.0600      Main Channel
             119.74         172.00        0.1000
             133.28         172.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.11   170.11    .427E+03       0.0         0.13      145.32
       0.21   170.21    .171E+04       0.3         0.21       91.55
       0.32   170.32    .384E+04       0.9         0.28       69.86
       0.42   170.42    .683E+04       2.0         0.33       57.67
       0.53   170.53    .107E+05       3.6         0.39       49.70
       0.63   170.63    .154E+05       5.8         0.44       44.01
       0.74   170.74    .209E+05       8.8         0.49       39.71
       0.84   170.84    .273E+05      12.5         0.53       36.33
       0.95   170.95    .346E+05      17.2         0.58       33.59
       1.05   171.05    .426E+05      23.3         0.63       30.46
       1.16   171.16    .511E+05      31.0         0.70       27.41
       1.26   171.26    .598E+05      39.7         0.77       25.10
       1.37   171.37    .688E+05      49.3         0.83       23.27
       1.47   171.47    .782E+05      59.8         0.89       21.79
       1.58   171.58    .878E+05      71.2         0.94       20.56
       1.68   171.68    .978E+05      83.5         0.99       19.52
       1.79   171.79    .108E+06      96.7         1.04       18.62
       1.89   171.89    .119E+06     110.8         1.08       17.85
       2.00   172.00    .129E+06     125.7         1.13       17.16
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                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0620)  300.27   13.45    5.25  33.97      0.86      0.54
     OUTFLOW: ID= 1 (0501)  300.27   10.12    5.50  33.97      0.77      0.50


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| CALIB            |
| STANDHYD  (0133) |   Area    (ha)= 112.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.49        61.70
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     864.83        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.02
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.51         2.43          5.941 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38        25.11          37.38
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.96         0.46           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0218) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0133):   112.19   5.941     5.25    37.38
        + ID2= 2 (0501):   300.27  10.118     5.50    33.97
          ================================================
          ID = 3 (0218):   412.46  15.159     5.25    34.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0502) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 602.0) ------>
               Distance      Elevation       Manning
                  23.46         169.00        0.1000
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                  72.48         168.00          0.1000
                  96.12         167.00          0.1000
                 110.97         165.00    0.1000 /0.0600  Main Channel
                 116.24         164.00          0.0600      Main Channel
                 118.36         164.00          0.0600      Main Channel
                 124.43         165.00    0.0600 /0.1000  Main Channel
                 141.85         167.00          0.1000
                 162.34         168.00          0.1000
                 224.13         169.00          0.1000

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.25   164.25    .752E+03        0.3          0.33       42.64
       0.50   164.50    .211E+04        1.2          0.49       29.06
       0.75   164.75    .406E+04        2.9          0.61       23.08
       1.00   165.00    .662E+04        5.7          0.73       19.52
       1.27   165.27    .102E+05       10.7          0.90       15.79
       1.53   165.53    .147E+05       17.4          1.01       14.06
       1.80   165.80    .202E+05       25.8          1.09       13.03
       2.07   166.07    .266E+05       36.1          1.15       12.31
       2.33   166.33    .341E+05       48.3          1.21       11.75
       2.60   166.60    .425E+05       62.7          1.25       11.29
       2.87   166.87    .519E+05       79.3          1.30       10.90
       3.13   167.13    .624E+05       97.0          1.32       10.73
       3.40   167.40    .755E+05      117.0          1.32       10.75
       3.67   167.67    .912E+05      141.0          1.31       10.77
       3.93   167.93    .110E+06      169.4          1.31       10.78
       4.20   168.20    .132E+06      197.1          1.27       11.14
       4.47   168.47    .160E+06      232.0          1.23       11.53
       4.73   168.73    .196E+06      276.3          1.20       11.82
       5.00   169.00    .238E+06      330.6          1.18       12.00

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0218)  412.46   15.16    5.25  34.90      1.44      0.97
     OUTFLOW: ID= 1 (0502)  412.46   13.81    5.50  34.90      1.39      0.95


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| CALIB            |
| STANDHYD  (0135) |   Area    (ha)=  55.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.90        34.10
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     605.53        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        13.93
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.45         1.24          2.697 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38        23.31          34.36
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
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     RUNOFF COEFFICIENT   =       0.96         0.43           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0212) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0135):    55.00   2.697     5.25    34.36
        + ID2= 2 (0502):   412.46  13.813     5.50    34.90
          ================================================
          ID = 3 (0212):   467.46  15.865     5.25    34.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0219) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0212):   467.46  15.865     5.25    34.84
        + ID2= 2 (0217):  1552.28  12.485     9.75    37.79
          ================================================
          ID = 3 (0219):  2019.74  22.438     5.25    37.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0308) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <----- DATA FOR SECTION ( 408.0) ------>
               Distance      Elevation       Manning
                  0.00         174.00        0.1000
                  0.00         167.00        0.1000
                 31.00         165.00        0.1000
                 57.00         163.00        0.1000
                 63.00         161.20    0.1000 /0.0600  Main Channel
                 63.00         161.00        0.0600      Main Channel
                 67.00         161.00    0.0600 /0.1000  Main Channel
                 67.00         161.20        0.1000
                 95.00         165.00        0.1000
                148.00         167.00        0.1000

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.32   161.32    .221E+04        0.4          0.32       86.34
       0.63   161.63    .584E+04        1.5          0.42       65.04
       0.95   161.95    .112E+05        3.3          0.49       56.53
       1.26   162.26    .184E+05        6.0          0.54       51.16
       1.58   162.58    .273E+05        9.7          0.59       47.17
       1.89   162.89    .380E+05       14.4          0.63       43.99
```



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       2.21   163.21    .509E+05       20.0          0.65       42.31
       2.53   163.53    .670E+05       27.2          0.67       41.00
       2.84   163.84    .864E+05       36.3          0.70       39.69
       3.16   164.16    .109E+06       47.4          0.72       38.38
       3.47   164.47    .135E+06       60.9          0.74       37.09
       3.79   164.79    .165E+06       76.8          0.77       35.83
       4.11   165.11    .198E+06       93.6          0.78       35.27
       4.42   165.42    .237E+06      111.4          0.78       35.53
       4.74   165.74    .284E+06      134.0          0.78       35.28
       5.05   166.05    .337E+06      161.5          0.79       34.76
       5.37   166.37    .397E+06      194.1          0.81       34.07
       5.68   166.68    .464E+06      232.3          0.83       33.29
       6.00   167.00    .538E+06      276.2          0.85       32.46

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0219) 2019.74   22.44    5.25  37.11      2.32      0.66
     OUTFLOW: ID= 1 (0308) 2019.74   17.54    6.25  37.11      2.07      0.64


--------------------------------------------------------------------------------
-
--------------------
| CALIB            |
| STANDHYD  (0128) |   Area    (ha)=  59.80
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.94        41.86
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     631.40        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.61
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.25         1.72          2.962 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38        26.09          33.97
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.96         0.48           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-
--------------------
| RESERVOIR (0628) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000    |   1.4900      1.2490
                          0.0700     0.4550    |   1.8500      1.4280
```

	0.3100	0.6550	2.0300	1.6290
	0.7400	0.8680	2.1300	1.8297
	1.0800	1.0380	2.2500	2.0702

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0128)	59.800	2.962	5.25	33.97
OUTFLOW: ID= 1 (0628)	59.800	1.088	6.00	33.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 36.74
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 1.0448

CALIB
STANDHYD (0134) | Area (ha)= 105.90
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.24	65.66
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	840.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.42
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.80	2.31 5.105 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	22.48 33.84
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.41 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0298)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0134):	105.90	5.105	5.25	33.84
+ ID2= 2 (0628):	59.80	1.088	6.00	33.95
ID = 3 (0298):	165.70	5.911	5.25	33.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0220)

ADD HYD (0220)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0298):	165.70	5.911	5.25	33.88
+ ID2= 2 (0308):	2019.74	17.541	6.25	37.11
ID = 3 (0220):	2185.44	20.290	6.25	36.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0136) | Area (ha)= 156.42
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.39	86.03
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1021.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.02
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	4.87	3.39 8.262 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	25.11 37.38
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.46 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0221)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0136):	156.42	8.262	5.25	37.38
+ ID2= 2 (0220):	2185.44	20.290	6.25	36.86
ID = 3 (0221):	2341.86	26.836	5.25	36.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 19.42
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.74	10.68

Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	359.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.42
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.61	0.38 0.983 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	22.48 35.93
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.41 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0105) | Area (ha)= 77.03
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	34.66	42.37
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	716.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.93
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.41	1.55 3.956 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	23.31 36.39
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.43 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.73
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.33	0.40
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	69.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.42
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.02	0.01 0.037 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	22.48 35.91
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.41 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.50
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.28
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	57.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.42
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.02	0.01 0.025 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	22.48 35.91
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.41 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0222)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0105):	77.03	3.956	5.25	36.39
+ ID2= 2 (****):	0.50	0.025	5.25	35.91
ID = 3 (0222):	77.53	3.981	5.25	36.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0222):	77.53	3.981	5.25	36.39
+ ID2= 2 (****):	19.42	0.983	5.25	35.93
ID = 1 (0222):	96.95	4.964	5.25	36.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0222):	96.95	4.964	5.25	36.30
+ ID2= 2 (****):	0.73	0.037	5.25	35.91
ID = 3 (0222):	97.68	5.001	5.25	36.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0309)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (409.0) ------>

Distance	Elevation	Manning	
0.00	195.00	0.1000	
11.00	194.00	0.1000	
20.00	192.00	0.1000	
27.00	191.00	0.1000	
46.00	190.00	0.1000 /0.0600	Main Channel
50.00	189.30	0.0600	Main Channel
69.00	190.00	0.0600 /0.1000	Main Channel
74.00	191.00	0.1000	
84.00	194.00	0.1000	
90.00	195.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	189.53	.206E+04	0.4	0.45	84.92
0.47	189.77	.825E+04	2.6	0.72	53.50
0.70	190.00	.186E+05	7.6	0.94	40.83
1.01	190.31	.379E+05	22.3	1.36	28.24
1.32	190.62	.625E+05	44.3	1.63	23.55
1.64	190.94	.926E+05	73.7	1.83	20.95
1.95	191.25	.127E+06	111.7	2.03	18.97

2.26	191.56	.164E+06	157.5	2.21	17.37
2.58	191.88	.203E+06	210.6	2.39	16.09
2.89	192.19	.245E+06	271.5	2.56	15.02
3.20	192.50	.288E+06	340.1	2.72	14.12
3.51	192.81	.333E+06	415.7	2.88	13.35
3.83	193.13	.380E+06	498.6	3.03	12.70
4.14	193.44	.428E+06	588.5	3.17	12.13
4.45	193.75	.479E+06	685.6	3.30	11.64
4.76	194.06	.531E+06	787.9	3.42	11.23
5.08	194.38	.586E+06	890.7	3.51	10.97
5.39	194.69	.645E+06	1002.4	3.58	10.73
5.70	195.00	.708E+06	1123.3	3.66	10.51

channel->			<---- hydrograph ---->			<-pipe /
VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0222)	97.68	5.00	5.25	36.30	0.58	0.81
OUTFLOW: ID= 1 (0309)	97.68	3.44	5.25	36.29	0.51	0.75

CALIB			
STANDHYD (0112)	Area (ha)= 155.68		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	59.16	96.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1018.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	4.09	3.96	8.049 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	36.08
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0227)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0112):	155.68	8.049	5.25	36.08
+ ID2= 2 (0309):	97.68	3.444	5.25	36.29

ID = 3 (0227):	253.36	11.493	5.25	36.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0113)	Area (ha)= 172.23		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	65.45	106.78
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1071.54	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	4.53	4.38	8.905 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	36.08
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0228)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0113):	172.23	8.905	5.25	36.08
+ ID2= 2 (0227):	253.36	11.493	5.25	36.16
ID = 3 (0228):	425.59	20.399	5.25	36.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0310)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (410.0) ------>

Distance	Elevation	Manning	
0.00	185.00	0.1000	
41.00	184.00	0.1000	
85.00	183.00	0.1000	
90.00	182.00	0.1000 /0.0600	Main Channel
99.00	180.00	0.0600	Main Channel
106.00	181.00	0.0600	Main Channel

109.00	182.00	0.0600 /0.1000	Main Channel
117.00	183.00	0.1000	
142.00	184.00	0.1000	
211.00	185.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	180.25	.341E+03	0.1	0.37	42.84
0.50	180.50	.136E+04	0.8	0.59	26.99
0.75	180.75	.307E+04	2.5	0.77	20.59
1.00	181.00	.545E+04	5.3	0.93	17.00
1.25	181.25	.840E+04	9.9	1.12	14.12
1.50	181.50	.118E+05	16.0	1.28	12.31
1.75	181.75	.156E+05	23.6	1.43	11.03
2.00	182.00	.199E+05	32.9	1.57	10.07
2.27	182.27	.253E+05	47.7	1.79	8.83
2.55	182.55	.316E+05	65.0	1.95	8.09
2.82	182.82	.388E+05	85.1	2.08	7.59
3.09	183.09	.471E+05	107.4	2.16	7.31
3.36	183.36	.594E+05	133.7	2.13	7.41
3.64	183.64	.766E+05	166.2	2.06	7.68
3.91	183.91	.987E+05	206.0	1.98	7.99
4.18	184.18	.126E+06	252.1	1.89	8.35
4.45	184.45	.161E+06	309.2	1.82	8.70
4.73	184.73	.204E+06	379.5	1.76	8.97
5.00	185.00	.255E+06	464.5	1.73	9.15

channel->			<---- hydrograph ---->			<-pipe /
VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0228)	425.59	20.40	5.25	36.13	1.65	1.37
OUTFLOW: ID= 1 (0310)	425.59	19.25	5.25	36.13	1.61	1.34

CALIB			
STANDHYD (0114)	Area (ha)= 165.04		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	87.47	77.57
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1048.94	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.02
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	6.05	3.06	9.111 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	25.11	39.56
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.46	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (0614) | IN= 2---> OUT= 1 | DT= 15.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	25.0000	0.2500
0.3900	0.1050	40.0000	0.2600
6.5900	0.2338	45.0000	0.2800

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	165.040	9.111	5.25	39.56
OUTFLOW: ID= 1 (0614)	165.040	9.478	5.25	39.56

PEAK FLOW REDUCTION [Qout/Qin](%)=104.03
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.2528

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

| ADD HYD (0229) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0310):	425.59	19.249	5.25	36.13
+ ID2= 2 (0614):	165.04	9.478	5.25	39.56
ID = 3 (0229):	590.63	28.727	5.25	37.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (0311) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00 |

<---- DATA FOR SECTION (411.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
85.00	179.00	0.1000	
96.00	178.00	0.1000	
127.00	177.00	0.1000	
160.00	176.20	0.1000	
186.00	176.00	0.1000 /0.0600	Main Channel
192.00	175.30	0.0600	Main Channel
196.00	176.00	0.0600 /0.1000	Main Channel
232.00	179.00	0.1000	
257.00	179.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	175.48	.211E+03	0.0	0.21	77.93
0.35	175.65	.844E+03	0.3	0.33	49.09
0.53	175.83	.190E+04	0.8	0.43	37.47

0.70	176.00	.338E+04	1.8	0.52	30.93
0.93	176.23	.931E+04	4.9	0.50	31.85
1.17	176.47	.198E+05	10.9	0.53	30.26
1.40	176.70	.330E+05	19.9	0.58	27.59
1.63	176.93	.490E+05	32.3	0.64	25.30
1.87	177.17	.677E+05	48.6	0.69	23.23
2.10	177.40	.887E+05	68.8	0.75	21.49
2.33	177.63	.112E+06	93.0	0.80	20.07
2.57	177.87	.137E+06	121.3	0.85	18.88
2.80	178.10	.165E+06	155.2	0.91	17.73
3.03	178.33	.194E+06	195.2	0.97	16.58
3.27	178.57	.224E+06	239.5	1.03	15.61
3.50	178.80	.256E+06	288.3	1.09	14.79
3.73	179.03	.289E+06	337.2	1.13	14.27
3.97	179.27	.326E+06	369.5	1.09	14.72
4.20	179.50	.371E+06	413.9	1.08	14.94

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0229)	590.63	28.73	5.25	37.09	1.57	0.62
OUTFLOW: ID= 1 (0311)	590.63	23.11	5.50	37.09	1.46	0.60

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 22.22	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.11	17.11
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	384.88	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.36 0.70 1.056 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 26.09 32.13
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.48 0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 147.52	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.93	113.59
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	991.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.36 4.65 7.013 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 26.09 32.13
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.48 0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 4.39	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.33	2.06
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	171.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.16 0.08 0.246 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 26.09 40.02
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.48 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0272) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	22.22	1.056	5.25	32.13
+ ID2= 2 (****):	147.52	7.013	5.25	32.13
ID = 3 (0272):	169.74	8.069	5.25	32.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0272) | 3 + 2 = 1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0272):	169.74	8.069	5.25	32.13
+ ID2= 2 (****):	4.39	0.246	5.25	40.02
ID = 1 (0272):	174.13	8.315	5.25	32.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (0623) | IN= 2---> OUT= 1 | DT= 15.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.5800	0.5400
0.2100	0.1580	0.8200	0.7657
0.3100	0.3380	0.9400	0.9136
0.5600	0.3765	21.0800	1.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0272)	174.130	8.315	5.25	32.33
OUTFLOW: ID= 1 (0623)	174.130	9.075	5.00	32.33

PEAK FLOW REDUCTION [Qout/Qin](%)=109.13
TIME SHIFT OF PEAK FLOW (min)=-15.00
MAXIMUM STORAGE USED (ha.m.)= 0.8770

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

| ADD HYD (0230) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0311):	590.63	23.114	5.50	37.09
+ ID2= 2 (0623):	174.13	9.075	5.00	32.33
ID = 3 (0230):	764.76	28.971	5.50	36.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN (0312) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00 |

<------ DATA FOR SECTION (412.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1000	
35.00	172.00	0.1000	
85.00	171.00	0.1000	
94.00	168.50	0.1000 /0.0600	Main Channel
94.00	168.30	0.1000 /0.0600	Main Channel
97.00	168.30	0.0600 /0.1000	Main Channel
97.00	168.50	0.0600 /0.1000	Main Channel
99.00	169.00	0.1000	
125.00	174.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	168.57	.150E+04	0.4	0.42	71.21
0.55	168.85	.374E+04	1.2	0.57	52.20
0.82	169.12	.701E+04	2.6	0.66	45.23
1.09	169.39	.114E+05	4.6	0.72	41.28
1.37	169.67	.170E+05	7.4	0.77	38.38
1.64	169.94	.238E+05	11.0	0.82	36.03
1.92	170.22	.317E+05	15.5	0.87	34.04
2.19	170.49	.408E+05	21.1	0.92	32.31
2.46	170.76	.511E+05	27.7	0.96	30.79
2.74	171.04	.626E+05	34.6	0.98	30.18
3.01	171.31	.792E+05	41.3	0.93	31.95
3.28	171.58	.103E+06	52.5	0.91	32.75
3.56	171.86	.134E+06	67.6	0.89	33.15
3.83	172.13	.173E+06	87.9	0.91	32.73
4.11	172.41	.215E+06	113.5	0.94	31.60
4.38	172.68	.261E+06	143.4	0.98	30.38
4.65	172.95	.312E+06	177.9	1.02	29.19
4.93	173.23	.365E+06	217.1	1.06	28.05
5.20	173.50	.423E+06	261.3	1.10	27.00

<---- hydrograph ----> <-pipe /

channel-> VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0230)	764.76	28.97	5.50	36.00	2.51	0.97
OUTFLOW: ID= 1 (0312)	764.76	23.71	5.75	36.00	2.30	0.94

CALIB / STANDHYD (0126) / ID= 1 DT=15.0 min	Area (ha)= 105.36 / Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.04	65.32
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	838.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.93
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.78	2.38 5.167 (iii)

TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	23.31 34.36
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.43 0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0231) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0126):	105.36	5.167	5.25	34.36
+ ID2= 2 (0312):	764.76	23.712	5.75	36.00
ID = 3 (0231):	870.12	25.629	5.75	35.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****) / ID= 1 DT=15.0 min	Area (ha)= 84.16 / Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.50	33.66
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	749.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	3.51	1.38 4.889 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	26.09 41.86
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.48 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 0.10

ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.06	0.04
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	25.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.00	0.00 0.006 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	26.09 41.82
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.48 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0273) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	84.16	4.889	5.25	41.86
+ ID2= 2 (****):	0.10	0.006	5.25	41.82
ID = 3 (0273):	84.26	4.895	5.25	41.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0313) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (413.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
17.49	180.00	0.1000	
117.61	179.00	0.1000 /0.0600	Main Channel
149.88	178.00	0.0600	Main Channel
158.35	178.00	0.0600	Main Channel
166.10	179.00	0.0600 /0.1000	Main Channel
307.85	180.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	178.10	.981E+03	0.2	0.17	89.26
0.20	178.20	.234E+04	0.6	0.26	60.26
0.30	178.30	.407E+04	1.4	0.32	48.14
0.40	178.40	.617E+04	2.5	0.38	41.07

0.50	178.50	.865E+04	4.0	0.43	36.27	
0.60	178.60	.115E+05	5.9	0.48	32.74	
0.70	178.70	.147E+05	8.2	0.52	30.00	
0.80	178.80	.183E+05	11.0	0.56	27.79	
0.90	178.90	.223E+05	14.3	0.60	25.96	
1.00	179.00	.267E+05	18.2	0.64	24.42	
1.10	179.10	.324E+05	23.8	0.69	22.70	
1.21	179.21	.413E+05	31.0	0.70	22.19	
1.32	179.32	.531E+05	39.8	0.70	22.24	
1.43	179.43	.676E+05	50.2	0.70	22.44	
1.54	179.54	.850E+05	62.6	0.69	22.63	
1.66	179.66	.105E+06	77.1	0.69	22.74	
1.77	179.77	.128E+06	93.8	0.69	22.76	
1.88	179.88	.154E+06	113.0	0.69	22.69	
1.99	179.99	.182E+06	134.9	0.69	22.54	

<---- hydrograph ----> <-pipe /

channel-> VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0273)	84.26	4.89	5.25	41.86	0.55	0.45
OUTFLOW: ID= 1 (0313)	84.26	3.99	5.25	41.86	0.50	0.43

CALIB / STANDHYD (0106) / ID= 1 DT=15.0 min	Area (ha)= 23.78 / Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.47	18.31
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	398.16	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.38	0.75 1.130 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	26.09 32.13
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.48 0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****) / ID= 1 DT=15.0 min	Area (ha)= 43.89 / Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.68	27.21
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	540.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	1.16	1.12 2.274 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	26.09 36.08
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.48 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.19
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.07	0.12
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	35.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.01	0.00 0.010 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	26.09 36.02
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.48 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.12

ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.05	0.07
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	28.28	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.00	0.00 0.006 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	26.09 36.02
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.48 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0271)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):	43.89	2.274	5.25	36.08
+ ID2= 2 (****):	0.19	0.010	5.25	36.02
ID = 3 (0271):	44.08	2.284	5.25	36.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0271)
3 + 2 = 1

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0271):	44.08	2.284	5.25	36.08
+ ID2= 2 (****):	0.12	0.006	5.25	36.02
ID = 1 (0271):	44.20	2.290	5.25	36.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0235)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0106):	23.78	1.130	5.25	32.13
+ ID2= 2 (0271):	44.20	2.290	5.25	36.08

ID = 3 (0235): 67.98 3.421 5.25 34.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0235)
3 + 2 = 1

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0235):	67.98	3.421	5.25	34.70
+ ID2= 2 (0313):	84.26	3.986	5.25	41.86
ID = 1 (0235):	152.24	7.407	5.25	38.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 57.42
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	21.82	35.60
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	618.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	1.52	1.46 2.975 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	26.09 36.08
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.48 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.56
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.21	0.35
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	61.10	40.00
Mannings n	=	0.013	0.250

		IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.01	0.01 0.029 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	26.09 36.05
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.48 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 1.02
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.39	0.63
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	82.46	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.03	0.03 0.053 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	26.09 36.07
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.48 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0236)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0235):	152.24	7.407	5.25	38.66
+ ID2= 2 (****):	1.02	0.053	5.25	36.07
ID = 3 (0236):	153.26	7.460	5.25	38.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0236)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0236):		153.26	7.460	5.25	38.64
+ ID2= 2 (****):		57.42	2.975	5.25	36.08
ID = 1 (0236):		210.68	10.435	5.25	37.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0236)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0236):		210.68	10.435	5.25	37.94
+ ID2= 2 (****):		0.56	0.029	5.25	36.05
ID = 3 (0236):		211.24	10.464	5.25	37.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0314)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (414.0) ------>

Distance	Elevation	Manning	
0.00	173.00	0.1000	
107.79	172.00	0.1000 /0.0600	Main Channel
112.20	171.00	0.0600	Main Channel
119.59	171.00	0.0600	Main Channel
125.21	172.00	0.0600 /0.1000	Main Channel
137.91	173.00	0.1000	
156.48	173.00	0.1000	
191.39	172.00	0.1000	
197.94	172.00	0.1000	
204.07	173.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	171.10	.111E+04	0.2	0.29	81.52
0.20	171.20	.236E+04	0.7	0.44	53.20
0.30	171.30	.376E+04	1.5	0.56	41.84
0.40	171.40	.529E+04	2.5	0.66	35.43
0.50	171.50	.697E+04	3.7	0.75	31.22
0.60	171.60	.878E+04	5.2	0.83	28.19
0.70	171.70	.107E+05	6.9	0.91	25.88
0.80	171.80	.128E+05	8.9	0.98	24.04
0.90	171.90	.151E+05	11.2	1.04	22.53
1.00	172.00	.175E+05	13.7	1.10	21.26
1.11	172.11	.226E+05	17.7	1.10	21.32
1.22	172.22	.306E+05	22.7	1.05	22.45
1.33	172.33	.413E+05	29.0	0.99	23.76

1.44	172.44	.549E+05	36.9	0.94	24.84
1.56	172.56	.713E+05	46.5	0.92	25.58
1.67	172.67	.905E+05	58.0	0.90	26.00
1.78	172.78	.113E+06	71.7	0.90	26.14
1.89	172.89	.137E+06	87.8	0.90	26.07
2.00	173.00	.165E+06	103.2	0.88	26.63

channel->		AREA	QPEAK	TPEAK	R.V.	<---- hydrograph ----> MAX DEPTH	<-pipe / MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0236)		211.24	10.46	5.25	37.94	0.87	1.02
OUTFLOW: ID= 1 (0314)		211.24	8.79	5.25	37.94	0.79	0.97

CALIB	
STANDHYD (0127)	Area (ha)= 63.11
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.45	29.66
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	648.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.93
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.32	1.08 3.407 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	23.31 38.72
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.43 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0232)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0127):		63.11	3.407	5.25	38.72
+ ID2= 2 (0314):		211.24	8.790	5.25	37.94
ID = 3 (0232):		274.35	12.197	5.25	38.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0234)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0231):		870.12	25.629	5.75	35.80
+ ID2= 2 (0232):		274.35	12.197	5.25	38.12
ID = 3 (0234):		1144.47	35.943	5.25	36.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0315)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (415.0) ------>

Distance	Elevation	Manning	
0.00	164.00	0.1000	
34.00	164.30	0.1000	
37.00	163.10	0.1000	
38.60	163.00	0.1000 /0.0800	Main Channel
40.00	163.00	0.0800	Main Channel
42.30	163.00	0.0800 /0.1000	Main Channel
43.90	163.10	0.1000	
46.00	164.30	0.1000	
80.00	164.30	0.1000	
100.00	168.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	163.05	.424E+03	0.0	0.09	338.86
0.11	163.11	.101E+04	0.1	0.13	228.21
0.16	163.16	.166E+04	0.2	0.17	174.49
0.21	163.21	.234E+04	0.3	0.20	144.34
0.26	163.26	.304E+04	0.4	0.24	124.91
0.32	163.32	.376E+04	0.6	0.27	111.22
0.37	163.37	.450E+04	0.7	0.29	100.98
0.42	163.42	.526E+04	0.9	0.32	92.99
0.47	163.47	.604E+04	1.2	0.34	86.55
0.53	163.53	.685E+04	1.4	0.36	81.22
0.58	163.58	.767E+04	1.7	0.39	76.73
0.63	163.63	.852E+04	1.9	0.41	72.89
0.68	163.68	.938E+04	2.2	0.43	69.55
0.74	163.74	.103E+05	2.6	0.44	66.63
0.79	163.79	.112E+05	2.9	0.46	64.03
0.84	163.84	.121E+05	3.3	0.48	61.71
0.89	163.89	.131E+05	3.6	0.50	59.62
0.95	163.95	.140E+05	4.0	0.51	57.73
1.00	164.00	.150E+05	4.5	0.53	56.00

**** WARNING: TRAVEL TIME TABLE EXCEEDED

channel->		AREA	QPEAK	TPEAK	R.V.	<---- hydrograph ----> MAX DEPTH	<-pipe / MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0234)		1144.47	35.94	5.25	36.36	0.99	0.52
OUTFLOW: ID= 1 (0315)		1144.47	23.33	6.50	36.36	1.00	0.53

CALIB	
STANDHYD (0129)	Area (ha)= 146.96
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	66.13	80.83
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	989.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.93
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	4.58	2.95 7.527 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	52.38	23.31 36.39
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.96	0.43 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0237)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0129):		146.96	7.527	5.25	36.39
+ ID2= 2 (0315):		1144.47	23.334	6.50	36.36
ID = 3 (0237):		1291.43	25.133	6.25	36.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0138)	Area (ha)= 184.05
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	69.94	114.11
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1107.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.93
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS

PEAK FLOW (cms)=	4.84	3.45	8.291 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	52.38	23.31	34.36
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.96	0.43	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0238)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0138):	184.05	8.291	5.25	34.36
+ ID2= 2 (0237):	1291.43	25.133	6.25	36.36
ID = 3 (0238):	1475.48	28.296	6.25	36.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0139) | Area (ha)= 21.16
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.21	9.95
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	375.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.02
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.78	0.39	1.171 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	25.11	39.56
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.46	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0239)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0139):	21.16	1.171	5.25	39.56
+ ID2= 2 (0238):	1475.48	28.296	6.25	36.11
ID = 3 (0239):	1496.64	29.158	5.25	36.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0233)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0221):	2341.86	26.836	5.25	36.90
+ ID2= 2 (0239):	1496.64	29.158	5.25	36.16
ID = 3 (0233):	3838.50	55.993	5.25	36.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0316)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (416.0) ------>

Distance	Elevation	Manning	
0.00	165.00	0.1200	
10.00	160.00	0.1200	
14.00	158.00	0.1200 /0.0600	Main Channel
15.00	157.20	0.0600	Main Channel
18.00	157.20	0.0600	Main Channel
24.00	158.00	0.0600 /0.1200	Main Channel
28.00	159.00	0.1200	
130.00	161.00	0.1200	
250.00	163.00	0.1200	
310.00	164.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	157.47	.146E+04	0.3	0.26	84.50
0.53	157.73	.373E+04	1.1	0.38	57.82
0.80	158.00	.681E+04	2.5	0.47	46.30
1.17	158.37	.123E+05	6.1	0.65	33.48
1.55	158.75	.188E+05	11.2	0.78	28.11
1.92	159.12	.270E+05	17.5	0.85	25.76
2.30	159.50	.430E+05	26.1	0.80	27.45
2.67	159.87	.688E+05	38.4	0.73	29.84
3.05	160.25	.104E+06	55.4	0.70	31.39
3.42	160.62	.150E+06	77.9	0.68	32.01
3.80	161.00	.205E+06	106.7	0.68	31.95
4.17	161.37	.270E+06	142.0	0.69	31.72
4.55	161.75	.347E+06	185.6	0.70	31.20
4.92	162.12	.436E+06	238.2	0.72	30.49
5.30	162.50	.536E+06	300.9	0.74	29.68
5.67	162.87	.647E+06	374.2	0.76	28.82
6.05	163.25	.770E+06	458.9	0.78	27.96
6.42	163.62	.904E+06	555.8	0.81	27.11
6.80	164.00	.105E+07	665.5	0.83	26.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0233)	3838.50	55.99	5.25	36.61	3.06	0.70
OUTFLOW: ID= 1 (0316)	3838.50	48.67	6.50	36.61	2.89	0.71

CALIB
STANDHYD (0137) | Area (ha)= 151.99
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	68.40	83.59
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1006.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	4.73	3.43	8.159 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	37.92
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0240)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	151.99	8.159	5.25	37.92
+ ID2= 2 (0316):	3838.50	48.668	6.50	36.61
ID = 3 (0240):	3990.49	50.706	6.25	36.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0317)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (417.0) ------>

Distance	Elevation	Manning
0.00	165.50	0.1200

13.00	165.00	0.1200	
21.00	160.00	0.1200	
31.00	155.50	0.1200 /0.0600	Main Channel
31.01	155.30	0.0600	Main Channel
39.00	155.30	0.0600 /0.1200	Main Channel
39.01	155.50	0.1200	
135.00	157.00	0.1200	
167.00	160.00	0.1200	
200.00	163.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	155.71	.363E+04	1.4	0.31	42.78
0.81	156.11	.147E+05	6.2	0.33	39.56
1.22	156.52	.344E+05	16.2	0.37	35.35
1.62	156.92	.625E+05	32.9	0.41	31.66
2.03	157.33	.969E+05	60.1	0.49	26.90
2.43	157.73	.133E+06	95.4	0.56	23.27
2.84	158.14	.171E+06	137.8	0.63	20.69
3.24	158.54	.211E+06	187.1	0.70	18.76
3.65	158.95	.252E+06	243.1	0.76	17.26
4.05	159.35	.295E+06	305.8	0.81	16.06
4.46	159.76	.339E+06	375.1	0.87	15.07
4.86	160.16	.385E+06	451.1	0.92	14.24
5.27	160.57	.433E+06	533.7	0.96	13.53
5.67	160.97	.483E+06	622.9	1.01	12.91
6.08	161.38	.534E+06	718.9	1.05	12.37
6.48	161.78	.586E+06	821.6	1.10	11.89
6.89	162.19	.640E+06	931.2	1.14	11.46
7.29	162.59	.696E+06	1047.7	1.18	11.08
7.70	163.00	.754E+06	1171.2	1.22	10.73

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0240)	3990.49	50.71	6.25	36.66	1.89	0.46
OUTFLOW: ID= 1 (0317)	3990.49	49.07	6.75	36.66	1.86	0.45

CALIB
STANDHYD (0140) | Area (ha)= 106.10
ID= 1 DT=15.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	63.66	42.44
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	841.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.93
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	4.42	1.55	5.974 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	23.31	40.75
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38

RUNOFF COEFFICIENT = 0.96 0.43 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0241)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0140):		106.10	5.974	5.25	40.75
+ ID2= 2 (0317):		3990.49	49.066	6.75	36.66
ID = 3 (0241):		4096.59	50.105	6.75	36.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0141)	Area (ha)= 125.58		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.67	87.91
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	914.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	15.02
over (min)		15.00	45.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	2.61 3.46 6.072 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 25.11 33.29
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.46 0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0223)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0141):		125.58	6.072	5.25	33.29

ID2= 2 (0241):		4096.59	50.105	6.75	36.76
ID = 3 (0223):		4222.17	51.326	6.75	36.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0318)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (418.0) ------>

Distance	Elevation	Manning	
0.00	165.00	0.1200	
22.00	160.00	0.1200	
43.00	160.00	0.1200	
136.00	156.00	0.1200 /0.0600	Main Channel
145.00	152.60	0.0600	Main Channel
156.00	152.60	0.0600	Main Channel
170.00	158.00	0.0600 /0.1200	Main Channel
180.00	162.00	0.1200	
187.00	162.40	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	153.09	.371E+04	3.6	0.60	17.17
0.97	153.57	.820E+04	12.0	0.91	11.43
1.46	154.06	.135E+05	24.6	1.14	9.10
1.94	154.54	.195E+05	41.8	1.34	7.77
2.43	155.03	.263E+05	63.6	1.51	6.88
2.91	155.51	.338E+05	90.5	1.67	6.23
3.40	156.00	.422E+05	122.6	1.81	5.73
3.93	156.53	.540E+05	168.9	1.95	5.33
4.47	157.07	.705E+05	224.8	1.99	5.22
5.00	157.60	.915E+05	292.3	1.99	5.22
5.53	158.13	.117E+06	375.1	2.00	5.20
6.07	158.67	.147E+06	479.8	2.03	5.12
6.60	159.20	.182E+06	600.9	2.06	5.05
7.13	159.73	.221E+06	739.5	2.08	4.99
7.67	160.27	.268E+06	885.7	2.06	5.05
8.20	160.80	.320E+06	1081.6	2.10	4.94
8.73	161.33	.374E+06	1298.4	2.17	4.80
9.27	161.87	.428E+06	1535.4	2.23	4.65
9.80	162.40	.485E+06	1788.6	2.30	4.52

<---- hydrograph ----> <-pipe / channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW :	ID= 2 (0223)	4222.17	51.33	6.75	36.66	2.16	1.41
OUTFLOW:	ID= 1 (0318)	4222.17	51.31	6.50	36.66	2.16	1.41

CALIB			
STANDHYD (0142)	Area (ha)= 132.90		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	79.74	53.16
Dep. Storage	(mm)=	2.00	6.00

Average Slope	(%)=	1.00	1.00
Length	(m)=	941.28	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	14.46
over (min)		15.00	45.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	5.52 2.02 7.535 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 24.19 41.10
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.44 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9501)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0142):		132.90	7.535	5.25	41.10
+ ID2= 2 (0318):		4222.17	51.308	6.50	36.66
ID = 3 (9501):		4355.07	52.920	6.50	36.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0161)	Area (ha)= 259.82		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	137.70	122.12
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1316.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	14.46
over (min)		15.00	45.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	9.53 3.85 13.379 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 24.19 39.13
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.44 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0224)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0161):		259.82	13.379	5.25	39.13
+ ID2= 2 (9501):		4355.07	52.920	6.50	36.80
ID = 3 (0224):		4614.89	61.083	5.25	36.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0319)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (418.0) ------>

Distance	Elevation	Manning	
0.00	163.50	0.1000	
28.00	163.00	0.1000	
84.00	151.20	0.1000 /0.0600	Main Channel
84.00	151.00	0.1000 /0.0600	Main Channel
92.00	151.00	0.0600 /0.1000	Main Channel
92.00	151.20	0.0600 /0.1000	Main Channel
98.00	153.00	0.1000	
148.00	155.00	0.1000	
158.00	160.00	0.1000	
248.00	161.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	151.53	.865E+04	2.1	0.45	69.80
1.05	152.05	.212E+05	7.1	0.63	49.68
1.58	152.58	.379E+05	15.2	0.75	41.66
2.11	153.11	.590E+05	26.1	0.82	37.68
2.63	153.63	.919E+05	41.2	0.84	37.20
3.16	154.16	.140E+06	63.2	0.84	36.97
3.68	154.68	.204E+06	93.5	0.86	36.33
4.21	155.21	.282E+06	135.3	0.90	34.71
4.74	155.74	.365E+06	189.9	0.97	32.07
5.26	156.26	.453E+06	253.9	1.05	29.71
5.79	156.79	.543E+06	326.9	1.12	27.69
6.32	157.32	.637E+06	409.0	1.20	25.97
6.84	157.84	.735E+06	499.9	1.27	24.50
7.37	158.37	.836E+06	599.6	1.34	23.24
7.89	158.89	.941E+06	708.2	1.40	22.14
8.42	159.42	.105E+07	825.6	1.47	21.17
8.95	159.95	.116E+07	951.9	1.53	20.31
9.47	160.47	.129E+07	945.7	1.36	22.80
10.00	161.00	.148E+07	1018.3	1.29	24.15

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0224)	4614.89	61.08	5.25	36.93	3.11	0.84
OUTFLOW: ID= 1 (0319)	4614.89	54.44	7.00	36.93	2.95	0.84

CALIB			
STANDHYD (0160)	Area (ha)= 38.29		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	14.55	23.74
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	505.24	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.61
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

			TOTALS
PEAK FLOW (cms)=	1.01	0.97	1.984 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	52.38	26.09	36.08
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.96	0.48	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0225)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0160):	38.29	1.984	5.25	36.08	
+ ID2= 2 (0319):	4614.89	54.443	7.00	36.93	
ID = 3 (0225):	4653.18	54.800	7.00	36.92	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0143)	Area (ha)= 64.11		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	38.47	25.64
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	653.76	40.00
Mannings n =	0.013	0.250

	IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=	25.02	14.46
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

			TOTALS
PEAK FLOW (cms)=	2.67	0.97	3.646 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	52.38	24.19	41.10
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.96	0.44	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0643)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.3600	1.3663
	0.4900	0.9264	2.9600	1.5789
	1.0100	1.1079	6.7000	2.1840

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0143)	64.110	3.646	5.25	41.10
OUTFLOW: ID= 1 (0643)	64.110	2.018	5.50	41.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 55.36
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.3233

CALIB			
STANDHYD (0156)	Area (ha)= 51.93		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	31.16	20.77
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	588.39	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	14.46
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

			TOTALS
PEAK FLOW (cms)=	2.17	0.79	2.953 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	52.38	24.19	41.10
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.96	0.44	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0226)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0156):	51.93	2.953	5.25	41.10	
+ ID2= 2 (0643):	64.11	2.018	5.50	41.10	
ID = 3 (0226):	116.04	4.624	5.25	41.10	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0145)	Area (ha)= 27.64		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.58	11.06
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	429.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	13.42
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

			TOTALS
PEAK FLOW (cms)=	1.15	0.39	1.541 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	52.38	22.48	40.42
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.96	0.41	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0645)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	8.7100	0.8050
	0.1300	0.7000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0145)	27.640	1.541	5.25	40.42
OUTFLOW: ID= 1 (0645)	27.640	0.669	5.75	40.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.38
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.7210

CALIB			
STANDHYD (0157)	Area (ha)= 52.48		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	31.49	20.99
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	591.50	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	13.93
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

			TOTALS
PEAK FLOW (cms)=	2.19	0.77	2.955 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	52.38	23.31	40.75
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.96	0.43	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0657)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	8.0000	1.7050
	0.3100	1.7000	15.9900	1.7100

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0157)	52.480	2.955	5.25	40.75
OUTFLOW: ID= 1 (0657)	52.480	0.298	7.75	40.73

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.08
TIME SHIFT OF PEAK FLOW (min)=150.00
MAXIMUM STORAGE USED (ha.m.)= 1.6333

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| ADD HYD   (0242) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0645):    27.64   0.669     5.75    40.37
        + ID2= 2 (0657):    52.48   0.298     7.75    40.73
          ================================================
          ID = 3 (0242):    80.12   0.924     5.75    40.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0243) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0226):   116.04   4.624     5.25    41.10
        + ID2= 2 (0242):    80.12   0.924     5.75    40.60
          ================================================
          ID = 3 (0243):   196.16   4.947     5.25    40.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0159) |   Area    (ha)= 122.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.69        49.13
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     904.88        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.61
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.10         2.01          7.113 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38        26.09          41.86
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.96         0.48           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0248) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
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         ID1= 1 (0159):   122.82   7.113     5.25    41.86
        + ID2= 2 (0243):   196.16   4.947     5.25    40.90
          ================================================
          ID = 3 (0248):   318.98  12.060     5.25    41.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0251) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0225):  4653.18  54.800     7.00    36.92
        + ID2= 2 (0248):   318.98  12.060     5.25    41.27
          ================================================
          ID = 3 (0251):  4972.16  58.223     6.25    37.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 420.0) ------>
              Distance      Elevation       Manning
                  0.00         154.00        0.1000
                  9.00         149.00        0.1000
                 11.00         148.00    0.1000 /0.0600  Main Channel
                 12.00         146.80        0.0600      Main Channel
                 19.00         146.80        0.0600      Main Channel
                 20.00         147.00    0.0600 /0.1000  Main Channel
                 22.00         148.00        0.1000
                142.00         150.00        0.1000
                144.00         152.00        0.1000
                161.00         155.00        0.1000

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   147.00    .195E+04       0.4          0.24      89.36
       0.57   147.37    .608E+04       2.2          0.47      45.34
       0.94   147.74    .107E+05       5.3          0.63      33.88
       1.31   148.11    .162E+05       9.3          0.74      29.19
       1.67   148.47    .300E+05      15.7          0.68      31.77
       2.04   148.84    .540E+05      26.3          0.62      34.57
       2.41   149.21    .900E+05      42.5          0.61      35.34
       2.78   149.58    .136E+06      65.4          0.62      34.74
       3.15   149.95    .193E+06      96.2          0.64      33.50
       3.52   150.32    .257E+06     141.4          0.71      30.34
       3.88   150.68    .322E+06     195.9          0.78      27.41
       4.25   151.05    .387E+06     258.0          0.86      25.02
       4.62   151.42    .453E+06     327.4          0.93      23.05
       4.99   151.79    .519E+06     403.8          1.00      21.42
       5.36   152.16    .586E+06     485.6          1.07      20.11
       5.73   152.53    .654E+06     572.0          1.13      19.05
       6.09   152.89    .723E+06     664.7          1.19      18.12
       6.46   153.26    .793E+06     763.7          1.24      17.32
       6.83   153.63    .865E+06     868.7          1.29      16.60

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
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VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0251) 4972.16    58.22    6.25  37.20      2.66      0.62
     OUTFLOW: ID= 1 (0320) 4972.16    56.61    7.50  37.20      2.64      0.61


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| CALIB             |
| STANDHYD  (0162) |   Area    (ha)= 117.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      53.02        64.81
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     886.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        13.93
               over (min)        15.00        45.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.67         2.37          6.035 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38        23.31          36.39
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.96         0.43           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0254) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0162):   117.83   6.035     5.25    36.39
        + ID2= 2 (0320):  4972.16  56.606     7.50    37.20
          ================================================
          ID = 3 (0254):  5089.99  57.575     7.25    37.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0321) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 421.0) ------>
              Distance      Elevation       Manning
                  0.00         154.00        0.1000
                 26.00         150.00        0.1000
                128.00         148.50        0.1000
                170.00         148.00        0.1000
```



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                175.00         147.00    0.1000 /0.0600  Main Channel
                176.00         146.60        0.0600      Main Channel
                182.00         146.60        0.0600      Main Channel
                185.00         147.00    0.0600 /0.1000  Main Channel
                187.00         148.00        0.1000
                227.00         154.00        0.1000

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   146.80    .232E+04       0.4          0.28      96.99
       0.40   147.00    .530E+04       1.4          0.42      65.03
       0.81   147.41    .131E+05       5.5          0.69      39.69
       1.22   147.82    .229E+05      12.0          0.87      31.65
       1.64   148.24    .384E+05      20.7          0.89      30.89
       2.05   148.65    .770E+05      36.3          0.78      35.32
       2.46   149.06    .137E+06      62.2          0.75      36.79
       2.87   149.47    .219E+06     100.7          0.76      36.20
       3.28   149.88    .321E+06     154.1          0.79      34.73
       3.69   150.29    .440E+06     231.8          0.87      31.64
       4.11   150.71    .563E+06     328.9          0.97      28.55
       4.52   151.12    .690E+06     441.6          1.06      26.95
       4.93   151.53    .821E+06     569.3          1.15      24.03
       5.34   151.94    .955E+06     711.7          1.23      22.37
       5.75   152.35    .109E+07     868.5          1.31      20.98
       6.16   152.76    .124E+07    1039.6          1.39      19.80
       6.58   153.18    .138E+07    1224.8          1.47      18.79
       6.99   153.59    .153E+07    1424.0          1.54      17.91
       7.40   154.00    .168E+07    1637.2          1.61      17.13

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0254) 5089.99    57.57    7.25  37.18      2.38      0.76
     OUTFLOW: ID= 1 (0321) 5089.99    55.68    8.00  37.18      2.35      0.76


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| CALIB             |
| STANDHYD  (0163) |   Area    (ha)= 103.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.24        64.03
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     829.74        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        13.93
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.73         2.34          5.065 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      52.38        23.31          34.36
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.96         0.43           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0255)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0163):	103.27	5.065	5.25	34.36
	+ ID2= 2 (0321):	5089.99	55.684	8.00	37.18
	ID = 3 (0255):	5193.26	56.214	8.00	37.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0168)	Area (ha)= 182.67		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	82.20	100.47
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1103.54	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.42
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	5.69 2.92 8.605 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 22.48 35.93
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.41 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0256)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0168):	182.67	8.605	5.25	35.93
	+ ID2= 2 (0255):	5193.26	56.214	8.00	37.13
	ID = 3 (0256):	5375.93	57.224	8.00	37.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0158)	Area (ha)= 28.59		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.15	11.44
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	436.58	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.19 0.47 1.661 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 26.09 41.86
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.48 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0658)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.6450	0.5926	
	0.0440	0.1178	1.0280	0.7036	
	0.0470	0.2198	1.4580	0.8166	
	0.0490	0.3238	1.6970	0.8738	
	0.3350	0.4836	1.9480	1.1200	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0158)	28.590	1.661	5.25	41.86
OUTFLOW: ID= 1 (0658)	28.590	0.774	5.50	41.84

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.59
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.6333

CALIB		
STANDHYD (0164)	Area (ha)= 109.27	
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.91	51.36
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	853.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	15.61
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	4.02 2.10 6.129 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 26.09 40.02
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.48 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0257)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0164):	109.27	6.129	5.25	40.02
	+ ID2= 2 (0658):	28.59	0.774	5.50	41.84
	ID = 3 (0257):	137.86	6.758	5.25	40.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0244)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0256):	5375.93	57.224	8.00	37.09
	+ ID2= 2 (0257):	137.86	6.758	5.25	40.40
	ID = 3 (0244):	5513.79	58.137	8.00	37.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0322)			
IN= 2---> OUT= 1	Routing time step (min)= 15.00		

<------ DATA FOR SECTION (422.0) ------>

Distance	Elevation	Manning
0.00	146.00	0.1000
10.00	144.00	0.1000
50.00	143.00	0.1000

61.00	142.50	0.1000 /0.0300	Main Channel
72.00	138.00	0.0300	Main Channel
72.00	137.80	0.0300	Main Channel
75.00	137.80	0.0300	Main Channel
75.00	138.00	0.0300	Main Channel
86.00	142.50	0.0300 /0.1000	Main Channel
108.00	150.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	138.23	.221E+04	1.2	0.83	31.62
0.85	138.65	.568E+04	4.3	1.19	22.02
1.28	139.08	.105E+05	10.0	1.49	17.62
1.71	139.51	.168E+05	18.7	1.75	14.96
2.14	139.94	.245E+05	31.1	2.00	13.14
2.56	140.36	.336E+05	47.5	2.22	11.79
2.99	140.79	.441E+05	68.3	2.44	10.75
3.42	141.22	.560E+05	94.1	2.65	9.91
3.85	141.65	.692E+05	125.2	2.84	9.22
4.27	142.07	.839E+05	161.9	3.03	8.64
4.70	142.50	.100E+06	204.7	3.22	8.14
5.14	142.94	.121E+06	267.2	3.47	7.55
5.58	143.38	.151E+06	338.2	3.51	7.46
6.01	143.81	.195E+06	419.9	3.39	7.73
6.45	144.25	.249E+06	515.7	3.25	8.06
6.89	144.69	.307E+06	625.1	3.20	8.19
7.33	145.13	.367E+06	746.1	3.19	8.21
7.76	145.56	.430E+06	878.6	3.21	8.16
8.20	146.00	.495E+06	1022.1	3.25	8.07

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<---- hydrograph ----> MAX DEPTH (m)	<-pipe / channel-> MAX VEL (m/s)
INFLOW :	ID= 2 (0244)	5513.79	58.14	8.00	37.17	2.78	2.33
OUTFLOW:	ID= 1 (0322)	5513.79	58.07	8.00	37.17	2.77	2.32

CALIB			
STANDHYD (0167)	Area (ha)= 67.37		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.32	37.05
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	670.17	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	14.46
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.11 1.41 3.512 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 24.19 36.88
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.44 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0245)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0167):	67.37	3.512	5.25	36.88
+ ID2= 2 (0322):	5513.79	58.065	8.00	37.17
ID = 3 (0245):	5581.16	58.423	8.00	37.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0169)	Area (ha)= 180.24		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	68.49	111.75
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1096.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	13.93
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW (cms)=		4.74	3.38	8.119 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		52.38	23.31	34.36
TOTAL RAINFALL (mm)=		54.38	54.38	54.38
RUNOFF COEFFICIENT =		0.96	0.43	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0246)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0169):	180.24	8.119	5.25	34.36
+ ID2= 2 (0245):	5581.16	58.423	8.00	37.16

ID = 3 (0246):	5761.40	59.420	8.00	37.08	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0323)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (423.0) ------>

Distance	Elevation	Manning	
0.00	145.00	0.1200	
90.00	136.00	0.1200	
95.00	134.90	0.1200 /0.0600	Main Channel
95.00	134.70	0.1200 /0.0600	Main Channel
105.00	134.70	0.0600 /0.1200	Main Channel
105.00	134.90	0.0600 /0.1200	Main Channel
108.00	136.00	0.1200	
255.00	136.00	0.1200	
308.00	145.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	135.24	.548E+04	3.3	0.56	27.64
1.08	135.78	.128E+05	11.0	0.81	19.38
1.63	136.33	.675E+05	33.0	0.46	34.09
2.17	136.87	.156E+06	92.4	0.55	28.17
2.71	137.41	.249E+06	180.6	0.68	23.00
3.25	137.95	.347E+06	294.4	0.80	19.62
3.79	138.49	.448E+06	432.5	0.90	17.28
4.34	139.04	.554E+06	594.0	1.00	15.56
4.88	139.58	.665E+06	778.4	1.10	14.24
5.42	140.12	.780E+06	985.6	1.18	13.19
5.96	140.66	.899E+06	1215.3	1.27	12.33
6.51	141.21	.102E+07	1467.6	1.34	11.62
7.05	141.75	.115E+07	1742.4	1.42	11.01
7.59	142.29	.128E+07	2040.0	1.49	10.48
8.13	142.83	.142E+07	2360.4	1.56	10.03
8.67	143.37	.156E+07	2703.8	1.62	9.62
9.22	143.92	.171E+07	3070.5	1.69	9.26
9.76	144.46	.186E+07	3460.6	1.75	8.94
10.30	145.00	.201E+07	3874.4	1.81	8.65

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0246)	5761.40	59.42	8.00	37.08	1.87	0.50
OUTFLOW: ID= 1 (0323)	5761.40	58.86	8.25	37.08	1.86	0.50

ADD HYD (0247)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0170):	30.06	1.000	5.50	25.33
+ ID2= 2 (0323):	5761.40	58.860	8.25	37.08
ID = 3 (0247):	5791.46	59.019	8.25	37.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0166)	Area (ha)= 260.96		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	117.43	143.53
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1318.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	14.46
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW (cms)=		8.13	4.52	12.651 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		52.38	24.19	36.88
TOTAL RAINFALL (mm)=		54.38	54.38	54.38
RUNOFF COEFFICIENT =		0.96	0.44	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0249)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0166):	260.96	12.651	5.25	36.88
+ ID2= 2 (0247):	5791.46	59.019	8.25	37.02
ID = 3 (0249):	6052.42	60.435	8.25	37.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0324)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (424.0) ------>

Distance	Elevation	Manning	
0.00	138.00	0.1000	
34.00	130.00	0.1000	
35.00	129.70	0.1000 /0.0600	Main Channel
41.00	129.70	0.0600 /0.1000	Main Channel
42.00	130.00	0.1000	
44.00	131.00	0.1000	
98.00	132.00	0.1000	
122.00	133.00	0.1000	

150.00	140.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.44	130.14	.561E+04	1.5	0.46	62.25
0.87	130.57	.133E+05	5.1	0.67	43.14
1.31	131.01	.231E+05	10.7	0.80	35.80
1.75	131.45	.438E+05	19.1	0.75	38.25
2.18	131.88	.837E+05	34.5	0.71	40.41
2.62	132.32	.140E+06	60.4	0.74	38.66
3.06	132.76	.206E+06	96.4	0.81	35.64
3.49	133.19	.281E+06	144.5	0.89	32.39
3.93	133.63	.359E+06	205.4	0.99	29.15
4.37	134.07	.440E+06	276.2	1.08	26.58
4.81	134.51	.524E+06	356.4	1.17	24.51
5.24	134.94	.611E+06	446.1	1.26	22.82
5.68	135.38	.700E+06	544.9	1.34	21.41
6.12	135.82	.792E+06	652.9	1.42	20.21
6.55	136.25	.887E+06	770.1	1.50	19.19
6.99	136.69	.984E+06	896.3	1.57	18.30
7.43	137.13	.108E+07	1031.7	1.64	17.51
7.86	137.56	.119E+07	1176.1	1.71	16.82
8.30	138.00	.129E+07	1329.8	1.77	16.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0249)	6052.42	60.44	8.25	37.01	2.62	0.74
OUTFLOW: ID= 1 (0324)	6052.42	59.22	8.75	37.01	2.59	0.74

CALIB			
STANDHYD (0171)	Area (ha)= 277.59		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	105.48	172.11
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1360.37	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	14.46
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW (cms)=		7.30	5.43	12.725 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		52.38	24.19	34.90
TOTAL RAINFALL (mm)=		54.38	54.38	54.38
RUNOFF COEFFICIENT =		0.96	0.44	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0250)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0171):	277.59	12.725	5.25	34.90
	+ ID2= 2 (0324):	6052.42	59.216	8.75	37.01
	ID = 3 (0250):	6330.01	60.295	8.50	36.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0325)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (425.0) ------>

Distance	Elevation	Manning	
0.00	135.00	0.1200	
30.00	133.00	0.1200	
53.00	130.00	0.1200	
70.00	127.00	0.1200 /0.0800	Main Channel
74.00	126.30	0.0800	Main Channel
78.00	126.30	0.0800	Main Channel
82.00	127.00	0.0800 /0.1200	Main Channel
96.00	129.00	0.1200	
118.00	135.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	126.65	.244E+04	0.6	0.28	69.40
0.70	127.00	.651E+04	2.3	0.41	47.37
1.17	127.47	.147E+05	7.6	0.60	32.40
1.64	127.94	.262E+05	16.0	0.71	27.32
2.11	128.41	.409E+05	27.9	0.79	24.46
2.58	128.88	.589E+05	43.6	0.86	22.49
3.05	129.35	.799E+05	63.9	0.93	20.83
3.52	129.82	.103E+06	88.6	1.00	19.43
3.99	130.29	.129E+06	117.5	1.06	18.34
4.46	130.76	.158E+06	151.0	1.11	17.45
4.94	131.24	.190E+06	189.7	1.16	16.68
5.41	131.71	.224E+06	233.7	1.21	16.01
5.88	132.18	.262E+06	283.4	1.26	15.41
6.35	132.65	.303E+06	339.0	1.30	14.88
6.82	133.12	.346E+06	399.4	1.34	14.44
7.29	133.59	.394E+06	463.2	1.37	14.17
7.76	134.06	.446E+06	535.2	1.39	13.90
8.23	134.53	.504E+06	615.8	1.42	13.63
8.70	135.00	.566E+06	705.3	1.45	13.37

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0250)	6330.01	60.29	8.50	36.92	2.97	0.92
OUTFLOW: ID= 1 (0325)	6330.01	59.99	8.75	36.92	2.96	0.92

CALIB	
STANDHYD (0172)	Area (ha)= 182.59
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	69.38	113.21
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1103.30	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	13.93
over (min)		15.00	45.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	4.80 3.42 8.225 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	52.38 23.31 34.36
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.43 0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0252)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0172):	182.59	8.225	5.25	34.36
	+ ID2= 2 (0325):	6330.01	59.989	8.75	36.92
	ID = 3 (0252):	6512.60	60.582	8.75	36.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0173)	Area (ha)= 162.52
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	61.76	100.76
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1040.90	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	14.46
over (min)		15.00	45.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00

				TOTALS
Unit Hyd. peak	(cms)=	0.08	0.06	
PEAK FLOW	(cms)=	4.27	3.82	8.095 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	24.19	34.90
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.44	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0253)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0173):	162.52	8.095	5.25	34.90
	+ ID2= 2 (0252):	6512.60	60.582	8.75	36.84
	ID = 3 (0253):	6675.12	61.107	8.50	36.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0326)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (426.0) ------>

Distance	Elevation	Manning	
0.00	137.00	0.1200	
45.00	135.00	0.1200	
53.00	130.00	0.1200	
137.00	125.20	0.1200 /0.0800	Main Channel
137.00	125.00	0.1200 /0.0800	Main Channel
143.00	125.00	0.0800 /0.1200	Main Channel
143.00	125.20	0.0800 /0.1200	Main Channel
195.00	126.00	0.1200	
260.00	130.00	0.1200	
325.00	135.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	125.53	.747E+04	2.3	0.30	54.64
1.05	126.05	.359E+05	14.2	0.39	42.17
1.58	126.58	.789E+05	42.5	0.53	30.93
2.11	127.11	.131E+06	86.4	0.65	25.33
2.63	127.63	.193E+06	146.7	0.75	21.91
3.16	128.16	.264E+06	224.7	0.84	19.56
3.68	128.68	.344E+06	321.8	0.93	17.80
4.21	129.21	.433E+06	439.3	1.00	16.43
4.74	129.74	.532E+06	578.4	1.08	15.32
5.26	130.26	.639E+06	748.6	1.16	14.22
5.79	130.79	.751E+06	949.8	1.25	13.17
6.32	131.32	.867E+06	1173.6	1.34	12.31
6.84	131.84	.987E+06	1419.9	1.42	11.58
7.37	132.37	.111E+07	1688.7	1.51	10.96

7.89	132.89	.124E+07	1980.1	1.58	10.42	
8.42	133.42	.137E+07	2294.3	1.66	9.95	
8.95	133.95	.151E+07	2631.2	1.73	9.54	
9.47	134.47	.165E+07	2991.2	1.80	9.17	
10.00	135.00	.179E+07	3374.5	1.87	8.84	

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0253)	6675.12	61.11	8.50	36.80	1.80	0.58
OUTFLOW: ID= 1 (0326)	6675.12	60.74	9.00	36.80	1.79	0.58

CALIB	
NASHYD (0176)	Area (ha)= 51.49 Curve Number (CN)= 85.0
ID= 1 DT=15.0 min	Ia (mm)= 7.00 # of Linear Res.(N)= 5.00
	U.H. Tp(hrs)= 1.03

Unit Hyd Qpeak (cms)= 2.756

PEAK FLOW	(cms)=	1.301 (i)
TIME TO PEAK	(hrs)=	6.000
RUNOFF VOLUME	(mm)=	24.350
TOTAL RAINFALL	(mm)=	54.380
RUNOFF COEFFICIENT	=	0.448

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0258)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0176):	51.49	1.301	6.00	24.35
	+ ID2= 2 (0326):	6675.12	60.743	9.00	36.80
	ID = 3 (0258):	6726.61	60.975	9.00	36.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0174)	Area (ha)= 177.89
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.60	110.29
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1089.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	25.02	13.42
over (min)		15.00	45.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

				TOTALS
PEAK FLOW	(cms)=	4.68	3.20	7.879 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	52.38	22.48	33.84
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.41	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0174):		177.89	7.879	5.25	33.84
+ ID2= 2 (0258):		6726.61	60.975	9.00	36.70
ID = 3 (0259):		6904.50	61.479	9.00	36.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0327) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<----- DATA FOR SECTION (427.0) ------>

Distance	Elevation	Manning	
0.00	130.00	0.1200	
45.00	124.00	0.1200	
85.00	123.00	0.1200	
91.00	120.40	0.1200 /0.0800	Main Channel
91.00	120.20	0.1200 /0.0800	Main Channel
98.00	120.20	0.0800 /0.1200	Main Channel
98.00	120.40	0.0800 /0.1200	Main Channel
115.00	123.00	0.1200	
195.00	123.00	0.1200	
210.00	130.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.52	120.72	.450E+04	2.3	0.56	32.81
1.03	121.23	.114E+05	8.1	0.78	23.58
1.55	121.75	.209E+05	17.6	0.93	19.79
2.06	122.26	.331E+05	31.4	1.05	17.54
2.58	122.78	.478E+05	49.9	1.16	15.97
3.09	123.29	.930E+05	70.1	0.84	22.09
3.61	123.81	.169E+06	135.6	0.89	20.81
4.13	124.33	.256E+06	232.6	1.01	18.35
4.64	124.84	.346E+06	357.4	1.15	16.16
5.16	125.36	.440E+06	506.4	1.28	14.47
5.67	125.87	.536E+06	678.4	1.41	13.16
6.19	126.39	.635E+06	872.8	1.53	12.12
6.71	126.91	.736E+06	1089.1	1.64	11.27
7.22	127.42	.841E+06	1326.9	1.75	10.56
7.74	127.94	.948E+06	1586.0	1.86	9.96

8.25	128.45	.106E+07	1866.4	1.96	9.45
8.77	128.97	.117E+07	2167.8	2.05	9.01
9.28	129.48	.129E+07	2490.3	2.15	8.62
9.80	130.00	.141E+07	2833.8	2.24	8.27

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0259)	6904.50	61.48	9.00	36.63	2.87	0.95
OUTFLOW: ID= 1 (0327)	6904.50	60.93	9.25	36.63	2.86	0.96

CALIB			
NASHYD (0175)	Area	(ha)= 18.01	Curve Number (CN)= 82.0
ID= 1 DT=15.0 min	Ia	(mm)= 7.00	# of Linear Res.(N)= 5.00
	U.H. Tp(hrs)=	0.59	

Unit Hyd Qpeak (cms)= 1.672

PEAK FLOW	(cms)=	0.534 (i)
TIME TO PEAK	(hrs)=	5.500
RUNOFF VOLUME	(mm)=	21.816
TOTAL RAINFALL	(mm)=	54.380
RUNOFF COEFFICIENT	=	0.401

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0175):		18.01	0.534	5.50	21.82
+ ID2= 2 (0327):		6904.50	60.932	9.25	36.63
ID = 3 (0260):		6922.51	60.975	9.25	36.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0328) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (428.0) ------>

Distance	Elevation	Manning	
0.00	116.00	0.1200	
26.00	110.00	0.1200 /0.0800	Main Channel
28.00	109.70	0.0800	Main Channel
36.00	109.70	0.0800	Main Channel
37.00	110.00	0.0800 /0.1200	Main Channel
55.00	115.00	0.1200	
60.00	115.50	0.1200	
70.00	116.00	0.1200	
110.00	117.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.30	110.00	.387E+04	1.0	0.36	63.21
0.62	110.32	.912E+04	3.9	0.58	38.81
0.93	110.63	.154E+05	8.4	0.74	30.61
1.25	110.95	.228E+05	14.5	0.86	26.27
1.56	111.26	.313E+05	22.2	0.96	23.51
1.88	111.58	.409E+05	31.6	1.05	21.56
2.19	111.89	.515E+05	42.7	1.13	20.08
2.51	112.21	.632E+05	55.7	1.20	18.92
2.83	112.53	.759E+05	70.5	1.26	17.96
3.14	112.84	.898E+05	87.2	1.32	17.15
3.46	113.16	.105E+06	106.0	1.37	16.45
3.77	113.47	.121E+06	126.9	1.43	15.85
4.09	113.79	.138E+06	149.9	1.48	15.31
4.41	114.11	.156E+06	175.2	1.53	14.83
4.72	114.42	.175E+06	202.8	1.57	14.39
5.04	114.74	.195E+06	232.7	1.62	13.99
5.35	115.05	.217E+06	264.5	1.66	13.66
5.67	115.37	.240E+06	296.6	1.68	13.47
5.98	115.68	.265E+06	329.5	1.69	13.40

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0260)	6922.51	60.97	9.25	36.59	2.62	1.22
OUTFLOW: ID= 1 (0328)	6922.51	60.86	9.75	36.59	2.62	1.22

CALIB			
STANDHYD (0177)	Area	(ha)= 265.44	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	119.45	145.99
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1330.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	10.80
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	8.27 3.37 11.618 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	52.38 18.20 33.58
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.33 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0261)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0177):		265.44	11.618	5.25	33.58
+ ID2= 2 (0328):		6922.51	60.863	9.75	36.59
ID = 3 (0261):		7187.95	61.316	9.50	36.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0178)	Area	(ha)= 271.86	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	122.34	149.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1346.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	11.19
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	8.47 3.58 12.031 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	52.38 18.84 33.93
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.35 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0178):		271.86	12.031	5.25	33.93
+ ID2= 2 (0261):		7187.95	61.316	9.50	36.48
ID = 3 (0262):		7459.81	61.954	9.25	36.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0329) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

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                <------ DATA FOR SECTION ( 429.0) ------>
                Distance      Elevation       Manning
                   0.00         112.00        0.1800
                  42.00         110.00        0.1800
                  69.00         107.00        0.1800
                  72.00         106.20        0.1800
                  72.00         106.00    0.1800 /0.0700  Main Channel
                  82.00         106.00    0.0700 /0.1800  Main Channel
                  82.00         106.20    0.0700 /0.1800  Main Channel
                  86.00         107.00        0.1800
                 102.00         109.00        0.1800
                 169.00         111.00        0.1800

       <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.26   106.26    .682E+04       1.4          0.52      82.26
        0.53   106.53    .147E+05       4.4          0.78      55.27
        0.79   106.79    .242E+05       8.9          0.95      45.23
        1.05   107.05    .353E+05      14.7          1.07      39.91
        1.32   107.32    .489E+05      21.9          1.15      37.24
        1.58   107.58    .656E+05      30.6          1.20      35.72
        1.84   107.84    .853E+05      41.0          1.24      34.70
        2.11   108.11    .108E+06      53.1          1.26      33.92
        2.37   108.37    .134E+06      67.0          1.29      33.27
        2.63   108.63    .163E+06      82.9          1.31      32.70
        2.89   108.89    .194E+06     100.8          1.33      32.16
        3.16   109.16    .230E+06     119.2          1.33      32.18
        3.42   109.42    .273E+06     140.0          1.32      32.50
        3.68   109.68    .323E+06     164.3          1.31      32.80
        3.95   109.95    .381E+06     192.3          1.30      33.06
        4.21   110.21    .448E+06     222.3          1.28      33.57
        4.47   110.47    .524E+06     256.6          1.26      34.02
        4.74   110.74    .609E+06     295.8          1.25      34.34
        5.00   111.00    .705E+06     340.1          1.24      34.53

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                      
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0262) 7459.81    61.95    9.25  36.39      2.27      1.28
     OUTFLOW: ID= 1 (0329) 7459.81    61.47   10.00  36.39      2.25      1.28


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| CALIB            |
| STANDHYD  (0179) |   Area    (ha)=  85.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      32.30         52.70
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     752.77         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         10.80
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.24          1.49          3.733 (iii)
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     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      52.38         18.20         31.19
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.96          0.33          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0263) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0179):    85.00   3.733     5.25    31.19
        + ID2= 2 (0329):  7459.81  61.472    10.00    36.39
          ================================================
          ID = 3 (0263):  7544.81  61.572    10.00    36.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0182) |   Area    (ha)= 183.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      97.01         86.02
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1104.63         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         10.06
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.71          1.85          8.546 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=      52.38         17.01         35.75
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.96          0.31          0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0264) |
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|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0182):   183.03   8.546     5.25    35.75
        + ID2= 2 (0263):  7544.81  61.572    10.00    36.33
          ================================================
          ID = 3 (0264):  7727.84  61.815    10.00    36.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0330) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION ( 430.0) ------>
                Distance      Elevation       Manning
                   0.00         90.00        0.1200
                   7.00         85.00        0.1200
                  10.00         83.00        0.1200
                  10.00         82.80    0.1200 /0.0800  Main Channel
                  19.00         82.80        0.0800      Main Channel
                  19.00         83.00    0.0800 /0.1200  Main Channel
                  20.00         84.00        0.1200
                  45.00         85.00        0.1200
                  85.00         90.00        0.1200

       <---------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.38   83.18    .243E+04       1.8          0.53      21.92
        0.76   83.56    .507E+04       5.9          0.82      14.23
        1.14   83.94    .796E+04      11.9          1.05      11.19
        1.52   84.32    .120E+05      19.7          1.16      10.14
        1.89   84.69    .186E+05      30.7          1.16      10.08
        2.27   85.07    .279E+05      46.3          1.17      10.04
        2.65   85.45    .386E+05      67.3          1.22       9.57
        3.03   85.83    .504E+05      93.0          1.30       9.03
        3.41   86.21    .631E+05     123.2          1.37       8.53
        3.79   86.59    .767E+05     158.1          1.45       8.08
        4.17   86.97    .913E+05     197.8          1.52       7.69
        4.55   87.35    .107E+06     242.4          1.60       7.34
        4.93   87.73    .123E+06     292.0          1.67       7.04
        5.31   88.11    .141E+06     346.7          1.73       6.76
        5.68   88.48    .159E+06     406.7          1.80       6.52
        6.06   88.86    .178E+06     472.2          1.86       6.30
        6.44   89.24    .199E+06     543.2          1.92       6.09
        6.82   89.62    .220E+06     620.0          1.98       5.91
        7.20   90.00    .242E+06     702.7          2.04       5.74

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                      
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0264) 7727.84    61.82   10.00  36.31      2.55      1.21
     OUTFLOW: ID= 1 (0330) 7727.84    61.81   10.00  36.31      2.54      1.21


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| CALIB            |
| STANDHYD  (0181) |   Area    (ha)=  55.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.75         39.08
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     610.08         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         10.06
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.16          1.03          2.192 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      52.38         17.01         27.62
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.96          0.31          0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0265) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0181):    55.83   2.192     5.25    27.62
        + ID2= 2 (0330):  7727.84  61.811    10.00    36.31
          ================================================
          ID = 3 (0265):  7783.67  61.873    10.00    36.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0183) |   Area    (ha)= 330.88
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     175.37        155.51
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1485.22         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         10.06
               over (min)        15.00         45.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      12.14          3.34         15.449 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.50          5.25
     RUNOFF VOLUME    (mm)=      52.38         17.01         35.75
     TOTAL RAINFALL   (mm)=      54.38         54.38         54.38
     RUNOFF COEFFICIENT   =       0.96          0.31          0.66
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0266)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0183):		330.88	15.449	5.25	35.75
+ ID2= 2 (0265):		7783.67	61.873	10.00	36.25
ID = 3 (0266):		8114.55	62.315	9.75	36.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0331)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (431.0) ------>

Distance	Elevation	Manning	
0.00	90.00	0.1200	
7.00	85.00	0.1200	
10.00	83.00	0.1200	
10.00	82.80	0.1200 /0.0600	Main Channel
19.00	82.80	0.0600	Main Channel
19.00	83.00	0.0600 /0.1200	Main Channel
20.00	84.00	0.1200	
45.00	85.00	0.1200	
85.00	90.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	83.18	.218E+04	2.8	0.81	13.04
0.76	83.56	.456E+04	8.9	1.24	8.50
1.14	83.94	.716E+04	17.8	1.57	6.71
1.52	84.32	.107E+05	29.3	1.72	6.11
1.89	84.69	.167E+05	45.0	1.70	6.19
2.27	85.07	.250E+05	66.2	1.67	6.30
2.65	85.45	.347E+05	94.2	1.71	6.15
3.03	85.83	.453E+05	127.7	1.78	5.91
3.41	86.21	.567E+05	166.8	1.86	5.66
3.79	86.59	.689E+05	211.6	1.94	5.43
4.17	86.97	.820E+05	262.2	2.02	5.22
4.55	87.35	.960E+05	318.6	2.10	5.02
4.93	87.73	.111E+06	381.1	2.17	4.85
5.31	88.11	.126E+06	449.7	2.25	4.69
5.68	88.48	.143E+06	524.7	2.32	4.54
6.06	88.86	.160E+06	606.1	2.39	4.41
6.44	89.24	.179E+06	694.2	2.46	4.29
6.82	89.62	.198E+06	789.1	2.52	4.18
7.20	90.00	.218E+06	890.9	2.59	4.07

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0266)	8114.55	62.31	9.75	36.23	2.20	1.68
OUTFLOW: ID= 1 (0331)	8114.55	62.32	10.00	36.23	2.20	1.68

CALIB	
STANDHYD (0180)	Area (ha)= 157.15
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	59.72	97.43
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1023.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	10.06
over (min)		15.00	45.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	4.13 2.09 6.208 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	52.38 17.01 30.45
TOTAL RAINFALL	(mm)=	54.38 54.38 54.38
RUNOFF COEFFICIENT	=	0.96 0.31 0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0267)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0180):		157.15	6.208	5.25	30.45
+ ID2= 2 (0331):		8114.55	62.316	10.00	36.23
ID = 3 (0267):		8271.70	62.546	9.50	36.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

** SIMULATION NUMBER: 15 **

READ STORM	Filename: C:\Users\P006437C\AppData\Local\Temp\

73400444-e18a-4654-b0cf-6b261e438f30\312fedb5

Ptotal= 62.71 mm	Comments: 10yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63
2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

CALIB	
NASHYD (0170)	Area (ha)= 30.06 Curve Number (CN)= 86.0
ID= 1 DT=15.0 min	Ia (mm)= 7.00 # of Linear Res.(N)= 5.00
	U.H. Tp(hrs)= 0.67

Unit Hyd Qpeak (cms)= 2.474

PEAK FLOW	(cms)=	1.270 (i)
TIME TO PEAK	(hrs)=	5.500
RUNOFF VOLUME	(mm)=	32.016
TOTAL RAINFALL	(mm)=	62.710
RUNOFF COEFFICIENT	=	0.511

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0100)	Area (ha)= 100.32
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.12	62.20
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	817.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.05 2.86 5.918 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 29.58 41.41
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.47 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0600)		OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1		0.0000	0.0000		10.8200	0.0500
DT= 15.0 min		3.9300	0.0019		12.9600	0.1100
		4.0000	0.0021		17.5400	0.1905
		5.0000	0.0100		27.0100	0.4570
		10.7300	0.0438		37.7400	0.8003

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0100)	100.320	5.918	5.25	41.41
OUTFLOW: ID= 1 (0600)	100.320	5.866	5.25	41.50

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.13
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0174

CALIB	
STANDHYD (0101)	Area (ha)= 74.02
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.21	51.81
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	702.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.78 2.39 4.165 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 29.58 38.92
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.47 0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******     0.0010

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0101)     74.020     4.165      5.25      38.92
     OUTFLOW: ID= 1 (0601)     74.020     4.167      5.25      45.10

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.06
                    TIME SHIFT OF PEAK FLOW       (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0002

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------
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-------------------
| ADD HYD   (0200) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0600):   100.32   5.866     5.25    41.50
      + ID2= 2 (0601):    74.02   4.167     5.25    45.10
        ================================================
        ID = 3 (0200):   174.34  10.034     5.25    43.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0300) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 400.0) ------>
              Distance      Elevation       Manning
                  0.00         214.00        0.0800
                 19.00         214.00        0.0800
                 28.00         213.00        0.0800
                 34.00         212.00    0.0800 /0.0600  Main Channel
                 35.00         211.50        0.0600      Main Channel
                 37.00         212.00    0.0600 /0.0600  Main Channel
                 43.00         213.00        0.0600
                 54.00         214.00        0.0600
                 74.00         214.00        0.0600
                 80.00         215.00        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.12   211.62    .649E+02       0.0         0.29      80.17
        0.25   211.75    .260E+03       0.1         0.46      50.51
        0.37   211.88    .584E+03       0.3         0.60      38.54
        0.50   212.00    .104E+04       0.5         0.73      31.82
        0.63   212.13    .174E+04       1.1         0.91      25.48
        0.77   212.27    .274E+04       2.0         1.02      22.72
        0.90   212.40    .403E+04       3.2         1.11      20.89
        1.03   212.53    .562E+04       4.8         1.19      19.44
        1.17   212.67    .750E+04       6.9         1.27      18.24
        1.30   212.80    .968E+04       9.4         1.34      17.19
        1.43   212.93    .122E+05      12.4         1.42      16.28
        1.57   213.07    .150E+05      15.9         1.47      15.67
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        1.70   213.20    .182E+05      19.9         1.52      15.23
        1.83   213.33    .220E+05      24.8         1.56      14.78
        1.97   213.47    .262E+05      30.5         1.61      14.32
        2.10   213.60    .310E+05      37.2         1.66      13.87
        2.23   213.73    .362E+05      44.9         1.72      13.43
        2.37   213.87    .419E+05      53.7         1.78      13.00
        2.50   214.00    .481E+05      63.7         1.83      12.60

                                   <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0200)  174.34    10.03     5.25  43.04      1.33      1.36
     OUTFLOW: ID= 1 (0300)  174.34     9.11     5.25  43.03      1.28      1.33


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| CALIB            |
| STANDHYD  (0103) |   Area    (ha)= 118.55
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      45.05        73.50
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     889.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.12
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.59         3.50       7.097 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      60.71        30.60      42.04
     TOTAL RAINFALL   (mm)=      62.71        62.71      62.71
     RUNOFF COEFFICIENT   =       0.97         0.49       0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0202) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0103):   118.55   7.097     5.25    42.04
      + ID2= 2 (0300):   174.34   9.106     5.25    43.03
        ================================================
        ID = 3 (0202):   292.89  16.203     5.25    42.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0109) |   Area    (ha)=  49.01
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      29.41        19.60
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     571.61        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.36         1.00       3.358 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      60.71        32.80      49.54
     TOTAL RAINFALL   (mm)=      62.71        62.71      62.71
     RUNOFF COEFFICIENT   =       0.97         0.52       0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0609) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   5.7500     10.0000
                         5.7120     0.8320   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0109)     49.010     3.358      5.25      49.54
     OUTFLOW: ID= 1 (0609)     49.010     2.901      5.25      49.54

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 86.41
                    TIME SHIFT OF PEAK FLOW       (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.4432

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| ADD HYD   (0203) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0202):   292.89  16.203     5.25    42.63
      + ID2= 2 (0609):    49.01   2.901     5.25    49.54
        ================================================
        ID = 3 (0203):   341.90  19.105     5.25    43.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



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| ROUTE CHN (0301) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 401.0) ------>
              Distance      Elevation       Manning
                  0.00         205.00        0.0800
                 20.00         204.50        0.0800
                 80.00         204.50        0.0800
                105.00         204.00        0.0800
                113.00         203.50    0.0800 /0.0600  Main Channel
                124.00         203.50        0.0600      Main Channel
                130.00         203.50    0.0600 /0.0800  Main Channel
                195.00         204.00        0.0800
                250.00         205.00        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.08   203.58    .225E+04       0.4         0.22      93.84
        0.16   203.66    .564E+04       1.4         0.32      65.10
        0.24   203.74    .102E+05       3.2         0.39      53.26
        0.32   203.82    .158E+05       5.7         0.45      46.34
        0.39   203.89    .226E+05       9.1         0.50      41.62
        0.47   203.97    .306E+05      13.4         0.55      38.10
        0.55   204.05    .396E+05      18.9         0.60      34.96
        0.63   204.13    .495E+05      25.6         0.65      32.25
        0.71   204.21    .601E+05      33.3         0.69      30.06
        0.79   204.29    .716E+05      42.3         0.74      28.26
        0.87   204.37    .839E+05      52.3         0.78      26.74
        0.95   204.45    .971E+05      63.6         0.82      25.44
        1.03   204.53    .113E+06      73.3         0.81      25.69
        1.11   204.61    .134E+06      89.2         0.84      24.96
        1.18   204.68    .155E+06     107.2         0.87      24.10
        1.26   204.76    .177E+06     127.1         0.90      23.22
        1.34   204.84    .200E+06     149.0         0.93      22.37
        1.42   204.92    .224E+06     172.9         0.97      21.56
        1.50   205.00    .248E+06     198.7         1.00      20.80

                                   <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0203)  341.90    19.10     5.25  43.62      0.56      0.60
     OUTFLOW: ID= 1 (0301)  341.90    14.59     5.50  43.61      0.49      0.56


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| CALIB            |
| STANDHYD  (0108) |   Area    (ha)= 121.56
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      64.43        57.13
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     900.22        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.41
               over (min)        15.00        30.00
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     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.14         2.92          8.060 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      60.71        32.80         47.59
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.97         0.52          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0608) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******      0.0001

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0108)    121.560      8.060      5.25      47.59
     OUTFLOW: ID= 1 (0608)    121.560      8.060      5.25      47.59

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| ADD HYD   (0204) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0301):   341.90  14.593     5.50    43.61
       + ID2= 2 (0608):   121.56   8.060     5.25    47.59
         ================================================
         ID = 3 (0204):   463.46  21.306     5.25    44.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 402.0) ------>
               Distance      Elevation       Manning
                  0.00         202.00        0.1200
                200.00         200.00        0.1200
                212.00         197.00        0.1200
                229.00         195.80    0.1200 /0.0600  Main Channel
                229.01         195.60        0.0600      Main Channel
                231.00         195.60    0.0600 /0.1200  Main Channel
                231.01         195.80        0.1200
                250.00         197.00        0.1200
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               260.00         200.00        0.1200
               455.00         203.00        0.1200

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)    (cu.m.)      (cms)        (m/s)      (min)
      0.34   195.94   .970E+03        0.6         0.60       28.09
      0.67   196.27   .479E+04        2.8         0.60       28.31
      1.01   196.61   .121E+05        8.0         0.68       25.01
      1.35   196.95   .228E+05       17.3         0.77       21.99
      1.68   197.28   .360E+05       32.8         0.92       18.33
      2.02   197.62   .502E+05       53.1         1.07       15.75
      2.36   197.96   .651E+05       77.7         1.21       13.97
      2.69   198.29   .809E+05      106.6         1.34       12.66
      3.03   198.63   .976E+05      139.6         1.45       11.65
      3.37   198.97   .115E+06      177.0         1.56       10.84
      3.71   199.31   .133E+06      218.6         1.66       10.18
      4.04   199.64   .153E+06      264.5         1.76        9.62
      4.38   199.98   .173E+06      314.8         1.85        9.14
      4.72   200.32   .202E+06      280.8         1.41       11.96
      5.05   200.65   .249E+06      310.4         1.26       13.39
      5.39   200.99   .316E+06      378.3         1.21       13.93
      5.73   201.33   .402E+06      480.1         1.21       13.96
      6.06   201.66   .507E+06      616.9         1.24       13.70
      6.40   202.00   .631E+06      791.4         1.27       13.28

                                  <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0204)  463.46    21.31     5.25  44.66      1.44      0.80
     OUTFLOW: ID= 1 (0302)  463.46    18.60     5.50  44.66      1.37      0.78


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| CALIB            |
| STANDHYD  (0107) |   Area    (ha)=  98.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.34         54.19
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     810.47         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         18.75
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.55          2.67          6.227 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      60.71         31.67         44.74
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.97          0.51          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (0111) |   Area    (ha)=  94.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.04         44.38
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     793.39         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         19.41
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.01          2.27          6.277 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      60.71         32.80         47.59
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.97          0.52          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0205) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0107):    98.53   6.227     5.25    44.74
       + ID2= 2 (0111):    94.42   6.277     5.25    47.59
         ================================================
         ID = 3 (0205):   192.95  12.504     5.25    46.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0206) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0205):   192.95  12.504     5.25    46.14
       + ID2= 2 (0302):   463.46  18.603     5.50    44.66
         ================================================
         ID = 3 (0206):   656.41  28.959     5.25    45.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0611) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   2.8300      8.7600
                         0.8400     0.1100   |  15.9200     12.4000
                         1.3200     0.4400   |  39.5200     16.3100
                         1.6700     1.1900   |  69.9800     20.4700
                         1.9600     2.3800   |  *******     24.9000
                         2.4300     5.4000   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0206)    656.410     28.959      5.25      45.09
     OUTFLOW: ID= 1 (0611)    656.410     15.637      6.50      45.09

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.00
                  TIME SHIFT OF PEAK FLOW         (min)= 75.00
                  MAXIMUM  STORAGE   USED       (ha.m.)= 12.3296

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| CALIB            |
| STANDHYD  (0110) |   Area    (ha)=  56.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.80         22.53
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     612.81         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         19.41
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.71          1.15          3.859 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      60.71         32.80         49.54
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.97          0.52          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0610) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******      0.0001

                              AREA     QPEAK     TPEAK       R.V.
```

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0110)	56.330	3.859	5.25	49.54
OUTFLOW: ID= 1 (0610)	56.330	3.859	5.25	49.54

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0207)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0610):	56.33	3.859	5.25	49.54
+ ID2= 2 (0611):	656.41	15.637	6.50	45.09
ID = 3 (0207):	712.74	16.382	6.50	45.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0303)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (403.0) ------>

Distance	Elevation	Manning	
0.00	188.10	0.1100	
12.00	184.70	0.1100 /0.0700	Main Channel
15.00	184.40	0.0700	Main Channel
18.00	184.70	0.0700 /0.1100	Main Channel
30.00	188.10	0.1100	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	184.55	.166E+03	0.1	0.28	44.28
0.30	184.70	.663E+03	0.4	0.44	27.89
0.50	184.90	.165E+04	1.7	0.74	16.62
0.70	185.10	.285E+04	3.6	0.94	13.03
0.90	185.30	.425E+04	6.3	1.10	11.17
1.10	185.50	.587E+04	9.8	1.23	9.99
1.30	185.70	.769E+04	14.0	1.34	9.17
1.50	185.90	.972E+04	18.9	1.44	8.55
1.70	186.10	.120E+05	24.7	1.52	8.06
1.90	186.30	.144E+05	31.3	1.60	7.66
2.10	186.50	.171E+05	38.8	1.68	7.32
2.30	186.70	.199E+05	47.2	1.75	7.03
2.50	186.90	.230E+05	56.5	1.81	6.77
2.70	187.10	.263E+05	66.8	1.88	6.55
2.90	187.30	.297E+05	78.1	1.94	6.35
3.10	187.50	.334E+05	90.4	1.99	6.16
3.30	187.70	.373E+05	103.8	2.05	6.00
3.50	187.90	.415E+05	118.2	2.10	5.85
3.70	188.10	.458E+05	133.7	2.15	5.70

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)

INFLOW : ID= 2 (0207)	712.74	16.38	6.50	45.44	1.40	1.39
OUTFLOW: ID= 1 (0303)	712.74	16.42	6.50	45.44	1.40	1.39

CALIB
STANDHYD (0116) | Area (ha)= 106.86
ID= 1 DT=15.0 min | Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.58	82.28
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	844.04	40.00
Mannings n	=	0.013	0.250

				TOTALS
Max.Eff.Inten.(mm/hr)=		28.84	19.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
PEAK FLOW	(cms)=	1.97	4.21	6.175 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	39.22
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0616)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	*******	0.0001

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0116)	106.860	6.175	5.25	39.22
OUTFLOW: ID= 1 (0616)	106.860	6.175	5.25	39.22

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0208)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0303):	712.74	16.421	6.50	45.44

+ ID2= 2 (0616):	106.86	6.175	5.25	39.22		
ID = 3 (0208):	819.60	17.850	6.50	44.63		

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0304)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (404.0) ------>

Distance	Elevation	Manning	
0.00	181.00	0.1100	
15.00	178.30	0.1100	
29.00	177.80	0.1100 /0.0700	Main Channel
31.50	177.20	0.0700	Main Channel
35.00	177.70	0.0700 /0.1100	Main Channel
44.00	178.10	0.1100	
50.00	178.10	0.1100	
52.00	178.30	0.1100	
63.00	179.70	0.1100	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	177.32	.813E+02	0.0	0.16	98.74
0.25	177.45	.325E+03	0.1	0.25	62.20
0.37	177.57	.732E+03	0.3	0.33	47.47
0.50	177.70	.130E+04	0.6	0.40	39.18
0.63	177.83	.223E+04	1.1	0.47	32.98
0.77	177.97	.388E+04	2.0	0.49	31.66
0.90	178.10	.637E+04	3.4	0.50	31.30
1.03	178.23	.103E+05	5.4	0.49	32.02
1.17	178.37	.149E+05	8.3	0.52	30.04
1.30	178.50	.197E+05	11.9	0.56	27.63
1.43	178.63	.247E+05	16.2	0.61	25.52
1.57	178.77	.300E+05	21.1	0.65	23.75
1.70	178.90	.355E+05	26.6	0.70	22.26
1.83	179.03	.412E+05	32.7	0.74	21.00
1.97	179.17	.471E+05	39.4	0.78	19.92
2.10	179.30	.533E+05	46.8	0.82	18.98
2.23	179.43	.597E+05	54.8	0.86	18.15
2.37	179.57	.663E+05	63.4	0.89	17.43
2.50	179.70	.731E+05	72.6	0.93	16.78

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0208)	819.60	17.85	6.50	44.63	1.48	0.62
OUTFLOW: ID= 1 (0304)	819.60	17.02	6.75	44.63	1.46	0.62

CALIB
STANDHYD (0119) | Area (ha)= 52.33
ID= 1 DT=15.0 min | Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.70	36.63
Dep. Storage	(mm)=	2.00	6.00

Average Slope	(%)=	1.00	1.00	
Length	(m)=	590.65	40.00	
Mannings n	=	0.013	0.250	

				TOTALS
Max.Eff.Inten.(mm/hr)=		28.84	19.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
PEAK FLOW	(cms)=	1.26	1.87	3.130 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	41.17
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0619)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0119)	52.330	3.130	5.25	41.17
OUTFLOW: ID= 1 (0619)	52.330	3.130	5.25	41.17

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

ADD HYD (0209)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0304):	819.60	17.015	6.75	44.63
+ ID2= 2 (0619):	52.33	3.130	5.25	41.17
ID = 3 (0209):	871.93	17.621	6.75	44.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0305)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (405.0) ------>

Distance	Elevation	Manning
0.00	175.00	0.1200
10.00	172.40	0.1200

```
37.00        171.90     0.1200 /0.0600   Main Channel
38.50        171.40        0.0600        Main Channel
40.50        171.40        0.0600        Main Channel
42.00        171.90     0.0600 /0.1200   Main Channel
69.00        172.40        0.1200
75.00        175.00        0.1200
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	171.57	.573E+03	0.1	0.28	82.03
0.33	171.73	.138E+04	0.4	0.41	55.76
0.50	171.90	.241E+04	0.9	0.51	44.71
0.69	172.09	.653E+04	2.1	0.44	51.93
0.89	172.29	.162E+05	4.5	0.38	59.58
1.08	172.48	.310E+05	9.1	0.40	56.98
1.28	172.68	.470E+05	15.9	0.47	49.23
1.47	172.87	.634E+05	24.5	0.53	43.16
1.66	173.06	.800E+05	34.6	0.59	38.57
1.86	173.26	.970E+05	46.1	0.65	35.03
2.05	173.45	.114E+06	59.1	0.71	32.23
2.24	173.64	.132E+06	73.4	0.77	29.94
2.44	173.84	.150E+06	89.0	0.82	28.05
2.63	174.03	.169E+06	105.9	0.87	26.44
2.83	174.23	.187E+06	124.0	0.91	25.07
3.02	174.42	.205E+06	143.4	0.96	23.88
3.21	174.61	.225E+06	164.0	1.00	22.83
3.41	174.81	.244E+06	185.8	1.05	21.90
3.60	175.00	.264E+06	208.7	1.09	21.08

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0209)	871.93	17.62	6.75	44.42	1.31	0.48
OUTFLOW: ID= 1 (0305)	871.93	16.09	7.50	44.42	1.28	0.47

CALIB		
STANDHYD (0121)	Area (ha)=	53.31
ID= 1 DT=15.0 min	Total Imp(%)=	45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.99	29.32
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	596.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	1.92	1.50 3.420 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	60.71	32.80 45.36
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.97	0.52 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0621)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 15.0 min	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	53.310	3.420	5.25	45.36
OUTFLOW: ID= 1 (0621)	53.310	3.423	5.25	53.95

PEAK FLOW REDUCTION [Qout/Qin](%)=100.08
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0002

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0210)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0305):	871.93	16.095	7.50	44.42
+ ID2= 2 (0621):	53.31	3.423	5.25	53.95
ID = 3 (0210):	925.24	16.584	7.25	44.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0118)	Area (ha)=	57.78
ID= 1 DT=15.0 min	Total Imp(%)=	53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.62	27.16
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	620.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.45	1.39 3.841 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	60.71	32.80 47.59
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.97	0.52 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0618)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 15.0 min	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0118)	57.780	3.841	5.25	47.59
OUTFLOW: ID= 1 (0618)	57.780	3.841	5.25	47.59

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

CALIB		
STANDHYD (****)	Area (ha)=	114.26
ID= 1 DT=15.0 min	Total Imp(%)=	53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	60.56	53.70
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	872.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	4.83	2.74 7.576 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	60.71	32.80 47.59
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.97	0.52 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (****)	Area (ha)=	7.45

ID= 1 DT=15.0 min	Total Imp(%)=	53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.95	3.50
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	222.86	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	0.31	0.18 0.494 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	60.71	32.80 47.59
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.97	0.52 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (****)	Area (ha)=	2.40
ID= 1 DT=15.0 min	Total Imp(%)=	53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.27	1.13
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	126.49	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	0.10	0.06 0.159 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	60.71	32.80 47.59
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.97	0.52 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0276) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):   114.26   7.576     5.25    47.59
       + ID2= 2 (****):     7.45   0.494     5.25    47.59
         ================================================
         ID = 3 (0276):   121.71   8.070     5.25    47.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0276) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0276):   121.71   8.070     5.25    47.59
       + ID2= 2 (****):     2.40   0.159     5.25    47.59
         ================================================
         ID = 1 (0276):   124.11   8.229     5.25    47.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0617) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  29.0800      0.5230
                          0.1200     0.1560   |  30.5000      0.5500
                          0.1800     0.3485   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0276)    124.110     8.229      5.25      47.59
     OUTFLOW: ID= 1 (0617)    124.110     8.044      5.25      47.59

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 97.75
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.4043

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| ADD HYD   (0211) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0617):   124.11   8.044     5.25    47.59
       + ID2= 2 (0618):    57.78   3.841     5.25    47.59
         ================================================
         ID = 3 (0211):   181.89  11.885     5.25    47.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0115) |   Area    (ha)= 210.14
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      111.37         98.77
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=     1183.61         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       28.84         19.41
               over (min)         15.00         30.00
     Storage Coeff.  (min)=       12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        8.88          4.29      13.171 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25       5.25
     RUNOFF VOLUME    (mm)=       60.71         32.80      47.59
     TOTAL RAINFALL   (mm)=       62.71         62.71      62.71
     RUNOFF COEFFICIENT   =        0.97          0.52       0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0615) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******      0.0010

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0115)    210.140    13.171      5.25      47.59
     OUTFLOW: ID= 1 (0615)    210.140    13.171      5.25      47.59

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                   TIME SHIFT OF PEAK FLOW         (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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--------------------
| ADD HYD   (0213) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0211):   181.89  11.885     5.25    47.59
       + ID2= 2 (0615):   210.14  13.171     5.25    47.59
         ================================================
         ID = 3 (0213):   392.03  25.056     5.25    47.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0214) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
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         ID1= 1 (0210):   925.24  16.584     7.25    44.97
       + ID2= 2 (0213):   392.03  25.056     5.25    47.59
         ================================================
         ID = 3 (0214):  1317.27  35.204     5.25    45.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  17.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        9.42          8.36
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=      344.29         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       28.84         19.41
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.75          0.43       1.182 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25       5.25
     RUNOFF VOLUME    (mm)=       60.71         32.80      47.59
     TOTAL RAINFALL   (mm)=       62.71         62.71      62.71
     RUNOFF COEFFICIENT   =        0.97          0.52       0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  49.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       26.13         23.18
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=     573.35         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       28.84         19.41
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        2.09          1.18       3.278 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25       5.25
     RUNOFF VOLUME    (mm)=       60.71         32.80      47.59
     TOTAL RAINFALL   (mm)=       62.71         62.71      62.71
     RUNOFF COEFFICIENT   =        0.97          0.52       0.76
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   2.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        1.20          1.07
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=     123.02         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       28.84         19.41
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.10          0.05       0.151 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25       5.25
     RUNOFF VOLUME    (mm)=       60.71         32.80      47.59
     TOTAL RAINFALL   (mm)=       62.71         62.71      62.71
     RUNOFF COEFFICIENT   =        0.97          0.52       0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0215) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0214):  1317.27  35.204     5.25    45.75
       + ID2= 2 (****):    17.78   1.182     5.25    47.59
         ================================================
         ID = 3 (0215):  1335.05  36.386     5.25    45.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0215) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0215):  1335.05  36.386     5.25    45.77
       + ID2= 2 (****):    49.31   3.278     5.25    47.59
```

ID = 1 (0215):	1384.36	39.664	5.25	45.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0215)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0215):	1384.36	39.664	5.25	45.84
+ ID2= 2 (****):	2.27	0.151	5.25	47.59
ID = 3 (0215):	1386.63	39.815	5.25	45.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0306) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (406.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1200	
71.00	172.00	0.1200	
170.00	170.00	0.1200	
202.00	168.50	0.1200 /0.0600	Main Channel
202.00	168.60	0.1200 /0.0600	Main Channel
208.00	168.60	0.0600 /0.1200	Main Channel
208.00	168.80	0.0600 /0.1200	Main Channel
240.00	170.00	0.1200	
340.00	172.00	0.1200	
450.00	173.50	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	168.76	.306E+04	0.3	0.17	177.67
0.53	169.03	.110E+05	1.6	0.25	116.39
0.79	169.29	.249E+05	4.2	0.30	99.32
1.05	169.55	.446E+05	8.4	0.34	88.49
1.32	169.82	.703E+05	14.6	0.37	80.40
1.58	170.08	.102E+06	22.5	0.39	75.76
1.84	170.34	.145E+06	32.5	0.40	74.29
2.11	170.61	.200E+06	46.4	0.41	71.63
2.37	170.87	.267E+06	64.9	0.43	68.52
2.63	171.13	.346E+06	88.3	0.45	65.33
2.89	171.39	.438E+06	117.2	0.48	62.24
3.16	171.66	.541E+06	152.1	0.50	59.35
3.42	171.92	.658E+06	193.4	0.52	56.66
3.68	172.18	.787E+06	240.2	0.54	54.58
3.95	172.45	.930E+06	294.3	0.56	52.69
4.21	172.71	.109E+07	356.9	0.58	50.85
4.47	172.97	.126E+07	428.6	0.60	49.10
4.74	173.24	.145E+07	509.8	0.63	47.44
5.00	173.50	.165E+07	601.0	0.65	45.87

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)

INFLOW : ID= 2 (0215)	1386.63	39.81	5.25	45.84	1.98	0.41
OUTFLOW: ID= 1 (0306)	1386.63	22.73	5.50	45.84	1.59	0.39

CALIB | STANDHYD (0131) | ID= 1 DT=15.0 min | Area (ha)= 123.35 Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.37	94.98
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	906.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.75
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	6.951 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	38.35
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0216)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0131):	123.35	6.951	5.25	38.35
+ ID2= 2 (0306):	1386.63	22.732	5.50	45.84
ID = 3 (0216):	1509.98	27.698	5.25	45.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (9500) | IN= 2---> OUT= 1 | DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	7.2600	12.6630
1.7300	1.5060	20.9800	24.7470
4.8900	2.4510	35.0000	38.4350
6.9200	9.8410	80.0000	39.9350

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

INFLOW : ID= 2 (0216)	1509.980	27.698	5.25	45.22
OUTFLOW: ID= 1 (9500)	1509.980	16.585	9.25	45.22

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.88
TIME SHIFT OF PEAK FLOW (min)=240.00
MAXIMUM STORAGE USED (ha.m.)= 20.8819

ROUTE CHN (0307) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (407.0) ------>

Distance	Elevation	Manning	
0.00	175.00	0.1000	
0.01	168.00	0.1000	
28.00	168.00	0.1000	
65.00	164.30	0.1000 /0.0600	Main Channel
65.01	164.10	0.0600	Main Channel
71.00	164.10	0.0600 /0.1000	Main Channel
71.01	164.30	0.1000	
83.00	169.00	0.1000	
138.00	169.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	164.36	.147E+04	0.6	0.41	37.70
0.52	164.62	.348E+04	2.2	0.58	26.76
0.77	164.87	.627E+04	4.6	0.68	22.75
1.03	165.13	.984E+04	8.0	0.76	20.45
1.29	165.39	.142E+05	12.5	0.83	18.85
1.55	165.65	.193E+05	18.3	0.88	17.63
1.81	165.91	.252E+05	25.3	0.94	16.65
2.06	166.16	.319E+05	33.6	0.98	15.81
2.32	166.42	.394E+05	43.5	1.03	15.10
2.58	166.68	.476E+05	54.9	1.08	14.47
2.84	166.94	.567E+05	67.9	1.12	13.91
3.09	167.19	.665E+05	82.6	1.16	13.41
3.35	167.45	.771E+05	99.2	1.20	12.95
3.61	167.71	.884E+05	117.6	1.24	12.53
3.87	167.97	.101E+06	138.0	1.28	12.15
4.13	168.23	.119E+06	145.9	1.14	13.62
4.38	168.48	.139E+06	178.2	1.20	12.98
4.64	168.74	.159E+06	213.6	1.26	12.37
4.90	169.00	.178E+06	252.1	1.32	11.80

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (9500)	1509.98	16.59	9.25	45.22	1.47	0.87
OUTFLOW: ID= 1 (0307)	1509.98	16.52	9.50	45.22	1.47	0.86

CALIB | STANDHYD (0130) | ID= 1 DT=15.0 min | Area (ha)= 42.30 Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.07	26.23

Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	531.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.75
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.582 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	42.71
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0217)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0130):	42.30	2.582	5.25	42.71
+ ID2= 2 (0307):	1509.98	16.520	9.50	45.22
ID = 3 (0217):	1552.28	16.604	9.50	45.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (****) | ID= 1 DT=15.0 min | Area (ha)= 240.54 Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.16	168.38
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1266.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	7.31 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	41.17
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 22.17
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	6.65	15.52	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	384.45	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	19.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.53	0.67	1.204 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	41.17
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 4.13
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.24	2.89	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	165.93	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	19.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.10	0.13	0.224 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	41.17
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0269)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	240.54	13.064	5.25	41.17
	+ ID2= 2 (****):	22.17	1.204	5.25	41.17
	ID = 3 (0269):	262.71	14.268	5.25	41.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0269)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0269):	262.71	14.268	5.25	41.17
	+ ID2= 2 (****):	4.13	0.224	5.25	41.17
	ID = 1 (0269):	266.84	14.493	5.25	41.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 11.98
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	3.59	8.39	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	282.61	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	19.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.29	0.36	0.651 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	41.17
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 20.98
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	6.29	14.69	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	373.99	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	19.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.50	0.64	1.139 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	41.17
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.47
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.14	0.33	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	55.98	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	19.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.01	0.026 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	41.15
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0268)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	20.98	1.139	5.25	41.17
	+ ID2= 2 (****):	11.98	0.651	5.25	41.17
	ID = 3 (0268):	32.96	1.790	5.25	41.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0268)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0268):	32.96	1.790	5.25	41.17
	+ ID2= 2 (****):	0.47	0.026	5.25	41.15
	ID = 1 (0268):	33.43	1.816	5.25	41.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0270)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0268):	33.43	1.816	5.25	41.17
	+ ID2= 2 (0269):	266.84	14.493	5.25	41.17
	ID = 3 (0270):	300.27	16.308	5.25	41.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0620)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0270)	300.270	16.308	5.25	41.17
OUTFLOW: ID= 1 (0620)	300.270	16.308	5.25	41.17

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

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| ROUTE CHN (0501) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION ( 601.0) ------>
              Distance      Elevation       Manning
                  0.00         172.00        0.1000
                 29.33         172.00        0.1000
                 43.69         171.00        0.1000
                 60.63         170.00    0.1000 /0.0600  Main Channel
                110.21         171.00        0.0600      Main Channel
                119.74         172.00        0.1000
                133.28         172.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.11  170.11    .427E+03       0.0         0.13     145.32
       0.21  170.21    .171E+04       0.3         0.21      91.55
       0.32  170.32    .384E+04       0.9         0.28      69.86
       0.42  170.42    .683E+04       2.0         0.33      57.67
       0.53  170.53    .107E+05       3.6         0.39      49.70
       0.63  170.63    .154E+05       5.8         0.44      44.01
       0.74  170.74    .209E+05       8.8         0.49      39.71
       0.84  170.84    .273E+05      12.5         0.53      36.33
       0.95  170.95    .346E+05      17.2         0.58      33.59
       1.05  171.05    .426E+05      23.3         0.63      30.46
       1.16  171.16    .511E+05      31.0         0.70      27.41
       1.26  171.26    .598E+05      39.7         0.77      25.10
       1.37  171.37    .688E+05      49.3         0.83      23.27
       1.47  171.47    .782E+05      59.8         0.89      21.79
       1.58  171.58    .878E+05      71.2         0.94      20.56
       1.68  171.68    .978E+05      83.5         0.99      19.52
       1.79  171.79    .108E+06      96.7         1.04      18.62
       1.89  171.89    .119E+06     110.8         1.08      17.85
       2.00  172.00    .129E+06     125.7         1.13      17.16

                                 <---- hydrograph ---->   <-pipe /
channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                    
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0620)  300.27    16.31    5.25  41.17      0.93      0.57
     OUTFLOW: ID= 1 (0501)  300.27    12.51    5.50  41.17      0.84      0.53


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| CALIB            |
| STANDHYD  (0133) |   Area    (ha)= 112.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.49        61.70
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     864.83        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.75
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
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     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.04         3.05          7.090 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      60.71        31.67         44.74
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.97         0.51          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  85.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0218) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0133):   112.19   7.090     5.25    44.74
        + ID2= 2 (0501):   300.27  12.512     5.50    41.17
          ================================================
          ID = 3 (0218):   412.46  18.555     5.25    42.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0502) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION ( 602.0) ------>
              Distance      Elevation       Manning
                 23.46         169.00        0.1000
                 72.48         168.00        0.1000
                 96.12         167.00        0.1000
                110.97         165.00    0.1000 /0.0600  Main Channel
                116.24         164.00        0.0600      Main Channel
                118.36         164.00        0.0600      Main Channel
                124.43         165.00    0.0600 /0.1000  Main Channel
                141.85         167.00        0.1000
                162.34         168.00        0.1000
                224.13         169.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.25  164.25    .752E+03       0.3         0.33      42.64
       0.50  164.50    .211E+04       1.2         0.49      29.06
       0.75  164.75    .406E+04       2.9         0.61      23.08
       1.00  165.00    .662E+04       5.7         0.73      19.52
       1.27  165.27    .102E+05      10.7         0.90      15.79
       1.53  165.53    .147E+05      17.4         1.01      14.06
       1.80  165.80    .202E+05      25.8         1.09      13.03
       2.07  166.07    .266E+05      36.1         1.15      12.31
       2.33  166.33    .341E+05      48.3         1.21      11.75
       2.60  166.60    .425E+05      62.7         1.25      11.29
       2.87  166.87    .519E+05      79.3         1.30      10.90
       3.13  167.13    .624E+05      97.0         1.32      10.73
       3.40  167.40    .755E+05     117.0         1.32      10.75
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       3.67  167.67    .912E+05     141.0         1.31      10.77
       3.93  167.93    .110E+06     169.4         1.31      10.78
       4.20  168.20    .132E+06     197.1         1.27      11.14
       4.47  168.47    .160E+06     232.0         1.23      11.53
       4.73  168.73    .196E+06     276.3         1.20      11.82
       5.00  169.00    .238E+06     330.6         1.18      12.00

                                 <---- hydrograph ---->   <-pipe /
channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                    
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0218)  412.46    18.55    5.25  42.14      1.57      1.02
     OUTFLOW: ID= 1 (0502)  412.46    16.98    5.50  42.14      1.52      1.00


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| CALIB            |
| STANDHYD  (0135) |   Area    (ha)=  55.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      20.90        34.10
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     605.53        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        17.52
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.67         1.57          3.244 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      60.71        29.58         41.41
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.97         0.47          0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0212) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0135):    55.00   3.244     5.25    41.41
        + ID2= 2 (0502):   412.46  16.979     5.50    42.14
          ================================================
          ID = 3 (0212):   467.46  19.479     5.25    42.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0219) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0212):   467.46  19.479     5.25    42.05
        + ID2= 2 (0217):  1552.28  16.604     9.50    45.15
          ================================================
          ID = 3 (0219):  2019.74  26.928     5.25    44.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0308) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION ( 408.0) ------>
              Distance      Elevation       Manning
                  0.00         174.00        0.1000
                  0.00         167.00        0.1000
                 31.00         165.00        0.1000
                 57.00         163.00        0.1000
                 63.00         161.20    0.1000 /0.0600  Main Channel
                 63.00         161.00        0.0600      Main Channel
                 67.00         161.00    0.0600 /0.1000  Main Channel
                 67.00         161.20        0.1000
                 95.00         165.00        0.1000
                148.00         167.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.32  161.32    .221E+04       0.4         0.32      86.34
       0.63  161.63    .584E+04       1.5         0.42      65.04
       0.95  161.95    .112E+05       3.3         0.49      56.53
       1.26  162.26    .184E+05       6.0         0.54      51.16
       1.58  162.58    .273E+05       9.7         0.59      47.17
       1.89  162.89    .380E+05      14.4         0.63      43.99
       2.21  163.21    .509E+05      20.0         0.65      42.31
       2.53  163.53    .670E+05      27.2         0.67      41.00
       2.84  163.84    .864E+05      36.3         0.70      39.69
       3.16  164.16    .109E+06      47.4         0.72      38.38
       3.47  164.47    .135E+06      60.9         0.74      37.09
       3.79  164.79    .165E+06      76.8         0.77      35.83
       4.11  165.11    .198E+06      93.6         0.78      35.27
       4.42  165.42    .237E+06     111.4         0.78      35.53
       4.74  165.74    .284E+06     134.0         0.78      35.28
       5.05  166.05    .337E+06     161.5         0.79      34.76
       5.37  166.37    .397E+06     194.1         0.81      34.07
       5.68  166.68    .464E+06     232.3         0.83      33.29
       6.00  167.00    .538E+06     276.2         0.85      32.46

                                 <---- hydrograph ---->   <-pipe /
channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                    
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0219) 2019.74    26.93    5.25  44.43      2.51      0.67
     OUTFLOW: ID= 1 (0308) 2019.74    20.83    6.00  44.43      2.25      0.65


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CALIB			
STANDHYD (0128)	Area (ha)= 59.80		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	17.94	41.86	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	631.40	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	19.41	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
			TOTALS	
PEAK FLOW	(cms)=	1.44	2.14	3.577 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	41.17
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0628)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.4900	1.2490
	0.0700	0.4550	1.8500	1.4280
	0.3100	0.6550	2.0300	1.6290
	0.7400	0.8680	2.1300	1.8297
	1.0800	1.0380	2.2500	2.0702

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0128)	59.800	3.577	5.25	41.17
OUTFLOW: ID= 1 (0628)	59.800	1.424	5.75	41.14

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.83
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 1.2167

CALIB		
STANDHYD (0134)	Area (ha)= 105.90	
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.24	65.66
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	840.24	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		28.84	16.93	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
			TOTALS	
PEAK FLOW	(cms)=	3.22	2.92	6.145 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	28.60	40.80
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.46	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0298)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0134):	105.90	6.145	5.25	40.80
+ ID2= 2 (0628):	59.80	1.424	5.75	41.14
ID = 3 (0298):	165.70	7.284	5.25	40.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0220)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0298):	165.70	7.284	5.25	40.92
+ ID2= 2 (0308):	2019.74	20.830	6.00	44.43
ID = 3 (0220):	2185.44	24.315	6.00	44.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (0136)	Area (ha)= 156.42	
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.39	86.03
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1021.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.75
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)

Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.08	0.06	
			TOTALS	
PEAK FLOW	(cms)=	5.61	4.25	9.861 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	31.67	44.74
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.51	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0221)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0136):	156.42	9.861	5.25	44.74
+ ID2= 2 (0220):	2185.44	24.315	6.00	44.17
ID = 3 (0221):	2341.86	33.022	5.25	44.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (****)	Area (ha)= 19.42	
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	8.74	10.68	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	359.81	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	16.93	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
			TOTALS	
PEAK FLOW	(cms)=	0.70	0.48	1.175 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	28.60	43.05
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.46	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (0105)	Area (ha)= 77.03	
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	34.66	42.37	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	716.61	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	17.52	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
			TOTALS	
PEAK FLOW	(cms)=	2.78	1.95	4.728 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	29.58	43.59
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.47	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (****)	Area (ha)= 0.73	
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.33	0.40	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	69.76	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	16.93	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
			TOTALS	
PEAK FLOW	(cms)=	0.03	0.02	0.044 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	28.59	43.04
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.46	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.50
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22         0.28
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      57.74        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        16.93
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01          0.030 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      60.71        28.59          43.02
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.97         0.46           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0222) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0105):    77.03   4.728     5.25    43.59
       + ID2= 2 (****):     0.50   0.030     5.25    43.02
         ================================================
         ID = 3 (0222):    77.53   4.758     5.25    43.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0222) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0222):    77.53   4.758     5.25    43.58
       + ID2= 2 (****):    19.42   1.175     5.25    43.05
         ================================================
         ID = 1 (0222):    96.95   5.933     5.25    43.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0222) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0222):    96.95   5.933     5.25    43.48
       + ID2= 2 (****):     0.73   0.044     5.25    43.04
         ================================================
         ID = 3 (0222):    97.68   5.977     5.25    43.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0309) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 409.0) ------>
               Distance      Elevation       Manning
                   0.00         195.00        0.1000
                  11.00         194.00        0.1000
                  20.00         192.00        0.1000
                  27.00         191.00        0.1000
                  46.00         190.00    0.1000 /0.0600  Main Channel
                  50.00         189.30       0.0600       Main Channel
                  69.00         190.00    0.0600 /0.1000  Main Channel
                  74.00         191.00        0.1000
                  84.00         194.00        0.1000
                  90.00         195.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.23    189.53    .206E+04        0.4         0.45      84.92
       0.47    189.77    .825E+04        2.6         0.72      53.50
       0.70    190.00    .186E+05        7.6         0.94      40.83
       1.01    190.31    .379E+05       22.3         1.36      28.24
       1.32    190.62    .625E+05       44.3         1.63      23.55
       1.64    190.94    .926E+05       73.7         1.83      20.95
       1.95    191.25    .127E+06      111.7         2.03      18.97
       2.26    191.56    .164E+06      157.5         2.21      17.37
       2.58    191.88    .203E+06      210.6         2.39      16.09
       2.89    192.19    .245E+06      271.5         2.56      15.02
       3.20    192.50    .288E+06      340.1         2.72      14.12
       3.51    192.81    .333E+06      415.7         2.88      13.35
       3.83    193.13    .380E+06      498.6         3.03      12.70
       4.14    193.44    .428E+06      588.5         3.17      12.13
       4.45    193.75    .479E+06      685.6         3.30      11.64
       4.76    194.06    .531E+06      787.9         3.42      11.23
       5.08    194.38    .586E+06      890.7         3.51      10.97
       5.39    194.69    .645E+06     1002.4         3.58      10.73
       5.70    195.00    .708E+06     1123.3         3.66      10.51

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0222)   97.68     5.98    5.25  43.47      0.63      0.86
     OUTFLOW: ID= 1 (0309)   97.68     4.19    5.25  43.47      0.54      0.78


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| CALIB            |
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| STANDHYD  (0112) |   Area    (ha)= 155.68
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      59.16        96.52
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1018.76        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.72         4.93          9.653 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      60.71        32.80          43.40
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.97         0.52           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0227) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0112):   155.68   9.653     5.25    43.40
       + ID2= 2 (0309):    97.68   4.190     5.25    43.47
         ================================================
         ID = 3 (0227):   253.36  13.843     5.25    43.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0113) |   Area    (ha)= 172.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      65.45       106.78
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1071.54        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.22         5.46         10.679 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
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     RUNOFF VOLUME    (mm)=      60.71        32.80          43.40
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.97         0.52           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0228) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0113):   172.23  10.679     5.25    43.40
       + ID2= 2 (0227):   253.36  13.843     5.25    43.43
         ================================================
         ID = 3 (0228):   425.59  24.521     5.25    43.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0310) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 410.0) ------>
               Distance      Elevation       Manning
                   0.00         185.00        0.1000
                  41.00         184.00        0.1000
                  85.00         183.00        0.1000
                  90.00         182.00    0.1000 /0.0600  Main Channel
                  99.00         180.00       0.0600       Main Channel
                 106.00         181.00       0.0600       Main Channel
                 109.00         182.00    0.0600 /0.1000  Main Channel
                 117.00         183.00        0.1000
                 142.00         184.00        0.1000
                 211.00         185.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.25    180.25    .341E+03        0.1         0.37      42.84
       0.50    180.50    .136E+04        0.8         0.59      26.99
       0.75    180.75    .307E+04        2.5         0.77      20.59
       1.00    181.00    .545E+04        5.3         0.93      17.00
       1.25    181.25    .840E+04        9.9         1.12      14.12
       1.50    181.50    .118E+05       16.0         1.28      12.31
       1.75    181.75    .156E+05       23.6         1.43      11.03
       2.00    182.00    .199E+05       32.9         1.57      10.07
       2.27    182.27    .253E+05       47.7         1.79       8.83
       2.55    182.55    .316E+05       65.0         1.95       8.09
       2.82    182.82    .388E+05       85.1         2.08       7.59
       3.09    183.09    .471E+05      107.4         2.16       7.31
       3.36    183.36    .594E+05      133.7         2.13       7.41
       3.64    183.64    .766E+05      166.2         2.06       7.68
       3.91    183.91    .987E+05      206.0         1.98       7.99
       4.18    184.18    .126E+06      252.1         1.89       8.35
       4.45    184.45    .161E+06      309.2         1.82       8.70
       4.73    184.73    .204E+06      379.5         1.76       8.97
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   5.00   185.00    .255E+06     464.5          1.73       9.15

                                <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0228)  425.59    24.52    5.25  43.42      1.77      1.44
     OUTFLOW: ID= 1 (0310)  425.59    23.34    5.25  43.42      1.74      1.42


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| CALIB            |
| STANDHYD  (0114) |   Area    (ha)= 165.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.47        77.57
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1048.94        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.75
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.98         3.83     10.806 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25      5.25
     RUNOFF VOLUME    (mm)=      60.71        31.67     47.06
     TOTAL RAINFALL   (mm)=      62.71        62.71     62.71
     RUNOFF COEFFICIENT   =       0.97         0.51      0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0614) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  25.0000      0.2500
                          0.3900     0.1050   |  40.0000      0.2600
                          6.5900     0.2338   |  45.0000      0.2800

                             AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0114)    165.040     10.806      5.25      47.06
     OUTFLOW: ID= 1 (0614)    165.040     11.751      5.25      47.06

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=108.74
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2808

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
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| ADD HYD   (0229) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0310):   425.59  23.343     5.25    43.42
        + ID2= 2 (0614):   165.04  11.751     5.25    47.06
          ================================================
          ID = 3 (0229):   590.63  35.094     5.25    44.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0311) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION ( 411.0) ------>
                Distance      Elevation       Manning
                   0.00         180.00        0.1000
                  85.00         179.00        0.1000
                  96.00         178.00        0.1000
                 127.00         177.00        0.1000
                 160.00         176.20        0.1000
                 186.00         176.00    0.1000 /0.0600  Main Channel
                 192.00         175.30        0.0600      Main Channel
                 196.00         176.00    0.0600 /0.1000  Main Channel
                 232.00         179.00        0.1000
                 257.00         179.50        0.1000

       <--------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.18   175.48    .211E+03       0.0          0.21       77.93
        0.35   175.65    .844E+03       0.3          0.33       49.09
        0.53   175.83    .190E+04       0.8          0.43       37.47
        0.70   176.00    .338E+04       1.8          0.52       30.93
        0.93   176.23    .931E+04       4.9          0.50       31.85
        1.17   176.47    .198E+05      10.9          0.53       30.26
        1.40   176.70    .330E+05      19.9          0.58       27.59
        1.63   176.93    .490E+05      32.3          0.64       25.30
        1.87   177.17    .677E+05      48.6          0.69       23.23
        2.10   177.40    .887E+05      68.8          0.75       21.49
        2.33   177.63    .112E+06      93.0          0.80       20.07
        2.57   177.87    .137E+06     121.3          0.85       18.88
        2.80   178.10    .165E+06     155.2          0.91       17.73
        3.03   178.33    .194E+06     195.2          0.97       16.58
        3.27   178.57    .224E+06     239.5          1.03       15.61
        3.50   178.80    .256E+06     288.3          1.09       14.79
        3.73   179.03    .289E+06     337.2          1.13       14.27
        3.97   179.27    .326E+06     369.5          1.09       14.72
        4.20   179.50    .371E+06     413.9          1.08       14.94

                                <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0229)  590.63    35.09    5.25  44.44      1.67      0.64
     OUTFLOW: ID= 1 (0311)  590.63    28.07    5.50  44.44      1.55      0.62
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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  22.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.11        17.11
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     384.88        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.41         0.87      1.284 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25      5.25
     RUNOFF VOLUME    (mm)=      60.71        32.80     39.22
     TOTAL RAINFALL   (mm)=      62.71        62.71     62.71
     RUNOFF COEFFICIENT   =       0.97         0.52      0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 147.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.93       113.59
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     991.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.72         5.81      8.524 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25      5.25
     RUNOFF VOLUME    (mm)=      60.71        32.80     39.22
     TOTAL RAINFALL   (mm)=      62.71        62.71     62.71
     RUNOFF COEFFICIENT   =       0.97         0.52      0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   4.39
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.33         2.06
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     171.08        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.41
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.19         0.11      0.292 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25      5.25
     RUNOFF VOLUME    (mm)=      60.71        32.80     47.59
     TOTAL RAINFALL   (mm)=      62.71        62.71     62.71
     RUNOFF COEFFICIENT   =       0.97         0.52      0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0272) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    22.22   1.284     5.25    39.22
        + ID2= 2 (****):   147.52   8.524     5.25    39.22
          ================================================
          ID = 3 (0272):   169.74   9.808     5.25    39.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0272) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0272):   169.74   9.808     5.25    39.22
        + ID2= 2 (****):     4.39   0.292     5.25    47.59
          ================================================
          ID = 1 (0272):   174.13  10.100     5.25    39.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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RESERVOIR (0623)	IN= 2---> OUT= 1	DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.5800	0.5400
			0.2100	0.1580	0.8200	0.7657
			0.3100	0.3380	0.9400	0.9136
			0.5600	0.3765	21.0800	1.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0272)	174.130	10.100	5.25	39.43
OUTFLOW: ID= 1 (0623)	174.130	11.550	5.25	39.43

PEAK FLOW REDUCTION [Qout/Qin](%)=114.35
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 1.0243

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0230)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0311):	590.63	28.067	5.50	44.44
	+ ID2= 2 (0623):	174.13	11.550	5.25	39.43
	ID = 3 (0230):	764.76	37.991	5.25	43.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0312)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (412.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1000	
35.00	172.00	0.1000	
85.00	171.00	0.1000	
94.00	168.50	0.1000 /0.0600	Main Channel
94.00	168.30	0.1000 /0.0600	Main Channel
97.00	168.30	0.0600 /0.1000	Main Channel
97.00	168.50	0.0600 /0.1000	Main Channel
99.00	169.00	0.1000	
125.00	174.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	168.57	.150E+04	0.4	0.42	71.21
0.55	168.85	.374E+04	1.2	0.57	52.20
0.82	169.12	.701E+04	2.6	0.66	45.23
1.09	169.39	.114E+05	4.6	0.72	41.28
1.37	169.67	.170E+05	7.4	0.77	38.38
1.64	169.94	.238E+05	11.0	0.82	36.03
1.92	170.22	.317E+05	15.5	0.87	34.04
2.19	170.49	.408E+05	21.1	0.92	32.31
2.46	170.76	.511E+05	27.7	0.96	30.79
2.74	171.04	.626E+05	34.6	0.98	30.18

3.01	171.31	.792E+05	41.3	0.93	31.95
3.28	171.58	.103E+06	52.5	0.91	32.75
3.56	171.86	.134E+06	67.6	0.89	33.15
3.83	172.13	.173E+06	87.9	0.91	32.73
4.11	172.41	.215E+06	113.5	0.94	31.60
4.38	172.68	.261E+06	143.4	0.98	30.38
4.65	172.95	.312E+06	177.9	1.02	29.19
4.93	173.23	.365E+06	217.1	1.06	28.05
5.20	173.50	.423E+06	261.3	1.10	27.00

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0230)	764.76	37.99	5.25	43.30	2.88	0.95
OUTFLOW: ID= 1 (0312)	764.76	29.29	5.75	43.30	2.53	0.97

CALIB	STANDHYD (0126)	ID= 1 DT=15.0 min	Area (ha)= 105.36	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.04	65.32
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	838.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.21 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	41.41
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0231)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0126):	105.36	6.215	5.25	41.41
	+ ID2= 2 (0312):	764.76	29.287	5.75	43.30
	ID = 3 (0231):	870.12	31.601	5.75	43.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 84.16	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.50	33.66
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	749.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	5.766 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	49.54
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 0.10	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.06	0.04
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	25.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.007 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	49.50
TOTAL RAINFALL	(mm)=	62.71
RUNOFF COEFFICIENT	=	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0273)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (****):	84.16	5.766	5.25	49.54
	+ ID2= 2 (****):	0.10	0.007	5.25	49.50
	ID = 3 (0273):	84.26	5.773	5.25	49.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0313)	IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (413.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
17.49	180.00	0.1000	
117.61	179.00	0.1000 /0.0600	Main Channel
149.88	178.00	0.0600	Main Channel
158.35	178.00	0.0600	Main Channel
166.10	179.00	0.0600 /0.1000	Main Channel
307.85	180.00	0.1000	

<---------- TRAVEL TIME TABLE ----------

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	178.10	.981E+03	0.2	0.17	89.26
0.20	178.20	.234E+04	0.6	0.26	60.26
0.30	178.30	.407E+04	1.4	0.32	48.14
0.40	178.40	.617E+04	2.5	0.38	41.07
0.50	178.50	.865E+04	4.0	0.43	36.27
0.60	178.60	.115E+05	5.9	0.48	32.74
0.70	178.70	.147E+05	8.2	0.52	30.00
0.80	178.80	.183E+05	11.0	0.56	27.79
0.90	178.90	.223E+05	14.3	0.60	25.96
1.00	179.00	.267E+05	18.2	0.64	24.42
1.10	179.10	.324E+05	23.8	0.69	22.70
1.21	179.21	.413E+05	31.0	0.70	22.19
1.32	179.32	.531E+05	39.8	0.70	22.24
1.43	179.43	.676E+05	50.2	0.70	22.44
1.54	179.54	.850E+05	62.6	0.69	22.63
1.66	179.66	.105E+06	77.1	0.69	22.74
1.77	179.77	.128E+06	93.8	0.69	22.76
1.88	179.88	.154E+06	113.0	0.69	22.69
1.99	179.99	.182E+06	134.9	0.69	22.54

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0273)	84.26	5.77	5.25	49.54	0.60	0.47
OUTFLOW: ID= 1 (0313)	84.26	4.79	5.25	49.54	0.54	0.45

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| CALIB            |
| STANDHYD  (0106) |   Area    (ha)=  23.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      5.47         18.31
     Dep. Storage     (mm)=      2.00          6.00
     Average Slope     (%)=      1.00          1.00
     Length            (m)=    398.16         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         19.41
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.44          0.94        1.374 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     60.71         32.80        39.22
     TOTAL RAINFALL   (mm)=     62.71         62.71        62.71
     RUNOFF COEFFICIENT   =      0.97          0.52         0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  43.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     16.68         27.21
     Dep. Storage     (mm)=      2.00          6.00
     Average Slope     (%)=      1.00          1.00
     Length            (m)=    540.93         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         19.41
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.34          1.39        2.727 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     60.71         32.80        43.40
     TOTAL RAINFALL   (mm)=     62.71         62.71        62.71
     RUNOFF COEFFICIENT   =      0.97          0.52         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.07          0.12
     Dep. Storage     (mm)=      2.00          6.00
     Average Slope     (%)=      1.00          1.00
     Length            (m)=     35.59         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         19.41
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.01          0.01        0.012 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     60.71         32.80        43.34
     TOTAL RAINFALL   (mm)=     62.71         62.71        62.71
     RUNOFF COEFFICIENT   =      0.97          0.52         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.05          0.07
     Dep. Storage     (mm)=      2.00          6.00
     Average Slope     (%)=      1.00          1.00
     Length            (m)=     28.28         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         19.41
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.00          0.00        0.007 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     60.71         32.80        43.34
     TOTAL RAINFALL   (mm)=     62.71         62.71        62.71
     RUNOFF COEFFICIENT   =      0.97          0.52         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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```
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0271) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    43.89   2.727     5.25    43.40
      + ID2= 2 (****):     0.19   0.012     5.25    43.34
        ==============================================
        ID = 3 (0271):    44.08   2.739     5.25    43.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0271) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (0271):    44.08   2.739     5.25    43.40
      + ID2= 2 (****):     0.12   0.007     5.25    43.34
        ==============================================
        ID = 1 (0271):    44.20   2.746     5.25    43.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0235) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0106):    23.78   1.374     5.25    39.22
      + ID2= 2 (0271):    44.20   2.746     5.25    43.40
        ==============================================
        ID = 3 (0235):    67.98   4.120     5.25    41.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0235) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (0235):    67.98   4.120     5.25    41.94
      + ID2= 2 (0313):    84.26   4.793     5.25    49.54
        ==============================================
        ID = 1 (0235):   152.24   8.913     5.25    46.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  57.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     21.82         35.60
     Dep. Storage     (mm)=      2.00          6.00
     Average Slope     (%)=      1.00          1.00
     Length            (m)=    618.71         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         19.41
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.75          1.82        3.568 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     60.71         32.80        43.40
     TOTAL RAINFALL   (mm)=     62.71         62.71        62.71
     RUNOFF COEFFICIENT   =      0.97          0.52         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.56
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.21          0.35
     Dep. Storage     (mm)=      2.00          6.00
     Average Slope     (%)=      1.00          1.00
     Length            (m)=     61.10         40.00
     Mannings n            =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     28.84         19.41
               over (min)       15.00         30.00
     Storage Coeff.  (min)=      6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.02          0.02        0.035 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     60.71         32.80        43.38
     TOTAL RAINFALL   (mm)=     62.71         62.71        62.71
     RUNOFF COEFFICIENT   =      0.97          0.52         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.02
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|ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.39	0.63
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	82.46	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.03	0.03	0.063 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	43.39
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0236)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0235):		152.24	8.913	5.25	46.15
+ ID2= 2 (****):		1.02	0.063	5.25	43.39
ID = 3 (0236):		153.26	8.977	5.25	46.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0236)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0236):		153.26	8.977	5.25	46.13
+ ID2= 2 (****):		57.42	3.568	5.25	43.40
ID = 1 (0236):		210.68	12.544	5.25	45.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0236)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0236):		210.68	12.544	5.25	45.38
+ ID2= 2 (****):		0.56	0.035	5.25	43.38

ID = 3 (0236):		211.24	12.579	5.25	45.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0314)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (414.0) ------>

Distance	Elevation	Manning	
0.00	173.00	0.1000	
107.79	172.00	0.1000 /0.0600	Main Channel
112.20	171.00	0.0600	Main Channel
119.59	171.00	0.0600	Main Channel
125.21	172.00	0.0600 /0.1000	Main Channel
137.91	173.00	0.1000	
156.48	173.00	0.1000	
191.39	172.00	0.1000	
197.94	172.00	0.1000	
204.07	173.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	171.10	.111E+04	0.2	0.29	81.52
0.20	171.20	.236E+04	0.7	0.44	53.20
0.30	171.30	.376E+04	1.5	0.56	41.84
0.40	171.40	.529E+04	2.5	0.66	35.43
0.50	171.50	.697E+04	3.7	0.75	31.22
0.60	171.60	.878E+04	5.2	0.83	28.19
0.70	171.70	.107E+05	6.9	0.91	25.88
0.80	171.80	.128E+05	8.9	0.98	24.04
0.90	171.90	.151E+05	11.2	1.04	22.53
1.00	172.00	.175E+05	13.7	1.10	21.26
1.11	172.11	.226E+05	17.7	1.10	21.32
1.22	172.22	.306E+05	22.7	1.05	22.45
1.33	172.33	.413E+05	29.0	0.99	23.76
1.44	172.44	.549E+05	36.9	0.94	24.84
1.56	172.56	.713E+05	46.5	0.92	25.58
1.67	172.67	.905E+05	58.0	0.90	26.00
1.78	172.78	.113E+06	71.7	0.90	26.14
1.89	172.89	.137E+06	87.8	0.90	26.07
2.00	173.00	.165E+06	103.2	0.88	26.63

<---- hydrograph ----> <-pipe / channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW :	ID= 2 (0236)	211.24	12.58	5.25	45.38	0.96	1.08
OUTFLOW:	ID= 1 (0314)	211.24	10.75	5.25	45.38	0.88	1.03

CALIB	
STANDHYD (0127)	Area (ha)= 63.11
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.45	29.66
Dep. Storage	(mm)=	2.00	6.00

		IMPERVIOUS	PERVIOUS (i)
Average Slope	(%)=	1.00	1.00
Length	(m)=	648.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.68	1.37	4.045 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	29.58	46.08
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.47	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0232)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0127):		63.11	4.045	5.25	46.08
+ ID2= 2 (0314):		211.24	10.747	5.25	45.38
ID = 3 (0232):		274.35	14.792	5.25	45.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0234)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0231):		870.12	31.601	5.75	43.07
+ ID2= 2 (0232):		274.35	14.792	5.25	45.54
ID = 3 (0234):		1144.47	44.421	5.25	43.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0315)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (415.0) ------>

Distance	Elevation	Manning	
0.00	164.00	0.1000	
34.00	164.30	0.1000	
37.00	163.10	0.1000	
38.60	163.00	0.1000 /0.0800	Main Channel
40.00	163.00	0.0800	Main Channel
42.30	163.00	0.0800 /0.1000	Main Channel

43.90	163.10	0.1000
46.00	164.30	0.1000
80.00	164.30	0.1000
100.00	168.00	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	163.05	.424E+03	0.0	0.09	338.86
0.11	163.11	.101E+04	0.1	0.13	228.21
0.16	163.16	.166E+04	0.2	0.17	174.49
0.21	163.21	.234E+04	0.3	0.20	144.34
0.26	163.26	.304E+04	0.4	0.24	124.91
0.32	163.32	.376E+04	0.6	0.27	111.22
0.37	163.37	.450E+04	0.7	0.29	100.98
0.42	163.42	.526E+04	0.9	0.32	92.99
0.47	163.47	.604E+04	1.2	0.34	86.55
0.53	163.53	.685E+04	1.4	0.36	81.22
0.58	163.58	.767E+04	1.7	0.39	76.73
0.63	163.63	.852E+04	1.9	0.41	72.89
0.68	163.68	.938E+04	2.2	0.43	69.55
0.74	163.74	.103E+05	2.6	0.44	66.63
0.79	163.79	.112E+05	2.9	0.46	64.03
0.84	163.84	.121E+05	3.3	0.48	61.71
0.89	163.89	.131E+05	3.6	0.50	59.62
0.95	163.95	.140E+05	4.0	0.51	57.73
1.00	164.00	.150E+05	4.5	0.53	56.00

**** WARNING: TRAVEL TIME TABLE EXCEEDED

<---- hydrograph ----> <-pipe / channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW :	ID= 2 (0234)	1144.47	44.42	5.25	43.66	1.00	0.53
OUTFLOW:	ID= 1 (0315)	1144.47	29.79	6.50	43.66	1.00	0.53

CALIB	
STANDHYD (0129)	Area (ha)= 146.96
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	66.13	80.83
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	989.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	5.28	3.72	8.997 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	29.58	43.59
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.47	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0237)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0129):		146.96	8.997	5.25	43.59
+ ID2= 2 (0315):		1144.47	29.795	6.50	43.66
ID = 3 (0237):		1291.43	32.245	6.25	43.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0138) / ID= 1 DT=15.0 min	Area (ha)= 184.05 / Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	69.94	114.11
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1107.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	5.58 4.41 9.990 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 29.58 41.41
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.47 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0238)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0138):		184.05	9.990	5.25	41.41
+ ID2= 2 (0237):		1291.43	32.245	6.25	43.65
ID = 3 (0238):		1475.48	36.050	6.25	43.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0139) / ID= 1 DT=15.0 min	Area (ha)= 21.16 / Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.21	9.95
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	375.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.75
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.90 0.49 1.389 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 31.67 47.06
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.51 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0239)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0139):		21.16	1.389	5.25	47.06
+ ID2= 2 (0238):		1475.48	36.050	6.25	43.37
ID = 3 (0239):		1496.64	36.859	5.25	43.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0233)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0221):		2341.86	33.022	5.25	44.21
+ ID2= 2 (0239):		1496.64	36.859	5.25	43.42
ID = 3 (0233):		3838.50	69.881	5.25	43.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0316) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (416.0) ------>

Distance	Elevation	Manning	
0.00	165.00	0.1200	
10.00	160.00	0.1200	
14.00	158.00	0.1200 /0.0600	Main Channel
15.00	157.20	0.0600	Main Channel
18.00	157.20	0.0600	Main Channel
24.00	158.00	0.0600 /0.1200	Main Channel
28.00	159.00	0.1200	
130.00	161.00	0.1200	
250.00	163.00	0.1200	
310.00	164.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	157.47	.146E+04	0.3	0.26	84.50
0.53	157.73	.373E+04	1.1	0.38	57.82
0.80	158.00	.681E+04	2.5	0.47	46.30
1.17	158.37	.123E+05	6.1	0.65	33.48
1.55	158.75	.188E+05	11.2	0.78	28.11
1.92	159.12	.270E+05	17.5	0.85	25.76
2.30	159.50	.430E+05	26.1	0.80	27.45
2.67	159.87	.688E+05	38.4	0.73	29.84
3.05	160.25	.104E+06	55.4	0.70	31.39
3.42	160.62	.150E+06	77.9	0.68	32.01
3.80	161.00	.205E+06	106.7	0.68	31.95
4.17	161.37	.270E+06	142.0	0.69	31.72
4.55	161.75	.347E+06	185.6	0.70	31.20
4.92	162.12	.436E+06	238.2	0.72	30.49
5.30	162.50	.536E+06	300.9	0.74	29.68
5.67	162.87	.647E+06	374.2	0.76	28.82
6.05	163.25	.770E+06	458.9	0.78	27.96
6.42	163.62	.904E+06	555.8	0.81	27.11
6.80	164.00	.105E+07	665.5	0.83	26.29

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0233)		3838.50	69.88	5.25	43.90	3.29	0.69
OUTFLOW: ID= 1 (0316)		3838.50	60.23	6.50	43.90	3.13	0.69

CALIB / STANDHYD (0137) / ID= 1 DT=15.0 min	Area (ha)= 151.99 / Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	68.40	83.59
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1006.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)

Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	5.46 4.27 9.729 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 32.80 45.36
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.52 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0240)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):		151.99	9.729	5.25	45.36
+ ID2= 2 (0316):		3838.50	60.234	6.50	43.90
ID = 3 (0240):		3990.49	62.846	6.25	43.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0317) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (417.0) ------>

Distance	Elevation	Manning	
0.00	165.50	0.1200	
13.00	165.00	0.1200	
21.00	160.00	0.1200	
31.00	155.50	0.1200 /0.0600	Main Channel
31.01	155.30	0.0600	Main Channel
39.00	155.30	0.0600 /0.1200	Main Channel
39.01	155.50	0.1200	
135.00	157.00	0.1200	
167.00	160.00	0.1200	
200.00	163.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	155.71	.363E+04	1.4	0.31	42.78
0.81	156.11	.147E+05	6.2	0.33	39.56
1.22	156.52	.344E+05	16.2	0.37	35.35
1.62	156.92	.625E+05	32.9	0.41	31.66
2.03	157.33	.969E+05	60.1	0.49	26.90
2.43	157.73	.133E+06	95.4	0.56	23.27
2.84	158.14	.171E+06	137.8	0.63	20.69
3.24	158.54	.211E+06	187.1	0.70	18.76
3.65	158.95	.252E+06	243.1	0.76	17.26
4.05	159.35	.295E+06	305.8	0.81	16.06
4.46	159.76	.339E+06	375.1	0.87	15.07
4.86	160.16	.385E+06	451.1	0.92	14.24
5.27	160.57	.433E+06	533.7	0.96	13.53

5.67	160.97	.483E+06	622.9	1.01	12.91
6.08	161.38	.534E+06	718.9	1.05	12.37
6.48	161.78	.586E+06	821.6	1.10	11.89
6.89	162.19	.640E+06	931.2	1.14	11.46
7.29	162.59	.696E+06	1047.7	1.18	11.08
7.70	163.00	.754E+06	1171.2	1.22	10.73

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0240)	3990.49	62.85	6.25	43.96	2.06	0.49
OUTFLOW: ID= 1 (0317)	3990.49	60.87	6.75	43.96	2.03	0.49

CALIB			
STANDHYD (0140)	Area (ha)= 106.10		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	63.66	42.44
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	841.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	5.10 1.95 7.054 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 29.58 48.26
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.47 0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0241)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0140):	106.10	7.054	5.25	48.26	
+ ID2= 2 (0317):	3990.49	60.868	6.75	43.96	
ID = 3 (0241):	4096.59	62.092	6.75	44.07	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0141)	Area (ha)= 125.58		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.67	87.91
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	914.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.75
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	3.01 4.34 7.344 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 31.67 40.39
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.51 0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0223)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0141):	125.58	7.344	5.25	40.39	
+ ID2= 2 (0241):	4096.59	62.092	6.75	44.07	
ID = 3 (0223):	4222.17	63.729	6.50	43.96	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0318)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (418.0) ------>

Distance	Elevation	Manning	
0.00	165.00	0.1200	
22.00	160.00	0.1200	
43.00	160.00	0.1200	
136.00	156.00	0.1200 /0.0600	Main Channel
145.00	152.60	0.0600	Main Channel
156.00	152.60	0.0600	Main Channel
170.00	158.00	0.0600 /0.1200	Main Channel
180.00	162.00	0.1200	
187.00	162.40	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.49	153.09	.371E+04	3.6	0.60	17.17
0.97	153.57	.820E+04	12.0	0.91	11.43
1.46	154.06	.135E+05	24.6	1.14	9.10
1.94	154.54	.195E+05	41.8	1.34	7.77
2.43	155.03	.263E+05	63.6	1.51	6.88
2.91	155.51	.338E+05	90.5	1.67	6.23
3.40	156.00	.422E+05	122.6	1.81	5.73
3.93	156.53	.540E+05	168.9	1.95	5.33
4.47	157.07	.705E+05	224.8	1.99	5.22
5.00	157.60	.915E+05	292.3	1.99	5.22
5.53	158.13	.117E+06	375.1	2.00	5.20
6.07	158.67	.147E+06	479.8	2.03	5.12
6.60	159.20	.182E+06	600.9	2.06	5.05
7.13	159.73	.221E+06	739.5	2.08	4.99
7.67	160.27	.268E+06	885.7	2.06	5.05
8.20	160.80	.320E+06	1081.6	2.10	4.94
8.73	161.33	.374E+06	1298.4	2.17	4.80
9.27	161.87	.428E+06	1535.4	2.23	4.65
9.80	162.40	.485E+06	1788.6	2.30	4.52

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0223)	4222.17	63.73	6.50	43.96	2.43	1.51
OUTFLOW: ID= 1 (0318)	4222.17	63.94	6.50	43.96	2.43	1.51

CALIB			
STANDHYD (0142)	Area (ha)= 132.90		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	79.74	53.16
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	941.28	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.12
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	6.36 2.53 8.895 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 30.60 48.67
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.49 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9501)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0142):	132.90	8.895	5.25	48.67	
+ ID2= 2 (0318):	4222.17	63.938	6.50	43.96	
ID = 3 (9501):	4355.07	65.837	6.50	44.10	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0161)	Area (ha)= 259.82		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	137.70	122.12
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1316.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.12
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	10.98 4.90 15.889 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 30.60 46.56
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.49 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0224)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0161):	259.82	15.889	5.25	46.56	
+ ID2= 2 (9501):	4355.07	65.837	6.50	44.10	
ID = 3 (0224):	4614.89	74.410	5.25	44.24	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0319)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (418.0) ------>

Distance	Elevation	Manning	
0.00	163.50	0.1000	
28.00	163.00	0.1000	
84.00	151.20	0.1000 /0.0600	Main Channel
84.00	151.00	0.1000 /0.0600	Main Channel
92.00	151.00	0.0600 /0.1000	Main Channel
92.00	151.20	0.0600 /0.1000	Main Channel
98.00	153.00	0.1000	
148.00	155.00	0.1000	
158.00	160.00	0.1000	
248.00	161.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	151.53	.865E+04	2.1	0.45	69.80
1.05	152.05	.212E+05	7.1	0.63	49.68
1.58	152.58	.379E+05	15.2	0.75	41.66
2.11	153.11	.590E+05	26.1	0.82	37.68
2.63	153.63	.919E+05	41.2	0.84	37.20
3.16	154.16	.140E+06	63.2	0.84	36.97
3.68	154.68	.204E+06	93.5	0.86	36.33
4.21	155.21	.282E+06	135.3	0.90	34.71
4.74	155.74	.365E+06	189.9	0.97	32.07
5.26	156.26	.453E+06	253.9	1.05	29.71
5.79	156.79	.543E+06	326.9	1.12	27.69
6.32	157.32	.637E+06	409.0	1.20	25.97
6.84	157.84	.735E+06	499.9	1.27	24.50
7.37	158.37	.836E+06	599.6	1.34	23.24
7.89	158.89	.941E+06	708.2	1.40	22.14
8.42	159.42	.105E+07	825.6	1.47	21.17
8.95	159.95	.116E+07	951.9	1.53	20.31
9.47	160.47	.129E+07	945.7	1.36	22.80
10.00	161.00	.148E+07	1018.3	1.29	24.15

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0224)	4614.89	74.41	5.25	44.24	3.35	0.85
OUTFLOW: ID= 1 (0319)	4614.89	67.31	7.00	44.24	3.23	0.84

CALIB / STANDHYD (0160)	Area (ha)= 38.29	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.55	23.74
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	505.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		1.17	1.21	2.379 (iii)

TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	60.71	32.80	43.40
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.97	0.52	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0225)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0160):	38.29	2.379	5.25	43.40
+ ID2= 2 (0319):	4614.89	67.314	7.00	44.24
ID = 3 (0225):	4653.18	67.737	7.00	44.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0143)	Area (ha)= 64.11	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.47	25.64
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	653.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.12
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		3.08	1.22	4.304 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		60.71	30.60	48.67
TOTAL RAINFALL (mm)=		62.71	62.71	62.71
RUNOFF COEFFICIENT =		0.97	0.49	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0643)
IN= 2---> OUT= 1

DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.3600	1.3663
	0.4900	0.9264	2.9600	1.5789
	1.0100	1.1079	6.7000	2.1840

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0143)	64.110	4.304	5.25	48.67
OUTFLOW: ID= 1 (0643)	64.110	2.579	5.50	48.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.92
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.4783

CALIB / STANDHYD (0156)	Area (ha)= 51.93	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.16	20.77
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	588.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.12
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		2.50	0.99	3.486 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		60.71	30.60	48.67
TOTAL RAINFALL (mm)=		62.71	62.71	62.71
RUNOFF COEFFICIENT =		0.97	0.49	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0226)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0156):	51.93	3.486	5.25	48.67
+ ID2= 2 (0643):	64.11	2.579	5.50	48.66
ID = 3 (0226):	116.04	5.925	5.25	48.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0145)	Area (ha)= 27.64	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.58	11.06
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	429.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	16.93
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		1.33	0.49	1.820 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		60.71	28.60	47.86
TOTAL RAINFALL (mm)=		62.71	62.71	62.71
RUNOFF COEFFICIENT =		0.97	0.46	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0645)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	8.7100	0.8050
	0.1300	0.7000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0145)	27.640	1.820	5.25	47.86
OUTFLOW: ID= 1 (0645)	27.640	1.803	5.50	47.82

PEAK FLOW REDUCTION [Qout/Qin](%)= 99.04
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.7774

CALIB / STANDHYD (0157)	Area (ha)= 52.48	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.49	20.99
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	591.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.52
over (min)		15.00	30.00

```
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.52         0.97         3.489 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      60.71        29.58         48.26
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.97         0.47          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0657) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   8.0000     1.7050
                          0.3100     1.7000   |  15.9900     1.7100

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0157)     52.480     3.489      5.25      48.26
     OUTFLOW: ID= 1 (0657)     52.480     1.115      6.25      48.23

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 31.96
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.7025

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| ADD HYD   (0242) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0645):    27.64   1.803     5.50     47.82
       + ID2= 2 (0657):    52.48   1.115     6.25     48.23
         ================================================
         ID = 3 (0242):    80.12   2.089     5.50     48.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0243) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0226):   116.04   5.925     5.25     48.66
       + ID2= 2 (0242):    80.12   2.089     5.50     48.09
         ================================================
         ID = 3 (0243):   196.16   6.570     5.25     48.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| STANDHYD  (0159) |   Area    (ha)= 122.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      73.69         49.13
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     904.88         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         19.41
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.88          2.51         8.390 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      60.71         32.80         49.54
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.97          0.52          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0248) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0159):   122.82   8.390     5.25     49.54
       + ID2= 2 (0243):   196.16   6.570     5.25     48.43
         ================================================
         ID = 3 (0248):   318.98  14.960     5.25     48.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0251) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0225):  4653.18  67.737     7.00     44.23
       + ID2= 2 (0248):   318.98  14.960     5.25     48.86
         ================================================
         ID = 3 (0251):  4972.16  72.417     6.25     44.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION ( 420.0) ------>
               Distance      Elevation        Manning
                  0.00         154.00         0.1000
                  9.00         149.00         0.1000
                 11.00         148.00    0.1000 /0.0600  Main Channel
                 12.00         146.80         0.0600      Main Channel
                 19.00         146.80         0.0600      Main Channel
                 20.00         147.00    0.0600 /0.1000  Main Channel
                 22.00         148.00         0.1000
                142.00         150.00         0.1000
                144.00         152.00         0.1000
                161.00         155.00         0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.20  147.00    .195E+04       0.4         0.24       89.36
        0.57  147.37    .608E+04       2.2         0.47       45.34
        0.94  147.74    .107E+05       5.3         0.63       33.88
        1.31  148.11    .162E+05       9.3         0.74       29.19
        1.67  148.47    .300E+05      15.7         0.68       31.77
        2.04  148.84    .546E+05      26.3         0.62       34.57
        2.41  149.21    .900E+05      42.5         0.61       35.34
        2.78  149.58    .136E+06      65.4         0.62       34.74
        3.15  149.95    .193E+06      96.2         0.64       33.50
        3.52  150.32    .257E+06     141.4         0.71       30.34
        3.88  150.68    .322E+06     195.9         0.78       27.41
        4.25  151.05    .387E+06     258.0         0.86       25.02
        4.62  151.42    .453E+06     327.4         0.93       23.05
        4.99  151.79    .519E+06     403.8         1.00       21.42
        5.36  152.16    .586E+06     485.6         1.07       20.11
        5.73  152.53    .654E+06     572.0         1.13       19.05
        6.09  152.89    .723E+06     664.7         1.19       18.12
        6.46  153.26    .793E+06     763.7         1.24       17.32
        6.83  153.63    .865E+06     868.7         1.29       16.60

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL                       (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0251) 4972.16    72.42    6.25  44.53      2.86      0.62
     OUTFLOW: ID= 1 (0320) 4972.16    70.05    7.25  44.53      2.83      0.62

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| CALIB              |
| STANDHYD  (0162) |   Area    (ha)= 117.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      53.02         64.81
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     886.30         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         17.52
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                      *TOTALS*
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     PEAK FLOW       (cms)=       4.23          2.98         7.214 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      60.71         29.58         43.59
     TOTAL RAINFALL   (mm)=      62.71         62.71         62.71
     RUNOFF COEFFICIENT   =       0.97          0.47          0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0254) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0162):   117.83   7.214     5.25     43.59
       + ID2= 2 (0320):  4972.16  70.052     7.25     44.53
         ================================================
         ID = 3 (0254):  5089.99  71.306     7.25     44.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0321) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 421.0) ------>
               Distance      Elevation        Manning
                  0.00         154.00         0.1000
                 26.00         150.00         0.1000
                128.00         148.50         0.1000
                170.00         148.00         0.1000
                175.00         147.00    0.1000 /0.0600  Main Channel
                176.00         146.60         0.0600      Main Channel
                182.00         146.60         0.0600      Main Channel
                185.00         147.00    0.0600 /0.1000  Main Channel
                187.00         148.00         0.1000
                227.00         154.00         0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.20  146.80    .232E+04       0.4         0.28       96.99
        0.40  147.00    .530E+04       1.4         0.42       65.03
        0.81  147.41    .131E+05       5.5         0.69       39.69
        1.22  147.82    .229E+05      12.0         0.87       31.65
        1.64  148.24    .384E+05      20.7         0.89       30.89
        2.05  148.65    .770E+05      36.3         0.78       35.32
        2.46  149.06    .137E+06      62.2         0.75       36.79
        2.87  149.47    .219E+06     100.7         0.76       36.20
        3.28  149.88    .321E+06     154.1         0.79       34.73
        3.69  150.29    .440E+06     231.8         0.87       31.64
        4.11  150.71    .563E+06     328.9         0.97       28.55
        4.52  151.12    .690E+06     441.6         1.06       26.05
        4.93  151.53    .821E+06     569.3         1.15       24.03
        5.34  151.94    .955E+06     711.7         1.23       22.37
        5.75  152.35    .109E+07     868.5         1.31       20.98
        6.16  152.76    .124E+07    1039.6         1.39       19.80
```

6.58	153.18	.138E+07	1224.8	1.47	18.79	
6.99	153.59	.153E+07	1424.0	1.54	17.91	
7.40	154.00	.168E+07	1637.2	1.61	17.13	

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0254)	5089.99	71.31	7.25	44.51	2.56	0.75
OUTFLOW: ID= 1 (0321)	5089.99	68.77	8.00	44.51	2.53	0.75

CALIB			
STANDHYD (0163)	Area (ha)= 103.27		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.24	64.03
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	829.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.14	2.95	6.092 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	29.58	41.41
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.47	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0255)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0163):	103.27	6.092	5.25	41.41
+ ID2= 2 (0321):	5089.99	68.765	8.00	44.51
ID = 3 (0255):	5193.26	69.396	8.00	44.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0168)	Area (ha)= 182.67

ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	82.20	100.47
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1103.54	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	16.93
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	6.56	3.74	10.297 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	28.60	43.05
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.46	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0256)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0168):	182.67	10.297	5.25	43.05
+ ID2= 2 (0255):	5193.26	69.396	8.00	44.45
ID = 3 (0256):	5375.93	70.616	7.75	44.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0158)	Area (ha)= 28.59		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.15	11.44
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	436.58	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.37	0.58	1.959 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	49.54

TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.97	0.52	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0658)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.6450	0.5926
	0.0440	0.1178	1.0280	0.7036
	0.0470	0.2198	1.4580	0.8166
	0.0490	0.3238	1.6970	0.8738
	0.3350	0.4836	1.9480	1.1200

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0158)	28.590	1.959	5.25	49.54
OUTFLOW: ID= 1 (0658)	28.590	1.038	5.50	49.52

PEAK FLOW REDUCTION [Qout/Qin](%)= 52.99
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.7155

CALIB			
STANDHYD (0164)	Area (ha)= 109.27		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	57.91	51.36
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	853.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.41
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	4.64	2.63	7.264 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	32.80	47.59
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.52	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0257)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0164):	109.27	7.264	5.25	47.59
+ ID2= 2 (0658):	28.59	1.038	5.50	49.52
ID = 3 (0257):	137.86	8.170	5.25	47.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0244)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0256):	5375.93	70.616	7.75	44.40
+ ID2= 2 (0257):	137.86	8.170	5.25	47.99
ID = 3 (0244):	5513.79	71.748	7.75	44.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0322)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (422.0) ------>

Distance	Elevation	Manning		
0.00	146.00	0.1000		
10.00	144.00	0.1000		
50.00	143.00	0.1000		
61.00	142.50	0.1000 /0.0300	Main Channel	
72.00	138.00	0.0300	Main Channel	
72.00	137.80	0.0300	Main Channel	
75.00	137.80	0.0300	Main Channel	
75.00	138.00	0.0300	Main Channel	
86.00	142.50	0.0300 /0.1000	Main Channel	
108.00	150.00	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	138.23	.221E+04	1.2	0.83	31.62
0.85	138.65	.568E+04	4.3	1.19	22.02
1.28	139.08	.105E+05	10.0	1.49	17.62
1.71	139.51	.168E+05	18.7	1.75	14.96
2.14	139.94	.245E+05	31.1	2.00	13.14
2.56	140.36	.336E+05	47.5	2.22	11.79
2.99	140.79	.441E+05	68.3	2.44	10.75
3.42	141.22	.560E+05	94.1	2.65	9.91
3.85	141.65	.692E+05	125.2	2.84	9.22
4.27	142.07	.839E+05	161.9	3.03	8.64
4.70	142.50	.100E+06	204.7	3.22	8.14
5.14	142.94	.121E+06	267.2	3.47	7.55
5.58	143.38	.151E+06	338.2	3.51	7.46
6.01	143.81	.195E+06	419.9	3.39	7.73
6.45	144.25	.249E+06	515.7	3.25	8.06

6.89	144.69	.307E+06	625.1	3.20	8.19
7.33	145.13	.367E+06	746.1	3.19	8.21
7.76	145.56	.430E+06	878.6	3.21	8.16
8.20	146.00	.495E+06	1022.1	3.25	8.07

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0244)	5513.79	71.75	7.75	44.49	3.05	2.46
OUTFLOW: ID= 1 (0322)	5513.79	71.69	8.00	44.49	3.04	2.46

CALIB	
STANDHYD (0167)	Area (ha)= 67.37
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.32	37.05
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	670.17	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.12
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.43	1.77	4.195 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	30.60	44.15
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.49	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0245)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0167):	67.37	4.195	5.25	44.15
+ ID2= 2 (0322):	5513.79	71.693	8.00	44.49
ID = 3 (0245):	5581.16	72.116	8.00	44.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

STANDHYD (0169)	Area (ha)= 180.24
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	68.49	111.75
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1096.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	5.46	4.32	9.783 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	29.58	41.41
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.97	0.47	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0246)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0169):	180.24	9.783	5.25	41.41
+ ID2= 2 (0245):	5581.16	72.116	8.00	44.48
ID = 3 (0246):	5761.40	73.334	7.75	44.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0323)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (423.0) ------>

Distance	Elevation	Manning	
0.00	145.00	0.1200	
90.00	136.00	0.1200	
95.00	134.90	0.1200 /0.0600	Main Channel
95.00	134.70	0.1200 /0.0600	Main Channel
105.00	134.70	0.0600 /0.1200	Main Channel
105.00	134.90	0.0600 /0.1200	Main Channel
108.00	136.00	0.1200	
255.00	136.00	0.1200	
308.00	145.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	135.24	.548E+04	3.3	0.56	27.64

1.08	135.78	.128E+05	11.0	0.81	19.38
1.63	136.33	.675E+05	33.0	0.46	34.09
2.17	136.87	.156E+06	92.4	0.55	28.17
2.71	137.41	.249E+06	180.6	0.68	23.00
3.25	137.95	.347E+06	294.4	0.80	19.62
3.79	138.49	.448E+06	432.5	0.90	17.28
4.34	139.04	.554E+06	594.0	1.00	15.56
4.88	139.58	.665E+06	778.4	1.10	14.24
5.42	140.12	.780E+06	985.6	1.18	13.19
5.96	140.66	.899E+06	1215.3	1.27	12.33
6.51	141.21	.102E+07	1467.6	1.34	11.62
7.05	141.75	.115E+07	1742.4	1.42	11.01
7.59	142.29	.128E+07	2040.0	1.49	10.48
8.13	142.83	.142E+07	2360.4	1.56	10.03
8.67	143.37	.156E+07	2703.8	1.62	9.62
9.22	143.92	.171E+07	3070.5	1.69	9.26
9.76	144.46	.186E+07	3460.6	1.75	8.94
10.30	145.00	.201E+07	3874.4	1.81	8.65

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0246)	5761.40	73.33	7.75	44.39	1.99	0.52
OUTFLOW: ID= 1 (0323)	5761.40	72.71	8.25	44.39	1.99	0.52

ADD HYD (0247)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0170):	30.06	1.270	5.50	32.02
+ ID2= 2 (0323):	5761.40	72.709	8.25	44.39
ID = 3 (0247):	5791.46	72.901	8.25	44.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0166)	Area (ha)= 260.96
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	117.43	143.53
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1318.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.12
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	9.37	5.76	15.131 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	60.71	30.60	44.15
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71

RUNOFF COEFFICIENT	=	0.97	0.49	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0249)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0166):	260.96	15.131	5.25	44.15
+ ID2= 2 (0247):	5791.46	72.901	8.25	44.32
ID = 3 (0249):	6052.42	74.578	8.25	44.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0324)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (424.0) ------>

Distance	Elevation	Manning	
0.00	138.00	0.1000	
34.00	130.00	0.1000	
35.00	129.70	0.1000 /0.0600	Main Channel
41.00	129.70	0.0600 /0.1000	Main Channel
42.00	130.00	0.1000	
44.00	131.00	0.1000	
98.00	132.00	0.1000	
122.00	133.00	0.1000	
150.00	140.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.44	130.14	.561E+04	1.5	0.46	62.25
0.87	130.57	.133E+05	5.1	0.67	43.14
1.31	131.01	.231E+05	10.7	0.80	35.80
1.75	131.45	.438E+05	19.1	0.75	38.25
2.18	131.88	.837E+05	34.5	0.71	40.41
2.62	132.32	.140E+06	60.4	0.74	38.66
3.06	132.76	.206E+06	96.4	0.81	35.64
3.49	133.19	.281E+06	144.5	0.89	32.39
3.93	133.63	.359E+06	205.4	0.99	29.15
4.37	134.07	.440E+06	276.2	1.08	26.58
4.81	134.51	.524E+06	356.4	1.17	24.51
5.24	134.94	.611E+06	446.1	1.26	22.82
5.68	135.38	.709E+06	544.9	1.34	21.41
6.12	135.82	.792E+06	652.9	1.42	20.21
6.55	136.25	.887E+06	770.1	1.50	19.19
6.99	136.69	.984E+06	896.3	1.57	18.30
7.43	137.13	.108E+07	1031.7	1.64	17.51
7.86	137.56	.119E+07	1176.1	1.71	16.82
8.30	138.00	.129E+07	1329.8	1.77	16.20

<---- hydrograph ----> <-pipe /

channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0249)	6052.42	74.58	8.25	44.32	2.79	0.77
OUTFLOW: ID= 1 (0324)	6052.42	73.25	8.50	44.32	2.77	0.76

CALIB	
STANDHYD (0171)	Area (ha)= 277.59
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	105.48	172.11
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1360.37	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	18.12
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	8.41 6.91 15.326 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 30.60 42.04
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.49 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0250)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0171):	277.59	15.326	5.25	42.04
	+ ID2= 2 (0324):	6052.42	73.252	8.50	44.32
	ID = 3 (0250):	6330.01	74.616	8.50	44.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0325)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (425.0) ------>

Distance	Elevation	Manning
0.00	135.00	0.1200
30.00	133.00	0.1200
53.00	130.00	0.1200
70.00	127.00	0.1200 /0.0800 Main Channel
74.00	126.30	0.0800 Main Channel
78.00	126.30	0.0800 Main Channel
82.00	127.00	0.0800 /0.1200 Main Channel
96.00	129.00	0.1200
118.00	135.00	0.1200

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	126.65	.244E+04	0.6	0.28	69.40
0.70	127.00	.651E+04	2.3	0.41	47.37
1.17	127.47	.147E+05	7.6	0.60	32.40
1.64	127.94	.262E+05	16.0	0.71	27.32
2.11	128.41	.409E+05	27.9	0.79	24.46
2.58	128.88	.589E+05	43.6	0.86	22.49
3.05	129.35	.799E+05	63.9	0.93	20.83
3.52	129.82	.103E+06	88.6	1.00	19.43
3.99	130.29	.129E+06	117.5	1.06	18.34
4.46	130.76	.158E+06	151.0	1.11	17.45
4.94	131.24	.190E+06	189.7	1.16	16.68
5.41	131.71	.224E+06	233.7	1.21	16.01
5.88	132.18	.262E+06	283.4	1.26	15.41
6.35	132.65	.303E+06	339.0	1.30	14.88
6.82	133.12	.346E+06	399.4	1.34	14.44
7.29	133.59	.394E+06	463.2	1.37	14.17
7.76	134.06	.446E+06	535.2	1.39	13.90
8.23	134.53	.504E+06	615.8	1.42	13.63
8.70	135.00	.566E+06	705.3	1.45	13.37

<---- hydrograph ----> <-pipe /

channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0250)	6330.01	74.62	8.50	44.22	3.26	0.96
OUTFLOW: ID= 1 (0325)	6330.01	74.24	8.75	44.22	3.24	0.96

CALIB	
STANDHYD (0172)	Area (ha)= 182.59
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	69.38	113.21
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1103.30	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	17.52
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	5.53 4.38 9.910 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 29.58 41.41
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.47 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0252)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0172):	182.59	9.910	5.25	41.41
	+ ID2= 2 (0325):	6330.01	74.235	8.75	44.22
	ID = 3 (0252):	6512.60	75.034	8.50	44.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0173)	Area (ha)= 162.52
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	61.76	100.76
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1040.90	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	28.84	18.12
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	4.93 4.80 9.729 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	60.71 30.60 42.04
TOTAL RAINFALL	(mm)=	62.71 62.71 62.71
RUNOFF COEFFICIENT	=	0.97 0.49 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0253)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0173):	162.52	9.729	5.25	42.04
	+ ID2= 2 (0252):	6512.60	75.034	8.50	44.14

ID = 3 (0253):	6675.12	75.707	8.50	44.09		

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0326)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (426.0) ------>

Distance	Elevation	Manning
0.00	137.00	0.1200
45.00	135.00	0.1200
53.00	130.00	0.1200
137.00	125.20	0.1200 /0.0800 Main Channel
137.00	125.00	0.1200 /0.0800 Main Channel
143.00	125.00	0.0800 /0.1200 Main Channel
143.00	125.20	0.0800 /0.1200 Main Channel
195.00	126.00	0.1200
260.00	130.00	0.1200
325.00	135.00	0.1200

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	125.53	.747E+04	2.3	0.30	54.64
1.05	126.05	.359E+05	14.2	0.39	42.17
1.58	126.58	.789E+05	42.5	0.53	30.93
2.11	127.11	.131E+06	86.4	0.65	25.33
2.63	127.63	.193E+06	146.7	0.75	21.91
3.16	128.16	.264E+06	224.7	0.84	19.56
3.68	128.68	.344E+06	321.8	0.93	17.80
4.21	129.21	.433E+06	439.3	1.00	16.43
4.74	129.74	.532E+06	578.4	1.08	15.32
5.26	130.26	.639E+06	748.6	1.16	14.22
5.79	130.79	.751E+06	949.8	1.25	13.17
6.32	131.32	.867E+06	1173.6	1.34	12.31
6.84	131.84	.987E+06	1419.9	1.42	11.58
7.37	132.37	.111E+07	1688.7	1.51	10.96
7.89	132.89	.124E+07	1980.1	1.58	10.42
8.42	133.42	.137E+07	2294.3	1.66	9.95
8.95	133.95	.151E+07	2631.2	1.73	9.54
9.47	134.47	.165E+07	2991.2	1.80	9.17
10.00	135.00	.179E+07	3374.5	1.87	8.84

<---- hydrograph ----> <-pipe /

channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0253)	6675.12	75.71	8.50	44.09	1.98	0.62
OUTFLOW: ID= 1 (0326)	6675.12	75.29	8.75	44.09	1.97	0.62

CALIB					
NASHYD (0176)	Area (ha)=	51.49	Curve Number	(CN)=	85.0
ID= 1 DT=15.0 min	Ia (mm)=	7.00	# of Linear Res.(N)=		5.00
	U.H. Tp(hrs)=	1.03			

Unit Hyd Qpeak (cms)= 2.756

PEAK FLOW (cms)= 1.659 (i)

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     TIME TO PEAK    (hrs)=   6.000
     RUNOFF VOLUME    (mm)=  30.875
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.492

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD    (0258) |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0176):    51.49   1.659     6.00    30.87
       + ID2= 2 (0326):  6675.12  75.287     8.75    44.09
         ================================================
         ID = 3 (0258):  6726.61  75.616     8.75    43.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0174)  |   Area    (ha)= 177.89
|ID= 1 DT=15.0 min  |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     67.60       110.29
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=   1089.01        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        16.93
           over (min)          15.00        30.00
     Storage Coeff.  (min)=    12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     5.39         4.10       9.497 (iii)
     TIME TO PEAK    (hrs)=     5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=    60.71        28.60       40.80
     TOTAL RAINFALL   (mm)=    62.71        62.71       62.71
     RUNOFF COEFFICIENT   =     0.97         0.46        0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD    (0259) |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0174):   177.89   9.497     5.25    40.80
       + ID2= 2 (0258):  6726.61  75.616     8.75    43.98
         ================================================
         ID = 3 (0259):  6904.50  76.294     8.75    43.90
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0327) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION ( 427.0) ------>
              Distance      Elevation       Manning
                 0.00         130.00        0.1200
                45.00         124.00        0.1200
                85.00         123.00        0.1200
                91.00         120.40    0.1200 /0.0800  Main Channel
                91.00         120.20    0.1200 /0.0800  Main Channel
                98.00         120.20    0.0800 /0.1200  Main Channel
                98.00         120.40    0.0800 /0.1200  Main Channel
               115.00         123.00        0.1200
               195.00         123.00        0.1200
               210.00         130.00        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.52   120.72    .450E+04       2.3          0.56       32.81
        1.03   121.23    .114E+05       8.1          0.78       23.58
        1.55   121.75    .209E+05      17.6          0.93       19.79
        2.06   122.26    .331E+05      31.4          1.05       17.54
        2.58   122.78    .478E+05      49.9          1.16       15.97
        3.09   123.29    .930E+05      70.1          0.84       22.09
        3.61   123.81    .169E+06     135.6          0.89       20.81
        4.13   124.33    .256E+06     232.6          1.01       18.35
        4.64   124.84    .346E+06     357.4          1.15       16.16
        5.16   125.36    .440E+06     506.4          1.28       14.47
        5.67   125.87    .536E+06     678.4          1.41       13.16
        6.19   126.39    .635E+06     872.8          1.53       12.12
        6.71   126.91    .736E+06    1089.1          1.64       11.27
        7.22   127.42    .841E+06    1326.9          1.75       10.56
        7.74   127.94    .948E+06    1586.0          1.86        9.96
        8.25   128.45    .106E+07    1866.4          1.96        9.45
        8.77   128.97    .117E+07    2167.8          2.05        9.01
        9.28   129.48    .129E+07    2490.3          2.15        8.62
        9.80   130.00    .141E+07    2833.8          2.24        8.27

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0259) 6904.50    76.29     8.75   43.90      3.14      0.84
     OUTFLOW: ID= 1 (0327) 6904.50    75.86     9.00   43.90      3.14      0.84


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| CALIB             |
| NASHYD    (0175)  |   Area    (ha)=  18.01   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min  |   Ia      (mm)=   7.00   # of Linear Res.(N)= 5.00
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   1.672

     PEAK FLOW       (cms)=   0.684 (i)
     TIME TO PEAK    (hrs)=   5.500
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     RUNOFF VOLUME    (mm)=  27.907
     TOTAL RAINFALL   (mm)=  62.710
     RUNOFF COEFFICIENT   =   0.445

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD    (0260) |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0175):    18.01   0.684     5.50    27.91
       + ID2= 2 (0327):  6904.50  75.857     9.00    43.90
         ================================================
         ID = 3 (0260):  6922.51  75.917     9.00    43.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION ( 428.0) ------>
              Distance      Elevation       Manning
                 0.00         116.00        0.1200
                26.00         110.00    0.1200 /0.0800  Main Channel
                28.00         109.70        0.0800      Main Channel
                36.00         109.70        0.0800      Main Channel
                37.00         110.00    0.0800 /0.1200  Main Channel
                55.00         115.00        0.1200
                60.00         115.50        0.1200
                70.00         116.00        0.1200
               110.00         117.00        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.30   110.00    .387E+04       1.0          0.36       63.21
        0.62   110.32    .912E+04       3.9          0.58       38.81
        0.93   110.63    .154E+05       8.4          0.74       30.61
        1.25   110.95    .228E+05      14.5          0.86       26.27
        1.56   111.26    .313E+05      22.2          0.96       23.51
        1.88   111.58    .409E+05      31.6          1.05       21.56
        2.19   111.89    .515E+05      42.7          1.13       20.08
        2.51   112.21    .632E+05      55.7          1.20       18.92
        2.83   112.53    .759E+05      70.5          1.26       17.96
        3.14   112.84    .898E+05      87.2          1.32       17.15
        3.46   113.16    .105E+06     106.0          1.37       16.45
        3.77   113.47    .121E+06     126.9          1.43       15.85
        4.09   113.79    .138E+06     149.9          1.48       15.31
        4.41   114.11    .156E+06     175.2          1.53       14.83
        4.72   114.42    .175E+06     202.8          1.57       14.39
        5.04   114.74    .195E+06     232.7          1.62       13.99
        5.35   115.05    .217E+06     264.5          1.66       13.66
        5.67   115.37    .240E+06     296.6          1.68       13.47
        5.98   115.68    .265E+06     329.5          1.69       13.40

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
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     INFLOW : ID= 2 (0260) 6922.51    75.92     9.00   43.86      2.93      1.28
     OUTFLOW: ID= 1 (0328) 6922.51    75.71     9.25   43.86      2.92      1.28


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| CALIB             |
| STANDHYD  (0177)  |   Area    (ha)= 265.44
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    119.45       145.99
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=   1330.26        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        13.86
           over (min)          15.00        45.00
     Storage Coeff.  (min)=    12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=    15.00        30.00
     Unit Hyd. peak  (cms)=     0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=     9.53         4.37      13.894 (iii)
     TIME TO PEAK    (hrs)=     5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=    60.71        23.49       40.24
     TOTAL RAINFALL   (mm)=    62.71        62.71       62.71
     RUNOFF COEFFICIENT   =     0.97         0.37        0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD    (0261) |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0177):   265.44  13.894     5.25    40.24
       + ID2= 2 (0328):  6922.51  75.710     9.25    43.86
         ================================================
         ID = 3 (0261):  7187.95  76.499     9.25    43.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0178)  |   Area    (ha)= 271.86
|ID= 1 DT=15.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    122.34       149.52
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=   1346.25        40.00
     Mannings n            =     0.013        0.250
```

			TOTALS
Max.Eff.Inten.(mm/hr)=	28.84	14.32	
over (min)	15.00	45.00	
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.08	0.04	
PEAK FLOW (cms)=	9.76	4.63	14.393 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	60.71	24.26	40.66
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.97	0.39	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0178):	271.86	14.393	5.25	40.66
+ ID2= 2 (0261):	7187.95	76.499	9.25	43.73
ID = 3 (0262):	7459.81	77.318	9.25	43.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0329)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (429.0) ------>

Distance	Elevation	Manning	
0.00	112.00	0.1800	
42.00	110.00	0.1800	
69.00	107.00	0.1800	
72.00	106.20	0.1800	
72.00	106.00	0.1800 /0.0700	Main Channel
82.00	106.00	0.0700 /0.1800	Main Channel
82.00	106.20	0.0700 /0.1800	Main Channel
86.00	107.00	0.1800	
102.00	109.00	0.1800	
169.00	111.00	0.1800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	106.26	.682E+04	1.4	0.52	82.26
0.53	106.53	.147E+05	4.4	0.78	55.27
0.79	106.79	.242E+05	8.9	0.95	45.23
1.05	107.05	.353E+05	14.7	1.07	39.91
1.32	107.32	.489E+05	21.9	1.15	37.24
1.58	107.58	.656E+05	30.6	1.20	35.72
1.84	107.84	.853E+05	41.0	1.24	34.70
2.11	108.11	.108E+06	53.1	1.26	33.92
2.37	108.37	.134E+06	67.0	1.29	33.27
2.63	108.63	.163E+06	82.9	1.31	32.70

2.89	108.89	.194E+06	100.8	1.33	32.16
3.16	109.16	.230E+06	119.2	1.33	32.18
3.42	109.42	.273E+06	140.0	1.32	32.50
3.68	109.68	.323E+06	164.3	1.31	32.80
3.95	109.95	.381E+06	192.3	1.30	33.06
4.21	110.21	.448E+06	222.3	1.28	33.57
4.47	110.47	.524E+06	256.6	1.26	34.02
4.74	110.74	.609E+06	295.8	1.25	34.34
5.00	111.00	.705E+06	340.1	1.24	34.53

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0262)	7459.81	77.32	9.25	43.62	2.54	1.30
OUTFLOW: ID= 1 (0329)	7459.81	76.44	9.75	43.61	2.52	1.30

CALIB
STANDHYD (0179) | Area (ha)= 85.00
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	32.30	52.70
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	752.77	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	28.84	13.86	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.10	0.06	
PEAK FLOW (cms)=	2.59	1.91	4.502 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	60.71	23.49	37.63
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.97	0.37	0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0263)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0179):	85.00	4.502	5.25	37.63
+ ID2= 2 (0329):	7459.81	76.441	9.75	43.61
ID = 3 (0263):	7544.81	76.573	9.50	43.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0182) | Area (ha)= 183.03
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	97.01	86.02
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	1104.63	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	28.84	12.98	
over (min)	15.00	45.00	
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.08	0.04	
PEAK FLOW (cms)=	7.74	2.40	10.136 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	60.71	22.03	42.53
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.97	0.35	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0264)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0182):	183.03	10.136	5.25	42.53
+ ID2= 2 (0263):	7544.81	76.573	9.50	43.55
ID = 3 (0264):	7727.84	76.971	9.50	43.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0330)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (430.0) ------>

Distance	Elevation	Manning	
0.00	90.00	0.1200	
7.00	85.00	0.1200	
10.00	83.00	0.1200	
10.00	82.80	0.1200 /0.0800	Main Channel
19.00	82.80	0.0800	Main Channel
19.00	83.00	0.0800 /0.1200	Main Channel
20.00	84.00	0.1200	
45.00	85.00	0.1200	
85.00	90.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	83.18	.243E+04	1.8	0.53	21.92
0.76	83.56	.507E+04	5.9	0.82	14.23
1.14	83.94	.796E+04	11.9	1.05	11.19
1.52	84.32	.120E+05	19.7	1.16	10.14
1.89	84.69	.186E+05	30.7	1.16	10.08
2.27	85.07	.279E+05	46.3	1.17	10.04
2.65	85.45	.386E+05	67.3	1.22	9.57
3.03	85.83	.504E+05	93.0	1.30	9.03
3.41	86.21	.631E+05	123.2	1.37	8.53
3.79	86.59	.767E+05	158.1	1.45	8.08
4.17	86.97	.913E+05	197.8	1.52	7.69
4.55	87.35	.107E+06	242.4	1.60	7.34
4.93	87.73	.123E+06	292.0	1.67	7.04
5.31	88.11	.141E+06	346.7	1.73	6.76
5.68	88.48	.159E+06	406.7	1.80	6.52
6.06	88.86	.178E+06	472.2	1.86	6.30
6.44	89.24	.199E+06	543.2	1.92	6.09
6.82	89.62	.220E+06	620.0	1.98	5.91
7.20	90.00	.242E+06	702.7	2.04	5.74

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0264)	7727.84	76.97	9.50	43.52	2.80	1.25
OUTFLOW: ID= 1 (0330)	7727.84	76.93	9.75	43.52	2.79	1.25

CALIB
STANDHYD (0181) | Area (ha)= 55.83
ID= 1 DT=15.0 min | Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.75	39.08
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	610.08	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	28.84	12.98	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.10	0.06	
PEAK FLOW (cms)=	1.34	1.33	2.671 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	60.71	22.03	33.64
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.97	0.35	0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0265) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0181):    55.83   2.671     5.25    33.64
        + ID2= 2 (0330):  7727.84  76.931     9.75    43.52
          ================================================
          ID = 3 (0265):  7783.67  77.011     9.75    43.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0183) |   Area    (ha)= 330.88
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=    175.37       155.51
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=   1485.22        40.00
     Mannings n         =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        12.98
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                    *TOTALS*
     PEAK FLOW       (cms)=     13.99         4.33          18.324 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=     60.71        22.03          42.53
     TOTAL RAINFALL   (mm)=     62.71        62.71          62.71
     RUNOFF COEFFICIENT   =      0.97         0.35           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0266) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0183):   330.88  18.324     5.25    42.53
        + ID2= 2 (0265):  7783.67  77.011     9.75    43.45
          ================================================
          ID = 3 (0266):  8114.55  77.698     9.50    43.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0331) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION ( 431.0) ------>
                Distance      Elevation       Manning
                    0.00         90.00        0.1200
                    7.00         85.00        0.1200
                   10.00         83.00        0.1200
                   10.00         82.80    0.1200 /0.0600  Main Channel
                   19.00         82.80        0.0600      Main Channel
                   19.00         83.00    0.0600 /0.1200  Main Channel
                   20.00         84.00        0.1200
                   45.00         85.00        0.1200
                   85.00         90.00        0.1200

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.38    83.18    .218E+04       2.8          0.81      13.04
       0.76    83.56    .456E+04       8.9          1.24       8.50
       1.14    83.94    .716E+04      17.8          1.57       6.71
       1.52    84.32    .107E+05      29.3          1.72       6.11
       1.89    84.69    .167E+05      45.0          1.70       6.19
       2.27    85.07    .250E+05      66.2          1.67       6.30
       2.65    85.45    .347E+05      94.2          1.71       6.15
       3.03    85.83    .453E+05     127.7          1.78       5.91
       3.41    86.21    .567E+05     166.8          1.86       5.66
       3.79    86.59    .689E+05     211.6          1.94       5.43
       4.17    86.97    .820E+05     262.2          2.02       5.22
       4.55    87.35    .960E+05     318.6          2.10       5.02
       4.93    87.73    .111E+06     381.1          2.17       4.85
       5.31    88.11    .126E+06     449.7          2.25       4.69
       5.68    88.48    .143E+06     524.7          2.32       4.54
       6.06    88.86    .160E+06     606.1          2.39       4.41
       6.44    89.24    .179E+06     694.2          2.46       4.29
       6.82    89.62    .198E+06     789.1          2.52       4.18
       7.20    90.00    .218E+06     890.9          2.59       4.07

                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0266) 8114.55    77.70    9.50  43.41      2.43      1.69
     OUTFLOW: ID= 1 (0331) 8114.55    77.69    9.50  43.41      2.42      1.69


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| CALIB            |
| STANDHYD  (0180) |   Area    (ha)= 157.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     59.72        97.43
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=   1023.56        40.00
     Mannings n         =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        12.98
               over (min)       15.00        45.00
     Storage Coeff.  (min)=     12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
```



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                                                    *TOTALS*
     PEAK FLOW       (cms)=      4.76         2.72           7.479 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=     60.71        22.03          36.73
     TOTAL RAINFALL   (mm)=     62.71        62.71          62.71
     RUNOFF COEFFICIENT   =      0.97         0.35           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0267) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0180):   157.15   7.479     5.25    36.73
        + ID2= 2 (0331):  8114.55  77.687     9.50    43.41
          ================================================
          ID = 3 (0267):  8271.70  78.025     9.50    43.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ** SIMULATION NUMBER:  16 **
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|    READ STORM    |    Filename: C:\Users\P006437C\AppD

|                  |              ata\Local\Temp\

|                  |
73400444-e18a-4654-b0cf-6b261e438f30\904493af
| Ptotal= 73.10 mm |    Comments: 25yr/12hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50   12.43 |  6.75    5.12 | 10.00    0.73
                0.50    0.73 |  3.75   12.43 |  7.00    5.12 | 10.25    0.73
                0.75    0.73 |  4.00   12.43 |  7.25    5.12 | 10.50    0.73
                1.00    0.73 |  4.25   12.43 |  7.50    2.92 | 10.75    0.73
                1.25    0.73 |  4.50   33.63 |  7.75    2.92 | 11.00    0.73
                1.50    0.73 |  4.75   33.63 |  8.00    2.92 | 11.25    0.73
                1.75    0.73 |  5.00   33.63 |  8.25    2.92 | 11.50    0.73
                2.00    0.73 |  5.25   33.63 |  8.50    1.46 | 11.75    0.73
                2.25    0.73 |  5.50    9.50 |  8.75    1.46 | 12.00    0.73
                2.50    4.39 |  5.75    9.50 |  9.00    1.46 | 12.25    0.73
                2.75    4.39 |  6.00    9.50 |  9.25    1.46 |
                3.00    4.39 |  6.25    9.50 |  9.50    0.73 |
                3.25    4.39 |  6.50    5.12 |  9.75    0.73 |

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| CALIB            |
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| NASHYD    (0170) |   Area    (ha)=  30.06   Curve Number   (CN)= 86.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 5.00
--------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.474

     PEAK FLOW       (cms)=   1.619 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  40.714
     TOTAL RAINFALL   (mm)=  73.100
     RUNOFF COEFFICIENT   =   0.557

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (0100) |   Area    (ha)= 100.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     38.12        62.20
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    817.80        40.00
     Mannings n         =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        22.17
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      3.56         3.64           7.197 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=     71.10        37.80          50.45
     TOTAL RAINFALL   (mm)=     73.10        73.10          73.10
     RUNOFF COEFFICIENT   =      0.97         0.52           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  10.8200     0.0500
                         3.9300     0.0019    |  12.9600     0.1100
                         4.0000     0.0021    |  17.5400     0.1905
                         5.0000     0.0100    |  27.0100     0.4570
                        10.7300     0.0438    |  37.7400     0.8003

                                AREA     QPEAK     TPEAK      R.V.
                                 (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0100)    100.320      7.197      5.25      50.45
     OUTFLOW: ID= 1 (0600)    100.320      7.204      5.25      50.58
```

PEAK FLOW REDUCTION [Qout/Qin](%)=100.11
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0234

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

CALIB			
STANDHYD (0101)	Area (ha)= 74.02		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.21	51.81
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	702.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	22.17
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.07	3.03	5.103 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	37.80	47.79
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.52	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0601)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0101)	74.020	5.103	5.25	47.79
OUTFLOW: ID= 1 (0601)	74.020	5.106	5.25	53.97

PEAK FLOW REDUCTION [Qout/Qin](%)=100.05
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0002

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0200)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0600):	100.32	7.204	5.25	50.58
+ ID2= 2 (0601):	74.02	5.106	5.25	53.97
ID = 3 (0200):	174.34	12.310	5.25	52.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0300)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (400.0) ------>

Distance	Elevation	Manning	
0.00	214.00	0.0800	
19.00	214.00	0.0800	
28.00	213.00	0.0800	
34.00	212.00	0.0800 /0.0600	Main Channel
35.00	211.50	0.0600	Main Channel
37.00	212.00	0.0600 /0.0600	Main Channel
43.00	213.00	0.0600	
54.00	214.00	0.0600	
74.00	214.50	0.0600	
80.00	215.00	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	211.62	.649E+02	0.0	0.29	80.17
0.25	211.75	.260E+03	0.1	0.46	50.51
0.37	211.88	.584E+03	0.3	0.60	38.54
0.50	212.00	.104E+04	0.5	0.73	31.82
0.63	212.13	.174E+04	1.1	0.91	25.48
0.77	212.27	.274E+04	2.0	1.02	22.72
0.90	212.40	.403E+04	3.2	1.11	20.89
1.03	212.53	.562E+04	4.8	1.19	19.44
1.17	212.67	.750E+04	6.9	1.27	18.24
1.30	212.80	.968E+04	9.4	1.34	17.19
1.43	212.93	.122E+05	12.4	1.42	16.28
1.57	213.07	.150E+05	15.9	1.47	15.67
1.70	213.20	.182E+05	19.9	1.52	15.23
1.83	213.33	.220E+05	24.8	1.56	14.78
1.97	213.47	.262E+05	30.5	1.61	14.32
2.10	213.60	.310E+05	37.2	1.66	13.87
2.23	213.73	.362E+05	44.9	1.72	13.43
2.37	213.87	.419E+05	53.7	1.78	13.00
2.50	214.00	.481E+05	63.7	1.83	12.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0200)	174.34	12.31	5.25	52.02	1.43	1.41
OUTFLOW: ID= 1 (0300)	174.34	11.22	5.25	52.02	1.38	1.39

CALIB			
STANDHYD (0103)	Area (ha)= 118.55		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	45.05	73.50
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	889.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	22.85
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	4.19	4.43	8.622 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	38.99	51.19
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.53	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0202)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0103):	118.55	8.622	5.25	51.19
	+ ID2= 2 (0300):	174.34	11.221	5.25	52.02
	ID = 3 (0202):	292.89	19.843	5.25	51.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0109)	Area (ha)= 49.01		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	29.41	19.60
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	571.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.75	1.26	4.004 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	41.52	59.27
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.57	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0609)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	5.7500	10.0000
	5.7120	0.8320	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	49.010	4.004	5.25	59.27
OUTFLOW: ID= 1 (0609)	49.010	3.468	5.25	59.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 86.61
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.5293

ADD HYD (0203)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0202):	292.89	19.843	5.25	51.68
	+ ID2= 2 (0609):	49.01	3.468	5.25	59.27
	ID = 3 (0203):	341.90	23.311	5.25	52.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0301)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (401.0) ------>

Distance	Elevation	Manning	
0.00	205.00	0.0800	
20.00	204.50	0.0800	
80.00	204.50	0.0800	
105.00	204.00	0.0800	
113.00	203.50	0.0800 /0.0600	Main Channel
124.00	203.50	0.0600	Main Channel
130.00	203.50	0.0600 /0.0800	Main Channel
195.00	204.00	0.0800	
250.00	205.00	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	203.58	.225E+04	0.4	0.22	93.84
0.16	203.66	.564E+04	1.4	0.32	65.10
0.24	203.74	.102E+05	3.2	0.39	53.26

0.32	203.82	.158E+05	5.7	0.45	46.34
0.39	203.89	.226E+05	9.1	0.50	41.62
0.47	203.97	.306E+05	13.4	0.55	38.10
0.55	204.05	.396E+05	18.9	0.60	34.96
0.63	204.13	.495E+05	25.6	0.65	32.25
0.71	204.21	.601E+05	33.3	0.69	30.06
0.79	204.29	.716E+05	42.3	0.74	28.26
0.87	204.37	.839E+05	52.3	0.78	26.74
0.95	204.45	.971E+05	63.6	0.82	25.44
1.03	204.53	.113E+06	73.3	0.81	25.69
1.11	204.61	.134E+06	89.2	0.84	24.96
1.18	204.68	.155E+06	107.2	0.87	24.10
1.26	204.76	.177E+06	127.1	0.90	23.22
1.34	204.84	.200E+06	149.0	0.93	22.37
1.42	204.92	.224E+06	172.9	0.97	21.56
1.50	205.00	.248E+06	198.7	1.00	20.80

<---- hydrograph ----> <-pipe /
channel->

VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0203)		341.90	23.31	5.25	52.77	0.61	0.63
OUTFLOW: ID= 1 (0301)		341.90	18.15	5.50	52.76	0.54	0.59

CALIB	
STANDHYD (0108)	Area (ha)= 121.56
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	64.43	57.13
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	900.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	5.99 9.657 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 57.20
TOTAL RAINFALL	(mm)=	73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0608)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE

	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	*******	0.0001

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	121.560	9.657	5.25	57.20
OUTFLOW: ID= 1 (0608)	121.560	9.657	5.25	57.20

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0204)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0301):	341.90	18.146	5.50	52.76
+ ID2= 2 (0608):	121.56	9.657	5.25	57.20
ID = 3 (0204):	463.46	26.262	5.25	53.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0302)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (402.0) ------>

Distance	Elevation	Manning	
0.00	202.00	0.1200	
200.00	200.00	0.1200	
212.00	197.00	0.1200	
229.00	195.80	0.1200 /0.0600	Main Channel
229.01	195.60	0.0600	Main Channel
231.00	195.60	0.0600 /0.1200	Main Channel
231.01	195.80	0.1200	
250.00	197.00	0.1200	
260.00	200.00	0.1200	
455.00	203.00	0.1200	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	195.94	.970E+03	0.6	0.60	28.09
0.67	196.27	.479E+04	2.8	0.60	28.31
1.01	196.61	.121E+05	8.0	0.68	25.01
1.35	196.95	.228E+05	17.3	0.77	21.99
1.68	197.28	.360E+05	32.8	0.92	18.33
2.02	197.62	.502E+05	53.1	1.07	15.75
2.36	197.96	.651E+05	77.7	1.21	13.97
2.69	198.29	.809E+05	106.6	1.34	12.66
3.03	198.63	.976E+05	139.6	1.45	11.65
3.37	198.97	.115E+06	177.0	1.56	10.84
3.71	199.31	.133E+06	218.6	1.66	10.18
4.04	199.64	.153E+06	264.5	1.76	9.62
4.38	199.98	.173E+06	314.8	1.85	9.14
4.72	200.32	.202E+06	280.8	1.41	11.96
5.05	200.65	.249E+06	310.4	1.26	13.39
5.39	200.99	.316E+06	378.3	1.21	13.93

5.73	201.33	.402E+06	480.1	1.21	13.96
6.06	201.66	.507E+06	616.9	1.24	13.70
6.40	202.00	.631E+06	791.4	1.27	13.28

<---- hydrograph ----> <-pipe /
channel->

VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0204)		463.46	26.26	5.25	53.92	1.54	0.85
OUTFLOW: ID= 1 (0302)		463.46	23.28	5.50	53.92	1.48	0.82

CALIB	
STANDHYD (0107)	Area (ha)= 98.53
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	44.34	54.19
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	810.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	23.56
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	4.14 3.37 7.512 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 40.23 54.12
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.55 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0111)	Area (ha)= 94.42
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.04	44.38
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	793.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	4.67 2.85 7.521 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 57.20
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0205)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0107):	98.53	7.512	5.25	54.12
+ ID2= 2 (0111):	94.42	7.521	5.25	57.20
ID = 3 (0205):	192.95	15.033	5.25	55.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0206)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0205):	192.95	15.033	5.25	55.63
+ ID2= 2 (0302):	463.46	23.277	5.50	53.92
ID = 3 (0206):	656.41	35.758	5.25	54.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0611)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.8300	8.7600
	0.8400	0.1100	15.9200	12.4000
	1.3200	0.4400	39.5200	16.3100
	1.6700	1.1900	69.9800	20.4700
	1.9600	2.3800	*******	24.9000
	2.4300	5.4000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0206)	656.410	35.758	5.25	54.42
OUTFLOW: ID= 1 (0611)	656.410	22.317	6.25	54.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 62.41
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 13.4646

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| CALIB            |
| STANDHYD  (0110) |   Area    (ha)=  56.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     33.80        22.53
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    612.81        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        24.28
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.16         1.45        4.602 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=     71.10        41.52        59.27
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.97         0.57         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0610) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******      0.0001

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0110)     56.330     4.602     5.25      59.27
     OUTFLOW: ID= 1 (0610)     56.330     4.602     5.25      59.27

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                   TIME SHIFT OF PEAK FLOW          (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD    (0207) |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0610):    56.33   4.602     5.25    59.27
       + ID2= 2 (0611):   656.41  22.317     6.25    54.42
         ================================================
         ID = 3 (0207):   712.74  23.723     6.25    54.81
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0303) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION ( 403.0) ------>
                Distance      Elevation       Manning
                   0.00         188.10         0.1100
                  12.00         184.70    0.1100 /0.0700  Main Channel
                  15.00         184.40         0.0700      Main Channel
                  18.00         184.70    0.0700 /0.1100  Main Channel
                  30.00         188.10         0.1100

          <-------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
            (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
           0.15   184.55    .166E+03       0.1          0.28      44.28
           0.30   184.70    .663E+03       0.4          0.44      27.89
           0.50   184.90    .165E+04       1.7          0.74      16.62
           0.70   185.10    .285E+04       3.6          0.94      13.03
           0.90   185.30    .425E+04       6.3          1.10      11.17
           1.10   185.50    .587E+04       9.8          1.23       9.99
           1.30   185.70    .769E+04      14.0          1.34       9.17
           1.50   185.90    .972E+04      18.9          1.44       8.55
           1.70   186.10    .120E+05      24.7          1.52       8.06
           1.90   186.30    .144E+05      31.3          1.60       7.66
           2.10   186.50    .171E+05      38.8          1.68       7.32
           2.30   186.70    .199E+05      47.2          1.75       7.03
           2.50   186.90    .230E+05      56.5          1.81       6.77
           2.70   187.10    .263E+05      66.8          1.88       6.55
           2.90   187.30    .297E+05      78.1          1.94       6.35
           3.10   187.50    .334E+05      90.4          1.99       6.16
           3.30   187.70    .373E+05     103.8          2.05       6.00
           3.50   187.90    .415E+05     118.2          2.10       5.85
           3.70   188.10    .458E+05     133.7          2.15       5.70

                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0207)  712.74    23.72    6.25  54.81      1.67      1.51
     OUTFLOW: ID= 1 (0303)  712.74    23.48    6.25  54.80      1.66      1.50


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| CALIB            |
| STANDHYD  (0116) |   Area    (ha)= 106.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     24.58        82.28
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    844.04        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        24.28
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
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     Unit Hyd. peak  (cms)=      0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.30         5.28        7.573 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=     71.10        41.52        48.32
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.97         0.57         0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0616) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******      0.0001

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0116)    106.860     7.573     5.25      48.32
     OUTFLOW: ID= 1 (0616)    106.860     7.573     5.25      48.32

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                   TIME SHIFT OF PEAK FLOW          (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD    (0208) |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303):   712.74  23.477     6.25    54.80
       + ID2= 2 (0616):   106.86   7.573     5.25    48.32
         ================================================
         ID = 3 (0208):   819.60  26.002     6.25    53.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION ( 404.0) ------>
                Distance      Elevation       Manning
                   0.00         181.00         0.1100
                  15.00         178.30         0.1100
                  29.00         177.80    0.1100 /0.0700  Main Channel
                  31.50         177.20         0.0700      Main Channel
                  35.00         177.70    0.0700 /0.1100  Main Channel
                  44.00         178.10         0.1100
                  50.00         178.10         0.1100
                  52.00         178.30         0.1100
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                  63.00         179.70         0.1100

          <-------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
            (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
           0.12   177.32    .813E+02       0.0          0.16      98.74
           0.25   177.45    .325E+03       0.1          0.25      62.20
           0.37   177.57    .732E+03       0.3          0.33      47.47
           0.50   177.70    .130E+04       0.6          0.40      39.18
           0.63   177.83    .223E+04       1.1          0.47      32.98
           0.77   177.97    .388E+04       2.0          0.49      31.66
           0.90   178.10    .637E+04       3.4          0.50      31.30
           1.03   178.23    .103E+05       5.4          0.49      32.02
           1.17   178.37    .149E+05       8.3          0.52      30.04
           1.30   178.50    .197E+05      11.9          0.56      27.63
           1.43   178.63    .247E+05      16.2          0.61      25.52
           1.57   178.77    .300E+05      21.1          0.65      23.75
           1.70   178.90    .355E+05      26.6          0.70      22.26
           1.83   179.03    .412E+05      32.7          0.74      21.00
           1.97   179.17    .471E+05      39.4          0.78      19.92
           2.10   179.30    .533E+05      46.8          0.82      18.98
           2.23   179.43    .597E+05      54.8          0.86      18.15
           2.37   179.57    .663E+05      63.4          0.89      17.43
           2.50   179.70    .731E+05      72.6          0.93      16.78

                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0208)  819.60    26.00    6.25  53.96      1.69      0.69
     OUTFLOW: ID= 1 (0304)  819.60    24.37    6.50  53.96      1.65      0.68


-------------------------------------------------------------------------------
-
--------------------
| CALIB            |
| STANDHYD  (0119) |   Area    (ha)=  52.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     15.70        36.63
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    590.65        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        24.28
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.47         2.35        3.816 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=     71.10        41.52        50.39
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.97         0.57         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0619)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0119)	52.330	3.816	5.25	50.39
OUTFLOW: ID= 1 (0619)	52.330	3.816	5.25	50.39

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

ADD HYD (0209)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0304):	819.60	24.365	6.50	53.96
	+ ID2= 2 (0619):	52.33	3.816	5.25	50.39
	ID = 3 (0209):	871.93	25.209	6.50	53.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0305)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (405.0) ------>

Distance	Elevation	Manning	
0.00	175.00	0.1200	
10.00	172.40	0.1200	
37.00	171.90	0.1200 /0.0600	Main Channel
38.50	171.40	0.0600	Main Channel
40.50	171.40	0.0600	Main Channel
42.00	171.90	0.0600 /0.1200	Main Channel
69.00	172.40	0.1200	
75.00	175.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	171.57	.573E+03	0.1	0.28	82.03
0.33	171.73	.138E+04	0.4	0.41	55.76
0.50	171.90	.241E+04	0.9	0.51	44.71
0.69	172.09	.653E+04	2.1	0.44	51.93
0.89	172.29	.162E+05	4.5	0.38	59.58
1.08	172.48	.310E+05	9.1	0.40	56.98
1.28	172.68	.470E+05	15.9	0.47	49.23
1.47	172.87	.634E+05	24.5	0.53	43.16
1.66	173.06	.800E+05	34.6	0.59	38.57
1.86	173.26	.970E+05	46.1	0.65	35.03
2.05	173.45	.114E+06	59.1	0.71	32.23
2.24	173.64	.132E+06	73.4	0.77	29.94

2.44	173.84	.150E+06	89.0	0.82	28.05
2.63	174.03	.168E+06	105.9	0.87	26.44
2.83	174.23	.187E+06	124.0	0.91	25.07
3.02	174.42	.205E+06	143.4	0.96	23.88
3.21	174.61	.225E+06	164.0	1.00	22.83
3.41	174.81	.244E+06	185.8	1.05	21.90
3.60	175.00	.264E+06	208.7	1.09	21.08

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0209)	871.93	25.21	6.50	53.74	1.48	0.54
OUTFLOW: ID= 1 (0305)	871.93	22.39	7.00	53.74	1.42	0.51

CALIB			
STANDHYD (0121)	Area (ha)= 53.31		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.99	29.32
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	596.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.24	1.88 4.121 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	71.10	41.52 54.83
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.97	0.57 0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0621)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	53.310	4.121	5.25	54.83
OUTFLOW: ID= 1 (0621)	53.310	4.124	5.25	63.42

PEAK FLOW REDUCTION [Qout/Qin](%)=100.06

TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0002

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0210)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0305):	871.93	22.386	7.00	53.74
	+ ID2= 2 (0621):	53.31	4.124	5.25	63.42
	ID = 3 (0210):	925.24	23.096	7.00	54.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0118)	Area (ha)= 57.78		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.62	27.16
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	620.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.86	1.74 4.602 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	71.10	41.52 57.20
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.97	0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0618)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0118)	57.780	4.602	5.25	57.20
OUTFLOW: ID= 1 (0618)	57.780	4.602	5.25	57.20

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

CALIB			
STANDHYD (****)	Area (ha)= 114.26		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	60.56	53.70
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	872.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	5.63	3.44 9.077 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	71.10	41.52 57.20
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.97	0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 7.45		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.95	3.50
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	222.86	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	0.37	0.22 0.592 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	71.10	41.52 57.19
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.97	0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 2.40
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.27	1.13
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	126.49	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	0.12 0.07 0.191 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 57.19
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0276)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	114.26	9.077	5.25	57.20
+	ID2= 2 (****):	7.45	0.592	5.25	57.19
	ID = 3 (0276):	121.71	9.669	5.25	57.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0276)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0276):	121.71	9.669	5.25	57.20
+	ID2= 2 (****):	2.40	0.191	5.25	57.19
	ID = 1 (0276):	124.11	9.860	5.25	57.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0617)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	29.0800	0.5230
	0.1200	0.1560	30.5000	0.5500
	0.1800	0.3485	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0276)	124.110	9.860	5.25	57.20
OUTFLOW: ID= 1 (0617)	124.110	9.959	5.25	57.19

PEAK FLOW REDUCTION [Qout/Qin](%)=101.01
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.4120

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0211)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0617):	124.11	9.959	5.25	57.19
+	ID2= 2 (0618):	57.78	4.602	5.25	57.20
	ID = 3 (0211):	181.89	14.561	5.25	57.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0115)	Area (ha)= 210.14
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	111.37	98.77
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1183.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	10.36 5.45 15.810 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 57.20
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0615)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0115)	210.140	15.810	5.25	57.20
OUTFLOW: ID= 1 (0615)	210.140	15.810	5.25	57.20

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

ADD HYD (0213)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0211):	181.89	14.561	5.25	57.19
+	ID2= 2 (0615):	210.14	15.810	5.25	57.20
	ID = 3 (0213):	392.03	30.371	5.25	57.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0214)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0210):	925.24	23.096	7.00	54.30
+	ID2= 2 (0213):	392.03	30.371	5.25	57.19
	ID = 3 (0214):	1317.27	43.002	5.25	55.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 17.78
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.42	8.36
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	344.29	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.88 0.54 1.416 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 57.19
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 49.31
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.13	23.18
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	573.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.44 1.49 3.928 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 57.20
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 2.27
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.20	1.07
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00

Length	(m)=	123.02	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	24.28	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
			TOTALS	
PEAK FLOW	(cms)=	0.11	0.07	0.181 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	41.52	57.19
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.57	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0215)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0214):	1317.27	43.002	5.25	55.16	
+ ID2= 2 (****):	17.78	1.416	5.25	57.19	
ID = 3 (0215):	1335.05	44.418	5.25	55.19	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0215)					
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 3 (0215):	1335.05	44.418	5.25	55.19	
+ ID2= 2 (****):	49.31	3.928	5.25	57.20	
ID = 1 (0215):	1384.36	48.346	5.25	55.26	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0215)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0215):	1384.36	48.346	5.25	55.26	
+ ID2= 2 (****):	2.27	0.181	5.25	57.19	
ID = 3 (0215):	1386.63	48.527	5.25	55.26	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0306)						
IN= 2---> OUT= 1	Routing time step (min)'= 15.00					
<------ DATA FOR SECTION (406.0) ------>						
Distance	Elevation	Manning				
0.00	173.50	0.1200				
71.00	172.00	0.1200				
170.00	170.00	0.1200				
202.00	168.50	0.1200 /0.0600	Main Channel			
202.00	168.60	0.1200 /0.0600	Main Channel			
208.00	168.60	0.0600 /0.1200	Main Channel			
208.00	168.80	0.0600 /0.1200	Main Channel			
240.00	170.00	0.1200				
340.00	172.00	0.1200				
450.00	173.50	0.1200				

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	168.76	.306E+04	0.3	0.17	177.67
0.53	169.03	.110E+05	1.6	0.25	116.39
0.79	169.29	.249E+05	4.2	0.30	99.32
1.05	169.55	.446E+05	8.4	0.34	88.49
1.32	169.82	.703E+05	14.6	0.37	80.40
1.58	170.08	.102E+06	22.5	0.39	75.76
1.84	170.34	.145E+06	32.5	0.40	74.29
2.11	170.61	.200E+06	46.4	0.41	71.63
2.37	170.87	.267E+06	64.9	0.43	68.52
2.63	171.13	.346E+06	88.3	0.45	65.33
2.89	171.39	.438E+06	117.2	0.48	62.24
3.16	171.66	.541E+06	152.1	0.50	59.35
3.42	171.92	.658E+06	193.4	0.52	56.66
3.68	172.18	.787E+06	240.2	0.54	54.58
3.95	172.45	.930E+06	294.3	0.56	52.69
4.21	172.71	.109E+07	356.9	0.58	50.85
4.47	172.97	.126E+07	428.6	0.60	49.10
4.74	173.24	.145E+07	509.8	0.63	47.44
5.00	173.50	.165E+07	601.0	0.65	45.87

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0215)	1386.63	48.53	5.25	55.26	2.13	0.42
OUTFLOW: ID= 1 (0306)	1386.63	28.71	7.25	55.26	1.74	0.40

CALIB			
STANDHYD (0131)	Area (ha)=	123.35	
ID= 1 DT=15.0 min	Total Imp(%)=	23.00	Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.37	94.98
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	906.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	23.56
over (min)		15.00	30.00

Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.08	0.06	
			TOTALS	
PEAK FLOW	(cms)=	2.64	5.91	8.545 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	40.23	47.33
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.55	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0216)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0131):	123.35	8.545	5.25	47.33	
+ ID2= 2 (0306):	1386.63	28.707	7.25	55.26	
ID = 3 (0216):	1509.98	33.960	5.25	54.61	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (9500)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	7.2600	12.6630
	1.7300	1.5060	20.9800	24.7470
	4.8900	2.4510	35.0000	38.4350
	6.9200	9.8410	80.0000	39.9350

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW :	ID= 2 (0216)	1509.980	33.960	5.25	54.61
OUTFLOW:	ID= 1 (9500)	1509.980	21.822	9.00	54.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 64.26
TIME SHIFT OF PEAK FLOW (min)=225.00
MAXIMUM STORAGE USED (ha.m.)= 25.5810

ROUTE CHN (0307)						
IN= 2---> OUT= 1	Routing time step (min)'= 15.00					
<------ DATA FOR SECTION (407.0) ------>						
Distance	Elevation	Manning				
0.00	175.00	0.1000				
0.01	168.00	0.1000				
28.00	168.00	0.1000				
65.00	164.30	0.1000 /0.0600	Main Channel			
65.01	164.10	0.0600	Main Channel			

71.00	164.10	0.0600 /0.1000	Main Channel	
71.01	164.30	0.1000		
83.00	169.00	0.1000		
138.00	169.00	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	164.36	.147E+04	0.6	0.41	37.70
0.52	164.62	.348E+04	2.2	0.58	26.76
0.77	164.87	.627E+04	4.6	0.68	22.75
1.03	165.13	.984E+04	8.0	0.76	20.45
1.29	165.39	.142E+05	12.5	0.83	18.85
1.55	165.65	.193E+05	18.3	0.88	17.63
1.81	165.91	.252E+05	25.3	0.94	16.65
2.06	166.16	.319E+05	33.6	0.98	15.81
2.32	166.42	.394E+05	43.5	1.03	15.10
2.58	166.68	.476E+05	54.9	1.08	14.47
2.84	166.94	.567E+05	67.9	1.12	13.91
3.09	167.19	.665E+05	82.6	1.16	13.41
3.35	167.45	.771E+05	99.2	1.20	12.95
3.61	167.71	.884E+05	117.6	1.24	12.53
3.87	167.97	.101E+06	138.0	1.28	12.15
4.13	168.23	.119E+06	145.9	1.14	13.62
4.38	168.48	.139E+06	178.2	1.20	12.98
4.64	168.74	.159E+06	213.6	1.26	12.37
4.90	169.00	.178E+06	252.1	1.32	11.80

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (9500)	1509.98	21.82	9.00	54.61	1.68	0.91
OUTFLOW: ID= 1 (0307)	1509.98	21.74	9.25	54.61	1.67	0.91

CALIB			
STANDHYD (0130)	Area (ha)=	42.30	
ID= 1 DT=15.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.07	26.23
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	531.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	23.56
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	1.50	1.63 3.132 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	71.10	40.23 51.96
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.97	0.55 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0217)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0130):		42.30	3.132	5.25	51.96
+ ID2= 2 (0307):		1509.98	21.744	9.25	54.61
ID = 3 (0217):		1552.28	21.901	9.25	54.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 240.54		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.16	168.38
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1266.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	6.71 9.29 16.003 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 50.39
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 22.17		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.65	15.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	384.45	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		33.63	24.28		
over (min)		15.00	30.00		
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)		
Unit Hyd. Tpeak (min)=		15.00	30.00		
Unit Hyd. peak (cms)=		0.08	0.04		
				TOTALS	
PEAK FLOW	(cms)=	0.62	0.86	1.475 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME	(mm)=	71.10	41.52	50.39	
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT	=	0.97	0.57	0.69	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 4.13		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.24	2.89
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	165.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.12 0.16 0.275 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 50.39
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0269)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):		240.54	16.003	5.25	50.39
+ ID2= 2 (****):		22.17	1.475	5.25	50.39
ID = 3 (0269):		262.71	17.478	5.25	50.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0269)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0269):		262.71	17.478	5.25	50.39
+ ID2= 2 (****):		4.13	0.275	5.25	50.39
ID = 1 (0269):		266.84	17.753	5.25	50.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 11.98		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.59	8.39
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	282.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.33 0.46 0.797 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 50.39
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 20.98		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.29	14.69
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	373.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28

over (min)		15.00	30.00		
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)		
Unit Hyd. Tpeak (min)=		15.00	30.00		
Unit Hyd. peak (cms)=		0.08	0.04		
				TOTALS	
PEAK FLOW	(cms)=	0.59	0.81	1.396 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME	(mm)=	71.10	41.52	50.39	
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT	=	0.97	0.57	0.69	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.47		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.14	0.33
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.01 0.02 0.031 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 50.36
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0268)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):		20.98	1.396	5.25	50.39
+ ID2= 2 (****):		11.98	0.797	5.25	50.39
ID = 3 (0268):		32.96	2.193	5.25	50.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0268) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0268):    32.96   2.193     5.25    50.39
       + ID2= 2 (****):     0.47   0.031     5.25    50.36
         ================================================
         ID = 1 (0268):    33.43   2.224     5.25    50.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0268):    33.43   2.224     5.25    50.39
       + ID2= 2 (0269):   266.84  17.753     5.25    50.39
         ================================================
         ID = 3 (0270):   300.27  19.977     5.25    50.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0620) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |    (cms)    (ha.m.)
                         0.0000     0.0000   |  *******      0.0010

                              AREA     QPEAK     TPEAK      R.V.
                              (ha)     (cms)     (hrs)      (mm)
    INFLOW : ID= 2 (0270)    300.270    19.977      5.25      50.39
    OUTFLOW: ID= 1 (0620)    300.270    19.977      5.25      50.39

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| ROUTE CHN (0501) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 601.0) ------>
              Distance      Elevation       Manning
                 0.00        172.00        0.1000
                29.33        172.00        0.1000
                43.69        171.00        0.1000
                60.63        170.00    0.1000 /0.0600  Main Channel
               110.21        171.00        0.0600      Main Channel
               119.74        172.00        0.1000
               133.28        172.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
        (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
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      0.11   170.11    .427E+03       0.0          0.13     145.32
      0.21   170.21    .171E+04       0.3          0.21      91.55
      0.32   170.32    .384E+04       0.9          0.28      69.86
      0.42   170.42    .683E+04       2.0          0.33      57.67
      0.53   170.53    .107E+05       3.6          0.39      49.70
      0.63   170.63    .154E+05       5.8          0.44      44.01
      0.74   170.74    .209E+05       8.8          0.49      39.71
      0.84   170.84    .273E+05      12.5          0.53      36.33
      0.95   170.95    .346E+05      17.2          0.58      33.59
      1.05   171.05    .426E+05      23.3          0.63      30.46
      1.16   171.16    .511E+05      31.0          0.70      27.41
      1.26   171.26    .598E+05      39.7          0.77      25.10
      1.37   171.37    .688E+05      49.3          0.83      23.27
      1.47   171.47    .782E+05      59.8          0.89      21.79
      1.58   171.58    .878E+05      71.2          0.94      20.56
      1.68   171.68    .978E+05      83.5          0.99      19.52
      1.79   171.79    .108E+06      96.7          1.04      18.62
      1.89   171.89    .119E+06     110.8          1.08      17.85
      2.00   172.00    .129E+06     125.7          1.13      17.16

                                  <---- hydrograph ---->   <-pipe /
channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0620)  300.27   19.98    5.25  50.39      1.00      0.60
     OUTFLOW: ID= 1 (0501)  300.27   15.64    5.50  50.39      0.91      0.56

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| CALIB             |
| STANDHYD  (0133) |   Area    (ha)= 112.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       50.49         61.70
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=      864.83        40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       33.63         23.56
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        4.72          3.84          8.553 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=       71.10         40.23         54.12
     TOTAL RAINFALL   (mm)=       73.10         73.10         73.10
     RUNOFF COEFFICIENT   =        0.97          0.55          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0218) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0133):   112.19   8.553     5.25    54.12
       + ID2= 2 (0501):   300.27  15.637     5.50    50.39
         ================================================
         ID = 3 (0218):   412.46  23.029     5.25    51.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0502) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 602.0) ------>
              Distance      Elevation       Manning
                 23.46        169.00        0.1000
                 72.48        168.00        0.1000
                 96.12        167.00        0.1000
                110.97        165.00    0.1000 /0.0600  Main Channel
                116.24        164.00        0.0600      Main Channel
                118.36        164.00        0.0600      Main Channel
                124.43        165.00    0.0600 /0.1000  Main Channel
                141.85        167.00        0.1000
                162.34        168.00        0.1000
                224.13        169.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.25   164.25    .752E+03       0.3          0.33      42.64
       0.50   164.50    .211E+04       1.2          0.49      29.06
       0.75   164.75    .406E+04       2.9          0.61      23.08
       1.00   165.00    .662E+04       5.7          0.73      19.52
       1.27   165.27    .102E+05      10.7          0.90      15.79
       1.53   165.53    .147E+05      17.4          1.01      14.06
       1.80   165.80    .202E+05      25.8          1.09      13.03
       2.07   166.07    .266E+05      36.1          1.15      12.31
       2.33   166.33    .341E+05      48.3          1.21      11.75
       2.60   166.60    .425E+05      62.7          1.25      11.29
       2.87   166.87    .519E+05      79.3          1.30      10.90
       3.13   167.13    .624E+05      97.0          1.32      10.73
       3.40   167.40    .755E+05     117.0          1.32      10.75
       3.67   167.67    .912E+05     141.0          1.31      10.77
       3.93   167.93    .110E+06     169.4          1.31      10.78
       4.20   168.20    .132E+06     197.1          1.27      11.14
       4.47   168.47    .160E+06     232.0          1.23      11.53
       4.73   168.73    .196E+06     276.3          1.20      11.82
       5.00   169.00    .238E+06     330.6          1.18      12.00

                                  <---- hydrograph ---->   <-pipe /
channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0218)  412.46   23.03    5.25  51.40      1.71      1.06
     OUTFLOW: ID= 1 (0502)  412.46   21.05    5.50  51.40      1.65      1.04

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| CALIB             |
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| STANDHYD  (0135) |   Area    (ha)=  55.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       20.90         34.10
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=      605.53        40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       33.63         22.17
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         15.00
     Unit Hyd. peak  (cms)=        0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.95          1.99          3.946 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=       71.10         37.80         50.45
     TOTAL RAINFALL   (mm)=       73.10         73.10         73.10
     RUNOFF COEFFICIENT   =        0.97          0.52          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0212) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0135):    55.00   3.946     5.25    50.45
       + ID2= 2 (0502):   412.46  21.051     5.50    51.40
         ================================================
         ID = 3 (0212):   467.46  24.136     5.25    51.29

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0219) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0212):   467.46  24.136     5.25    51.29
       + ID2= 2 (0217):  1552.28  21.901     9.25    54.53
         ================================================
         ID = 3 (0219):  2019.74  32.583     5.25    53.78

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0308) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 408.0) ------>
              Distance      Elevation       Manning
```

```
 0.00       174.00       0.1000
 0.00       167.00       0.1000
31.00       165.00       0.1000
57.00       163.00       0.1000
63.00       161.20    0.1000 /0.0600  Main Channel
63.00       161.00       0.0600       Main Channel
67.00       161.00    0.0600 /0.1000  Main Channel
67.00       161.20       0.1000
95.00       165.00       0.1000
148.00      167.00       0.1000
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	161.32	.221E+04	0.4	0.32	86.34
0.63	161.63	.584E+04	1.5	0.42	65.04
0.95	161.95	.112E+05	3.3	0.49	56.53
1.26	162.26	.184E+05	6.0	0.54	51.16
1.58	162.58	.273E+05	9.7	0.59	47.17
1.89	162.89	.380E+05	14.4	0.63	43.99
2.21	163.21	.509E+05	20.0	0.65	42.31
2.53	163.53	.670E+05	27.2	0.67	41.00
2.84	163.84	.864E+05	36.3	0.70	39.69
3.16	164.16	.109E+06	47.4	0.72	38.38
3.47	164.47	.135E+06	60.9	0.74	37.09
3.79	164.79	.165E+06	76.8	0.77	35.83
4.11	165.11	.198E+06	93.6	0.78	35.27
4.42	165.42	.237E+06	111.4	0.78	35.53
4.74	165.74	.284E+06	134.0	0.78	35.28
5.05	166.05	.337E+06	161.5	0.79	34.76
5.37	166.37	.397E+06	194.1	0.81	34.07
5.68	166.68	.464E+06	232.3	0.83	33.29
6.00	167.00	.538E+06	276.2	0.85	32.46

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0219)	2019.74	32.58	5.25	53.78	2.71	0.69
OUTFLOW: ID= 1 (0308)	2019.74	25.40	8.50	53.78	2.44	0.67

CALIB			
STANDHYD (0128)	Area (ha)= 59.80		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.94	41.86
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	631.40	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	24.28
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	1.68	2.68	4.361 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	71.10	41.52	50.39

TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.97	0.57	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0628)		
IN= 2---> OUT= 1		
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000
	0.0700	0.4550
	0.3100	0.6550
	0.7400	0.8680
	1.0800	1.0380

	OUTFLOW (cms)	STORAGE (ha.m.)
	1.4900	1.2490
	1.8500	1.4280
	2.0300	1.6290
	2.1300	1.8297
	2.2500	2.0702

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0128)	59.800	4.361	5.25	50.39
OUTFLOW: ID= 1 (0628)	59.800	1.856	5.75	50.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 42.55
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 1.4414

CALIB			
STANDHYD (0134)	Area (ha)= 105.90		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	40.24	65.66
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	840.24	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	21.51
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	3.76	3.72	7.480 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	71.10	36.65	49.74
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.97	0.50	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0298)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0134):	105.90	7.480	5.25	49.74
	+ ID2= 2 (0628):	59.80	1.856	5.75	50.36
	ID = 3 (0298):	165.70	9.033	5.25	49.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0220)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0298):	165.70	9.033	5.25	49.96
	+ ID2= 2 (0308):	2019.74	25.400	8.50	53.78
	ID = 3 (0220):	2185.44	29.565	6.00	53.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0136)	Area (ha)= 156.42		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	70.39	86.03
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	1021.18	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.56
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.08	0.06

		TOTALS
PEAK FLOW (cms)=	6.55	5.35	11.897 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	71.10	40.23	54.12
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.97	0.55	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0221)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0136):	156.42	11.897	5.25	54.12
	+ ID2= 2 (0220):	2185.44	29.565	6.00	53.49
	ID = 3 (0221):	2341.86	40.760	5.25	53.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 19.42		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.74	10.68
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	359.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	21.51
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	0.82	0.61	1.422 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	71.10	36.65	52.15
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.97	0.50	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0105)	Area (ha)= 77.03		
ID= 1 DT=15.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	34.66	42.37
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	716.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	22.17
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	3.24	2.48	5.714 (iii)

TIME TO PEAK	(hrs)=	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	37.80
TOTAL RAINFALL	(mm)=	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.73
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.33	0.40
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	69.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	21.51
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.03 0.02 0.053 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 36.65 52.14
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.50 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.50
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.28
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	57.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	21.51
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

PEAK FLOW	(cms)=	0.02	0.02 0.037 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	71.10	36.65 52.12
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.97	0.50 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0222)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0105):	77.03	5.714	5.25	52.78
+ ID2= 2 (****):	0.50	0.037	5.25	52.12
ID = 3 (0222):	77.53	5.751	5.25	52.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0222):	77.53	5.751	5.25	52.78
+ ID2= 2 (****):	19.42	1.422	5.25	52.15
ID = 1 (0222):	96.95	7.173	5.25	52.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0222):	96.95	7.173	5.25	52.65
+ ID2= 2 (****):	0.73	0.053	5.25	52.14
ID = 3 (0222):	97.68	7.226	5.25	52.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0309)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (409.0) ------>

Distance	Elevation	Manning
0.00	195.00	0.1000

11.00	194.00	0.1000	
20.00	192.00	0.1000	
27.00	191.00	0.1000	
46.00	190.00	0.1000 /0.0600	Main Channel
50.00	189.30	0.0600	Main Channel
69.00	190.00	0.0600 /0.1000	Main Channel
74.00	191.00	0.1000	
84.00	194.00	0.1000	
90.00	195.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	189.53	.206E+04	0.4	0.45	84.92
0.47	189.77	.825E+04	2.6	0.72	53.50
0.70	190.00	.186E+05	7.6	0.94	40.83
1.01	190.31	.379E+05	22.3	1.36	28.24
1.32	190.62	.625E+05	44.3	1.63	23.55
1.64	190.94	.926E+05	73.7	1.83	20.95
1.95	191.25	.127E+06	111.7	2.03	18.97
2.26	191.56	.164E+06	157.5	2.21	17.37
2.58	191.88	.203E+06	210.6	2.39	16.09
2.89	192.19	.245E+06	271.5	2.56	15.02
3.20	192.50	.288E+06	340.1	2.72	14.12
3.51	192.81	.333E+06	415.7	2.88	13.35
3.83	193.13	.380E+06	498.6	3.03	12.70
4.14	193.44	.428E+06	588.5	3.17	12.13
4.45	193.75	.479E+06	685.6	3.30	11.64
4.76	194.06	.531E+06	787.9	3.42	11.23
5.08	194.38	.586E+06	890.7	3.51	10.97
5.39	194.69	.645E+06	1002.4	3.58	10.73
5.70	195.00	.708E+06	1123.3	3.66	10.51

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0222)	97.68	7.23	5.25	52.65	0.68	0.92
OUTFLOW: ID= 1 (0309)	97.68	5.22	5.25	52.64	0.59	0.82

CALIB
STANDHYD (0112) | Area (ha)= 155.68
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	59.16	96.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1018.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	5.50 6.19 11.693 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 52.76
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10

RUNOFF COEFFICIENT	=	0.97	0.57 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0227)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0112):	155.68	11.693	5.25	52.76
+ ID2= 2 (0309):	97.68	5.224	5.25	52.64
ID = 3 (0227):	253.36	16.917	5.25	52.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0113) | Area (ha)= 172.23
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	65.45	106.78
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1071.54	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	6.09 6.85 12.936 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 52.76
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0228)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0113):	172.23	12.936	5.25	52.76

```
       + ID2= 2 (0227):   253.36  16.917     5.25    52.71
         ================================================
         ID = 3 (0228):   425.59  29.854     5.25    52.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0310) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <----- DATA FOR SECTION ( 410.0) ------>
               Distance      Elevation       Manning
                  0.00         185.00        0.1000
                 41.00         184.00        0.1000
                 85.00         183.00        0.1000
                 90.00         182.00    0.1000 /0.0600  Main Channel
                 99.00         180.00        0.0600      Main Channel
                106.00         181.00        0.0600      Main Channel
                109.00         182.00    0.0600 /0.1000  Main Channel
                117.00         183.00        0.1000
                142.00         184.00        0.1000
                211.00         185.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.25   180.25    .341E+03       0.1         0.37      42.84
      0.50   180.50    .136E+04       0.8         0.59      26.99
      0.75   180.75    .307E+04       2.5         0.77      20.59
      1.00   181.00    .545E+04       5.3         0.93      17.00
      1.25   181.25    .840E+04       9.9         1.12      14.12
      1.50   181.50    .118E+05      16.0         1.28      12.31
      1.75   181.75    .156E+05      23.6         1.43      11.03
      2.00   182.00    .199E+05      32.9         1.57      10.07
      2.27   182.27    .253E+05      47.7         1.79       8.83
      2.55   182.55    .316E+05      65.0         1.95       8.09
      2.82   182.82    .388E+05      85.1         2.08       7.59
      3.09   183.09    .471E+05     107.4         2.16       7.31
      3.36   183.36    .594E+05     133.7         2.13       7.41
      3.64   183.64    .766E+05     166.2         2.06       7.68
      3.91   183.91    .987E+05     206.0         1.98       7.99
      4.18   184.18    .126E+06     252.1         1.89       8.35
      4.45   184.45    .161E+06     309.2         1.82       8.70
      4.73   184.73    .204E+06     379.5         1.76       8.97
      5.00   185.00    .255E+06     464.5         1.73       9.15

                                  <---- hydrograph ---->   <-pipe /
channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0228)  425.59    29.85    5.25  52.73      1.92      1.52
     OUTFLOW: ID= 1 (0310)  425.59    28.56    5.25  52.73      1.88      1.50


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| CALIB            |
| STANDHYD  (0114) |   Area    (ha)= 165.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
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                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.47        77.57
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     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1048.94        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        23.56
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       8.14         4.82        12.960 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      71.10        40.23        56.59
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.55         0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0614) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  25.0000      0.2500
                          0.3900     0.1050   |  40.0000      0.2600
                          6.5900     0.2338   |  45.0000      0.2800

                                 AREA     QPEAK     TPEAK      R.V.
                                  (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0114)    165.040     12.960      5.25      56.59
     OUTFLOW: ID= 1 (0614)    165.040     14.086      5.25      56.59

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=108.69
                   TIME SHIFT OF PEAK FLOW          (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2911

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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--------------------
| ADD HYD   (0229) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0310):   425.59  28.559     5.25    52.73
        + ID2= 2 (0614):   165.04  14.086     5.25    56.59
          ================================================
          ID = 3 (0229):   590.63  42.645     5.25    53.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0311) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION ( 411.0) ------>
               Distance      Elevation       Manning
                  0.00         180.00        0.1000
                 85.00         179.00        0.1000
                 96.00         178.00        0.1000
                127.00         177.00        0.1000
                160.00         176.20        0.1000
                186.00         176.00    0.1000 /0.0600  Main Channel
                192.00         175.30        0.0600      Main Channel
                196.00         176.00    0.0600 /0.1000  Main Channel
                232.00         179.00        0.1000
                257.00         179.50        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.18   175.48    .211E+03       0.0         0.21      77.93
      0.35   175.65    .844E+03       0.3         0.33      49.09
      0.53   175.83    .190E+04       0.8         0.43      37.47
      0.70   176.00    .338E+04       1.8         0.52      30.93
      0.93   176.23    .931E+04       4.9         0.50      31.85
      1.17   176.47    .198E+05      10.9         0.53      30.26
      1.40   176.70    .330E+05      19.9         0.58      27.59
      1.63   176.93    .490E+05      32.3         0.64      25.30
      1.87   177.17    .677E+05      48.6         0.69      23.23
      2.10   177.40    .887E+05      68.8         0.75      21.49
      2.33   177.63    .112E+06      93.0         0.80      20.07
      2.57   177.87    .137E+06     121.3         0.85      18.88
      2.80   178.10    .165E+06     155.2         0.91      17.73
      3.03   178.33    .194E+06     195.2         0.97      16.58
      3.27   178.57    .224E+06     239.5         1.03      15.61
      3.50   178.80    .256E+06     288.3         1.09      14.79
      3.73   179.03    .289E+06     337.2         1.13      14.27
      3.97   179.27    .326E+06     369.5         1.09      14.72
      4.20   179.50    .371E+06     413.9         1.08      14.94

                                  <---- hydrograph ---->   <-pipe /
channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0229)  590.63    42.64    5.25  53.81      1.78      0.67
     OUTFLOW: ID= 1 (0311)  590.63    34.44    5.50  53.81      1.66      0.64


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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  22.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.11        17.11
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     384.88        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.28
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
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     PEAK FLOW       (cms)=       0.48         1.10         1.575 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      71.10        41.52        48.32
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.57         0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 147.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.93       113.59
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     991.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.28
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.17         7.29        10.455 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      71.10        41.52        48.32
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.57         0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   4.39
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.33         2.06
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     171.08        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.28
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
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     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.22         0.13          0.350 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      71.10        41.52          57.19
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.57           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    22.22   1.575     5.25    48.32
      + ID2= 2 (****):   147.52  10.455     5.25    48.32
        ================================================
        ID = 3 (0272):   169.74  12.029     5.25    48.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0272) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (0272):   169.74  12.029     5.25    48.32
      + ID2= 2 (****):     4.39   0.350     5.25    57.19
        ================================================
        ID = 1 (0272):   174.13  12.379     5.25    48.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0623) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   0.5800     0.5400
                        0.2100     0.1580    |   0.8200     0.7657
                        0.3100     0.3380    |   0.9400     0.9136
                        0.5600     0.3765    |  21.0800     1.0000

                            AREA     QPEAK     TPEAK       R.V.
                            (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0272)    174.130     12.379      5.25      48.54
     OUTFLOW: ID= 1 (0623)    174.130     14.471      5.25      48.54

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=116.90
                  TIME SHIFT OF PEAK FLOW          (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.0658

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
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| ADD HYD   (0230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0311):   590.63  34.437     5.50    53.81
      + ID2= 2 (0623):   174.13  14.471     5.25    48.54
        ================================================
        ID = 3 (0230):   764.76  47.409     5.25    52.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION ( 412.0) ------>
                Distance      Elevation       Manning
                   0.00         173.50        0.1000
                  35.00         172.00        0.1000
                  85.00         171.00        0.1000
                  94.00         168.50    0.1000 /0.0600  Main Channel
                  94.00         168.30    0.1000 /0.0600  Main Channel
                  97.00         168.30    0.0600 /0.1000  Main Channel
                  97.00         168.50    0.0600 /0.1000  Main Channel
                  99.00         169.00        0.1000
                 125.00         174.00        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
        0.27   168.57    .150E+04        0.4         0.42       71.21
        0.55   168.85    .374E+04        1.2         0.57       52.20
        0.82   169.12    .701E+04        2.6         0.66       45.23
        1.09   169.39    .114E+05        4.6         0.72       41.28
        1.37   169.67    .170E+05        7.4         0.77       38.38
        1.64   169.94    .238E+05       11.0         0.82       36.03
        1.92   170.22    .317E+05       15.5         0.87       34.04
        2.19   170.49    .408E+05       21.1         0.92       32.31
        2.46   170.76    .511E+05       27.7         0.96       30.79
        2.74   171.04    .626E+05       34.6         0.98       30.18
        3.01   171.31    .792E+05       41.3         0.93       31.95
        3.28   171.58    .103E+06       52.5         0.91       32.75
        3.56   171.86    .134E+06       67.6         0.89       33.15
        3.83   172.13    .173E+06       87.9         0.91       32.73
        4.11   172.41    .215E+06      113.5         0.94       31.60
        4.38   172.68    .261E+06      143.4         0.98       30.38
        4.65   172.95    .312E+06      177.9         1.02       29.19
        4.93   173.23    .365E+06      217.1         1.06       28.05
        5.20   173.50    .423E+06      261.3         1.10       27.00

                                   <---- hydrograph ---->   <-pipe /
channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0230)  764.76    47.41    5.25  52.61      3.16      0.92
     OUTFLOW: ID= 1 (0312)  764.76    35.93    5.75  52.61      2.80      0.97

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| CALIB             |
| STANDHYD  (0126) |   Area    (ha)= 105.36
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.04        65.32
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     838.09        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        22.17
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.74         3.82          7.558 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      71.10        37.80          50.45
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.52           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0231) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0126):   105.36   7.558     5.25    50.45
      + ID2= 2 (0312):   764.76  35.932     5.75    52.61
        ================================================
        ID = 3 (0231):   870.12  38.754     5.75    52.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (****) |   Area    (ha)=  84.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.50        33.66
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     749.04        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.28
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
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                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.72         2.16          6.876 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      71.10        41.52          59.27
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.57           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   0.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.06         0.04
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      25.82        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.28
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.008 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      71.10        41.52          59.21
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.57           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0273) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (****):    84.16   6.876     5.25    59.27
      + ID2= 2 (****):     0.10   0.008     5.25    59.21
        ================================================
        ID = 3 (0273):    84.26   6.884     5.25    59.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0313) |
| IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (413.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
17.49	180.00	0.1000	
117.61	179.00	0.1000 /0.0600	Main Channel
149.88	178.00	0.0600	Main Channel
158.35	178.00	0.0600	Main Channel
166.10	179.00	0.0600 /0.1000	Main Channel
307.85	180.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	178.10	.981E+03	0.2	0.17	89.26
0.20	178.20	.234E+04	0.6	0.26	60.26
0.30	178.30	.407E+04	1.4	0.32	48.14
0.40	178.40	.617E+04	2.5	0.38	41.07
0.50	178.50	.865E+04	4.0	0.43	36.27
0.60	178.60	.115E+05	5.9	0.48	32.74
0.70	178.70	.147E+05	8.2	0.52	30.00
0.80	178.80	.183E+05	11.0	0.56	27.79
0.90	178.90	.223E+05	14.3	0.60	25.96
1.00	179.00	.267E+05	18.2	0.64	24.42
1.10	179.10	.324E+05	23.8	0.69	22.70
1.21	179.21	.413E+05	31.0	0.70	22.19
1.32	179.32	.531E+05	39.8	0.70	22.24
1.43	179.43	.676E+05	50.2	0.70	22.44
1.54	179.54	.850E+05	62.6	0.69	22.63
1.66	179.66	.105E+06	77.1	0.69	22.74
1.77	179.77	.128E+06	93.8	0.69	22.76
1.88	179.88	.154E+06	113.0	0.69	22.69
1.99	179.99	.182E+06	134.9	0.69	22.54

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0273)	84.26	6.88	5.25	59.27	0.64	0.50
OUTFLOW: ID= 1 (0313)	84.26	5.79	5.25	59.26	0.59	0.47

CALIB	STANDHYD (0106)	ID= 1 DT=15.0 min	Area (ha)= 23.78	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.47	18.31
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	398.16	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.51 (i) 1.17 (ii) 1.685 (iii)

				TOTALS
PEAK FLOW	(cms)=	0.01	0.01	0.014 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	41.52	52.73
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.57	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 0.12	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.05	0.07
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	28.28	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.00 0.00 0.009 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 52.68
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0271)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):		43.89	3.303	5.25	52.76
+ ID2= 2 (****):		0.19	0.014	5.25	52.73
ID = 3 (0271):		44.08	3.318	5.25	52.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

				TOTALS
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	41.52	48.32
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.57	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 43.89	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.68	27.21
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	540.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.56 1.75 3.303 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 52.76
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 0.19	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.07	0.12
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	35.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

ADD HYD (0271)	3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0271):		44.08	3.318	5.25	52.76
+ ID2= 2 (****):		0.12	0.009	5.25	52.68
ID = 1 (0271):		44.20	3.327	5.25	52.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0235)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0106):		23.78	1.685	5.25	48.32
+ ID2= 2 (0271):		44.20	3.327	5.25	52.76
ID = 3 (0235):		67.98	5.012	5.25	51.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0235)	3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0235):		67.98	5.012	5.25	51.21
+ ID2= 2 (0313):		84.26	5.793	5.25	59.26
ID = 1 (0235):		152.24	10.805	5.25	55.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (****)	ID= 1 DT=15.0 min	Area (ha)= 57.42	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	21.82	35.60
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	618.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.04 2.28 4.322 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 41.52 52.76
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.57 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.56
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.21	0.35	
Dep. Storage (mm)=	2.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	61.10	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	24.28	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	0.02	0.02	0.042 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	71.10	41.52	52.74
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.97	0.57	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 1.02
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.39	0.63	
Dep. Storage (mm)=	2.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	82.46	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	24.28	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	0.04	0.04	0.077 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	71.10	41.52	52.74
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.97	0.57	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0236)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0235):	152.24	10.805	5.25	55.66	
+ ID2= 2 (****):	1.02	0.077	5.25	52.74	
ID = 3 (0236):	153.26	10.882	5.25	55.64	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0236)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 3 (0236):	153.26	10.882	5.25	55.64	
+ ID2= 2 (****):	57.42	4.322	5.25	52.76	
ID = 1 (0236):	210.68	15.204	5.25	54.86	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0236)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0236):	210.68	15.204	5.25	54.86	
+ ID2= 2 (****):	0.56	0.042	5.25	52.74	
ID = 3 (0236):	211.24	15.246	5.25	54.85	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0314)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (414.0) ------>

Distance	Elevation	Manning	
0.00	173.00	0.1000	
107.79	172.00	0.1000 /0.0600	Main Channel
112.20	171.00	0.0600	Main Channel
119.59	171.00	0.0600	Main Channel
125.21	172.00	0.0600 /0.1000	Main Channel
137.91	173.00	0.1000	
156.48	173.00	0.1000	

191.39	172.00	0.1000
197.94	172.00	0.1000
204.07	173.00	0.1000

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	171.10	.111E+04	0.2	0.29	81.52
0.20	171.20	.236E+04	0.7	0.44	53.20
0.30	171.30	.376E+04	1.5	0.56	41.84
0.40	171.40	.529E+04	2.5	0.66	35.43
0.50	171.50	.697E+04	3.7	0.75	31.22
0.60	171.60	.878E+04	5.2	0.83	28.19
0.70	171.70	.107E+05	6.9	0.91	25.88
0.80	171.80	.128E+05	8.9	0.98	24.04
0.90	171.90	.151E+05	11.2	1.04	22.53
1.00	172.00	.175E+05	13.7	1.10	21.26
1.11	172.11	.226E+05	17.7	1.10	21.32
1.22	172.22	.306E+05	22.7	1.05	22.45
1.33	172.33	.413E+05	29.0	0.99	23.76
1.44	172.44	.549E+05	36.9	0.94	24.84
1.56	172.56	.713E+05	46.5	0.92	25.58
1.67	172.67	.905E+05	58.0	0.90	26.00
1.78	172.78	.113E+06	71.7	0.90	26.14
1.89	172.89	.137E+06	87.8	0.90	26.07
2.00	173.00	.165E+06	103.2	0.88	26.63

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0236)	211.24	15.25	5.25	54.85	1.04	1.10
OUTFLOW: ID= 1 (0314)	211.24	13.19	5.25	54.85	0.98	1.09

CALIB	
STANDHYD (0127)	Area (ha)= 63.11
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	33.45	29.66	
Dep. Storage (mm)=	2.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	648.64	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	22.17	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	3.12	1.73	4.858 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	71.10	37.80	55.45
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.97	0.52	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0232)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0127):	63.11	4.858	5.25	55.45	
+ ID2= 2 (0314):	211.24	13.193	5.25	54.85	
ID = 3 (0232):	274.35	18.051	5.25	54.99	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0234)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0231):	870.12	38.754	5.75	52.35	
+ ID2= 2 (0232):	274.35	18.051	5.25	54.99	
ID = 3 (0234):	1144.47	55.234	5.25	52.98	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0315)
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (415.0) ------>

Distance	Elevation	Manning	
0.00	164.00	0.1000	
34.00	164.30	0.1000	
37.00	163.10	0.1000	
38.60	163.00	0.1000 /0.0800	Main Channel
40.00	163.00	0.0800	Main Channel
42.30	163.00	0.0800 /0.1000	Main Channel
43.90	163.10	0.1000	
46.00	164.30	0.1000	
80.00	164.30	0.1000	
100.00	168.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	163.05	.424E+03	0.0	0.09	338.86
0.11	163.11	.101E+04	0.1	0.13	228.21
0.16	163.16	.166E+04	0.2	0.17	174.49
0.21	163.21	.234E+04	0.3	0.20	144.34
0.26	163.26	.304E+04	0.4	0.24	124.91
0.32	163.32	.376E+04	0.6	0.27	111.22
0.37	163.37	.450E+04	0.7	0.29	100.98
0.42	163.42	.526E+04	0.9	0.32	92.99
0.47	163.47	.604E+04	1.2	0.34	86.55
0.53	163.53	.685E+04	1.4	0.36	81.22
0.58	163.58	.767E+04	1.7	0.39	76.73
0.63	163.63	.852E+04	1.9	0.41	72.89

0.68	163.68	.938E+04	2.2	0.43	69.55
0.74	163.74	.103E+05	2.6	0.44	66.63
0.79	163.79	.112E+05	2.9	0.46	64.03
0.84	163.84	.121E+05	3.3	0.48	61.71
0.89	163.89	.131E+05	3.6	0.50	59.62
0.95	163.95	.140E+05	4.0	0.51	57.73
1.00	164.00	.150E+05	4.5	0.53	56.00

**** WARNING: TRAVEL TIME TABLE EXCEEDED

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0234)	1144.47	55.23	5.25	52.98	0.96	0.52
OUTFLOW: ID= 1 (0315)	1144.47	34.60	6.50	52.98	1.00	0.53

CALIB
STANDHYD (0129) | Area (ha)= 146.96
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	66.13	80.83
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	989.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	22.17
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	6.15	4.72	10.876 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	37.80	52.78
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.52	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0237)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0129):	146.96	10.876	5.25	52.78
+ ID2= 2 (0315):	1144.47	34.603	6.50	52.98
ID = 3 (0237):	1291.43	37.305	6.25	52.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0138) | Area (ha)= 184.05
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	69.94	114.11
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1107.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	22.17
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	6.51	5.67	12.179 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	37.80	50.45
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.52	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0238)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0138):	184.05	12.179	5.25	50.45
+ ID2= 2 (0237):	1291.43	37.305	6.25	52.96
ID = 3 (0238):	1475.48	41.927	5.25	52.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0139) | Area (ha)= 21.16
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.21	9.95
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	375.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	23.56
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00

Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	1.05	0.62	1.666 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	71.10	40.23	56.59
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.97	0.55	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0239)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0139):	21.16	1.666	5.25	56.59
+ ID2= 2 (0238):	1475.48	41.927	5.25	52.64
ID = 3 (0239):	1496.64	43.593	5.25	52.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0233)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0221):	2341.86	40.760	5.25	53.54
+ ID2= 2 (0239):	1496.64	43.593	5.25	52.70
ID = 3 (0233):	3838.50	84.353	5.25	53.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0316)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (416.0) ------>

Distance	Elevation	Manning	
0.00	165.00	0.1200	
10.00	160.00	0.1200	
14.00	158.00	0.1200 /0.0600	Main Channel
15.00	157.20	0.0600	Main Channel
18.00	157.20	0.0600	Main Channel
24.00	158.00	0.0600 /0.1200	Main Channel
28.00	159.00	0.1200	
130.00	161.00	0.1200	
250.00	163.00	0.1200	
310.00	164.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.27	157.47	.146E+04	0.3	0.26	84.50
0.53	157.73	.373E+04	1.1	0.38	57.82
0.80	158.00	.681E+04	2.5	0.47	46.30
1.17	158.37	.123E+05	6.1	0.65	33.48
1.55	158.75	.188E+05	11.2	0.78	28.11
1.92	159.12	.270E+05	17.5	0.85	25.76
2.30	159.50	.430E+05	26.1	0.80	27.45
2.67	159.87	.688E+05	38.4	0.73	29.84
3.05	160.25	.104E+06	55.4	0.70	31.39
3.42	160.62	.150E+06	77.9	0.68	32.01
3.80	161.00	.205E+06	106.7	0.68	31.95
4.17	161.37	.270E+06	142.0	0.69	31.72
4.55	161.75	.347E+06	185.6	0.70	31.20
4.92	162.12	.436E+06	238.2	0.72	30.49
5.30	162.50	.536E+06	300.9	0.74	29.68
5.67	162.87	.647E+06	374.2	0.76	28.82
6.05	163.25	.770E+06	458.9	0.78	27.96
6.42	163.62	.904E+06	555.8	0.81	27.11
6.80	164.00	.105E+07	665.5	0.83	26.29

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0233)	3838.50	84.35	5.25	53.21	3.51	0.68
OUTFLOW: ID= 1 (0316)	3838.50	71.73	6.50	53.21	3.32	0.69

CALIB
STANDHYD (0137) | Area (ha)= 151.99
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	68.40	83.59
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1006.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	6.36	5.36	11.724 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	41.52	54.83
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.57	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0240)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0137):		151.99	11.724	5.25	54.83
+ ID2= 2 (0316):		3838.50	71.729	6.50	53.21
ID = 3 (0240):		3990.49	74.854	6.25	53.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0317)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (417.0) ------>

Distance	Elevation	Manning	
0.00	165.50	0.1200	
13.00	165.00	0.1200	
21.00	160.00	0.1200	
31.00	155.50	0.1200 /0.0600	Main Channel
31.01	155.30	0.0600	Main Channel
39.00	155.30	0.0600 /0.1200	Main Channel
39.01	155.50	0.1200	
135.00	157.00	0.1200	
167.00	160.00	0.1200	
200.00	163.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	155.71	.363E+04	1.4	0.31	42.78
0.81	156.11	.147E+05	6.2	0.33	39.56
1.22	156.52	.344E+05	16.2	0.37	35.35
1.62	156.92	.625E+05	32.9	0.41	31.66
2.03	157.33	.969E+05	60.1	0.49	26.90
2.43	157.73	.133E+06	95.4	0.56	23.27
2.84	158.14	.171E+06	137.8	0.63	20.69
3.24	158.54	.211E+06	187.1	0.70	18.76
3.65	158.95	.252E+06	243.1	0.76	17.26
4.05	159.35	.295E+06	305.8	0.81	16.06
4.46	159.76	.339E+06	375.1	0.87	15.07
4.86	160.16	.385E+06	451.1	0.92	14.24
5.27	160.57	.433E+06	533.7	0.96	13.53
5.67	160.97	.483E+06	622.9	1.01	12.91
6.08	161.38	.534E+06	718.9	1.05	12.37
6.48	161.78	.586E+06	821.6	1.10	11.89
6.89	162.19	.640E+06	931.2	1.14	11.46
7.29	162.59	.696E+06	1047.7	1.18	11.08
7.70	163.00	.754E+06	1171.2	1.22	10.73

<---- hydrograph ----> <-pipe / channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0240)	3990.49	74.85	6.25	53.27	2.20	0.51
OUTFLOW: ID= 1 (0317)	3990.49	72.78	6.75	53.27	2.17	0.51

CALIB

STANDHYD (0140)	Area (ha)= 106.10
ID= 1 DT=15.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	63.66	42.44
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	841.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	33.63	22.17
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	8.427 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	57.78
TOTAL RAINFALL	(mm)=	73.10
RUNOFF COEFFICIENT	=	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0241)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0140):		106.10	8.427	5.25	57.78
+ ID2= 2 (0317):		3990.49	72.782	6.75	53.27
ID = 3 (0241):		4096.59	74.251	6.50	53.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0141)	Area (ha)= 125.58
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.67	87.91
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	914.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	33.63	23.56
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	8.971 (iii)
TIME TO PEAK	(hrs)=	5.25

RUNOFF VOLUME	(mm)=	71.10	40.23	49.49
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.55	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0223)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0141):		125.58	8.971	5.25	49.49
+ ID2= 2 (0241):		4096.59	74.251	6.50	53.39
ID = 3 (0223):		4222.17	76.515	6.25	53.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0318)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<---- DATA FOR SECTION (418.0) ------>

Distance	Elevation	Manning	
0.00	165.00	0.1200	
22.00	160.00	0.1200	
43.00	160.00	0.1200	
136.00	156.00	0.1200 /0.0600	Main Channel
145.00	152.60	0.0600	Main Channel
156.00	152.60	0.0600	Main Channel
170.00	158.00	0.0600 /0.1200	Main Channel
180.00	162.00	0.1200	
187.00	162.40	0.1200	

<---------- TRAVEL TIME TABLE ----------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	153.09	.371E+04	3.6	0.60	17.17
0.97	153.57	.820E+04	12.0	0.91	11.43
1.46	154.06	.135E+05	24.6	1.14	9.10
1.94	154.54	.195E+05	41.8	1.34	7.77
2.43	155.03	.263E+05	63.6	1.51	6.88
2.91	155.51	.338E+05	90.5	1.67	6.23
3.40	156.00	.422E+05	122.6	1.81	5.73
3.93	156.53	.540E+05	168.9	1.95	5.33
4.47	157.07	.705E+05	224.8	1.99	5.22
5.00	157.60	.915E+05	292.3	1.99	5.22
5.53	158.13	.117E+06	375.1	2.00	5.20
6.07	158.67	.147E+06	479.8	2.03	5.12
6.60	159.20	.182E+06	600.9	2.06	5.05
7.13	159.73	.221E+06	739.5	2.08	4.99
7.67	160.27	.268E+06	885.7	2.06	5.05
8.20	160.80	.320E+06	1081.6	2.10	4.94
8.73	161.33	.374E+06	1298.4	2.17	4.80
9.27	161.87	.428E+06	1535.4	2.23	4.65
9.80	162.40	.485E+06	1788.6	2.30	4.52

<---- hydrograph ----> <-pipe / channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0223)	4222.17	76.51	6.25	53.27	2.66	1.58
OUTFLOW: ID= 1 (0318)	4222.17	76.62	6.50	53.27	2.66	1.58

CALIB
STANDHYD (0142)	Area (ha)= 132.90
ID= 1 DT=15.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	79.74	53.16
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	941.28	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	33.63	22.85
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	10.622 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	58.26
TOTAL RAINFALL	(mm)=	73.10
RUNOFF COEFFICIENT	=	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9501)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0142):		132.90	10.622	5.25	58.26
+ ID2= 2 (0318):		4222.17	76.615	6.50	53.27
ID = 3 (9501):		4355.07	78.912	6.25	53.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0161)	Area (ha)= 259.82
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	137.70	122.12	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	1316.11	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	22.85	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	12.81	6.28	19.093 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	38.99	56.01
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.53	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0224)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0161):	259.82	19.093	5.25	56.01
+ ID2= 2 (9501):	4355.07	78.912	6.25	53.43
ID = 3 (0224):	4614.89	91.019	5.25	53.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0319)					
IN= 2---> OUT= 1	Routing time step (min)'= 15.00				
<------ DATA FOR SECTION (418.0) ------>					
Distance	Elevation	Manning			
0.00	163.50	0.1000			
28.00	163.00	0.1000			
84.00	151.20	0.1000 /0.0600	Main Channel		
84.00	151.00	0.1000 /0.0600	Main Channel		
92.00	151.00	0.0600 /0.1000	Main Channel		
92.00	151.20	0.0600 /0.1000	Main Channel		
98.00	153.00	0.1000			
148.00	155.00	0.1000			
158.00	160.00	0.1000			
248.00	161.00	0.1000			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	151.53	.865E+04	2.1	0.45	69.80
1.05	152.05	.212E+05	7.1	0.63	49.68
1.58	152.58	.379E+05	15.2	0.75	41.66
2.11	153.11	.590E+05	26.1	0.82	37.68

2.63	153.63	.919E+05	41.2	0.84	37.20
3.16	154.16	.140E+06	63.2	0.84	36.97
3.68	154.68	.204E+06	93.5	0.86	36.33
4.21	155.21	.282E+06	135.3	0.90	34.71
4.74	155.74	.365E+06	189.9	0.97	32.07
5.26	156.26	.453E+06	253.9	1.05	29.71
5.79	156.79	.543E+06	326.9	1.12	27.69
6.32	157.32	.637E+06	409.0	1.20	25.97
6.84	157.84	.735E+06	499.9	1.27	24.50
7.37	158.37	.836E+06	599.6	1.34	23.24
7.89	158.89	.941E+06	708.2	1.40	22.14
8.42	159.42	.105E+07	825.6	1.47	21.17
8.95	159.95	.116E+07	951.9	1.53	20.31
9.47	160.47	.129E+07	945.7	1.36	22.80
10.00	161.00	.148E+07	1018.3	1.29	24.15

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0224)	4614.89	91.02	5.25	53.57	3.64	0.85
OUTFLOW: ID= 1 (0319)	4614.89	80.93	6.75	53.57	3.46	0.85

CALIB			
STANDHYD (0160)	Area (ha)=	38.29	
ID= 1 DT=15.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.55	23.74
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	505.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.28
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		1.36	1.52	2.882 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		71.10	41.52	52.76
TOTAL RAINFALL (mm)=		73.10	73.10	73.10
RUNOFF COEFFICIENT =		0.97	0.57	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0225)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 1 (0160):	38.29	2.882	5.25	52.76
+ ID2= 2 (0319):	4614.89	80.932	6.75	53.57
ID = 3 (0225):	4653.18	81.468	6.75	53.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0143)	Area (ha)=	64.11	
ID= 1 DT=15.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.47	25.64
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	653.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	22.85
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		3.59	1.55	5.139 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		71.10	38.99	58.26
TOTAL RAINFALL (mm)=		73.10	73.10	73.10
RUNOFF COEFFICIENT =		0.97	0.53	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0643)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.3600	1.3663
	0.4900	0.9264	2.9600	1.5789
	1.0100	1.1079	6.7000	2.1840

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0143)	64.110	5.139	5.25	58.26
OUTFLOW: ID= 1 (0643)	64.110	3.270	5.50	58.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 63.63
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.6780

CALIB			
STANDHYD (0156)	Area (ha)=	51.93	

ID= 1 DT=15.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.16	20.77
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	588.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	22.85
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		2.91	1.25	4.163 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		71.10	38.99	58.26
TOTAL RAINFALL (mm)=		73.10	73.10	73.10
RUNOFF COEFFICIENT =		0.97	0.53	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0226)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0156):	51.93	4.163	5.25	58.26
+ ID2= 2 (0643):	64.11	3.270	5.50	58.25
ID = 3 (0226):	116.04	7.131	5.25	58.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0145)	Area (ha)=	27.64	
ID= 1 DT=15.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.58	11.06
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	429.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	21.51
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		1.55	0.63	2.176 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		71.10	36.65	57.32

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     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.97         0.50           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0645) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  8.7100      0.8050
                          0.1300     0.7000   |  0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0145)    27.640     2.176      5.25      57.32
     OUTFLOW: ID= 1 (0645)    27.640     2.910      5.25      57.27

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=133.72
                   TIME SHIFT OF PEAK FLOW          (min)=  0.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.7806

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| CALIB            |
| STANDHYD  (0157) |   Area    (ha)=  52.48
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     31.49         20.99
     Dep. Storage     (mm)=      2.00          6.00
     Average Slope     (%)=      1.00          1.00
     Length            (m)=    591.50         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     33.63         22.17
               over (min)=     15.00         30.00
     Storage Coeff.  (min)=      6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.10          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.94          1.23        4.168 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     71.10         37.80        57.78
     TOTAL RAINFALL   (mm)=     73.10         73.10        73.10
     RUNOFF COEFFICIENT   =      0.97          0.52         0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR (0657) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  8.0000      1.7050
                          0.3100     1.7000   | 15.9900      1.7100

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0157)    52.480     4.168      5.25      57.78
     OUTFLOW: ID= 1 (0657)    52.480     4.288      5.50      57.75

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=102.87
                   TIME SHIFT OF PEAK FLOW          (min)= 15.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.8397

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD   (0242) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0645):    27.64   2.910     5.25     57.27
        + ID2= 2 (0657):    52.48   4.288     5.50     57.75
          ================================================
          ID = 3 (0242):    80.12   5.055     5.50     57.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0243) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0226):   116.04   7.131     5.25     58.25
        + ID2= 2 (0242):    80.12   5.055     5.50     57.59
          ================================================
          ID = 3 (0243):   196.16  10.340     5.25     57.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0159) |   Area    (ha)= 122.82
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     73.69         49.13
     Dep. Storage     (mm)=      2.00          6.00
     Average Slope     (%)=      1.00          1.00
     Length            (m)=    904.88         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     33.63         24.28
               over (min)=     15.00         30.00
     Storage Coeff.  (min)=     12.00 (ii)    18.00 (ii)
```



```
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.08          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      6.85          3.15       10.006 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     71.10         41.52        59.27
     TOTAL RAINFALL   (mm)=     73.10         73.10        73.10
     RUNOFF COEFFICIENT   =      0.97          0.57         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0248) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0159):   122.82  10.006     5.25     59.27
        + ID2= 2 (0243):   196.16  10.340     5.25     57.98
          ================================================
          ID = 3 (0248):   318.98  20.346     5.25     58.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0251) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0225):  4653.18  81.468     6.75     53.56
        + ID2= 2 (0248):   318.98  20.346     5.25     58.48
          ================================================
          ID = 3 (0251):  4972.16  88.574     6.25     53.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 420.0) ------>
               Distance      Elevation       Manning
                  0.00         154.00        0.1000
                  9.00         149.00        0.1000
                 11.00         148.00    0.1000 /0.0600  Main Channel
                 12.00         146.80        0.0600      Main Channel
                 19.00         146.80        0.0600      Main Channel
                 20.00         147.00    0.0600 /0.1000  Main Channel
                 22.00         148.00        0.1000
                142.00         150.00        0.1000
                144.00         152.00        0.1000
                161.00         155.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```



```
       (m)       (m)      (cu.m.)      (cms)        (m/s)       (min)
      0.20    147.00    .195E+04        0.4          0.24       89.36
      0.57    147.37    .608E+04        2.2          0.47       45.34
      0.94    147.74    .107E+05        5.3          0.63       33.88
      1.31    148.11    .162E+05        9.3          0.74       29.19
      1.67    148.47    .300E+05       15.7          0.68       31.77
      2.04    148.84    .546E+05       26.3          0.62       34.57
      2.41    149.21    .900E+05       42.5          0.61       35.34
      2.78    149.58    .136E+06       65.4          0.62       34.74
      3.15    149.95    .193E+06       96.2          0.64       33.50
      3.52    150.32    .257E+06      141.4          0.71       30.34
      3.88    150.68    .322E+06      195.9          0.78       27.41
      4.25    151.05    .387E+06      258.0          0.86       25.02
      4.62    151.42    .453E+06      327.4          0.93       23.05
      4.99    151.79    .519E+06      403.8          1.00       21.42
      5.36    152.16    .586E+06      485.6          1.07       20.11
      5.73    152.53    .654E+06      572.0          1.13       19.05
      6.09    152.89    .723E+06      664.7          1.19       18.12
      6.46    153.26    .793E+06      763.7          1.24       17.32
      6.83    153.63    .865E+06      868.7          1.29       16.60

                                  <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0251) 4972.16    88.57    6.25  53.88      3.06      0.64
     OUTFLOW: ID= 1 (0320) 4972.16    84.74    7.25  53.88      3.01      0.63

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--------------------
| CALIB            |
| STANDHYD  (0162) |   Area    (ha)= 117.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     53.02         64.81
     Dep. Storage     (mm)=      2.00          6.00
     Average Slope     (%)=      1.00          1.00
     Length            (m)=    886.30         40.00
     Mannings n           =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     33.63         22.17
               over (min)=     15.00         30.00
     Storage Coeff.  (min)=     12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00         15.00
     Unit Hyd. peak  (cms)=      0.08          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      4.93          3.79        8.720 (iii)
     TIME TO PEAK    (hrs)=      5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=     71.10         37.80        52.78
     TOTAL RAINFALL   (mm)=     73.10         73.10        73.10
     RUNOFF COEFFICIENT   =      0.97          0.52         0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0254) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0162):   117.83   8.720     5.25    52.78
       + ID2= 2 (0320):  4972.16  84.736     7.25    53.88
         ================================================
         ID = 3 (0254):  5089.99  86.237     7.25    53.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0321) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 421.0) ------>
               Distance      Elevation       Manning
                   0.00        154.00        0.1000
                  26.00        150.00        0.1000
                 128.00        148.50        0.1000
                 170.00        148.00        0.1000
                 175.00        147.00    0.1000 /0.0600  Main Channel
                 176.00        146.60        0.0600      Main Channel
                 182.00        146.60        0.0600      Main Channel
                 185.00        147.00    0.0600 /0.1000  Main Channel
                 187.00        148.00        0.1000
                 227.00        154.00        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.20   146.80    .232E+04       0.4          0.28      96.99
       0.40   147.00    .530E+04       1.4          0.42      65.03
       0.81   147.41    .131E+05       5.5          0.69      39.69
       1.22   147.82    .229E+05      12.0          0.87      31.65
       1.64   148.24    .384E+05      20.7          0.89      30.89
       2.05   148.65    .770E+05      36.3          0.78      35.32
       2.46   149.06    .137E+06      62.2          0.75      36.79
       2.87   149.47    .219E+06     100.7          0.76      36.20
       3.28   149.88    .321E+06     154.1          0.79      34.73
       3.69   150.29    .440E+06     231.8          0.87      31.64
       4.11   150.71    .563E+06     328.9          0.97      28.55
       4.52   151.12    .690E+06     441.6          1.06      26.05
       4.93   151.53    .821E+06     569.3          1.15      24.03
       5.34   151.94    .955E+06     711.7          1.23      22.37
       5.75   152.35    .109E+07     868.5          1.31      20.98
       6.16   152.76    .124E+07    1039.6          1.39      19.80
       6.58   153.18    .138E+07    1224.8          1.47      18.79
       6.99   153.59    .153E+07    1424.0          1.54      17.91
       7.40   154.00    .168E+07    1637.2          1.61      17.13

                                    <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)     (m/s)
     INFLOW : ID= 2 (0254) 5089.99    86.24    7.25  53.85      2.72      0.76
     OUTFLOW: ID= 1 (0321) 5089.99    83.38    7.75  53.85      2.68      0.76


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| CALIB             |
| STANDHYD  (0163) |   Area    (ha)= 103.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.24         64.03
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     829.74         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         22.17
           over (min)     =      15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.67          3.74          7.408 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      71.10         37.80          50.45
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.52           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0255) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0163):   103.27   7.408     5.25    50.45
       + ID2= 2 (0321):  5089.99  83.384     7.75    53.85
         ================================================
         ID = 3 (0255):  5193.26  84.175     7.75    53.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0168) |   Area    (ha)= 182.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      82.20        100.47
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1103.54         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         21.51
           over (min)     =      15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.65          4.83         12.473 (iii)
```



```
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      71.10         36.65          52.15
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.50           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0256) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0168):   182.67  12.473     5.25    52.15
       + ID2= 2 (0255):  5193.26  84.175     7.75    53.79
         ================================================
         ID = 3 (0256):  5375.93  85.754     7.75    53.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0158) |   Area    (ha)=  28.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.15         11.44
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     436.58         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         24.28
           over (min)     =      15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.60          0.73          2.336 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      71.10         41.52          59.27
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.57           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0658) |
| IN= 2---> OUT= 1 |
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| DT= 15.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000     |   0.6450      0.5926
                         0.0440     0.1178     |   1.0280      0.7036
                         0.0470     0.2198     |   1.4580      0.8166
                         0.0490     0.3238     |   1.6970      0.8738
                         0.3350     0.4836     |   1.9480      1.1200

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0158)     28.590     2.336     5.25       59.27
     OUTFLOW: ID= 1 (0658)     28.590     1.377     5.50       59.24

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.94
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8123

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| CALIB             |
| STANDHYD  (0164) |   Area    (ha)= 109.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.91         51.36
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     853.50         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         24.28
           over (min)     =      15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.41          3.29          8.704 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      71.10         41.52          57.20
     TOTAL RAINFALL   (mm)=      73.10         73.10          73.10
     RUNOFF COEFFICIENT   =       0.97          0.57           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0257) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0164):   109.27   8.704     5.25    57.20
       + ID2= 2 (0658):    28.59   1.377     5.50    59.24
         ================================================
         ID = 3 (0257):   137.86   9.960     5.25    57.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0244) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):  5375.93  85.754     7.75    53.73
       + ID2= 2 (0257):   137.86   9.960     5.25    57.62
         ================================================
         ID = 3 (0244):  5513.79  87.250     7.25    53.83

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (0322) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 422.0) ------>
               Distance      Elevation       Manning
                  0.00         146.00        0.1000
                 10.00         144.00        0.1000
                 50.00         143.00        0.1000
                 61.00         142.50    0.1000 /0.0300  Main Channel
                 72.00         138.00        0.0300      Main Channel
                 72.00         137.80        0.0300      Main Channel
                 75.00         137.80        0.0300      Main Channel
                 75.00         138.00        0.0300      Main Channel
                 86.00         142.50    0.0300 /0.1000  Main Channel
                108.00         150.00        0.1000

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.43   138.23    .221E+04       1.2         0.83       31.62
      0.85   138.65    .568E+04       4.3         1.19       22.02
      1.28   139.08    .105E+05      10.0         1.49       17.62
      1.71   139.51    .168E+05      18.7         1.75       14.96
      2.14   139.94    .245E+05      31.1         2.00       13.14
      2.56   140.36    .336E+05      47.5         2.22       11.79
      2.99   140.79    .441E+05      68.3         2.44       10.75
      3.42   141.22    .560E+05      94.1         2.65        9.91
      3.85   141.65    .692E+05     125.2         2.84        9.22
      4.27   142.07    .839E+05     161.9         3.03        8.64
      4.70   142.50    .100E+06     204.7         3.22        8.14
      5.14   142.94    .121E+06     267.2         3.47        7.55
      5.58   143.38    .151E+06     338.2         3.51        7.46
      6.01   143.81    .195E+06     419.9         3.39        7.73
      6.45   144.25    .249E+06     515.7         3.25        8.06
      6.89   144.69    .307E+06     625.1         3.20        8.19
      7.33   145.13    .367E+06     746.1         3.19        8.21
      7.76   145.56    .430E+06     878.6         3.21        8.16
      8.20   146.00    .495E+06    1022.1         3.25        8.07

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                   
                          (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0244) 5513.79    87.25     7.25  53.83      3.30      2.59
     OUTFLOW: ID= 1 (0322) 5513.79    87.20     7.50  53.83      3.30      2.59
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| CALIB            |
| STANDHYD  (0167) |   Area    (ha)=  67.37
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.32         37.05
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     670.17         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         22.85
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.83          2.23          5.066 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      71.10         38.99         53.44
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.53          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (0245) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0167):    67.37   5.066     5.25    53.44
       + ID2= 2 (0322):  5513.79  87.198     7.50    53.83
         ================================================
         ID = 3 (0245):  5581.16  87.785     7.50    53.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB            |
| STANDHYD  (0169) |   Area    (ha)= 180.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      68.49        111.75
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1096.18         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         22.17
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
```



```
     PEAK FLOW       (cms)=       6.37          5.56         11.926 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      71.10         37.80         50.45
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.52          0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD   (0246) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0169):   180.24  11.926     5.25    50.45
       + ID2= 2 (0245):  5581.16  87.785     7.50    53.82
         ================================================
         ID = 3 (0246):  5761.40  89.689     7.50    53.72

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN (0323) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 423.0) ------>
               Distance      Elevation       Manning
                  0.00         145.00        0.1200
                 90.00         136.00        0.1200
                 95.00         134.90    0.1200 /0.0600  Main Channel
                 95.00         134.70    0.1200 /0.0600  Main Channel
                105.00         134.70    0.0600 /0.1200  Main Channel
                105.00         134.90    0.0600 /0.1200  Main Channel
                108.00         136.00        0.1200
                255.00         136.00        0.1200
                308.00         145.00        0.1200

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.54   135.24    .548E+04       3.3         0.56       27.64
      1.08   135.78    .128E+05      11.0         0.81       19.38
      1.63   136.33    .675E+05      33.0         0.46       34.09
      2.17   136.87    .156E+06      92.4         0.55       28.17
      2.71   137.41    .249E+06     180.6         0.68       23.00
      3.25   137.95    .347E+06     294.4         0.80       19.62
      3.79   138.49    .448E+06     432.5         0.90       17.28
      4.34   139.04    .554E+06     594.0         1.00       15.56
      4.88   139.58    .665E+06     778.4         1.10       14.24
      5.42   140.12    .780E+06     985.6         1.18       13.19
      5.96   140.66    .899E+06    1215.3         1.27       12.33
      6.51   141.21    .102E+07    1467.6         1.34       11.62
      7.05   141.75    .115E+07    1742.4         1.42       11.01
      7.59   142.29    .128E+07    2040.0         1.49       10.48
      8.13   142.83    .142E+07    2360.4         1.56       10.03
      8.67   143.37    .156E+07    2703.8         1.62        9.62
      9.22   143.92    .171E+07    3070.5         1.69        9.26
```



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      9.76   144.46    .186E+07    3460.6         1.75        8.94
     10.30   145.00    .201E+07    3874.4         1.81        8.65

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                   
                          (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0246) 5761.40    89.69     7.50  53.72      2.14      0.55
     OUTFLOW: ID= 1 (0323) 5761.40    88.59     8.00  53.72      2.13      0.55
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| ADD HYD   (0247) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0170):    30.06   1.619     5.50    40.71
       + ID2= 2 (0323):  5761.40  88.589     8.00    53.72
         ================================================
         ID = 3 (0247):  5791.46  88.856     8.00    53.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (0166) |   Area    (ha)= 260.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     117.43        143.53
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1318.99         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         22.85
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      10.92          7.39         18.309 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25          5.25
     RUNOFF VOLUME    (mm)=      71.10         38.99         53.44
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.97          0.53          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD   (0249) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
```

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0166):	260.96	18.309	5.25	53.44
+ ID2= 2 (0247):	5791.46	88.856	8.00	53.65
ID = 3 (0249):	6052.42	91.065	7.75	53.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0324)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (424.0) ------>

Distance	Elevation	Manning	
0.00	138.00	0.1000	
34.00	130.00	0.1000	
35.00	129.70	0.1000 /0.0600	Main Channel
41.00	129.70	0.0600 /0.1000	Main Channel
42.00	130.00	0.1000	
44.00	131.00	0.1000	
98.00	132.00	0.1000	
122.00	133.00	0.1000	
150.00	140.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.44	130.14	.561E+04	1.5	0.46	62.25
0.87	130.57	.133E+05	5.1	0.67	43.14
1.31	131.01	.231E+05	10.7	0.80	35.80
1.75	131.45	.438E+05	19.1	0.75	38.25
2.18	131.88	.837E+05	34.5	0.71	40.41
2.62	132.32	.140E+06	60.4	0.74	38.66
3.06	132.76	.206E+06	96.4	0.81	35.64
3.49	133.19	.281E+06	144.5	0.89	32.39
3.93	133.63	.359E+06	205.4	0.99	29.15
4.37	134.07	.440E+06	276.2	1.08	26.58
4.81	134.51	.524E+06	356.4	1.17	24.51
5.24	134.94	.611E+06	446.1	1.26	22.82
5.68	135.38	.700E+06	544.9	1.34	21.41
6.12	135.82	.792E+06	652.9	1.42	20.21
6.55	136.25	.887E+06	770.1	1.50	19.19
6.99	136.69	.984E+06	896.3	1.57	18.30
7.43	137.13	.108E+07	1031.7	1.64	17.51
7.86	137.56	.119E+07	1176.1	1.71	16.82
8.30	138.00	.129E+07	1329.8	1.77	16.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0249)	6052.42	91.07	7.75	53.64	2.99	0.80
OUTFLOW: ID= 1 (0324)	6052.42	89.68	8.25	53.64	2.97	0.79

CALIB	
STANDHYD (0171)	Area (ha)= 277.59
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	105.48	172.11
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	1360.37	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	22.85
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04
		TOTALS
PEAK FLOW (cms)=	9.81	8.86 18.669 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	71.10	38.99 51.19
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.97	0.53 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0250)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0171):	277.59	18.669	5.25	51.19	
+ ID2= 2 (0324):	6052.42	89.676	8.25	53.64	
ID = 3 (0250):	6330.01	91.787	8.25	53.53	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0325)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (425.0) ------>

Distance	Elevation	Manning	
0.00	135.00	0.1200	
30.00	133.00	0.1200	
53.00	130.00	0.1200	
70.00	127.00	0.1200 /0.0800	Main Channel
74.00	126.30	0.0800	Main Channel
78.00	126.30	0.0800	Main Channel
82.00	127.00	0.0800 /0.1200	Main Channel
96.00	129.00	0.1200	
118.00	135.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	126.65	.244E+04	0.6	0.28	69.40
0.70	127.00	.651E+04	2.3	0.41	47.37
1.17	127.47	.147E+05	7.6	0.60	32.40
1.64	127.94	.262E+05	16.0	0.71	27.32
2.11	128.41	.409E+05	27.9	0.79	24.46

2.58	128.88	.589E+05	43.6	0.86	22.49	
3.05	129.35	.799E+05	63.9	0.93	20.83	
3.52	129.82	.103E+06	88.6	1.00	19.43	
3.99	130.29	.129E+06	117.5	1.06	18.34	
4.46	130.76	.158E+06	151.0	1.11	17.45	
4.94	131.24	.190E+06	189.7	1.16	16.68	
5.41	131.71	.224E+06	233.7	1.21	16.01	
5.88	132.18	.262E+06	283.4	1.26	15.41	
6.35	132.65	.303E+06	339.0	1.30	14.88	
6.82	133.12	.346E+06	399.4	1.34	14.44	
7.29	133.59	.394E+06	463.2	1.37	14.17	
7.76	134.06	.446E+06	535.2	1.39	13.90	
8.23	134.53	.504E+06	615.8	1.42	13.63	
8.70	135.00	.566E+06	705.3	1.45	13.37	

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0250)	6330.01	91.79	8.25	53.53	3.58	1.00
OUTFLOW: ID= 1 (0325)	6330.01	91.27	8.50	53.53	3.57	1.00

CALIB	
STANDHYD (0172)	Area (ha)= 182.59
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	69.38	113.21
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	1103.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	22.17
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04
		TOTALS
PEAK FLOW (cms)=	6.45	5.63 12.082 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	71.10	37.80 50.45
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.97	0.52 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0252)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0172):	182.59	12.082	5.25	50.45	

+ ID2= 2 (0325):	6330.01	91.270	8.50	53.53
ID = 3 (0252):	6512.60	92.402	8.25	53.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0173)	Area (ha)= 162.52
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	61.76	100.76
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	1040.90	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	22.85
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.08	0.06
		TOTALS
PEAK FLOW (cms)=	5.74	6.07 11.819 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	71.10	38.99 51.19
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.97	0.53 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0253)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0173):	162.52	11.819	5.25	51.19	
+ ID2= 2 (0252):	6512.60	92.402	8.25	53.45	
ID = 3 (0253):	6675.12	93.586	8.25	53.39	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0326)	
IN= 2---> OUT= 1	Routing time step (min)= 15.00

<------ DATA FOR SECTION (426.0) ------>

Distance	Elevation	Manning	
0.00	137.00	0.1200	
45.00	135.00	0.1200	
53.00	130.00	0.1200	
137.00	125.20	0.1200 /0.0800	Main Channel

137.00	125.00	0.1200 /0.0800	Main Channel
143.00	125.00	0.0800 /0.1200	Main Channel
143.00	125.20	0.0800 /0.1200	Main Channel
195.00	126.00	0.1200	
260.00	130.00	0.1200	
325.00	135.00	0.1200	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	125.53	.747E+04	2.3	0.30	54.64
1.05	126.05	.359E+05	14.2	0.39	42.17
1.58	126.58	.789E+05	42.5	0.53	30.93
2.11	127.11	.131E+06	86.4	0.65	25.33
2.63	127.63	.193E+06	146.7	0.75	21.91
3.16	128.16	.264E+06	224.7	0.84	19.56
3.68	128.68	.344E+06	321.8	0.93	17.80
4.21	129.21	.433E+06	439.3	1.00	16.43
4.74	129.74	.532E+06	578.4	1.08	15.32
5.26	130.26	.639E+06	748.6	1.16	14.22
5.79	130.79	.751E+06	949.8	1.25	13.17
6.32	131.32	.867E+06	1173.6	1.34	12.31
6.84	131.84	.987E+06	1419.9	1.42	11.58
7.37	132.37	.111E+07	1688.7	1.51	10.96
7.89	132.89	.124E+07	1980.1	1.58	10.42
8.42	133.42	.137E+07	2294.3	1.66	9.95
8.95	133.95	.151E+07	2631.2	1.73	9.54
9.47	134.47	.165E+07	2991.2	1.80	9.17
10.00	135.00	.179E+07	3374.5	1.87	8.84

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0253)	6675.12	93.59	8.25	53.39	2.17	0.66
OUTFLOW: ID= 1 (0326)	6675.12	92.80	8.50	53.39	2.16	0.66

CALIB			
NASHYD (0176)	Area (ha)=	51.49	Curve Number (CN)= 85.0
ID= 1 DT=15.0 min	Ia (mm)=	7.00	# of Linear Res.(N)= 5.00
	U.H. Tp(hrs)=	1.03	

Unit Hyd Qpeak (cms)= 2.756

PEAK FLOW	(cms)=	2.124 (i)
TIME TO PEAK	(hrs)=	6.000
RUNOFF VOLUME	(mm)=	39.394
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.539

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0258)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0176):	51.49	2.124	6.00	39.39
	+ ID2= 2 (0326):	6675.12	92.804	8.50	53.39

98.00	120.20	0.0800 /0.1200	Main Channel
98.00	120.40	0.0800 /0.1200	Main Channel
115.00	123.00	0.1200	
195.00	123.00	0.1200	
210.00	130.00	0.1200	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.52	120.72	.459E+04	2.3	0.56	32.81
1.03	121.23	.114E+05	8.1	0.78	23.58
1.55	121.75	.209E+05	17.6	0.93	19.79
2.06	122.26	.331E+05	31.4	1.05	17.54
2.58	122.78	.478E+05	49.9	1.16	15.97
3.09	123.29	.930E+05	70.1	0.84	22.09
3.61	123.81	.169E+06	135.6	0.89	20.81
4.13	124.33	.256E+06	232.6	1.01	18.35
4.64	124.84	.346E+06	357.4	1.15	16.16
5.16	125.36	.440E+06	506.4	1.28	14.47
5.67	125.87	.536E+06	678.4	1.41	13.16
6.19	126.39	.635E+06	872.8	1.53	12.12
6.71	126.91	.736E+06	1089.1	1.64	11.27
7.22	127.42	.841E+06	1326.9	1.75	10.56
7.74	127.94	.948E+06	1586.0	1.86	9.96
8.25	128.45	.106E+07	1866.4	1.96	9.45
8.77	128.97	.117E+07	2167.8	2.05	9.01
9.28	129.48	.129E+07	2490.3	2.15	8.62
9.80	130.00	.141E+07	2833.8	2.24	8.27

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0259)	6904.50	94.29	8.50	53.19	3.29	0.86
OUTFLOW: ID= 1 (0327)	6904.50	93.80	8.75	53.19	3.28	0.86

CALIB			
NASHYD (0175)	Area (ha)=	18.01	Curve Number (CN)= 82.0
ID= 1 DT=15.0 min	Ia (mm)=	7.00	# of Linear Res.(N)= 5.00
	U.H. Tp(hrs)=	0.59	

Unit Hyd Qpeak (cms)= 1.672

PEAK FLOW	(cms)=	0.881 (i)
TIME TO PEAK	(hrs)=	5.500
RUNOFF VOLUME	(mm)=	35.938
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.492

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0175):	18.01	0.881	5.50	35.94
	+ ID2= 2 (0327):	6904.50	93.797	8.75	53.19
	ID = 3 (0260):	6922.51	93.889	8.75	53.15

ID = 3 (0258): 6726.61 93.269 8.50 53.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0174)	Area (ha)=	177.89	
ID= 1 DT=15.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.60	110.29
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1089.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	21.51
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	6.29 5.30 11.586 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	71.10 36.65 49.74
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.97 0.50 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0174):	177.89	11.586	5.25	49.74
	+ ID2= 2 (0258):	6726.61	93.269	8.50	53.28
	ID = 3 (0259):	6904.50	94.293	8.50	53.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0327)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (427.0) ------>

Distance	Elevation	Manning	
0.00	130.00	0.1200	
45.00	124.00	0.1200	
85.00	123.00	0.1200	
91.00	120.40	0.1200 /0.0800	Main Channel
91.00	120.20	0.1200 /0.0800	Main Channel

ID = 3 (0260): 6922.51 93.889 8.75 53.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0328)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (428.0) ------>

Distance	Elevation	Manning	
0.00	116.00	0.1200	
26.00	110.00	0.1200 /0.0800	Main Channel
28.00	109.70	0.0800	Main Channel
36.00	109.70	0.0800	Main Channel
37.00	110.00	0.0800 /0.1200	Main Channel
55.00	115.00	0.1200	
60.00	115.50	0.1200	
70.00	116.00	0.1200	
110.00	117.00	0.1200	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	110.00	.387E+04	1.0	0.36	63.21
0.62	110.32	.912E+04	3.9	0.58	38.81
0.93	110.63	.154E+05	8.4	0.74	30.61
1.25	110.95	.228E+05	14.5	0.86	26.27
1.56	111.26	.313E+05	22.2	0.96	23.51
1.88	111.58	.409E+05	31.6	1.05	21.56
2.19	111.89	.515E+05	42.7	1.13	20.08
2.51	112.21	.632E+05	55.7	1.20	18.92
2.83	112.53	.759E+05	70.5	1.26	17.96
3.14	112.84	.898E+05	87.2	1.32	17.15
3.46	113.16	.105E+06	106.0	1.37	16.45
3.77	113.47	.121E+06	126.9	1.43	15.85
4.09	113.79	.138E+06	149.9	1.48	15.31
4.41	114.11	.156E+06	175.2	1.53	14.83
4.72	114.42	.175E+06	202.8	1.57	14.39
5.04	114.74	.195E+06	232.7	1.62	13.99
5.35	115.05	.217E+06	264.5	1.66	13.66
5.67	115.37	.240E+06	296.6	1.68	13.47
5.98	115.68	.265E+06	329.5	1.69	13.40

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0260)	6922.51	93.89	8.75	53.15	3.25	1.34
OUTFLOW: ID= 1 (0328)	6922.51	93.67	9.00	53.15	3.23	1.33

CALIB			
STANDHYD (0177)	Area (ha)=	265.44	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	119.45	145.99
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1330.26	40.00

```
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        17.93
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.11         5.73        16.845 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      71.10        30.56        48.81
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.42         0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0261) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0177):   265.44  16.845     5.25    48.81
       + ID2= 2 (0328):  6922.51  93.666     9.00    53.15
         ================================================
         ID = 3 (0261):  7187.95  94.677     9.00    52.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0178) |   Area    (ha)= 271.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     122.34       149.52
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1346.25        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        18.49
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      11.38         6.07        17.450 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      71.10        31.49        49.32
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.43         0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  77.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0262) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0178):   271.86  17.450     5.25    49.32
       + ID2= 2 (0261):  7187.95  94.677     9.00    52.99
         ================================================
         ID = 3 (0262):  7459.81  95.746     8.75    52.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0329) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION ( 429.0) ------>
               Distance      Elevation       Manning
                  0.00         112.00        0.1800
                 42.00         110.00        0.1800
                 69.00         107.00        0.1800
                 72.00         106.20        0.1800
                 72.00         106.00    0.1800 /0.0700  Main Channel
                 82.00         106.00    0.0700 /0.1800  Main Channel
                 82.00         106.20    0.0700 /0.1800  Main Channel
                 86.00         107.00        0.1800
                102.00         109.00        0.1800
                169.00         111.00        0.1800

              <---------------------- TRAVEL TIME TABLE ---------------------->
               DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
                (m)      (m)    (cu.m.)      (cms)        (m/s)       (min)
               0.26   106.26    .682E+04       1.4          0.52       82.26
               0.53   106.53    .147E+05       4.4          0.78       55.27
               0.79   106.79    .242E+05       8.9          0.95       45.23
               1.05   107.05    .353E+05      14.7          1.07       39.91
               1.32   107.32    .489E+05      21.9          1.15       37.24
               1.58   107.58    .656E+05      30.6          1.20       35.72
               1.84   107.84    .853E+05      41.0          1.24       34.70
               2.11   108.11    .108E+06      53.1          1.26       33.92
               2.37   108.37    .134E+06      67.0          1.29       33.27
               2.63   108.63    .163E+06      82.9          1.31       32.70
               2.89   108.89    .194E+06     100.8          1.33       32.16
               3.16   109.16    .230E+06     119.2          1.33       32.18
               3.42   109.42    .273E+06     140.0          1.32       32.50
               3.68   109.68    .323E+06     164.3          1.31       32.80
               3.95   109.95    .381E+06     192.3          1.30       33.06
               4.21   110.21    .448E+06     222.3          1.28       33.57
               4.47   110.47    .524E+06     256.6          1.26       34.02
               4.74   110.74    .609E+06     295.8          1.25       34.34
               5.00   111.00    .705E+06     340.1          1.24       34.53

                                          <---- hydrograph ---->   <-pipe /
channel->
                                   AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                    (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0262) 7459.81    95.75    8.75  52.85      2.82      1.33
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     OUTFLOW: ID= 1 (0329) 7459.81    95.16    9.25  52.85      2.81      1.33

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| CALIB            |
| STANDHYD  (0179) |   Area    (ha)=  85.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      32.30        52.70
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     752.77        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        17.93
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.02         2.48         5.501 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      71.10        30.56        45.97
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.42         0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0263) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0179):    85.00    5.501     5.25    45.97
       + ID2= 2 (0329):  7459.81  95.158     9.25    52.85
         ================================================
         ID = 3 (0263):  7544.81  95.443     9.25    52.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0182) |   Area    (ha)= 183.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      97.01        86.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1104.63        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        16.88
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               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       9.02         3.16        12.187 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      71.10        28.80        51.22
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.97         0.39         0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0182):   183.03  12.187     5.25    51.22
       + ID2= 2 (0263):  7544.81  95.443     9.25    52.77
         ================================================
         ID = 3 (0264):  7727.84  96.102     9.25    52.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0330) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
                <------ DATA FOR SECTION ( 430.0) ------>
               Distance      Elevation       Manning
                  0.00         90.00        0.1200
                  7.00         85.00        0.1200
                 10.00         83.00        0.1200
                 10.00         82.80    0.1200 /0.0800  Main Channel
                 19.00         82.80        0.0800      Main Channel
                 19.00         83.00    0.0800 /0.1200  Main Channel
                 20.00         84.00        0.1200
                 45.00         85.00        0.1200
                 85.00         90.00        0.1200

              <---------------------- TRAVEL TIME TABLE ---------------------->
               DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
                (m)      (m)    (cu.m.)      (cms)        (m/s)       (min)
               0.38   83.18    .243E+04       1.8          0.53       21.92
               0.76   83.56    .507E+04       5.9          0.82       14.23
               1.14   83.94    .796E+04      11.9          1.05       11.19
               1.52   84.32    .120E+05      19.7          1.16       10.14
               1.89   84.69    .186E+05      30.7          1.16       10.08
               2.27   85.07    .279E+05      46.3          1.17       10.04
               2.65   85.45    .386E+05      67.3          1.22        9.57
               3.03   85.83    .504E+05      93.0          1.30        9.03
               3.41   86.21    .631E+05     123.2          1.37        8.53
               3.79   86.59    .767E+05     158.1          1.45        8.08
               4.17   86.97    .913E+05     197.8          1.52        7.69
               4.55   87.35    .107E+06     242.4          1.60        7.34
```

4.93	87.73	.123E+06	292.0	1.67	7.04	
5.31	88.11	.141E+06	346.7	1.73	6.76	
5.68	88.48	.159E+06	406.7	1.80	6.52	
6.06	88.86	.178E+06	472.2	1.86	6.30	
6.44	89.24	.199E+06	543.2	1.92	6.09	
6.82	89.62	.220E+06	620.0	1.98	5.91	
7.20	90.00	.242E+06	702.7	2.04	5.74	

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0264)	7727.84	96.10	9.25	52.74	3.07	1.31
OUTFLOW: ID= 1 (0330)	7727.84	96.00	9.25	52.74	3.07	1.30

CALIB			
STANDHYD (0181)	Area (ha)= 55.83		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.75	39.08
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	610.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	33.63	16.88
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.56	1.73	3.297 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	28.80	41.49
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.39	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0265)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0181):	55.83	3.297	5.25	41.49	
+ ID2= 2 (0330):	7727.84	95.998	9.25	52.74	
ID = 3 (0265):	7783.67	96.175	9.25	52.66	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0183)	Area (ha)= 330.88		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	175.37	155.51
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1485.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	33.63	16.88
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	16.31	5.72	22.032 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	28.80	51.22
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.39	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0266)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0183):	330.88	22.032	5.25	51.22	
+ ID2= 2 (0265):	7783.67	96.175	9.25	52.66	
ID = 3 (0266):	8114.55	97.367	9.25	52.60	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0331)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (431.0) ------>

Distance	Elevation	Manning	
0.00	90.00	0.1200	
7.00	85.00	0.1200	
10.00	83.00	0.1200	
10.00	82.80	0.1200 /0.0600	Main Channel
19.00	82.80	0.0600	Main Channel
19.00	83.00	0.0600 /0.1200	Main Channel
20.00	84.00	0.1200	
45.00	85.00	0.1200	
85.00	90.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	83.18	.218E+04	2.8	0.81	13.04
0.76	83.56	.456E+04	8.9	1.24	8.50
1.14	83.94	.716E+04	17.8	1.57	6.71
1.52	84.32	.107E+05	29.3	1.72	6.11
1.89	84.69	.167E+05	45.0	1.70	6.19
2.27	85.07	.250E+05	66.2	1.67	6.30
2.65	85.45	.347E+05	94.2	1.71	6.15
3.03	85.83	.453E+05	127.7	1.78	5.91
3.41	86.21	.567E+05	166.8	1.86	5.66
3.79	86.59	.689E+05	211.6	1.94	5.43
4.17	86.97	.820E+05	262.2	2.02	5.22
4.55	87.35	.960E+05	318.6	2.10	5.02
4.93	87.73	.111E+06	381.1	2.17	4.85
5.31	88.11	.126E+06	449.7	2.25	4.69
5.68	88.48	.143E+06	524.7	2.32	4.54
6.06	88.86	.160E+06	606.1	2.39	4.41
6.44	89.24	.179E+06	694.2	2.46	4.29
6.82	89.62	.198E+06	789.1	2.52	4.18
7.20	90.00	.218E+06	890.9	2.59	4.07

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0266)	8114.55	97.37	9.25	52.60	2.69	1.72
OUTFLOW: ID= 1 (0331)	8114.55	97.29	9.25	52.60	2.68	1.72

CALIB			
STANDHYD (0180)	Area (ha)= 157.15		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	59.72	97.43
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1023.56	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	33.63	16.88
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	5.55	3.58	9.138 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	71.10	28.80	44.87
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.39	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0267)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0180):	157.15	9.138	5.25	44.87	
+ ID2= 2 (0331):	8114.55	97.292	9.25	52.60	
ID = 3 (0267):	8271.70	97.834	9.25	52.45	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 17 **
****

READ STORM	Filename: C:\Users\P006437C\AppD
	ata\Local\Temp\
	73400444-e18a-4654-b0cf-6b261e438f30\41da5ab7
Ptotal= 80.82 mm	Comments: 50yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	13.74	6.75	5.66	10.00	0.81
0.50	0.81	3.75	13.74	7.00	5.66	10.25	0.81
0.75	0.81	4.00	13.74	7.25	5.66	10.50	0.81
1.00	0.81	4.25	13.74	7.50	3.23	10.75	0.81
1.25	0.81	4.50	37.17	7.75	3.23	11.00	0.81
1.50	0.81	4.75	37.17	8.00	3.23	11.25	0.81
1.75	0.81	5.00	37.17	8.25	3.23	11.50	0.81
2.00	0.81	5.25	37.17	8.50	1.62	11.75	0.81
2.25	0.81	5.50	10.50	8.75	1.62	12.00	0.81
2.50	4.85	5.75	10.50	9.00	1.62	12.25	0.81
2.75	4.85	6.00	10.50	9.25	1.62		
3.00	4.85	6.25	10.50	9.50	0.81		
3.25	4.85	6.50	5.66	9.75	0.81		

CALIB			
NASHYD (0170)	Area (ha)= 30.06	Curve Number (CN)= 86.0	
ID= 1 DT=15.0 min	Ia (mm)= 7.00	# of Linear Res.(N)= 5.00	
	U.H. Tp(hrs)= 0.67		

Unit Hyd Qpeak (cms)= 2.474

PEAK FLOW	(cms)=	1.884 (i)
TIME TO PEAK	(hrs)=	5.500
RUNOFF VOLUME	(mm)=	47.375
TOTAL RAINFALL	(mm)=	80.820
RUNOFF COEFFICIENT	=	0.586

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0100)	Area (ha)= 100.32		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.12	62.20
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	817.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	26.83
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	3.94	4.22 8.157 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	78.82	44.13 57.31
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.98	0.55 0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0600)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	10.8200	0.0500
	3.9300	0.0019	12.9600	0.1100
	4.0000	0.0021	17.5400	0.1905
	5.0000	0.0100	27.0100	0.4570
	10.7300	0.0438	37.7400	0.8003

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0100)	100.320	8.157	5.25	57.31
OUTFLOW: ID= 1 (0600)	100.320	8.201	5.25	57.42

PEAK FLOW REDUCTION [Qout/Qin](%)=100.53
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0308

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

CALIB			
STANDHYD (0101)	Area (ha)= 74.02		
ID= 1 DT=15.0 min	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.21	51.81
Dep. Storage	(mm)=	2.00	6.00

Average Slope	(%)=	1.00	1.00
Length	(m)=	702.47	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	26.83
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.29	3.52 5.809 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	78.82	44.13 54.54
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.98	0.55 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0601)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	*******	0.0010

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0101)	74.020	5.809	5.25	54.54
OUTFLOW: ID= 1 (0601)	74.020	5.812	5.25	60.72

PEAK FLOW REDUCTION [Qout/Qin](%)=100.04
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0002

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0200)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0600):	100.32	8.201	5.25	57.42
	+ ID2= 2 (0601):	74.02	5.812	5.25	60.72
	ID = 3 (0200):	174.34	14.013	5.25	58.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0300)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (400.0) ------>

Distance	Elevation	Manning

0.00	214.00	0.0800	
19.00	214.00	0.0800	
28.00	213.00	0.0800	
34.00	212.00	0.0800 /0.0600	Main Channel
35.00	211.50	0.0600	Main Channel
37.00	212.00	0.0600 /0.0600	Main Channel
43.00	213.00	0.0600	
54.00	214.00	0.0600	
74.00	214.50	0.0600	
80.00	215.00	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	211.62	.649E+02	0.0	0.29	80.17
0.25	211.75	.260E+03	0.1	0.46	50.51
0.37	211.88	.584E+03	0.3	0.60	38.54
0.50	212.00	.104E+04	0.5	0.73	31.82
0.63	212.13	.174E+04	1.1	0.91	25.48
0.77	212.27	.274E+04	2.0	1.02	22.72
0.90	212.40	.403E+04	3.2	1.11	20.89
1.03	212.53	.562E+04	4.8	1.19	19.44
1.17	212.67	.750E+04	6.9	1.27	18.24
1.30	212.80	.968E+04	9.4	1.34	17.19
1.43	212.93	.122E+05	12.4	1.42	16.28
1.57	213.07	.150E+05	15.9	1.47	15.67
1.70	213.20	.182E+05	19.9	1.52	15.23
1.83	213.33	.220E+05	24.8	1.56	14.78
1.97	213.47	.262E+05	30.5	1.61	14.32
2.10	213.60	.310E+05	37.2	1.66	13.87
2.23	213.73	.362E+05	44.9	1.72	13.43
2.37	213.87	.419E+05	53.7	1.78	13.00
2.50	214.00	.481E+05	63.7	1.83	12.60

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0200)	174.34	14.01	5.25	58.83	1.49	1.44
OUTFLOW: ID= 1 (0300)	174.34	12.81	5.25	58.82	1.45	1.42

CALIB			
STANDHYD (0103)	Area (ha)= 118.55		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	45.05	73.50
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	889.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.53
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	4.63	5.13 9.765 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	78.82	45.44 58.12

TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.98	0.56 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0202)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0103):	118.55	9.765	5.25	58.12
	+ ID2= 2 (0300):	174.34	12.811	5.25	58.82
	ID = 3 (0202):	292.89	22.576	5.25	58.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0109)	Area (ha)= 49.01		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	29.41	19.60
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	571.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	3.04	1.45 4.485 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	78.82	48.19 66.57
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.98	0.60 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0609)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

```
                   0.0000     0.0000   |   5.7500     10.0000
                   5.7120     0.8320   |   0.0000      0.0000

                          AREA     QPEAK     TPEAK        R.V.
                          (ha)     (cms)     (hrs)        (mm)
     INFLOW : ID= 2 (0109)     49.010     4.485      5.25      66.57
     OUTFLOW: ID= 1 (0609)     49.010     3.892      5.25      66.57

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 86.76
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5936

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-

--------------------
| ADD HYD   (0203) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0202):   292.89  22.576     5.25    58.53
        + ID2= 2 (0609):    49.01   3.892     5.25    66.57
          ==================================================
          ID = 3 (0203):   341.90  26.467     5.25    59.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN (0301) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 401.0) ------>
               Distance      Elevation       Manning
                   0.00        205.00        0.0800
                  20.00        204.50        0.0800
                  80.00        204.50        0.0800
                 105.00        204.00        0.0800
                 113.00        203.50    0.0800 /0.0600  Main Channel
                 124.00        203.50        0.0600      Main Channel
                 130.00        203.50    0.0600 /0.0800  Main Channel
                 195.00        204.00        0.0800
                 250.00        205.00        0.0800

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.08   203.58    .225E+04       0.4          0.22       93.84
       0.16   203.66    .564E+04       1.4          0.32       65.10
       0.24   203.74    .102E+05       3.2          0.39       53.26
       0.32   203.82    .158E+05       5.7          0.45       46.34
       0.39   203.89    .226E+05       9.1          0.50       41.62
       0.47   203.97    .306E+05      13.4          0.55       38.10
       0.55   204.05    .396E+05      18.9          0.60       34.96
       0.63   204.13    .495E+05      25.6          0.65       32.25
       0.71   204.21    .601E+05      33.3          0.69       30.06
       0.79   204.29    .716E+05      42.3          0.74       28.26
       0.87   204.37    .839E+05      52.3          0.78       26.74
       0.95   204.45    .971E+05      63.6          0.82       25.44
       1.03   204.53    .113E+06      73.3          0.81       25.69
       1.11   204.61    .134E+06      89.2          0.84       24.96
       1.18   204.68    .155E+06     107.2          0.87       24.10
       1.26   204.76    .177E+06     127.1          0.90       23.22
       1.34   204.84    .200E+06     149.0          0.93       22.37
       1.42   204.92    .224E+06     172.9          0.97       21.56
       1.50   205.00    .248E+06     198.7          1.00       20.80
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                                  <---- hydrograph ---->   <-pipe /
channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0203)  341.90    26.47    5.25  59.69      0.64      0.65
     OUTFLOW: ID= 1 (0301)  341.90    20.88    5.50  59.68      0.58      0.61


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| CALIB            |
| STANDHYD  (0108) |   Area    (ha)= 121.56
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      64.43       57.13
     Dep. Storage     (mm)=       2.00        6.00
     Average Slope     (%)=       1.00        1.00
     Length           (m)=     900.22       40.00
     Mannings n          =      0.013       0.250

     Max.Eff.Inten.(mm/hr)=      37.17       28.96
                over (min)       15.00       30.00
     Storage Coeff.  (min)=      12.00 (ii)  18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00       15.00
     Unit Hyd. peak  (cms)=       0.08        0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.62        4.22        10.847 (iii)
     TIME TO PEAK    (hrs)=       5.25        5.25          5.25
     RUNOFF VOLUME    (mm)=      78.82       48.19         64.42
     TOTAL RAINFALL   (mm)=      80.82       80.82         80.82
     RUNOFF COEFFICIENT   =       0.98        0.60          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0608) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******     0.0001

                            AREA     QPEAK     TPEAK        R.V.
                            (ha)     (cms)     (hrs)        (mm)
     INFLOW : ID= 2 (0108)    121.560     10.847      5.25      64.42
     OUTFLOW: ID= 1 (0608)    121.560     10.847      5.25      64.42

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD   (0204) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0301):   341.90  20.876     5.50    59.68
        + ID2= 2 (0608):   121.56  10.847     5.25    64.42
          ==================================================
          ID = 3 (0204):   463.46  30.086     5.25    60.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0302) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 402.0) ------>
               Distance      Elevation       Manning
                   0.00        202.00        0.1200
                 200.00        200.00        0.1200
                 212.00        197.00        0.1200
                 229.00        195.80    0.1200 /0.0600  Main Channel
                 229.01        195.60        0.0600      Main Channel
                 231.00        195.60    0.0600 /0.1200  Main Channel
                 231.01        195.80        0.1200
                 250.00        197.00        0.1200
                 260.00        200.00        0.1200
                 455.00        203.00        0.1200

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)       (min)
       0.34   195.94    .970E+03       0.6          0.60       28.09
       0.67   196.27    .479E+04       2.8          0.60       28.31
       1.01   196.61    .121E+05       8.0          0.68       25.01
       1.35   196.95    .228E+05      17.3          0.77       21.99
       1.68   197.28    .360E+05      32.8          0.92       18.33
       2.02   197.62    .502E+05      53.1          1.07       15.75
       2.36   197.96    .651E+05      77.7          1.21       13.97
       2.69   198.29    .809E+05     106.6          1.34       12.66
       3.03   198.63    .976E+05     139.6          1.45       11.65
       3.37   198.97    .115E+06     177.0          1.56       10.84
       3.71   199.31    .133E+06     218.6          1.66       10.18
       4.04   199.64    .153E+06     264.5          1.76        9.62
       4.38   199.98    .173E+06     314.8          1.85        9.14
       4.72   200.32    .202E+06     280.8          1.41       11.96
       5.05   200.65    .249E+06     310.4          1.26       13.39
       5.39   200.99    .316E+06     378.3          1.21       13.93
       5.73   201.33    .402E+06     480.1          1.21       13.96
       6.06   201.66    .507E+06     616.9          1.24       13.70
       6.40   202.00    .631E+06     791.4          1.27       13.28

                                  <---- hydrograph ---->   <-pipe /
channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0204)  463.46    30.09    5.25  60.92      1.63      0.89
     OUTFLOW: ID= 1 (0302)  463.46    26.99    5.50  60.92      1.56      0.86


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| CALIB            |
| STANDHYD  (0107) |   Area    (ha)=  98.53
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      44.34       54.19
     Dep. Storage     (mm)=       2.00        6.00
     Average Slope     (%)=       1.00        1.00
     Length           (m)=     810.47       40.00
     Mannings n          =      0.013       0.250

     Max.Eff.Inten.(mm/hr)=      37.17       28.24
                over (min)       15.00       30.00
     Storage Coeff.  (min)=       6.00 (ii)  18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00       15.00
     Unit Hyd. peak  (cms)=       0.10        0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       4.58        3.89         8.472 (iii)
     TIME TO PEAK    (hrs)=       5.25        5.25          5.25
     RUNOFF VOLUME    (mm)=      78.82       46.79         61.20
     TOTAL RAINFALL   (mm)=      80.82       80.82         80.82
     RUNOFF COEFFICIENT   =       0.98        0.58          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (0111) |   Area    (ha)=  94.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.04       44.38
     Dep. Storage     (mm)=       2.00        6.00
     Average Slope     (%)=       1.00        1.00
     Length           (m)=     793.39       40.00
     Mannings n          =      0.013       0.250

     Max.Eff.Inten.(mm/hr)=      37.17       28.96
                over (min)       15.00       30.00
     Storage Coeff.  (min)=       6.00 (ii)  18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00       15.00
     Unit Hyd. peak  (cms)=       0.10        0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.17        3.28         8.447 (iii)
     TIME TO PEAK    (hrs)=       5.25        5.25          5.25
     RUNOFF VOLUME    (mm)=      78.82       48.19         64.42
     TOTAL RAINFALL   (mm)=      80.82       80.82         80.82
     RUNOFF COEFFICIENT   =       0.98        0.60          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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ADD HYD (0205)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0107):	98.53	8.472	5.25	61.20
+ ID2= 2 (0111):	94.42	8.447	5.25	64.42
ID = 3 (0205):	192.95	16.919	5.25	62.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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ADD HYD (0206)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0205):	192.95	16.919	5.25	62.78
+ ID2= 2 (0302):	463.46	26.986	5.50	60.92
ID = 3 (0206):	656.41	41.086	5.25	61.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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RESERVOIR (0611)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	2.8300	8.7600
DT= 15.0 min	0.8400	0.1100	15.9200	12.4000
	1.3200	0.4400	39.5200	16.3100
	1.6700	1.1900	69.9800	20.4700
	1.9600	2.3800	*******	24.9000
	2.4300	5.4000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0206)	656.410	41.086	5.25	61.47
OUTFLOW: ID= 1 (0611)	656.410	26.729	6.00	61.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 65.06
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 14.2523

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CALIB			
STANDHYD (0110)	Area (ha)= 56.33		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	33.80	22.53
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	612.81	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	28.96
over (min)	15.00	30.00

Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	3.49	1.67	5.155 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	78.82	48.19	66.57
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.98	0.60	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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RESERVOIR (0610)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	*******	0.0001
DT= 15.0 min				

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0110)	56.330	5.155	5.25	66.57
OUTFLOW: ID= 1 (0610)	56.330	5.155	5.25	66.57

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

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ADD HYD (0207)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0610):	56.33	5.155	5.25	66.57
+ ID2= 2 (0611):	656.41	26.729	6.00	61.47
ID = 3 (0207):	712.74	28.348	6.00	61.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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ROUTE CHN (0303)	Routing time step (min)'= 15.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (403.0) ------>

Distance	Elevation	Manning	
0.00	188.10	0.1100	
12.00	184.70	0.1100 /0.0700	Main Channel
15.00	184.40	0.0700	Main Channel
18.00	184.70	0.0700 /0.1100	Main Channel
30.00	188.10	0.1100	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	184.55	.166E+03	0.1	0.28	44.28
0.30	184.70	.663E+03	0.4	0.44	27.89
0.50	184.90	.165E+04	1.7	0.74	16.62
0.70	185.10	.285E+04	3.6	0.94	13.03
0.90	185.30	.425E+04	6.3	1.10	11.17
1.10	185.50	.587E+04	9.8	1.23	9.99
1.30	185.70	.769E+04	14.0	1.34	9.17
1.50	185.90	.972E+04	18.9	1.44	8.55
1.70	186.10	.120E+05	24.7	1.52	8.06
1.90	186.30	.144E+05	31.3	1.60	7.66
2.10	186.50	.171E+05	38.8	1.68	7.32
2.30	186.70	.199E+05	47.2	1.75	7.03
2.50	186.90	.230E+05	56.5	1.81	6.77
2.70	187.10	.263E+05	66.8	1.88	6.55
2.90	187.30	.297E+05	78.1	1.94	6.35
3.10	187.50	.334E+05	90.4	1.99	6.16
3.30	187.70	.373E+05	103.8	2.05	6.00
3.50	187.90	.415E+05	118.2	2.10	5.85
3.70	188.10	.458E+05	133.7	2.15	5.70

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0207)	712.74	28.35	6.00	61.87	1.81	1.57
OUTFLOW: ID= 1 (0303)	712.74	28.46	6.25	61.87	1.81	1.57

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CALIB			
STANDHYD (0116)	Area (ha)= 106.86		
ID= 1 DT=15.0 min	Total Imp(%)= 23.00	Dir. Conn.(%)= 23.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	24.58	82.28
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	844.04	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	28.96
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	2.54	8.620 (iii)
TIME TO PEAK (hrs)=	5.25	5.25
RUNOFF VOLUME (mm)=	78.82	55.23
TOTAL RAINFALL (mm)=	80.82	80.82
RUNOFF COEFFICIENT =	0.98	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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RESERVOIR (0616)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1	0.0000	0.0000	*******	0.0001
DT= 15.0 min				

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0116)	106.860	8.620	5.25	55.23
OUTFLOW: ID= 1 (0616)	106.860	8.620	5.25	55.23

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

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ADD HYD (0208)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0303):	712.74	28.456	6.25	61.87
+ ID2= 2 (0616):	106.86	8.620	5.25	55.23
ID = 3 (0208):	819.60	31.310	6.25	61.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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ROUTE CHN (0304)	Routing time step (min)'= 15.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (404.0) ------>

Distance	Elevation	Manning	
0.00	181.00	0.1100	
15.00	178.30	0.1100	
29.00	177.80	0.1100 /0.0700	Main Channel
31.50	177.20	0.0700	Main Channel
35.00	177.70	0.0700 /0.1100	Main Channel
44.00	178.10	0.1100	
50.00	178.10	0.1100	
52.00	178.30	0.1100	
63.00	179.70	0.1100	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	177.32	.813E+02	0.0	0.16	98.74
0.25	177.45	.325E+03	0.1	0.25	62.20
0.37	177.57	.732E+03	0.3	0.33	47.47
0.50	177.70	.130E+04	0.6	0.40	39.18
0.63	177.83	.223E+04	1.1	0.47	32.98
0.77	177.97	.388E+04	2.0	0.49	31.66
0.90	178.10	.637E+04	3.4	0.50	31.30
1.03	178.23	.103E+05	5.4	0.49	32.02
1.17	178.37	.149E+05	8.3	0.52	30.04
1.30	178.50	.197E+05	11.9	0.56	27.63
1.43	178.63	.247E+05	16.2	0.61	25.52
1.57	178.77	.300E+05	21.1	0.65	23.75
1.70	178.90	.355E+05	26.6	0.70	22.26

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      1.83   179.03    .412E+05      32.7          0.74       21.00
      1.97   179.17    .471E+05      39.4          0.78       19.92
      2.10   179.30    .533E+05      46.8          0.82       18.98
      2.23   179.43    .597E+05      54.8          0.86       18.15
      2.37   179.57    .663E+05      63.4          0.89       17.43
      2.50   179.70    .731E+05      72.6          0.93       16.78

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0208)  819.60    31.31    6.25  61.01      1.80      0.73
     OUTFLOW: ID= 1 (0304)  819.60    29.72    6.50  61.00      1.77      0.72


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| CALIB              |
| STANDHYD  (0119) |   Area    (ha)=  52.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     15.70        36.63
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    590.65        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        28.96
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.62         2.71          4.329 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     78.82        48.19         57.38
     TOTAL RAINFALL   (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =      0.98         0.60          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0619) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******      0.0010

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0119)     52.330     4.329      5.25       57.38
     OUTFLOW: ID= 1 (0619)     52.330     4.329      5.25       57.38

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
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                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| ADD HYD   (0209) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0304):   819.60  29.716     6.50     61.00
        + ID2= 2 (0619):    52.33   4.329     5.25     57.38
          ==============================================
          ID = 3 (0209):   871.93  30.692     6.25     60.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0305) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 405.0) ------>
               Distance      Elevation       Manning
                  0.00         175.00        0.1200
                 10.00         172.40        0.1200
                 37.00         171.90    0.1200 /0.0600  Main Channel
                 38.50         171.40        0.0600      Main Channel
                 40.50         171.40        0.0600      Main Channel
                 42.00         171.90    0.0600 /0.1200  Main Channel
                 69.00         172.40        0.1200
                 75.00         175.00        0.1200

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.17   171.57    .573E+03        0.1         0.28      82.03
        0.33   171.73    .138E+04        0.4         0.41      55.76
        0.50   171.90    .241E+04        0.9         0.51      44.71
        0.69   172.09    .653E+04        2.1         0.44      51.93
        0.89   172.29    .162E+05        4.5         0.38      59.58
        1.08   172.48    .310E+05        9.1         0.40      56.98
        1.28   172.68    .470E+05       15.9         0.47      49.23
        1.47   172.87    .634E+05       24.5         0.53      43.16
        1.66   173.06    .800E+05       34.6         0.59      38.57
        1.86   173.26    .970E+05       46.1         0.65      35.03
        2.05   173.45    .114E+06       59.1         0.71      32.23
        2.24   173.64    .132E+06       73.4         0.77      29.94
        2.44   173.84    .150E+06       89.0         0.82      28.05
        2.63   174.03    .168E+06      105.9         0.87      26.44
        2.83   174.23    .187E+06      124.0         0.91      25.07
        3.02   174.42    .205E+06      143.4         0.96      23.88
        3.21   174.61    .225E+06      164.0         1.00      22.83
        3.41   174.81    .244E+06      185.8         1.05      21.90
        3.60   175.00    .264E+06      208.7         1.09      21.08

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0209)  871.93    30.69    6.25  60.79      1.59      0.57
     OUTFLOW: ID= 1 (0305)  871.93    27.36    6.75  60.78      1.52      0.55


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| CALIB              |
| STANDHYD  (0121) |   Area    (ha)=  53.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     23.99        29.32
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    596.15        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        28.96
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      2.48         2.17          4.644 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     78.82        48.19         61.97
     TOTAL RAINFALL   (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =      0.98         0.60          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0621) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******      0.0010

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0121)     53.310     4.644      5.25       61.97
     OUTFLOW: ID= 1 (0621)     53.310     4.647      5.25       70.56

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.06
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0002

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD   (0210) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0305):   871.93  27.358     6.75     60.78
        + ID2= 2 (0621):    53.31   4.647     5.25     70.56
          ==============================================
          ID = 3 (0210):   925.24  28.200     6.75     61.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB              |
| STANDHYD  (0118) |   Area    (ha)=  57.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     30.62        27.16
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    620.64        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        28.96
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      3.16         2.01          5.169 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     78.82        48.19         64.42
     TOTAL RAINFALL   (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =      0.98         0.60          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0618) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******      0.0010

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0118)     57.780     5.169      5.25       64.42
     OUTFLOW: ID= 1 (0618)     57.780     5.169      5.25       64.42

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| CALIB              |
| STANDHYD  (****) |   Area    (ha)= 114.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     60.56        53.70
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    872.77        40.00
     Mannings n            =     0.013        0.250
```

Max.Eff.Inten.(mm/hr)=		37.17	28.96	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.08	0.06	
				TOTALS
PEAK FLOW	(cms)=	6.23	3.97	10.196 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	64.42
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)= 7.45		
ID= 1 DT=15.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)=	53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.95	3.50
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	222.86	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		37.17	28.96	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.08	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.41	0.26	0.665 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	64.42
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)= 2.40		
ID= 1 DT=15.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)=	53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.27	1.13
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00

Length	(m)=	126.49	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	28.96	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.08	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.13	0.08	0.214 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	64.42
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0276)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):		114.26	10.196	5.25	64.42
+ ID2= 2 (****):		7.45	0.665	5.25	64.42
ID = 3 (0276):		121.71	10.861	5.25	64.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0276)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0276):		121.71	10.861	5.25	64.42
+ ID2= 2 (****):		2.40	0.214	5.25	64.42
ID = 1 (0276):		124.11	11.075	5.25	64.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0617)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	29.0800	0.5230
		0.1200	0.1560	30.5000	0.5500
		0.1800	0.3485	0.0000	0.0000

		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0276)		124.110	11.075	5.25	64.42
OUTFLOW: ID= 1 (0617)		124.110	11.394	5.25	64.42

PEAK FLOW REDUCTION [Qout/Qin](%)=102.88
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.4306

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0211)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0617):		124.11	11.394	5.25	64.42
+ ID2= 2 (0618):		57.78	5.169	5.25	64.42
ID = 3 (0211):		181.89	16.563	5.25	64.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0115)	Area	(ha)= 210.14		
ID= 1 DT=15.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)=	53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	111.37	98.77
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1183.61	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		37.17	28.96	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	11.45	6.33	17.781 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	64.42
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0615)					
IN= 2---> OUT= 1					
DT= 15.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	*******	0.0010

		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)

INFLOW : ID= 2 (0115)		210.140	17.781	5.25	64.42
OUTFLOW: ID= 1 (0615)		210.140	17.781	5.25	64.42

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

ADD HYD (0213)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0211):		181.89	16.563	5.25	64.42
+ ID2= 2 (0615):		210.14	17.781	5.25	64.42
ID = 3 (0213):		392.03	34.345	5.25	64.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0214)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0210):		925.24	28.200	6.75	61.35
+ ID2= 2 (0213):		392.03	34.345	5.25	64.42
ID = 3 (0214):		1317.27	48.976	5.25	62.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)= 17.78		
ID= 1 DT=15.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)=	53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.42	8.36
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	344.29	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		37.17	28.96	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.97	0.62	1.591 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	64.42
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 49.31
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	26.13	23.18	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	573.35	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	28.96	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
			TOTALS	
PEAK FLOW	(cms)=	2.70	1.71	4.412 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	64.42
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 2.27
ID= 1 DT=15.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.20	1.07	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	123.02	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	28.96	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
			TOTALS	
PEAK FLOW	(cms)=	0.12	0.08	0.203 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	64.42
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0215)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0214):	1317.27	48.976	5.25	62.26	
+ ID2= 2 (****):	17.78	1.591	5.25	64.42	
ID = 3 (0215):	1335.05	50.566	5.25	62.29	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0215)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 3 (0215):	1335.05	50.566	5.25	62.29	
+ ID2= 2 (****):	49.31	4.412	5.25	64.42	
ID = 1 (0215):	1384.36	54.978	5.25	62.37	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0215)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0215):	1384.36	54.978	5.25	62.37	
+ ID2= 2 (****):	2.27	0.203	5.25	64.42	
ID = 3 (0215):	1386.63	55.181	5.25	62.37	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0306)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (406.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1200	
71.00	172.00	0.1200	
170.00	170.00	0.1200	
202.00	168.50	0.1200 /0.0600	Main Channel
202.00	168.60	0.1200 /0.0600	Main Channel
208.00	168.60	0.0600 /0.1200	Main Channel
208.00	168.80	0.0600 /0.1200	Main Channel
240.00	170.00	0.1200	
340.00	172.00	0.1200	
450.00	173.50	0.1200	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	168.76	.306E+04	0.3	0.17	177.67
0.53	169.03	.110E+05	1.6	0.25	116.39
0.79	169.29	.249E+05	4.2	0.30	99.32
1.05	169.55	.446E+05	8.4	0.34	88.49
1.32	169.82	.703E+05	14.6	0.37	80.40
1.58	170.08	.102E+06	22.5	0.39	75.76
1.84	170.34	.145E+06	32.5	0.40	74.29
2.11	170.61	.200E+06	46.4	0.41	71.63
2.37	170.87	.267E+06	64.9	0.43	68.52
2.63	171.13	.346E+06	88.3	0.45	65.33
2.89	171.39	.438E+06	117.2	0.48	62.24
3.16	171.66	.541E+06	152.1	0.50	59.35
3.42	171.92	.658E+06	193.4	0.52	56.66
3.68	172.18	.787E+06	240.2	0.54	54.58
3.95	172.45	.930E+06	294.3	0.56	52.69
4.21	172.71	.109E+07	356.9	0.58	50.85
4.47	172.97	.126E+07	428.6	0.60	49.10
4.74	173.24	.145E+07	509.8	0.63	47.44
5.00	173.50	.165E+07	601.0	0.65	45.87

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0215)	1386.63	55.18	5.25	62.37	2.23	0.42
OUTFLOW: ID= 1 (0306)	1386.63	34.26	7.00	62.37	1.88	0.40

CALIB	
STANDHYD (0131)	Area (ha)= 123.35
ID= 1 DT=15.0 min	Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	28.37	94.98	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	906.83	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	28.24	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.08	0.06	
			TOTALS	
PEAK FLOW	(cms)=	2.92	6.82	9.742 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	46.79	54.16
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.58	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0216)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0131):	123.35	9.742	5.25	54.16	
+ ID2= 2 (0306):	1386.63	34.262	7.00	62.37	
ID = 3 (0216):	1509.98	38.701	5.25	61.70	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (9500)	
IN= 2---> OUT= 1	
DT= 15.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	7.2600	12.6630
1.7300	1.5060	20.9800	24.7470
4.8900	2.4510	35.0000	38.4350
6.9200	9.8410	80.0000	39.9350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0216)	1509.980	38.701	5.25	61.70
OUTFLOW: ID= 1 (9500)	1509.980	25.586	9.00	61.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 66.11
TIME SHIFT OF PEAK FLOW (min)=225.00
MAXIMUM STORAGE USED (ha.m.)= 29.2604

ROUTE CHN (0307)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (407.0) ------>

Distance	Elevation	Manning	
0.00	175.00	0.1000	
0.01	168.00	0.1000	
28.00	168.00	0.1000	
65.00	164.30	0.1000 /0.0600	Main Channel
65.01	164.10	0.0600	Main Channel
71.00	164.10	0.0600 /0.1000	Main Channel
71.01	164.30	0.1000	
83.00	169.00	0.1000	
138.00	169.00	0.1000	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	164.36	.147E+04	0.6	0.41	37.70
0.52	164.62	.348E+04	2.2	0.58	26.76
0.77	164.87	.627E+04	4.6	0.68	22.75
1.03	165.13	.984E+04	8.0	0.76	20.45
1.29	165.39	.142E+05	12.5	0.83	18.85
1.55	165.65	.193E+05	18.3	0.88	17.63
1.81	165.91	.252E+05	25.3	0.94	16.65
2.06	166.16	.319E+05	33.6	0.98	15.81
2.32	166.42	.394E+05	43.5	1.03	15.10
2.58	166.68	.476E+05	54.9	1.08	14.47

2.84	166.94	.567E+05	67.9	1.12	13.91
3.09	167.19	.665E+05	82.6	1.16	13.41
3.35	167.45	.771E+05	99.2	1.20	12.95
3.61	167.71	.884E+05	117.6	1.24	12.53
3.87	167.97	.101E+06	138.0	1.28	12.15
4.13	168.23	.119E+06	145.9	1.14	13.62
4.38	168.48	.139E+06	178.2	1.20	12.98
4.64	168.74	.159E+06	213.6	1.26	12.37
4.90	169.00	.178E+06	252.1	1.32	11.80

channel->		<---- hydrograph ---->			<-pipe /
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (9500)	1509.98	25.59	9.00	61.69	1.82	0.94
OUTFLOW: ID= 1 (0307)	1509.98	25.50	9.25	61.69	1.81	0.94

CALIB / STANDHYD (0130)	Area (ha)= 42.30	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00
ID= 1 DT=15.0 min			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.07	26.23
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	531.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	28.24
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.66	1.88	3.544 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	46.79	58.96
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.58	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0217)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0130):		42.30	3.544	5.25	58.96
+ ID2= 2 (0307):		1509.98	25.497	9.25	61.69
ID = 3 (0217):		1552.28	25.673	9.25	61.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 240.54	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00
ID= 1 DT=15.0 min			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.16	168.38
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1266.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	7.42	10.79	18.212 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	57.38
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 22.17	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00
ID= 1 DT=15.0 min			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.65	15.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	384.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.68	0.99	1.679 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	57.38
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 4.13	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00
ID= 1 DT=15.0 min			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.24	2.89
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	165.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.13	0.19	0.313 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	57.38
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0269)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):		240.54	18.212	5.25	57.38
+ ID2= 2 (****):		22.17	1.679	5.25	57.38
ID = 3 (0269):		262.71	19.891	5.25	57.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0269)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0269):		262.71	19.891	5.25	57.38
+ ID2= 2 (****):		4.13	0.313	5.25	57.38
ID = 1 (0269):		266.84	20.203	5.25	57.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 11.98	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00
ID= 1 DT=15.0 min			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.59	8.39
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	282.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.37	0.54	0.907 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	57.38
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (****)	Area (ha)= 20.98	Total Imp(%)= 30.00	Dir. Conn.(%)= 30.00
ID= 1 DT=15.0 min			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.29	14.69
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	373.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	0.65	0.94	1.588 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	57.38
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.47
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.14         0.33
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=     55.98        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        28.96
               over (min)       15.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        30.00
     Unit Hyd. peak  (cms)=      0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.01         0.02       0.036 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=     78.82        48.19       57.34
     TOTAL RAINFALL   (mm)=     80.82        80.82       80.82
     RUNOFF COEFFICIENT   =      0.98         0.60        0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0268) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    20.98   1.588     5.25    57.38
       + ID2= 2 (****):    11.98   0.907     5.25    57.38
         ================================================
         ID = 3 (0268):    32.96   2.496     5.25    57.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0268) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0268):    32.96   2.496     5.25    57.38
       + ID2= 2 (****):     0.47   0.036     5.25    57.34
         ================================================
         ID = 1 (0268):    33.43   2.531     5.25    57.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0270) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0268):    33.43   2.531     5.25    57.38
       + ID2= 2 (0269):   266.84  20.203     5.25    57.38
         ================================================
         ID = 3 (0270):   300.27  22.734     5.25    57.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0620) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  *******      0.0010

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0270)     300.270     22.734      5.25      57.38
     OUTFLOW: ID= 1 (0620)     300.270     22.734      5.25      57.38

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                TIME SHIFT OF PEAK FLOW          (min)=  0.00
                MAXIMUM  STORAGE   USED        (ha.m.)=  0.0000

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| ROUTE CHN (0501) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <----- DATA FOR SECTION ( 601.0) ------>
             Distance      Elevation       Manning
                0.00         172.00        0.1000
               29.33         172.00        0.1000
               43.69         171.00        0.1000
               60.63         170.00    0.1000 /0.0600  Main Channel
              110.21         171.00        0.0600      Main Channel
              119.74         172.00        0.1000
              133.28         172.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.11   170.11    .427E+03        0.0         0.13     145.32
        0.21   170.21    .171E+04        0.3         0.21      91.55
        0.32   170.32    .384E+04        0.9         0.28      69.86
        0.42   170.42    .683E+04        2.0         0.33      57.67
        0.53   170.53    .107E+05        3.6         0.39      49.70
        0.63   170.63    .154E+05        5.8         0.44      44.01
        0.74   170.74    .209E+05        8.8         0.49      39.71
        0.84   170.84    .273E+05       12.5         0.53      36.33
        0.95   170.95    .346E+05       17.2         0.58      33.59
        1.05   171.05    .426E+05       23.3         0.63      30.46
        1.16   171.16    .511E+05       31.0         0.70      27.41
        1.26   171.26    .598E+05       39.7         0.77      25.10
        1.37   171.37    .688E+05       49.3         0.83      23.27
        1.47   171.47    .782E+05       59.8         0.89      21.79
        1.58   171.58    .878E+05       71.2         0.94      20.56
        1.68   171.68    .978E+05       83.5         0.99      19.52
        1.79   171.79    .108E+06       96.7         1.04      18.62
        1.89   171.89    .119E+06      110.8         1.08      17.85
```



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      2.00   172.00    .129E+06     125.7         1.13      17.16

                                  <---- hydrograph ---->   <-pipe /
channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0620)  300.27    22.73    5.25  57.38      1.04      0.63
     OUTFLOW: ID= 1 (0501)  300.27    18.04    5.50  57.38      0.96      0.58


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| CALIB            |
| STANDHYD  (0133) |   Area    (ha)= 112.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     50.49        61.70
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    864.83        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        28.24
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=      5.21         4.43       9.646 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=     78.82        46.79       61.20
     TOTAL RAINFALL   (mm)=     80.82        80.82       80.82
     RUNOFF COEFFICIENT   =      0.98         0.58        0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0218) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0133):   112.19   9.646     5.25    61.20
       + ID2= 2 (0501):   300.27  18.044     5.50    57.38
         ================================================
         ID = 3 (0218):   412.46  26.458     5.25    58.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0502) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION ( 602.0) ------>
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```
             Distance      Elevation       Manning
               23.46         169.00        0.1000
               72.48         168.00        0.1000
               96.12         167.00        0.1000
              110.97         165.00    0.1000 /0.0600  Main Channel
              116.24         164.00        0.0600      Main Channel
              118.36         164.00        0.0600      Main Channel
              124.43         165.00    0.0600 /0.1000  Main Channel
              141.85         167.00        0.1000
              162.34         168.00        0.1000
              224.13         169.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.25   164.25    .752E+03        0.3         0.33      42.64
        0.50   164.50    .211E+04        1.2         0.49      29.06
        0.75   164.75    .406E+04        2.9         0.61      23.08
        1.00   165.00    .662E+04        5.7         0.73      19.52
        1.27   165.27    .102E+05       10.7         0.90      15.79
        1.53   165.53    .147E+05       17.4         1.01      14.06
        1.80   165.80    .202E+05       25.8         1.09      13.03
        2.07   166.07    .266E+05       36.1         1.15      12.31
        2.33   166.33    .341E+05       48.3         1.21      11.75
        2.60   166.60    .425E+05       62.7         1.25      11.29
        2.87   166.87    .519E+05       79.3         1.30      10.90
        3.13   167.13    .624E+05       97.0         1.32      10.73
        3.40   167.40    .755E+05      117.0         1.32      10.75
        3.67   167.67    .912E+05      141.0         1.31      10.77
        3.93   167.93    .110E+06      169.4         1.31      10.78
        4.20   168.20    .132E+06      197.1         1.27      11.14
        4.47   168.47    .160E+06      232.0         1.23      11.53
        4.73   168.73    .196E+06      276.3         1.20      11.82
        5.00   169.00    .238E+06      330.6         1.18      12.00

                                  <---- hydrograph ---->   <-pipe /
channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0218)  412.46    26.46    5.25  58.42      1.82      1.09
     OUTFLOW: ID= 1 (0502)  412.46    24.20    5.50  58.42      1.75      1.07


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| CALIB            |
| STANDHYD  (0135) |   Area    (ha)=  55.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     20.90        34.10
     Dep. Storage     (mm)=      2.00         6.00
     Average Slope     (%)=      1.00         1.00
     Length            (m)=    605.53        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     37.17        26.83
               over (min)       15.00        30.00
     Storage Coeff.  (min)=      6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     15.00        15.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.16         2.31       4.472 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25        5.25
```

RUNOFF VOLUME	(mm)=	78.82	44.13	57.31
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.55	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0212)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0135):	55.00	4.472	5.25	57.31
+ ID2= 2 (0502):	412.46	24.200	5.50	58.42
ID = 3 (0212):	467.46	27.769	5.25	58.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0219)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0212):	467.46	27.769	5.25	58.29
+ ID2= 2 (0217):	1552.28	25.673	9.25	61.62
ID = 3 (0219):	2019.74	36.936	5.25	60.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0308)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (408.0) ------>

Distance	Elevation	Manning	
0.00	174.00	0.1000	
0.00	167.00	0.1000	
31.00	165.00	0.1000	
57.00	163.00	0.1000	
63.00	161.20	0.1000 /0.0600	Main Channel
63.00	161.00	0.0600	Main Channel
67.00	161.00	0.0600 /0.1000	Main Channel
67.00	161.20	0.1000	
95.00	165.00	0.1000	
148.00	167.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	161.32	.221E+04	0.4	0.32	86.34
0.63	161.63	.584E+04	1.5	0.42	65.04
0.95	161.95	.112E+05	3.3	0.49	56.53
1.26	162.26	.184E+05	6.0	0.54	51.16

1.58	162.58	.273E+05	9.7	0.59	47.17
1.89	162.89	.380E+05	14.4	0.63	43.99
2.21	163.21	.509E+05	20.0	0.65	42.31
2.53	163.53	.670E+05	27.2	0.67	41.00
2.84	163.84	.864E+05	36.3	0.70	39.69
3.16	164.16	.109E+06	47.4	0.72	38.38
3.47	164.47	.135E+06	60.9	0.74	37.09
3.79	164.79	.165E+06	76.8	0.77	35.83
4.11	165.11	.198E+06	93.6	0.78	35.27
4.42	165.42	.237E+06	111.4	0.78	35.53
4.74	165.74	.284E+06	134.0	0.78	35.28
5.05	166.05	.337E+06	161.5	0.79	34.76
5.37	166.37	.397E+06	194.1	0.81	34.07
5.68	166.68	.464E+06	232.3	0.83	33.29
6.00	167.00	.538E+06	276.2	0.85	32.46

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0219)	2019.74	36.94	5.25	60.85	2.86	0.70
OUTFLOW: ID= 1 (0308)	2019.74	29.83	8.50	60.85	2.62	0.68

CALIB
STANDHYD (0128) | Area (ha)= 59.80
ID= 1 DT=15.0 min | Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.94	41.86
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	631.40	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.85	3.09	4.947 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	57.38
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0628)
IN= 2---> OUT= 1
DT= 15.0 min | OUTFLOW (cms) | STORAGE (ha.m.) | OUTFLOW (cms) | STORAGE (ha.m.)

0.0000	0.0000	1.4900	1.2490
0.0700	0.4550	1.8500	1.4280
0.3100	0.6550	2.0300	1.6290
0.7400	0.8680	2.1300	1.8297
1.0800	1.0380	2.2500	2.0702

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0128)	59.800	4.947	5.25	57.38
OUTFLOW: ID= 1 (0628)	59.800	2.022	5.75	57.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 40.87
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 1.6241

CALIB
STANDHYD (0134) | Area (ha)= 105.90
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.24	65.66
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	840.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	26.15
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	4.15	4.33	8.485 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	42.87	56.53
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.53	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0298)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0134):	105.90	8.485	5.25	56.53
+ ID2= 2 (0628):	59.80	2.022	5.75	57.35
ID = 3 (0298):	165.70	10.344	5.25	56.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0220)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0298):	165.70	10.344	5.25	56.83
+ ID2= 2 (0308):	2019.74	29.825	8.50	60.85
ID = 3 (0220):	2185.44	33.837	6.25	60.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0136) | Area (ha)= 156.42
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.39	86.03
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1021.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.24
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	7.24	6.18	13.419 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	46.79	61.20
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.58	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0221)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0136):	156.42	13.419	5.25	61.20
+ ID2= 2 (0220):	2185.44	33.837	6.25	60.54
ID = 3 (0221):	2341.86	46.658	5.25	60.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 19.42
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.74	10.68
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	359.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	26.15
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.90	0.70 1.607 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	78.82	42.87 59.05
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.98	0.53 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0105)	Area (ha)= 77.03
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	34.66	42.37
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	716.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	26.83
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	3.58	2.88 6.454 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	78.82	44.13 59.74
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.98	0.55 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.73

ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.33	0.40
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	69.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	26.15
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.03	0.03 0.060 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	78.82	42.87 59.03
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.98	0.53 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.50
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.28
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	57.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	26.15
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	0.02	0.02 0.041 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	78.82	42.87 59.02
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.98	0.53 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0222)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0105):		77.03	6.454	5.25	59.74
+ ID2= 2 (****):		0.50	0.041	5.25	59.02
ID = 3 (0222):		77.53	6.496	5.25	59.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0222):		77.53	6.496	5.25	59.74
+ ID2= 2 (****):		19.42	1.607	5.25	59.05
ID = 1 (0222):		96.95	8.102	5.25	59.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0222):		96.95	8.102	5.25	59.60
+ ID2= 2 (****):		0.73	0.060	5.25	59.03
ID = 3 (0222):		97.68	8.163	5.25	59.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0309)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<---- DATA FOR SECTION (409.0) ------>

Distance	Elevation	Manning	
0.00	195.00	0.1000	
11.00	194.00	0.1000	
20.00	192.00	0.1000	
27.00	191.00	0.1000	
46.00	190.00	0.1000 /0.0600	Main Channel
50.00	189.30	0.0600	Main Channel
69.00	190.00	0.0600 /0.1000	Main Channel
74.00	191.00	0.1000	
84.00	194.00	0.1000	
90.00	195.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	189.53	.206E+04	0.4	0.45	84.92
0.47	189.77	.825E+04	2.6	0.72	53.50
0.70	190.00	.186E+05	7.6	0.94	40.83
1.01	190.31	.379E+05	22.3	1.36	28.24
1.32	190.62	.625E+05	44.3	1.63	23.55

1.64	190.94	.926E+05	73.7	1.83	20.95
1.95	191.25	.127E+06	111.7	2.03	18.97
2.26	191.56	.164E+06	157.5	2.21	17.37
2.58	191.88	.203E+06	210.6	2.39	16.09
2.89	192.19	.245E+06	271.5	2.56	15.02
3.20	192.50	.288E+06	340.1	2.72	14.12
3.51	192.81	.333E+06	415.7	2.88	13.35
3.83	193.13	.380E+06	498.6	3.03	12.70
4.14	193.44	.428E+06	588.5	3.17	12.13
4.45	193.75	.479E+06	685.6	3.30	11.64
4.76	194.06	.531E+06	787.9	3.42	11.23
5.08	194.38	.586E+06	890.7	3.51	10.97
5.39	194.69	.645E+06	1002.4	3.58	10.73
5.70	195.00	.708E+06	1123.3	3.66	10.51

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0222)	97.68	8.16	5.25	59.60	0.71	0.95
OUTFLOW: ID= 1 (0309)	97.68	6.02	5.25	59.59	0.63	0.86

CALIB	
STANDHYD (0112)	Area (ha)= 155.68
ID= 1 DT=15.0 min	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	59.16	96.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1018.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	6.08	7.14 13.217 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	78.82	48.19 59.83
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.98	0.60 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0227)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0112):		155.68	13.217	5.25	59.83

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       + ID2= 2 (0309):   97.68   6.021     5.25    59.59
         ================================================
         ID = 3 (0227):   253.36  19.238     5.25    59.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0113) |   Area    (ha)= 172.23
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      65.45       106.78
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1071.54        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.73         7.89       14.623 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19        59.83
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.98         0.60         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0228) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0113):   172.23  14.623     5.25    59.83
       + ID2= 2 (0227):   253.36  19.238     5.25    59.74
         ================================================
         ID = 3 (0228):   425.59  33.861     5.25    59.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0310) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 410.0) ------>
               Distance      Elevation       Manning
                  0.00         185.00        0.1000
                 41.00         184.00        0.1000
                 85.00         183.00        0.1000
                 90.00         182.00    0.1000 /0.0600  Main Channel
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                99.00         180.00         0.0600      Main Channel
               106.00         181.00         0.0600      Main Channel
               109.00         182.00    0.0600 /0.1000   Main Channel
               117.00         183.00         0.1000
               142.00         184.00         0.1000
               211.00         185.00         0.1000

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.25   180.25    .341E+03       0.1         0.37       42.84
        0.50   180.50    .136E+04       0.8         0.59       26.99
        0.75   180.75    .307E+04       2.5         0.77       20.59
        1.00   181.00    .545E+04       5.3         0.93       17.00
        1.25   181.25    .840E+04       9.9         1.12       14.12
        1.50   181.50    .118E+05      16.0         1.28       12.31
        1.75   181.75    .156E+05      23.6         1.43       11.03
        2.00   182.00    .199E+05      32.9         1.57       10.07
        2.27   182.27    .253E+05      47.7         1.79        8.83
        2.55   182.55    .316E+05      65.0         1.95        8.09
        2.82   182.82    .388E+05      85.1         2.08        7.59
        3.09   183.09    .471E+05     107.4         2.16        7.31
        3.36   183.36    .594E+05     133.7         2.13        7.41
        3.64   183.64    .766E+05     166.2         2.06        7.68
        3.91   183.91    .987E+05     206.0         1.98        7.99
        4.18   184.18    .126E+06     252.1         1.89        8.35
        4.45   184.45    .161E+06     309.2         1.82        8.70
        4.73   184.73    .204E+06     379.5         1.76        8.97
        5.00   185.00    .255E+06     464.5         1.73        9.15

                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL                              (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0228)  425.59    33.86     5.25   59.77       2.02       1.58
     OUTFLOW: ID= 1 (0310)  425.59    32.54     5.25   59.77       1.99       1.56


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| CALIB            |
| STANDHYD  (0114) |   Area    (ha)= 165.04
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      87.47        77.57
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1048.94        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.24
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.99         5.57       14.567 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82        46.79        63.77
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.98         0.58         0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0614) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  25.0000     0.2500
                          0.3900     0.1050   |  40.0000     0.2600
                          6.5900     0.2338   |  45.0000     0.2800

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0114)  165.040    14.567     5.25      63.77
     OUTFLOW: ID= 1 (0614)  165.040    15.501     5.25      63.77

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=106.41
                  TIME SHIFT OF PEAK FLOW          (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2837

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD   (0229) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0310):   425.59  32.545     5.25    59.77
       + ID2= 2 (0614):   165.04  15.501     5.25    63.77
         ================================================
         ID = 3 (0229):   590.63  48.046     5.25    60.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0311) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 411.0) ------>
               Distance      Elevation       Manning
                  0.00         180.00        0.1000
                 85.00         179.00        0.1000
                 96.00         178.00        0.1000
                127.00         177.00        0.1000
                160.00         176.20        0.1000
                186.00         176.00    0.1000 /0.0600  Main Channel
                192.00         175.30        0.0600      Main Channel
                196.00         176.00    0.0600 /0.1000  Main Channel
                232.00         179.00        0.1000
                257.00         179.50        0.1000

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.18   175.48    .211E+03       0.0         0.21       77.93
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        0.35   175.65    .844E+03       0.3         0.33       49.09
        0.53   175.83    .190E+04       0.8         0.43       37.47
        0.70   176.00    .338E+04       1.8         0.52       30.93
        0.93   176.23    .931E+04       4.9         0.50       31.85
        1.17   176.47    .198E+05      10.9         0.53       30.26
        1.40   176.70    .330E+05      19.9         0.58       27.59
        1.63   176.93    .490E+05      32.3         0.64       25.30
        1.87   177.17    .677E+05      48.6         0.69       23.23
        2.10   177.40    .887E+05      68.8         0.75       21.49
        2.33   177.63    .112E+06      93.0         0.80       20.07
        2.57   177.87    .137E+06     121.3         0.85       18.88
        2.80   178.10    .165E+06     155.2         0.91       17.73
        3.03   178.33    .194E+06     195.2         0.97       16.58
        3.27   178.57    .224E+06     239.5         1.03       15.61
        3.50   178.80    .256E+06     288.3         1.09       14.79
        3.73   179.03    .289E+06     337.2         1.13       14.27
        3.97   179.27    .326E+06     369.5         1.09       14.72
        4.20   179.50    .371E+06     413.9         1.08       14.94

                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL                              (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0229)  590.63    48.05     5.25   60.89       1.86       0.69
     OUTFLOW: ID= 1 (0311)  590.63    39.27     5.50   60.89       1.73       0.66


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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  22.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.11        17.11
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     384.88        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.53         1.26         1.792 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19        55.23
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.98         0.60         0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD  (****) |   Area     (ha)= 147.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.93       113.59
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     991.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.50         8.40     11.900 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19      55.23
     TOTAL RAINFALL   (mm)=      80.82        80.82      80.82
     RUNOFF COEFFICIENT   =       0.98         0.60       0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area     (ha)=   4.39
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.33         2.06
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     171.08        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.15       0.393 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19      64.42
     TOTAL RAINFALL   (mm)=      80.82        80.82      80.82
     RUNOFF COEFFICIENT   =       0.98         0.60       0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0272) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    22.22   1.792     5.25    55.23
        + ID2= 2 (****):   147.52  11.900     5.25    55.23
          ================================================
          ID = 3 (0272):   169.74  13.693     5.25    55.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0272) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0272):   169.74  13.693     5.25    55.23
        + ID2= 2 (****):     4.39   0.393     5.25    64.42
          ================================================
          ID = 1 (0272):   174.13  14.085     5.25    55.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0623) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)    (ha.m.)   |   (cms)    (ha.m.)
                         0.0000     0.0000   |   0.5800      0.5400
                         0.2100     0.1580   |   0.8200      0.7657
                         0.3100     0.3380   |   0.9400      0.9136
                         0.5600     0.3765   |  21.0800      1.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0272)    174.130     14.085      5.25      55.47
     OUTFLOW: ID= 1 (0623)    174.130     14.776      5.25      55.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=104.90
                TIME SHIFT OF PEAK FLOW         (min)=  0.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.0040

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD   (0230) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0311):   590.63  39.274     5.50    60.89
        + ID2= 2 (0623):   174.13  14.776     5.25    55.46
          ================================================
          ID = 3 (0230):   764.76  52.757     5.25    59.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 412.0) ------>
               Distance      Elevation       Manning
                  0.00         173.50        0.1000
                 35.00         172.00        0.1000
                 85.00         171.00        0.1000
                 94.00         168.50    0.1000 /0.0600  Main Channel
                 94.00         168.30    0.1000 /0.0600  Main Channel
                 97.00         168.30    0.0600 /0.1000  Main Channel
                 97.00         168.50    0.0600 /0.1000  Main Channel
                 99.00         169.00       0.1000
                125.00         174.00       0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
        (m)      (m)     (cu.m.)       (cms)         (m/s)       (min)
       0.27   168.57    .150E+04         0.4          0.42       71.21
       0.55   168.85    .374E+04         1.2          0.57       52.20
       0.82   169.12    .701E+04         2.6          0.66       45.23
       1.09   169.39    .114E+05         4.6          0.72       41.28
       1.37   169.67    .170E+05         7.4          0.77       38.38
       1.64   169.94    .238E+05        11.0          0.82       36.03
       1.92   170.22    .317E+05        15.5          0.87       34.04
       2.19   170.49    .408E+05        21.1          0.92       32.31
       2.46   170.76    .511E+05        27.7          0.96       30.79
       2.74   171.04    .626E+05        34.6          0.98       30.18
       3.01   171.31    .792E+05        41.3          0.93       31.95
       3.28   171.58    .103E+06        52.5          0.91       32.75
       3.56   171.86    .134E+06        67.6          0.89       33.15
       3.83   172.13    .173E+06        87.9          0.91       32.73
       4.11   172.41    .215E+06       113.5          0.94       31.60
       4.38   172.68    .261E+06       143.4          0.98       30.38
       4.65   172.95    .312E+06       177.9          1.02       29.19
       4.93   173.23    .365E+06       217.1          1.06       28.05
       5.20   173.50    .423E+06       261.3          1.10       27.00

                                    <---- hydrograph ---->   <-pipe /
channel->
                           AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                    
                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0230)  764.76   52.76    5.25  59.65      3.29      0.91
     OUTFLOW: ID= 1 (0312)  764.76   40.28    5.75  59.65      2.97      0.94

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| CALIB            |
| STANDHYD  (0126) |   Area     (ha)= 105.36
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.04        65.32
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     838.09        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        26.83
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
```



```
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.13         4.43       8.567 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      78.82        44.13      57.31
     TOTAL RAINFALL   (mm)=      80.82        80.82      80.82
     RUNOFF COEFFICIENT   =       0.98         0.55       0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0231) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0126):   105.36   8.567     5.25    57.31
        + ID2= 2 (0312):   764.76  40.280     5.75    59.65
          ================================================
          ID = 3 (0231):   870.12  43.850     5.50    59.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area     (ha)=  84.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.50        33.66
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     749.04        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.21         2.49       7.702 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19      66.57
     TOTAL RAINFALL   (mm)=      80.82        80.82      80.82
     RUNOFF COEFFICIENT   =       0.98         0.60       0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB                |
| STANDHYD  (****) |   Area    (ha)=   0.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.06         0.04
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      25.82        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.009 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19          66.50
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.98         0.60           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0273) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    84.16   7.702     5.25    66.57
       + ID2= 2 (****):     0.10   0.009     5.25    66.50
         ================================================
         ID = 3 (0273):    84.26   7.711     5.25    66.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0313) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION ( 413.0) ------>
              Distance      Elevation       Manning
                  0.00         180.00        0.1000
                 17.49         180.00        0.1000
                117.61         179.00    0.1000 /0.0600  Main Channel
                149.88         178.00        0.0600      Main Channel
                158.35         178.00        0.0600      Main Channel
                166.10         179.00    0.0600 /0.1000  Main Channel
                307.85         180.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.10   178.10    .981E+03        0.2        0.17      89.26
        0.20   178.20    .234E+04        0.6        0.26      60.26
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        0.30   178.30    .407E+04        1.4        0.32      48.14
        0.40   178.40    .617E+04        2.5        0.38      41.07
        0.50   178.50    .865E+04        4.0        0.43      36.27
        0.60   178.60    .115E+05        5.9        0.48      32.74
        0.70   178.70    .147E+05        8.2        0.52      30.00
        0.80   178.80    .183E+05       11.0        0.56      27.79
        0.90   178.90    .223E+05       14.3        0.60      25.96
        1.00   179.00    .267E+05       18.2        0.64      24.42
        1.10   179.10    .324E+05       23.8        0.69      22.70
        1.21   179.21    .413E+05       31.0        0.70      22.19
        1.32   179.32    .531E+05       39.8        0.70      22.24
        1.43   179.43    .676E+05       50.2        0.70      22.44
        1.54   179.54    .850E+05       62.6        0.69      22.63
        1.66   179.66    .105E+06       77.1        0.69      22.74
        1.77   179.77    .128E+06       93.8        0.69      22.76
        1.88   179.88    .154E+06      113.0        0.69      22.69
        1.99   179.99    .182E+06      134.9        0.69      22.54

                                   <---- hydrograph ---->   <-pipe /
channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                             (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0273)   84.26     7.71    5.25  66.57      0.68      0.51
     OUTFLOW: ID= 1 (0313)   84.26     6.56    5.25  66.56      0.63      0.49


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| CALIB                |
| STANDHYD  (0106) |   Area    (ha)=  23.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.47        18.31
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     398.16        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.56         1.35          1.918 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19          55.23
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.98         0.60           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB                |
| STANDHYD  (****) |   Area    (ha)=  43.89
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|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.68        27.21
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     540.93        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.72         2.01          3.734 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19          59.83
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.98         0.60           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB                |
| STANDHYD  (****) |   Area    (ha)=   0.19
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.12
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      35.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.016 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19          59.79
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.98         0.60           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB                |
| STANDHYD  (****) |   Area    (ha)=   0.12
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.05         0.07
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      28.28        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.01          0.010 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19          59.74
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.98         0.60           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0271) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    43.89   3.734     5.25    59.83
       + ID2= 2 (****):     0.19   0.016     5.25    59.79
         ================================================
         ID = 3 (0271):    44.08   3.750     5.25    59.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0271) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0271):    44.08   3.750     5.25    59.83
       + ID2= 2 (****):     0.12   0.010     5.25    59.74
         ================================================
         ID = 1 (0271):    44.20   3.760     5.25    59.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0235) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
```

ID1= 1 (0106):	23.78	1.918	5.25	55.23
+ ID2= 2 (0271):	44.20	3.760	5.25	59.83
ID = 3 (0235):	67.98	5.678	5.25	58.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0235)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0235):	67.98	5.678	5.25	58.22
+ ID2= 2 (0313):	84.26	6.563	5.25	66.56
ID = 1 (0235):	152.24	12.242	5.25	62.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 57.42
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	21.82	35.60
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	618.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	2.25	2.63	4.885 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	59.83
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.56
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.21	0.35
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00

Length	(m)=	61.10	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	28.96	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	

		TOTALS
PEAK FLOW	(cms)=	0.02	0.03	0.048 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	59.81
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 1.02
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.39	0.63
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	82.46	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.04	0.05	0.087 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	59.82
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0236)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0235):	152.24	12.242	5.25	62.84
+ ID2= 2 (****):	1.02	0.087	5.25	59.82

ID = 3 (0236):	153.26	12.329	5.25	62.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0236)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0236):	153.26	12.329	5.25	62.82
+ ID2= 2 (****):	57.42	4.885	5.25	59.83
ID = 1 (0236):	210.68	17.213	5.25	62.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0236)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0236):	210.68	17.213	5.25	62.00
+ ID2= 2 (****):	0.56	0.048	5.25	59.81
ID = 3 (0236):	211.24	17.261	5.25	62.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0314) |
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (414.0) ------>

Distance	Elevation	Manning	
0.00	173.00	0.1000	
107.79	172.00	0.1000 /0.0600	Main Channel
112.20	171.00	0.0600	Main Channel
119.59	171.00	0.0600	Main Channel
125.21	172.00	0.0600 /0.1000	Main Channel
137.91	173.00	0.1000	
156.48	173.00	0.1000	
191.39	172.00	0.1000	
197.94	172.00	0.1000	
204.07	173.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	171.10	.111E+04	0.2	0.29	81.52
0.20	171.20	.236E+04	0.7	0.44	53.20
0.30	171.30	.376E+04	1.5	0.56	41.84
0.40	171.40	.529E+04	2.5	0.66	35.43
0.50	171.50	.697E+04	3.7	0.75	31.22
0.60	171.60	.878E+04	5.2	0.83	28.19
0.70	171.70	.107E+05	6.9	0.91	25.88
0.80	171.80	.128E+05	8.9	0.98	24.04
0.90	171.90	.151E+05	11.2	1.04	22.53
1.00	172.00	.175E+05	13.7	1.10	21.26
1.11	172.11	.226E+05	17.7	1.10	21.32

1.22	172.22	.306E+05	22.7	1.05	22.45
1.33	172.33	.413E+05	29.0	0.99	23.76
1.44	172.44	.549E+05	36.9	0.94	24.84
1.56	172.56	.713E+05	46.5	0.92	25.58
1.67	172.67	.905E+05	58.0	0.90	26.00
1.78	172.78	.113E+06	71.7	0.90	26.14
1.89	172.89	.137E+06	87.8	0.90	26.07
2.00	173.00	.165E+06	103.2	0.88	26.63

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0236)	211.24	17.26	5.25	62.00	1.10	1.10
OUTFLOW: ID= 1 (0314)	211.24	14.86	5.25	61.99	1.03	1.10

CALIB
STANDHYD (0127) | Area (ha)= 63.11
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.45	29.66
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	648.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	26.83
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.45	2.01	5.467 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	44.13	62.52
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.55	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0232)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0127):	63.11	5.467	5.25	62.52
+ ID2= 2 (0314):	211.24	14.857	5.25	61.99
ID = 3 (0232):	274.35	20.324	5.25	62.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0234) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0231):   870.12  43.850     5.50    59.37
       + ID2= 2 (0232):   274.35  20.324     5.25    62.12
         ================================================
         ID = 3 (0234):  1144.47  63.002     5.25    60.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0315) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 415.0) ------>
               Distance      Elevation       Manning
                  0.00         164.00        0.1000
                 34.00         164.30        0.1000
                 37.00         163.10        0.1000
                 38.60         163.00    0.1000 /0.0800  Main Channel
                 40.00         163.00        0.0800      Main Channel
                 42.30         163.00    0.0800 /0.1000  Main Channel
                 43.90         163.10        0.1000
                 46.00         164.30        0.1000
                 80.00         164.30        0.1000
                100.00         168.00        0.1000

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.05    163.05    .424E+03       0.0         0.09      338.86
       0.11    163.11    .101E+04       0.1         0.13      228.21
       0.16    163.16    .166E+04       0.2         0.17      174.49
       0.21    163.21    .234E+04       0.3         0.20      144.34
       0.26    163.26    .304E+04       0.4         0.24      124.91
       0.32    163.32    .376E+04       0.6         0.27      111.22
       0.37    163.37    .450E+04       0.7         0.29      100.98
       0.42    163.42    .526E+04       0.9         0.32       92.99
       0.47    163.47    .604E+04       1.2         0.34       86.55
       0.53    163.53    .685E+04       1.4         0.36       81.22
       0.58    163.58    .767E+04       1.7         0.39       76.73
       0.63    163.63    .852E+04       1.9         0.41       72.89
       0.68    163.68    .938E+04       2.2         0.43       69.55
       0.74    163.74    .103E+05       2.6         0.44       66.63
       0.79    163.79    .112E+05       2.9         0.46       64.03
       0.84    163.84    .121E+05       3.3         0.48       61.71
       0.89    163.89    .131E+05       3.6         0.50       59.62
       0.95    163.95    .140E+05       4.0         0.51       57.73
       1.00    164.00    .150E+05       4.5         0.53       56.00

     **** WARNING:  TRAVEL TIME TABLE EXCEEDED
                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0234) 1144.47    63.00    5.25  60.03      0.99      0.53
     OUTFLOW: ID= 1 (0315) 1144.47    40.75    6.50  60.03      1.00      0.53
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| CALIB             |
| STANDHYD  (0129) |   Area    (ha)= 146.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      66.13         80.83
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     989.81         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         26.83
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.80          5.49        12.285 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82         44.13        59.74
     TOTAL RAINFALL   (mm)=      80.82         80.82        80.82
     RUNOFF COEFFICIENT   =       0.98          0.55         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0237) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0129):   146.96  12.285     5.25    59.74
       + ID2= 2 (0315):  1144.47  40.747     6.50    60.03
         ================================================
         ID = 3 (0237):  1291.43  43.927     6.25    59.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0138) |   Area    (ha)= 184.05
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.94        114.11
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1107.70         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         26.83
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
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     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.19          6.64        13.830 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82         44.13        57.31
     TOTAL RAINFALL   (mm)=      80.82         80.82        80.82
     RUNOFF COEFFICIENT   =       0.98          0.55         0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0238) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0138):   184.05  13.830     5.25    57.31
       + ID2= 2 (0237):  1291.43  43.927     6.25    59.99
         ================================================
         ID = 3 (0238):  1475.48  49.191     5.25    59.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0139) |   Area    (ha)=  21.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      11.21          9.95
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     375.59         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         28.24
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.16          0.71         1.873 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82         46.79        63.77
     TOTAL RAINFALL   (mm)=      80.82         80.82        80.82
     RUNOFF COEFFICIENT   =       0.98          0.58         0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0239) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0139):    21.16   1.873     5.25    63.77
       + ID2= 2 (0238):  1475.48  49.191     5.25    59.66
         ================================================
         ID = 3 (0239):  1496.64  51.064     5.25    59.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0233) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0221):  2341.86  46.658     5.25    60.58
       + ID2= 2 (0239):  1496.64  51.064     5.25    59.72
         ================================================
         ID = 3 (0233):  3838.50  97.722     5.25    60.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0316) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 416.0) ------>
               Distance      Elevation       Manning
                  0.00         165.00        0.1200
                 10.00         160.00        0.1200
                 14.00         158.00    0.1200 /0.0600  Main Channel
                 15.00         157.20        0.0600      Main Channel
                 18.00         157.20        0.0600      Main Channel
                 24.00         158.00    0.0600 /0.1200  Main Channel
                 28.00         159.00        0.1200
                130.00         161.00        0.1200
                250.00         163.00        0.1200
                310.00         164.00        0.1200

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.27    157.47    .146E+04       0.3         0.26       84.50
       0.53    157.73    .373E+04       1.1         0.38       57.82
       0.80    158.00    .681E+04       2.5         0.47       46.30
       1.17    158.37    .123E+05       6.1         0.65       33.48
       1.55    158.75    .188E+05      11.2         0.78       28.11
       1.92    159.12    .270E+05      17.5         0.85       25.76
       2.30    159.50    .430E+05      26.1         0.80       27.45
       2.67    159.87    .688E+05      38.4         0.73       29.84
       3.05    160.25    .104E+06      55.4         0.70       31.39
       3.42    160.62    .150E+06      77.9         0.68       32.01
       3.80    161.00    .205E+06     106.7         0.68       31.95
       4.17    161.37    .270E+06     142.0         0.69       31.72
       4.55    161.75    .347E+06     185.6         0.70       31.20
       4.92    162.12    .436E+06     238.2         0.72       30.49
       5.30    162.50    .536E+06     300.9         0.74       29.68
       5.67    162.87    .647E+06     374.2         0.76       28.82
       6.05    163.25    .770E+06     458.9         0.78       27.96
       6.42    163.62    .904E+06     555.8         0.81       27.11
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      6.80   164.00    .105E+07     665.5          0.83      26.29

                                  <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0233) 3838.50    97.72    5.25  60.25      3.68      0.68
     OUTFLOW: ID= 1 (0316) 3838.50    83.33    6.50  60.25      3.49      0.68


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| CALIB            |
| STANDHYD  (0137) |   Area    (ha)= 151.99
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      68.40         83.59
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1006.61         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         28.96
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       7.03          6.18       13.211 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82         48.19        61.97
     TOTAL RAINFALL   (mm)=      80.82         80.82        80.82
     RUNOFF COEFFICIENT   =       0.98          0.60         0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0240) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0137):   151.99  13.211     5.25    61.97
        + ID2= 2 (0316):  3838.50  83.331     6.50    60.25
          ================================================
          ID = 3 (0240):  3990.49  86.695     6.25    60.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0317) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 417.0) ------>
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                  Distance      Elevation       Manning
                     0.00         165.50         0.1200
                    13.00         165.00         0.1200
                    21.00         160.00         0.1200
                    31.00         155.50    0.1200 /0.0600  Main Channel
                    31.01         155.30         0.0600      Main Channel
                    39.00         155.30    0.0600 /0.1200  Main Channel
                    39.01         155.50         0.1200
                   135.00         157.00         0.1200
                   167.00         160.00         0.1200
                   200.00         163.00         0.1200

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.41   155.71    .363E+04       1.4          0.31      42.78
       0.81   156.11    .147E+05       6.2          0.33      39.56
       1.22   156.52    .344E+05      16.2          0.37      35.35
       1.62   156.92    .625E+05      32.9          0.41      31.66
       2.03   157.33    .969E+05      60.1          0.49      26.90
       2.43   157.73    .133E+06      95.4          0.56      23.27
       2.84   158.14    .171E+06     137.8          0.63      20.69
       3.24   158.54    .211E+06     187.1          0.70      18.76
       3.65   158.95    .252E+06     243.1          0.76      17.26
       4.05   159.35    .295E+06     305.8          0.81      16.06
       4.46   159.76    .339E+06     375.1          0.87      15.07
       4.86   160.16    .385E+06     451.1          0.92      14.24
       5.27   160.57    .433E+06     533.7          0.96      13.53
       5.67   160.97    .483E+06     622.9          1.01      12.91
       6.08   161.38    .534E+06     718.9          1.05      12.37
       6.48   161.78    .586E+06     821.6          1.10      11.89
       6.89   162.19    .640E+06     931.2          1.14      11.46
       7.29   162.59    .696E+06    1047.7          1.18      11.08
       7.70   163.00    .754E+06    1171.2          1.22      10.73

                                  <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0240) 3990.49    86.69    6.25  60.32      2.33      0.54
     OUTFLOW: ID= 1 (0317) 3990.49    84.62    6.75  60.32      2.31      0.54


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| CALIB            |
| STANDHYD  (0140) |   Area    (ha)= 106.10
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      63.66         42.44
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     841.03         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         26.83
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.57          2.88        9.453 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25         5.25
```



```
     RUNOFF VOLUME    (mm)=      78.82         80.82        64.95
     TOTAL RAINFALL   (mm)=      80.82         80.82        80.82
     RUNOFF COEFFICIENT   =       0.98          0.55         0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0241) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0140):   106.10   9.453     5.25    64.95
        + ID2= 2 (0317):  3990.49  84.619     6.75    60.32
          ================================================
          ID = 3 (0241):  4096.59  86.351     6.50    60.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0141) |   Area    (ha)= 125.58
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      37.67         87.91
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     914.99         40.00
     Mannings n             =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         28.24
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.87          6.32        10.190 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82         46.79        56.40
     TOTAL RAINFALL   (mm)=      80.82         80.82        80.82
     RUNOFF COEFFICIENT   =       0.98          0.58         0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0223) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0141):   125.58  10.190     5.25    56.40
        + ID2= 2 (0241):  4096.59  86.351     6.50    60.44
          ================================================
          ID = 3 (0223):  4222.17  88.862     6.25    60.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0318) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 418.0) ------>
                  Distance      Elevation       Manning
                     0.00         165.00         0.1200
                    22.00         160.00         0.1200
                    43.00         160.00         0.1200
                   136.00         156.00    0.1200 /0.0600  Main Channel
                   145.00         152.60         0.0600      Main Channel
                   156.00         152.60         0.0600      Main Channel
                   170.00         158.00    0.0600 /0.1200  Main Channel
                   180.00         162.00         0.1200
                   187.00         162.40         0.1200

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.49   153.09    .371E+04       3.6          0.60      17.17
       0.97   153.57    .820E+04      12.0          0.91      11.43
       1.46   154.06    .135E+05      24.6          1.14       9.10
       1.94   154.54    .195E+05      41.8          1.34       7.77
       2.43   155.03    .263E+05      63.6          1.51       6.88
       2.91   155.51    .338E+05      90.5          1.67       6.23
       3.40   156.00    .422E+05     122.6          1.81       5.73
       3.93   156.53    .540E+05     168.9          1.95       5.33
       4.47   157.07    .705E+05     224.8          1.99       5.22
       5.00   157.60    .915E+05     292.3          1.99       5.22
       5.53   158.13    .117E+06     375.1          2.00       5.20
       6.07   158.67    .147E+06     479.8          2.03       5.12
       6.60   159.20    .182E+06     600.9          2.06       5.05
       7.13   159.73    .221E+06     739.5          2.08       4.99
       7.67   160.27    .268E+06     885.7          2.06       5.05
       8.20   160.80    .320E+06    1081.6          2.10       4.94
       8.73   161.33    .374E+06    1298.4          2.17       4.80
       9.27   161.87    .428E+06    1535.4          2.23       4.65
       9.80   162.40    .485E+06    1788.6          2.30       4.52

                                  <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                            (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0223) 4222.17    88.86    6.25  60.32      2.89      1.66
     OUTFLOW: ID= 1 (0318) 4222.17    89.06    6.50  60.31      2.89      1.66


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| CALIB            |
| STANDHYD  (0142) |   Area    (ha)= 132.90
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
```

Surface Area	(ha)=	79.74	53.16	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	941.28	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	27.53	
over (min)		15.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.08	0.06	
				TOTALS
PEAK FLOW	(cms)=	8.20	3.71	11.911 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	45.44	65.47
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.56	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9501)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0142):	132.90	11.911	5.25	65.47
+ ID2= 2 (0318):	4222.17	89.059	6.50	60.31
ID = 3 (9501):	4355.07	91.613	6.25	60.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0161)	Area (ha)= 259.82		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	137.70	122.12	
Dep. Storage (mm)=	2.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	1316.11	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	27.53	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.08	0.04	
			TOTALS
PEAK FLOW (cms)=	14.16	7.34	21.495 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	78.82	45.44	63.13
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.98	0.56	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0224)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0161):	259.82	21.495	5.25	63.13
+ ID2= 2 (9501):	4355.07	91.613	6.25	60.47
ID = 3 (0224):	4614.89	104.777	5.25	60.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0319)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (418.0) ------>

Distance	Elevation	Manning	
0.00	163.50	0.1000	
28.00	163.00	0.1000	
84.00	151.20	0.1000 /0.0600	Main Channel
84.00	151.00	0.1000 /0.0600	Main Channel
92.00	151.00	0.0600 /0.1000	Main Channel
92.00	151.20	0.0600 /0.1000	Main Channel
98.00	153.00	0.1000	
148.00	155.00	0.1000	
158.00	160.00	0.1000	
248.00	161.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	151.53	.865E+04	2.1	0.45	69.80
1.05	152.05	.212E+05	7.1	0.63	49.68
1.58	152.58	.379E+05	15.2	0.75	41.66
2.11	153.11	.590E+05	26.1	0.82	37.68
2.63	153.63	.919E+05	41.2	0.84	37.20
3.16	154.16	.140E+06	63.2	0.84	36.97
3.68	154.68	.204E+06	93.5	0.86	36.33
4.21	155.21	.282E+06	135.3	0.90	34.71
4.74	155.74	.365E+06	189.9	0.97	32.07
5.26	156.26	.453E+06	253.9	1.05	29.71
5.79	156.79	.543E+06	326.9	1.12	27.69
6.32	157.32	.637E+06	409.0	1.20	25.97
6.84	157.84	.735E+06	499.9	1.27	24.50
7.37	158.37	.836E+06	599.6	1.34	23.24
7.89	158.89	.941E+06	708.2	1.40	22.14
8.42	159.42	.105E+07	825.6	1.47	21.17
8.95	159.95	.116E+07	951.9	1.53	20.31
9.47	160.47	.129E+07	945.7	1.36	22.80
10.00	161.00	.148E+07	1018.3	1.29	24.15

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0224)	4614.89	104.78	5.25	60.62	3.83	0.87
OUTFLOW: ID= 1 (0319)	4614.89	93.71	6.75	60.62	3.68	0.86

CALIB			
STANDHYD (0160)	Area (ha)= 38.29		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	14.55	23.74	
Dep. Storage (mm)=	2.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	505.24	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	28.96	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	1.50	1.75	3.257 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	78.82	48.19	59.83
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.98	0.60	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0225)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0160):	38.29	3.257	5.25	59.83
+ ID2= 2 (0319):	4614.89	93.712	6.75	60.62
ID = 3 (0225):	4653.18	94.315	6.75	60.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0143)	Area (ha)= 64.11		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	38.47	25.64	
Dep. Storage (mm)=	2.00	6.00	
Average Slope (%)=	1.00	1.00	

Length	(m)=	653.76	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	27.53	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	3.97	1.79	5.762 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	45.44	65.47
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.56	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0643)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.3600	1.3663
	0.4900	0.9264	2.9600	1.5789
	1.0100	1.1079	6.7000	2.1840

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0143)	64.110	5.762	5.25	65.47
OUTFLOW: ID= 1 (0643)	64.110	3.925	5.50	65.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 68.12
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.8010

CALIB			
STANDHYD (0156)	Area (ha)= 51.93		
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	31.16	20.77	
Dep. Storage (mm)=	2.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	588.39	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	27.53	
over (min)	15.00	30.00	
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	3.22	1.45	4.668 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	78.82	45.44	65.47

TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.98	0.56	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0226)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0156):	51.93	4.668	5.25	65.47
+ ID2= 2 (0643):	64.11	3.925	5.50	65.46
ID = 3 (0226):	116.04	8.450	5.25	65.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0145)
ID= 1 DT=15.0 min

Area (ha)= 27.64
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.58	11.06
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	429.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	26.15
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.71	0.73	2.441 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	42.87	64.44
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.53	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0645)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

	0.0000	0.0000	8.7100	0.8050
	0.1300	0.7000	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0145)	27.640	2.441	5.25	64.44
OUTFLOW: ID= 1 (0645)	27.640	3.039	5.25	64.39

PEAK FLOW REDUCTION [Qout/Qin](%)=124.48
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.7625

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

CALIB
STANDHYD (0157)
ID= 1 DT=15.0 min

Area (ha)= 52.48
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.49	20.99
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	591.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	26.83
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.25	1.42	4.676 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	44.13	64.95
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.55	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0657)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	8.0000	1.7050
0.3100	1.7000	15.9900	1.7100

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0157)	52.480	4.676	5.25	64.95
OUTFLOW: ID= 1 (0657)	52.480	3.581	5.25	64.92

PEAK FLOW REDUCTION [Qout/Qin](%)= 76.59
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 1.7514

ADD HYD (0242)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0645):	27.64	3.039	5.25	64.39
+ ID2= 2 (0657):	52.48	3.581	5.25	64.92
ID = 3 (0242):	80.12	6.620	5.25	64.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0243)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0226):	116.04	8.450	5.25	65.46
+ ID2= 2 (0242):	80.12	6.620	5.25	64.74
ID = 3 (0243):	196.16	15.070	5.25	65.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0159)
ID= 1 DT=15.0 min

Area (ha)= 122.82
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.69	49.13
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	904.88	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	7.58	3.63	11.208 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	78.82	48.19	66.57
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.98	0.60	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0248)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0159):	122.82	11.208	5.25	66.57
+ ID2= 2 (0243):	196.16	15.070	5.25	65.17
ID = 3 (0248):	318.98	26.278	5.25	65.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0251)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0225):	4653.18	94.315	6.75	60.61
+ ID2= 2 (0248):	318.98	26.278	5.25	65.71
ID = 3 (0251):	4972.16	101.814	6.50	60.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0320)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (420.0) ------>

Distance	Elevation	Manning	
0.00	154.00	0.1000	
9.00	149.00	0.1000	
11.00	148.00	0.1000 /0.0600	Main Channel
12.00	146.80	0.0600	Main Channel
19.00	146.80	0.0600	Main Channel
20.00	147.00	0.0600 /0.1000	Main Channel
22.00	148.00	0.1000	
142.00	150.00	0.1000	
144.00	152.00	0.1000	
161.00	155.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	147.00	.195E+04	0.4	0.24	89.36
0.57	147.37	.608E+04	2.2	0.47	45.34
0.94	147.74	.107E+05	5.3	0.63	33.88
1.31	148.11	.162E+05	9.3	0.74	29.19
1.67	148.47	.300E+05	15.7	0.68	31.77
2.04	148.84	.546E+05	26.3	0.62	34.57
2.41	149.21	.900E+05	42.5	0.61	35.34
2.78	149.58	.136E+06	65.4	0.62	34.74
3.15	149.95	.193E+06	96.2	0.64	33.50
3.52	150.32	.257E+06	141.4	0.71	30.34
3.88	150.68	.322E+06	195.9	0.78	27.41
4.25	151.05	.387E+06	258.0	0.86	25.02
4.62	151.42	.453E+06	327.4	0.93	23.05
4.99	151.79	.519E+06	403.8	1.00	21.42
5.36	152.16	.586E+06	485.6	1.07	20.11
5.73	152.53	.654E+06	572.0	1.13	19.05
6.09	152.89	.723E+06	664.7	1.19	18.12
6.46	153.26	.793E+06	763.7	1.24	17.32
6.83	153.63	.865E+06	868.7	1.29	16.60

```
                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.    MAX DEPTH   MAX
VEL                           (ha)    (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0251) 4972.16   101.81     6.50   60.94      3.19      0.65
     OUTFLOW: ID= 1 (0320) 4972.16    98.05     7.25   60.94      3.16      0.64


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| CALIB              |
| STANDHYD  (0162) |   Area    (ha)= 117.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      53.02         64.81
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     886.30         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         26.83
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.08          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.45          4.40          9.850 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82         44.13          59.74
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.98          0.55           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0254) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0162):   117.83   9.850     5.25     59.74
        + ID2= 2 (0320):  4972.16  98.047     7.25     60.94
          ================================================
          ID = 3 (0254):  5089.99  99.733     7.25     60.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0321) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 421.0) ------>
               Distance      Elevation       Manning
```



```
                0.00       154.00        0.1000
               26.00       150.00        0.1000
              128.00       148.50        0.1000
              170.00       148.00        0.1000
              175.00       147.00    0.1000 /0.0600  Main Channel
              176.00       146.60        0.0600      Main Channel
              182.00       146.60        0.0600      Main Channel
              185.00       147.00    0.0600 /0.1000  Main Channel
              187.00       148.00        0.1000
              227.00       154.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)       (m/s)       (min)
       0.20    146.80    .232E+04        0.4        0.28       96.99
       0.40    147.00    .530E+04        1.4        0.42       65.03
       0.81    147.41    .131E+05        5.5        0.69       39.69
       1.22    147.82    .229E+05       12.0        0.87       31.65
       1.64    148.24    .384E+05       20.7        0.89       30.89
       2.05    148.65    .770E+05       36.3        0.78       35.32
       2.46    149.06    .137E+06       62.2        0.75       36.79
       2.87    149.47    .219E+06      100.7        0.76       36.20
       3.28    149.88    .321E+06      154.1        0.79       34.73
       3.69    150.29    .440E+06      231.8        0.87       31.64
       4.11    150.71    .563E+06      328.9        0.97       28.55
       4.52    151.12    .690E+06      441.6        1.06       26.05
       4.93    151.53    .821E+06      569.3        1.15       24.03
       5.34    151.94    .955E+06      711.7        1.23       22.37
       5.75    152.35    .109E+07      868.5        1.31       20.98
       6.16    152.76    .124E+07     1039.6        1.39       19.80
       6.58    153.18    .138E+07     1224.8        1.47       18.79
       6.99    153.59    .153E+07     1424.0        1.54       17.91
       7.40    154.00    .168E+07     1637.2        1.61       17.13

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.    MAX DEPTH   MAX
VEL                           (ha)    (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0254) 5089.99    99.73     7.25   60.91      2.86      0.76
     OUTFLOW: ID= 1 (0321) 5089.99    96.43     7.75   60.91      2.82      0.76


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| CALIB              |
| STANDHYD  (0163) |   Area    (ha)= 103.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.24         64.03
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     829.74         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         26.83
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.05          4.35          8.397 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82         44.13          57.31
```



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     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.98          0.55           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0255) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0163):   103.27   8.397     5.25     57.31
        + ID2= 2 (0321):  5089.99  96.432     7.75     60.91
          ================================================
          ID = 3 (0255):  5193.26  97.323     7.75     60.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| STANDHYD  (0168) |   Area    (ha)= 182.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      82.20        100.47
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1103.54         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         26.15
               over (min)        15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       8.45          5.66         14.112 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82         42.87          59.05
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.98          0.53           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0256) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
```



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          ID1= 1 (0168):   182.67  14.112     5.25     59.05
        + ID2= 2 (0255):  5193.26  97.323     7.75     60.84
          ================================================
          ID = 3 (0256):  5375.93  99.102     7.75     60.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| STANDHYD  (0158) |   Area    (ha)=  28.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.15         11.44
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     436.58         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         28.96
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.77          0.85          2.617 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82         48.19          66.57
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.98          0.60           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0658) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)  |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.6450     0.5926
                          0.0440     0.1178   |  1.0280     0.7036
                          0.0470     0.2198   |  1.4580     0.8166
                          0.0490     0.3238   |  1.6970     0.8738
                          0.3350     0.4836   |  1.9480     1.1200

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0158)   28.590     2.617      5.25      66.57
     OUTFLOW: ID= 1 (0658)   28.590     1.628      5.50      66.54

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 62.21
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8799

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| CALIB                |
| STANDHYD  (0164) |   Area    (ha)= 109.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.91        51.36
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     853.50        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.98         3.80          9.776 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82        48.19          64.42
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.98         0.60           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0257) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0164):   109.27   9.776     5.25    64.42
       + ID2= 2 (0658):    28.59   1.628     5.50    66.54
         ================================================
         ID = 3 (0257):   137.86  11.291     5.25    64.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0244) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0256):  5375.93  99.102     7.75    60.78
       + ID2= 2 (0257):   137.86  11.291     5.25    64.86
         ================================================
         ID = 3 (0244):  5513.79 100.932     7.25    60.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0322) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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              <------ DATA FOR SECTION ( 422.0) ------>
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                 Distance      Elevation       Manning
                    0.00         146.00        0.1000
                   10.00         144.00        0.1000
                   50.00         143.00        0.1000
                   61.00         142.50    0.1000 /0.0300  Main Channel
                   72.00         138.00        0.0300      Main Channel
                   72.00         137.80        0.0300      Main Channel
                   75.00         137.80        0.0300      Main Channel
                   75.00         138.00        0.0300      Main Channel
                   86.00         142.50    0.0300 /0.1000  Main Channel
                  108.00         150.00        0.1000

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.43   138.23    .221E+04       1.2          0.83      31.62
       0.85   138.65    .568E+04       4.3          1.19      22.02
       1.28   139.08    .105E+05      10.0          1.49      17.62
       1.71   139.51    .168E+05      18.7          1.75      14.96
       2.14   139.94    .245E+05      31.1          2.00      13.14
       2.56   140.36    .336E+05      47.5          2.22      11.79
       2.99   140.79    .441E+05      68.3          2.44      10.75
       3.42   141.22    .560E+05      94.1          2.65       9.91
       3.85   141.65    .692E+05     125.2          2.84       9.22
       4.27   142.07    .839E+05     161.9          3.03       8.64
       4.70   142.50    .100E+06     204.7          3.22       8.14
       5.14   142.94    .121E+06     267.2          3.47       7.55
       5.58   143.38    .151E+06     338.2          3.51       7.46
       6.01   143.81    .195E+06     419.9          3.39       7.73
       6.45   144.25    .249E+06     515.7          3.25       8.06
       6.89   144.69    .307E+06     625.1          3.20       8.19
       7.33   145.13    .367E+06     746.1          3.19       8.21
       7.76   145.56    .430E+06     878.6          3.21       8.16
       8.20   146.00    .495E+06    1022.1          3.25       8.07

                                    <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0244) 5513.79   100.93     7.25  60.88      3.51      2.69
     OUTFLOW: ID= 1 (0322) 5513.79   100.84     7.50  60.88      3.50      2.68


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| CALIB                |
| STANDHYD  (0167) |   Area    (ha)=  67.37
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.32        37.05
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     670.17        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        27.53
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.13         2.59          5.718 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
```



```
     RUNOFF VOLUME    (mm)=      78.82        80.82          80.82
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.98         0.56           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0245) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0167):    67.37   5.718     5.25    60.46
       + ID2= 2 (0322):  5513.79 100.840     7.50    60.88
         ================================================
         ID = 3 (0245):  5581.16 101.499     7.50    60.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB                |
| STANDHYD  (0169) |   Area    (ha)= 180.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      68.49       111.75
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1096.18        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        26.83
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.04         6.50         13.544 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      78.82        44.13         57.31
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.98         0.55          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0246) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
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-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0169):   180.24  13.544     5.25    57.31
       + ID2= 2 (0245):  5581.16 101.499     7.50    60.88
         ================================================
         ID = 3 (0246):  5761.40 103.648     7.50    60.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0323) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 423.0) ------>
                 Distance      Elevation       Manning
                    0.00         145.00        0.1200
                   90.00         136.00        0.1200
                   95.00         134.90    0.1200 /0.0600  Main Channel
                   95.00         134.70    0.1200 /0.0600  Main Channel
                  105.00         134.70    0.0600 /0.1200  Main Channel
                  105.00         134.90    0.0600 /0.1200  Main Channel
                  108.00         136.00        0.1200
                  255.00         136.00        0.1200
                  308.00         145.00        0.1200

      <---------- TRAVEL TIME TABLE ---------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.54   135.24    .548E+04       3.3          0.56      27.64
       1.08   135.78    .128E+05      11.0          0.81      19.38
       1.63   136.33    .675E+05      33.0          0.46      34.09
       2.17   136.87    .156E+06      92.4          0.55      28.17
       2.71   137.41    .249E+06     180.6          0.68      23.00
       3.25   137.95    .347E+06     294.4          0.80      19.62
       3.79   138.49    .448E+06     432.5          0.90      17.28
       4.34   139.04    .554E+06     594.0          1.00      15.56
       4.88   139.58    .665E+06     778.4          1.10      14.24
       5.42   140.12    .780E+06     985.6          1.18      13.19
       5.96   140.66    .899E+06    1215.3          1.27      12.33
       6.51   141.21    .102E+07    1467.6          1.34      11.62
       7.05   141.75    .115E+07    1742.4          1.42      11.01
       7.59   142.29    .128E+07    2040.0          1.49      10.48
       8.13   142.83    .142E+07    2360.4          1.56      10.03
       8.67   143.37    .156E+07    2703.8          1.62       9.62
       9.22   143.92    .171E+07    3070.5          1.69       9.26
       9.76   144.46    .186E+07    3460.6          1.75       8.94
      10.30   145.00    .201E+07    3874.4          1.81       8.65

                                    <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0246) 5761.40   103.65     7.50  60.77      2.24      0.57
     OUTFLOW: ID= 1 (0323) 5761.40   102.36     8.00  60.77      2.22      0.57


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| ADD HYD   (0247) |
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0170):    30.06   1.884     5.50    47.38
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       + ID2= 2 (0323):  5761.40 102.364     8.00    60.77
         ================================================
         ID = 3 (0247):  5791.46 102.667     8.00    60.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0166) |   Area    (ha)= 260.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     117.43       143.53
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1318.99        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        27.53
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      12.07         8.62        20.697 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82        45.44        60.46
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.98         0.56         0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0249) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0166):   260.96  20.697     5.25    60.46
       + ID2= 2 (0247):  5791.46 102.667     8.00    60.70
         ================================================
         ID = 3 (0249):  6052.42 105.196     7.75    60.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0324) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION ( 424.0) ------>
              Distance      Elevation       Manning
                 0.00         138.00        0.1000
                34.00         130.00        0.1000
                35.00         129.70    0.1000 /0.0600  Main Channel
                41.00         129.70    0.0600 /0.1000  Main Channel
```



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                42.00         130.00        0.1000
                44.00         131.00        0.1000
                98.00         132.00        0.1000
               122.00         133.00        0.1000
               150.00         140.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.44  130.14    .561E+04        1.5         0.46      62.25
        0.87  130.57    .133E+05        5.1         0.67      43.14
        1.31  131.01    .231E+05       10.7         0.80      35.80
        1.75  131.45    .438E+05       19.1         0.75      38.25
        2.18  131.88    .837E+05       34.5         0.71      40.41
        2.62  132.32    .140E+06       60.4         0.74      38.66
        3.06  132.76    .206E+06       96.4         0.81      35.64
        3.49  133.19    .281E+06      144.5         0.89      32.39
        3.93  133.63    .359E+06      205.4         0.99      29.15
        4.37  134.07    .440E+06      276.2         1.08      26.58
        4.81  134.51    .524E+06      356.4         1.17      24.51
        5.24  134.94    .611E+06      446.1         1.26      22.82
        5.68  135.38    .700E+06      544.9         1.34      21.41
        6.12  135.82    .792E+06      652.9         1.42      20.21
        6.55  136.25    .887E+06      770.1         1.50      19.19
        6.99  136.69    .984E+06      896.3         1.57      18.30
        7.43  137.13    .108E+07     1031.7         1.64      17.51
        7.86  137.56    .119E+07     1176.1         1.71      16.82
        8.30  138.00    .129E+07     1329.8         1.77      16.20

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0249) 6052.42   105.20    7.75  60.69      3.14      0.82
     OUTFLOW: ID= 1 (0324) 6052.42   103.77    8.25  60.69      3.12      0.82


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| CALIB            |
| STANDHYD  (0171) |   Area    (ha)= 277.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     105.48       172.11
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1360.37        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        27.53
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      10.84        10.34        21.186 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82        45.44        58.12
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.98         0.56         0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0250) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0171):   277.59  21.186     5.25    58.12
       + ID2= 2 (0324):  6052.42 103.766     8.25    60.69
         ================================================
         ID = 3 (0250):  6330.01 106.142     8.25    60.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0325) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION ( 425.0) ------>
              Distance      Elevation       Manning
                 0.00         135.00        0.1200
                30.00         133.00        0.1200
                53.00         130.00        0.1200
                70.00         127.00    0.1200 /0.0800  Main Channel
                74.00         126.30        0.0800      Main Channel
                78.00         126.30        0.0800      Main Channel
                82.00         127.00    0.0800 /0.1200  Main Channel
                96.00         129.00        0.1200
               118.00         135.00        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.35  126.65    .244E+04        0.6         0.28      69.40
        0.70  127.00    .651E+04        2.3         0.41      47.37
        1.17  127.47    .147E+05        7.6         0.60      32.40
        1.64  127.94    .262E+05       16.0         0.71      27.32
        2.11  128.41    .409E+05       27.9         0.79      24.46
        2.58  128.88    .589E+05       43.6         0.86      22.49
        3.05  129.35    .799E+05       63.9         0.93      20.83
        3.52  129.82    .103E+06       88.6         1.00      19.43
        3.99  130.29    .129E+06      117.5         1.06      18.34
        4.46  130.76    .158E+06      151.0         1.11      17.45
        4.94  131.24    .190E+06      189.7         1.16      16.68
        5.41  131.71    .224E+06      233.7         1.21      16.01
        5.88  132.18    .262E+06      283.4         1.26      15.41
        6.35  132.65    .303E+06      339.0         1.30      14.88
        6.82  133.12    .346E+06      399.4         1.34      14.44
        7.29  133.59    .394E+06      463.2         1.37      14.17
        7.76  134.06    .446E+06      535.2         1.39      13.90
        8.23  134.53    .504E+06      615.8         1.42      13.63
        8.70  135.00    .566E+06      705.3         1.45      13.37

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
```



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     INFLOW : ID= 2 (0250) 6330.01   106.14    8.25  60.57      3.81      1.03
     OUTFLOW: ID= 1 (0325) 6330.01   105.63    8.50  60.57      3.78      1.03


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| CALIB            |
| STANDHYD  (0172) |   Area    (ha)= 182.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.38       113.21
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1103.30        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        26.83
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.13         6.59        13.720 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      78.82        44.13        57.31
     TOTAL RAINFALL   (mm)=      80.82        80.82        80.82
     RUNOFF COEFFICIENT   =       0.98         0.55         0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0252) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0172):   182.59  13.720     5.25    57.31
       + ID2= 2 (0325):  6330.01 105.627     8.50    60.57
         ================================================
         ID = 3 (0252):  6512.60 106.993     8.25    60.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0173) |   Area    (ha)= 162.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      61.76       100.76
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1040.90        40.00
     Mannings n            =      0.013        0.250
```

```
Max.Eff.Inten.(mm/hr)=      37.17        27.53
          over (min)        15.00        30.00
Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
Unit Hyd. Tpeak (min)=      15.00        15.00
Unit Hyd. peak  (cms)=       0.08         0.06
                                                  *TOTALS*
PEAK FLOW       (cms)=       6.35         7.04        13.386 (iii)
TIME TO PEAK    (hrs)=       5.25         5.25          5.25
RUNOFF VOLUME    (mm)=      78.82        45.44         58.12
TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
RUNOFF COEFFICIENT   =       0.98         0.56          0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0253) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0173):   162.52  13.386     5.25     58.12
      + ID2= 2 (0252):  6512.60 106.993     8.25     60.48
        ================================================
        ID = 3 (0253):  6675.12 108.323     8.25     60.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0326) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 426.0) ------>
              Distance      Elevation       Manning
                  0.00         137.00        0.1200
                 45.00         135.00        0.1200
                 53.00         130.00        0.1200
                137.00         125.20    0.1200 /0.0800  Main Channel
                137.00         125.00    0.1200 /0.0800  Main Channel
                143.00         125.00    0.0800 /0.1200  Main Channel
                143.00         125.20    0.0800 /0.1200  Main Channel
                195.00         126.00        0.1200
                260.00         130.00        0.1200
                325.00         135.00        0.1200

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.53   125.53    .747E+04       2.3          0.30      54.64
      1.05   126.05    .359E+05      14.2          0.39      42.17
      1.58   126.58    .789E+05      42.5          0.53      30.93
      2.11   127.11    .131E+06      86.4          0.65      25.33
      2.63   127.63    .193E+06     146.7          0.75      21.91
      3.16   128.16    .264E+06     224.7          0.84      19.56
      3.68   128.68    .344E+06     321.8          0.93      17.80
      4.21   129.21    .433E+06     439.3          1.00      16.43
      4.74   129.74    .532E+06     578.4          1.08      15.32
      5.26   130.26    .639E+06     748.6          1.16      14.22
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      5.79   130.79    .751E+06     949.8          1.25      13.17
      6.32   131.32    .867E+06    1173.6          1.34      12.31
      6.84   131.84    .987E+06    1419.9          1.42      11.58
      7.37   132.37    .111E+07    1688.7          1.51      10.96
      7.89   132.89    .124E+07    1980.1          1.58      10.42
      8.42   133.42    .137E+07    2294.3          1.66       9.95
      8.95   133.95    .151E+07    2631.2          1.73       9.54
      9.47   134.47    .165E+07    2991.2          1.80       9.17
     10.00   135.00    .179E+07    3374.5          1.87       8.84

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0253) 6675.12   108.32     8.25   60.42      2.30      0.69
     OUTFLOW: ID= 1 (0326) 6675.12   107.54     8.50   60.42      2.29      0.68


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| CALIB             |
| NASHYD    (0176) |   Area     (ha)=  51.49   Curve Number   (CN)= 85.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   7.00   # of Linear Res.(N)= 5.00
-------------------   U.H. Tp(hrs)=   1.03

     Unit Hyd Qpeak  (cms)=   2.756

     PEAK FLOW       (cms)=   2.490 (i)
     TIME TO PEAK    (hrs)=   5.750
     RUNOFF VOLUME    (mm)=  45.936
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.568

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0258) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0176):    51.49   2.490     5.75     45.94
      + ID2= 2 (0326):  6675.12 107.536     8.50     60.42
        ================================================
        ID = 3 (0258):  6726.61 108.064     8.50     60.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0174) |   Area     (ha)= 177.89
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       67.60         110.29
     Dep. Storage     (mm)=        2.00           6.00
     Average Slope     (%)=        1.00           1.00
     Length            (m)=     1089.01          40.00
     Mannings n             =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17        26.15
```



```
          over (min)        15.00        30.00
Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
Unit Hyd. Tpeak (min)=      15.00        30.00
Unit Hyd. peak  (cms)=       0.08         0.04
                                                  *TOTALS*
PEAK FLOW       (cms)=       6.95         6.21        13.165 (iii)
TIME TO PEAK    (hrs)=       5.25         5.25          5.25
RUNOFF VOLUME    (mm)=      78.82        42.87         56.53
TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
RUNOFF COEFFICIENT   =       0.98         0.53          0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0259) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0174):   177.89  13.165     5.25     56.53
      + ID2= 2 (0258):  6726.61 108.064     8.50     60.31
        ================================================
        ID = 3 (0259):  6904.50 109.222     8.50     60.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0327) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 427.0) ------>
              Distance      Elevation       Manning
                  0.00         130.00        0.1200
                 45.00         124.00        0.1200
                 85.00         123.00        0.1200
                 91.00         120.40    0.1200 /0.0800  Main Channel
                 91.00         120.20    0.1200 /0.0800  Main Channel
                 98.00         120.20    0.0800 /0.1200  Main Channel
                 98.00         120.40    0.0800 /0.1200  Main Channel
                115.00         123.00        0.1200
                195.00         123.00        0.1200
                210.00         130.00        0.1200

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.52   120.72    .450E+04       2.3          0.56      32.81
      1.03   121.23    .114E+05       8.1          0.78      23.58
      1.55   121.75    .209E+05      17.6          0.93      19.79
      2.06   122.26    .331E+05      31.4          1.05      17.54
      2.58   122.78    .478E+05      49.9          1.16      15.97
      3.09   123.29    .930E+05      70.1          0.84      22.09
      3.61   123.81    .169E+06     135.6          0.89      20.81
      4.13   124.33    .256E+06     232.6          1.01      18.35
      4.64   124.84    .346E+06     357.4          1.15      16.16
      5.16   125.36    .440E+06     506.4          1.28      14.47
      5.67   125.87    .536E+06     678.4          1.41      13.16
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      6.19   126.39    .635E+06     872.8          1.53      12.12
      6.71   126.91    .736E+06    1089.1          1.64      11.27
      7.22   127.42    .841E+06    1326.9          1.75      10.56
      7.74   127.94    .948E+06    1586.0          1.86       9.96
      8.25   128.45    .106E+07    1866.4          1.96       9.45
      8.77   128.97    .117E+07    2167.8          2.05       9.01
      9.28   129.48    .129E+07    2490.3          2.15       8.62
      9.80   130.00    .141E+07    2833.8          2.24       8.27

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)    (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0259) 6904.50   109.22     8.50   60.22      3.40      0.87
     OUTFLOW: ID= 1 (0327) 6904.50   108.69     8.75   60.22      3.39      0.87


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| CALIB             |
| NASHYD    (0175) |   Area     (ha)=  18.01   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia       (mm)=   7.00   # of Linear Res.(N)= 5.00
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   1.672

     PEAK FLOW       (cms)=   1.032 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  42.152
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0260) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0175):    18.01   1.032     5.50     42.15
      + ID2= 2 (0327):  6904.50 108.687     8.75     60.22
        ================================================
        ID = 3 (0260):  6922.51 108.791     8.75     60.17

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 428.0) ------>
              Distance      Elevation       Manning
                  0.00         116.00        0.1200
                 26.00         110.00    0.1200 /0.0800  Main Channel
                 28.00         109.70        0.0800      Main Channel
                 36.00         109.70        0.0800      Main Channel
                 37.00         110.00    0.0800 /0.1200  Main Channel
                 55.00         115.00        0.1200
                 60.00         115.50        0.1200
                 70.00         116.00        0.1200
```

110.00 117.00 0.1200

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	110.00	.387E+04	1.0	0.36	63.21
0.62	110.32	.912E+04	3.9	0.58	38.81
0.93	110.63	.154E+05	8.4	0.74	30.61
1.25	110.95	.228E+05	14.5	0.86	26.27
1.56	111.26	.313E+05	22.2	0.96	23.51
1.88	111.58	.409E+05	31.6	1.05	21.56
2.19	111.89	.515E+05	42.7	1.13	20.08
2.51	112.21	.632E+05	55.7	1.20	18.92
2.83	112.53	.759E+05	70.5	1.26	17.96
3.14	112.84	.898E+05	87.2	1.32	17.15
3.46	113.16	.105E+06	106.0	1.37	16.45
3.77	113.47	.121E+06	126.9	1.43	15.85
4.09	113.79	.138E+06	149.9	1.48	15.31
4.41	114.11	.156E+06	175.2	1.53	14.83
4.72	114.42	.175E+06	202.8	1.57	14.39
5.04	114.74	.195E+06	232.7	1.62	13.99
5.35	115.05	.217E+06	264.5	1.66	13.66
5.67	115.37	.240E+06	296.6	1.68	13.47
5.98	115.68	.265E+06	329.5	1.69	13.40

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0260)	6922.51	108.79	8.75	60.17	3.50	1.38
OUTFLOW: ID= 1 (0328)	6922.51	108.51	9.00	60.17	3.48	1.38

CALIB / STANDHYD (0177) / ID= 1 DT=15.0 min	Area (ha)= 265.44 / Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	119.45	145.99
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1330.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	21.09
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	12.28 6.80 19.084 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	78.82 36.11 55.33
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.98 0.45 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0261) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0177):	265.44	19.084	5.25	55.33
+ ID2= 2 (0328):	6922.51	108.515	9.00	60.17
ID = 3 (0261):	7187.95	109.687	8.75	59.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0178) / ID= 1 DT=15.0 min	Area (ha)= 271.86 / Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	122.34	149.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1346.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	21.70
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	12.58 7.19 19.768 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	78.82 37.15 55.90
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.98 0.46 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0178):	271.86	19.768	5.25	55.90
+ ID2= 2 (0261):	7187.95	109.687	8.75	59.99
ID = 3 (0262):	7459.81	111.017	8.75	59.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0329) / IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (429.0) ------>

Distance	Elevation	Manning	
0.00	112.00	0.1800	
42.00	110.00	0.1800	
69.00	107.00	0.1800	
72.00	106.20	0.1800	
72.00	106.00	0.1800 /0.0700	Main Channel
82.00	106.00	0.0700 /0.1800	Main Channel
82.00	106.20	0.0700 /0.1800	Main Channel
86.00	107.00	0.1800	
102.00	109.00	0.1800	
169.00	111.00	0.1800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	106.26	.682E+04	1.4	0.52	82.26
0.53	106.53	.147E+05	4.4	0.78	55.27
0.79	106.79	.242E+05	8.9	0.95	45.23
1.05	107.05	.353E+05	14.7	1.07	39.91
1.32	107.32	.489E+05	21.9	1.15	37.24
1.58	107.58	.656E+05	30.6	1.20	35.72
1.84	107.84	.853E+05	41.0	1.24	34.70
2.11	108.11	.108E+06	53.1	1.26	33.92
2.37	108.37	.134E+06	67.0	1.29	33.27
2.63	108.63	.163E+06	82.9	1.31	32.70
2.89	108.89	.194E+06	100.8	1.33	32.16
3.16	109.16	.230E+06	119.2	1.33	32.18
3.42	109.42	.273E+06	140.0	1.32	32.50
3.68	109.68	.323E+06	164.3	1.31	32.80
3.95	109.95	.381E+06	192.3	1.30	33.06
4.21	110.21	.448E+06	222.3	1.28	33.57
4.47	110.47	.524E+06	256.6	1.26	34.02
4.74	110.74	.609E+06	295.8	1.25	34.34
5.00	111.00	.705E+06	340.1	1.24	34.53

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0262)	7459.81	111.02	8.75	59.84	3.04	1.33
OUTFLOW: ID= 1 (0329)	7459.81	110.22	9.25	59.84	3.03	1.33

CALIB / STANDHYD (0179) / ID= 1 DT=15.0 min	Area (ha)= 85.00 / Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.30	52.70
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	752.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	21.09
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)

Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.33 2.92 6.260 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	78.82 36.11 52.34
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.98 0.45 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0263) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0179):	85.00	6.260	5.25	52.34
+ ID2= 2 (0329):	7459.81	110.216	9.25	59.84
ID = 3 (0263):	7544.81	110.539	9.25	59.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0182) / ID= 1 DT=15.0 min	Area (ha)= 183.03 / Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	97.01	86.02
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1104.63	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	19.92
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	9.97 3.77 13.740 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	78.82 34.12 57.81
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.98 0.42 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0264) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0182):   183.03  13.740     5.25    57.81
       + ID2= 2 (0263):  7544.81 110.539     9.25    59.76
         ================================================
         ID = 3 (0264):  7727.84 111.284     9.25    59.71

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0330) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 430.0) ------>
               Distance      Elevation       Manning
                  0.00         90.00        0.1200
                  7.00         85.00        0.1200
                 10.00         83.00        0.1200
                 10.00         82.80    0.1200 /0.0800  Main Channel
                 19.00         82.80        0.0800      Main Channel
                 19.00         83.00    0.0800 /0.1200  Main Channel
                 20.00         84.00        0.1200
                 45.00         85.00        0.1200
                 85.00         90.00        0.1200

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.38    83.18    .243E+04       1.8          0.53      21.92
      0.76    83.56    .507E+04       5.9          0.82      14.23
      1.14    83.94    .796E+04      11.9          1.05      11.19
      1.52    84.32    .120E+05      19.7          1.16      10.14
      1.89    84.69    .186E+05      30.7          1.16      10.08
      2.27    85.07    .279E+05      46.3          1.17      10.04
      2.65    85.45    .386E+05      67.3          1.22       9.57
      3.03    85.83    .504E+05      93.0          1.30       9.03
      3.41    86.21    .631E+05     123.2          1.37       8.53
      3.79    86.59    .767E+05     158.1          1.45       8.08
      4.17    86.97    .913E+05     197.8          1.52       7.69
      4.55    87.35    .107E+06     242.4          1.60       7.34
      4.93    87.73    .123E+06     292.0          1.67       7.04
      5.31    88.11    .141E+06     346.7          1.73       6.76
      5.68    88.48    .159E+06     406.7          1.80       6.52
      6.06    88.86    .178E+06     472.2          1.86       6.30
      6.44    89.24    .199E+06     543.2          1.92       6.09
      6.82    89.62    .220E+06     620.0          1.98       5.91
      7.20    90.00    .242E+06     702.7          2.04       5.74

                                    <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0264) 7727.84   111.28    9.25  59.71      3.26      1.34
     OUTFLOW: ID= 1 (0330) 7727.84   111.23    9.25  59.71      3.26      1.34


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| CALIB             |
| STANDHYD  (0181) |   Area    (ha)=  55.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.75         39.08
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     610.08         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         19.92
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)    18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.73          2.05          3.777 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82         34.12          47.53
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.98          0.42           0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0265) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0181):    55.83   3.777     5.25    47.53
       + ID2= 2 (0330):  7727.84 111.227     9.25    59.71
         ================================================
         ID = 3 (0265):  7783.67 111.429     9.25    59.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0183) |   Area    (ha)= 330.88
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     175.37        155.51
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1485.22         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         19.92
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=      18.03          6.81          24.838 (iii)
```



```
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82         34.12          57.81
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.98          0.42           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0266) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0183):   330.88  24.838     5.25    57.81
       + ID2= 2 (0265):  7783.67 111.429     9.25    59.62
         ================================================
         ID = 3 (0266):  8114.55 112.775     9.25    59.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0331) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <----- DATA FOR SECTION ( 431.0) ------>
               Distance      Elevation       Manning
                  0.00         90.00        0.1200
                  7.00         85.00        0.1200
                 10.00         83.00        0.1200
                 10.00         82.80    0.1200 /0.0600  Main Channel
                 19.00         82.80        0.0600      Main Channel
                 19.00         83.00    0.0600 /0.1200  Main Channel
                 20.00         84.00        0.1200
                 45.00         85.00        0.1200
                 85.00         90.00        0.1200

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.38    83.18    .218E+04       2.8          0.81      13.04
      0.76    83.56    .456E+04       8.9          1.24       8.50
      1.14    83.94    .716E+04      17.8          1.57       6.71
      1.52    84.32    .107E+05      29.3          1.72       6.11
      1.89    84.69    .167E+05      45.0          1.70       6.19
      2.27    85.07    .250E+05      66.2          1.67       6.30
      2.65    85.45    .347E+05      94.2          1.71       6.15
      3.03    85.83    .453E+05     127.7          1.78       5.91
      3.41    86.21    .567E+05     166.8          1.86       5.66
      3.79    86.59    .689E+05     211.6          1.94       5.43
      4.17    86.97    .820E+05     262.2          2.02       5.22
      4.55    87.35    .960E+05     318.6          2.10       5.02
      4.93    87.73    .111E+06     381.1          2.17       4.85
      5.31    88.11    .126E+06     449.7          2.25       4.69
      5.68    88.48    .143E+06     524.7          2.32       4.54
      6.06    88.86    .160E+06     606.1          2.39       4.41
      6.44    89.24    .179E+06     694.2          2.46       4.29
      6.82    89.62    .198E+06     789.1          2.52       4.18
```



```
      7.20    90.00    .218E+06     890.9          2.59       4.07

                                    <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                                                
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0266) 8114.55   112.78    9.25  59.55      2.86      1.75
     OUTFLOW: ID= 1 (0331) 8114.55   112.72    9.25  59.55      2.86      1.75


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| CALIB             |
| STANDHYD  (0180) |   Area    (ha)= 157.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      59.72         97.43
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=    1023.56         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         19.92
                 over (min)      15.00         30.00
     Storage Coeff.  (min)=      12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         30.00
     Unit Hyd. peak  (cms)=       0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.14          4.27          10.405 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      78.82         34.12          51.11
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.98          0.42           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0267) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0180):   157.15  10.405     5.25    51.11
       + ID2= 2 (0331):  8114.55 112.719     9.25    59.55
         ================================================
         ID = 3 (0267):  8271.70 113.336     9.25    59.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:  18 **
  ****************************
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-------------------
|    READ STORM    |    Filename: C:\Users\P006437C\AppD

|                  |              ata\Local\Temp\

|                  |
73400444-e18a-4654-b0cf-6b261e438f30\e59316c3
| Ptotal= 88.54 mm |    Comments: 100yr/12hr
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

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-------------------
| CALIB             |
| NASHYD    (0170) |   Area    (ha)=  30.06   Curve Number   (CN)= 86.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 5.00
-------------------   U.H. Tp(hrs)=   0.67

     Unit Hyd Qpeak  (cms)=   2.474

     PEAK FLOW       (cms)=   2.152 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  54.171
     TOTAL RAINFALL   (mm)=  88.540
     RUNOFF COEFFICIENT   =   0.612

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------
| CALIB             |
| STANDHYD  (0100) |   Area    (ha)= 100.32
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      38.12        62.20
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     817.80        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.31         4.82      9.128 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
```



```
     RUNOFF VOLUME    (mm)=      86.54        50.63        64.28
     TOTAL RAINFALL   (mm)=      88.54        88.54        88.54
     RUNOFF COEFFICIENT   =       0.98         0.57         0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
-------------------
| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  10.8200      0.0500
                         3.9300     0.0019   |  12.9600      0.1100
                         4.0000     0.0021   |  17.5400      0.1905
                         5.0000     0.0100   |  27.0100      0.4570
                        10.7300     0.0438   |  37.7400      0.8003

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0100)    100.320     9.128      5.25      64.28
     OUTFLOW: ID= 1 (0600)    100.320     9.200      5.25      64.36

               PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.80
               TIME SHIFT OF PEAK FLOW         (min)=  0.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.0381

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------
-
-------------------
| CALIB             |
| STANDHYD  (0101) |   Area    (ha)=  74.02
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      22.21        51.81
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     702.47        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.51         4.01        6.524 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      86.54        50.63        61.40
     TOTAL RAINFALL   (mm)=      88.54        88.54        88.54
     RUNOFF COEFFICIENT   =       0.98         0.57         0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
```



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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******      0.0010

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0101)     74.020     6.524      5.25      61.40
     OUTFLOW: ID= 1 (0601)     74.020     6.526      5.25      67.59

               PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.04
               TIME SHIFT OF PEAK FLOW         (min)=  0.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.0002

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
-------------------------------------------------------------------------------
-
-------------------
| ADD HYD   (0200) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0600):   100.32   9.200     5.25    64.36
       + ID2= 2 (0601):    74.02   6.526     5.25    67.59
         ==========================================
         ID = 3 (0200):   174.34  15.727     5.25    65.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0300) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <----- DATA FOR SECTION ( 400.0) ------>
              Distance       Elevation       Manning
                 0.00         214.00        0.0800
                19.00         214.00        0.0800
                28.00         213.00        0.0800
                34.00         212.00    0.0800 /0.0600  Main Channel
                35.00         211.50        0.0600      Main Channel
                37.00         212.00    0.0600 /0.0600  Main Channel
                43.00         213.00        0.0600
                54.00         214.00        0.0600
                74.00         214.50        0.0600
                80.00         215.00        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.12   211.62    .649E+02       0.0         0.29       80.17
      0.25   211.75    .260E+03       0.1         0.46       50.51
      0.37   211.88    .584E+03       0.3         0.60       38.54
      0.50   212.00    .104E+04       0.5         0.73       31.82
      0.63   212.13    .174E+04       1.1         0.91       25.48
      0.77   212.27    .274E+04       2.0         1.02       22.72
```


0.90	212.40	.403E+04	3.2	1.11	20.89
1.03	212.53	.562E+04	4.8	1.19	19.44
1.17	212.67	.750E+04	6.9	1.27	18.24
1.30	212.80	.968E+04	9.4	1.34	17.19
1.43	212.93	.122E+05	12.4	1.42	16.28
1.57	213.07	.150E+05	15.9	1.47	15.67
1.70	213.20	.182E+05	19.9	1.52	15.23
1.83	213.33	.220E+05	24.8	1.56	14.78
1.97	213.47	.262E+05	30.5	1.61	14.32
2.10	213.60	.310E+05	37.2	1.66	13.87
2.23	213.73	.362E+05	44.9	1.72	13.43
2.37	213.87	.419E+05	53.7	1.78	13.00
2.50	214.00	.481E+05	63.7	1.83	12.60

```
                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0200)  174.34   15.73    5.25  65.73      1.56      1.47
     OUTFLOW: ID= 1 (0300)  174.34   14.42    5.25  65.72      1.51      1.45

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| CALIB             |
| STANDHYD  (0103) |   Area    (ha)= 118.55
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      45.05        73.50
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     889.01        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        31.18
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.07         5.84       10.918 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      86.54        52.04        65.15
     TOTAL RAINFALL   (mm)=      88.54        88.54        88.54
     RUNOFF COEFFICIENT   =       0.98         0.59         0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0202) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0103):   118.55  10.918     5.25    65.15
       + ID2= 2 (0300):   174.34  14.418     5.25    65.72
```

ID = 3 (0202): 292.89 25.336 5.25 65.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0109) | Area (ha)= 49.01
ID= 1 DT=15.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	29.41	19.60
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	571.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	3.33	1.64	4.968 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	73.92
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0609)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	5.7500	10.0000
5.7120	0.8320	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	49.010	4.968	5.25	73.92
OUTFLOW: ID= 1 (0609)	49.010	4.318	5.25	73.92

PEAK FLOW REDUCTION [Qout/Qin](%)= 86.91
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.6582

ADD HYD (0203)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	292.89	25.336	5.25	65.49

+ ID2= 2 (0609): 49.01 4.318 5.25 73.92

ID = 3 (0203): 341.90 29.653 5.25 66.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0301)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (401.0) ------>

Distance	Elevation	Manning	
0.00	205.00	0.0800	
20.00	204.50	0.0800	
80.00	204.50	0.0800	
105.00	204.00	0.0800	
113.00	203.50	0.0800 /0.0600	Main Channel
124.00	203.50	0.0600	Main Channel
130.00	203.50	0.0600 /0.0800	Main Channel
195.00	204.00	0.0800	
250.00	205.00	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	203.58	.225E+04	0.4	0.22	93.84
0.16	203.66	.564E+04	1.4	0.32	65.10
0.24	203.74	.102E+05	3.2	0.39	53.26
0.32	203.82	.158E+05	5.7	0.45	46.34
0.39	203.89	.226E+05	9.1	0.50	41.62
0.47	203.97	.306E+05	13.4	0.55	38.10
0.55	204.05	.396E+05	18.9	0.60	34.96
0.63	204.13	.495E+05	25.6	0.65	32.25
0.71	204.21	.601E+05	33.3	0.69	30.06
0.79	204.29	.716E+05	42.3	0.74	28.26
0.87	204.37	.839E+05	52.3	0.78	26.74
0.95	204.45	.971E+05	63.6	0.82	25.44
1.03	204.53	.113E+06	73.3	0.81	25.69
1.11	204.61	.134E+06	89.2	0.84	24.96
1.18	204.68	.155E+06	107.2	0.87	24.10
1.26	204.76	.177E+06	127.1	0.90	23.22
1.34	204.84	.200E+06	149.0	0.93	22.37
1.42	204.92	.224E+06	172.9	0.97	21.56
1.50	205.00	.248E+06	198.7	1.00	20.80

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0203)	341.90	29.65	5.25	66.70	0.67	0.67
OUTFLOW: ID= 1 (0301)	341.90	23.65	5.50	66.69	0.61	0.63

CALIB
STANDHYD (0108) | Area (ha)= 121.56
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	64.43	57.13
Dep. Storage (mm)=	2.00	6.00

Average Slope (%)=	1.00	1.00
Length (m)=	900.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.08	0.06

		TOTALS
PEAK FLOW (cms)=	7.25	4.79	12.043 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	71.71
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0608)
IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	*******	0.0001

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	121.560	12.043	5.25	71.71
OUTFLOW: ID= 1 (0608)	121.560	12.043	5.25	71.71

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0204)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0301):	341.90	23.647	5.50	66.69
+ ID2= 2 (0608):	121.56	12.043	5.25	71.71
ID = 3 (0204):	463.46	33.986	5.25	68.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0302)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (402.0) ------>

Distance	Elevation	Manning

0.00	202.00	0.1200	
200.00	200.00	0.1200	
212.00	197.00	0.1200	
229.00	195.80	0.1200 /0.0600	Main Channel
229.01	195.60	0.0600	Main Channel
231.00	195.60	0.0600 /0.1200	Main Channel
231.01	195.80	0.1200	
250.00	197.00	0.1200	
260.00	200.00	0.1200	
455.00	203.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	195.94	.970E+03	0.6	0.60	28.09
0.67	196.27	.479E+04	2.8	0.60	28.31
1.01	196.61	.121E+05	8.0	0.68	25.01
1.35	196.95	.228E+05	17.3	0.77	21.99
1.68	197.28	.360E+05	32.8	0.92	18.33
2.02	197.62	.502E+05	53.1	1.07	15.75
2.36	197.96	.651E+05	77.7	1.21	13.97
2.69	198.29	.809E+05	106.6	1.34	12.66
3.03	198.63	.976E+05	139.6	1.45	11.65
3.37	198.97	.115E+06	177.0	1.56	10.84
3.71	199.31	.133E+06	218.6	1.66	10.18
4.04	199.64	.153E+06	264.5	1.76	9.62
4.38	199.98	.173E+06	314.8	1.85	9.14
4.72	200.32	.202E+06	280.8	1.41	11.96
5.05	200.65	.249E+06	310.4	1.26	13.39
5.39	200.99	.316E+06	378.3	1.21	13.93
5.73	201.33	.402E+06	480.1	1.21	13.96
6.06	201.66	.507E+06	616.9	1.24	13.70
6.40	202.00	.631E+06	791.4	1.27	13.28

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0204)	463.46	33.99	5.25	68.01	1.70	0.93
OUTFLOW: ID= 1 (0302)	463.46	30.85	5.50	68.01	1.64	0.90

CALIB
STANDHYD (0107) | Area (ha)= 98.53
ID= 1 DT=15.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	44.34	54.19
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	810.47	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	31.92
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	5.01	4.42	9.438 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	53.49	68.36

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     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.98         0.60           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (0111) |   Area    (ha)=  94.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      50.04        44.38
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     793.39        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       5.66         3.72       9.378 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99       71.71
     TOTAL RAINFALL   (mm)=      88.54        88.54       88.54
     RUNOFF COEFFICIENT   =       0.98         0.62        0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0205) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0107):    98.53   9.438     5.25    68.36
        + ID2= 2 (0111):    94.42   9.378     5.25    71.71
          ================================================
          ID = 3 (0205):   192.95  18.816     5.25    70.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0206) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
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          ID1= 1 (0205):   192.95  18.816     5.25    70.00
        + ID2= 2 (0302):   463.46  30.851     5.50    68.01
          ================================================
          ID = 3 (0206):   656.41  46.576     5.25    68.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0611) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |   (cms)    (ha.m.)
                           0.0000     0.0000   |   2.8300     8.7600
                           0.8400     0.1100   |  15.9200    12.4000
                           1.3200     0.4400   |  39.5200    16.3100
                           1.6700     1.1900   |  69.9800    20.4700
                           1.9600     2.3800   |  *******    24.9000
                           2.4300     5.4000   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0206)    656.410    46.576      5.25      68.59
     OUTFLOW: ID= 1 (0611)    656.410    31.797      6.00      68.59

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 68.27
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)= 15.0528

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| CALIB            |
| STANDHYD  (0110) |   Area    (ha)=  56.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.80        22.53
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     612.81        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.82         1.89       5.710 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99       73.92
     TOTAL RAINFALL   (mm)=      88.54        88.54       88.54
     RUNOFF COEFFICIENT   =       0.98         0.62        0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0610) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |   (cms)    (ha.m.)
                           0.0000     0.0000   |  *******     0.0001

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0110)     56.330     5.710      5.25      73.92
     OUTFLOW: ID= 1 (0610)     56.330     5.710      5.25      73.92

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD   (0207) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0610):    56.33   5.710     5.25    73.92
        + ID2= 2 (0611):   656.41  31.797     6.00    68.59
          ================================================
          ID = 3 (0207):   712.74  33.590     6.00    69.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0303) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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               <------ DATA FOR SECTION ( 403.0) ------>
               Distance      Elevation       Manning
                   0.00        188.10        0.1100
                  12.00        184.70    0.1100 /0.0700  Main Channel
                  15.00        184.40        0.0700      Main Channel
                  18.00        184.70    0.0700 /0.1100  Main Channel
                  30.00        188.10        0.1100

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.15   184.55    .166E+03       0.1         0.28       44.28
       0.30   184.70    .663E+03       0.4         0.44       27.89
       0.50   184.90    .165E+04       1.7         0.74       16.62
       0.70   185.10    .285E+04       3.6         0.94       13.03
       0.90   185.30    .425E+04       6.3         1.10       11.17
       1.10   185.50    .587E+04       9.8         1.23        9.99
       1.30   185.70    .769E+04      14.0         1.34        9.17
       1.50   185.90    .972E+04      18.9         1.44        8.55
       1.70   186.10    .120E+05      24.7         1.52        8.06
       1.90   186.30    .144E+05      31.3         1.60        7.66
       2.10   186.50    .171E+05      38.8         1.68        7.32
       2.30   186.70    .199E+05      47.2         1.75        7.03
       2.50   186.90    .230E+05      56.5         1.81        6.77
       2.70   187.10    .263E+05      66.8         1.88        6.55
       2.90   187.30    .297E+05      78.1         1.94        6.35
       3.10   187.50    .334E+05      90.4         1.99        6.16
       3.30   187.70    .373E+05     103.8         2.05        6.00
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       3.50   187.90    .415E+05     118.2          2.10       5.85
       3.70   188.10    .458E+05     133.7          2.15       5.70

                                  <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0207)  712.74    33.59    6.00  69.01      1.96      1.63
     OUTFLOW: ID= 1 (0303)  712.74    33.44    6.00  69.01      1.96      1.62


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| CALIB            |
| STANDHYD  (0116) |   Area    (ha)= 106.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      24.58        82.28
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     844.04        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.78         6.90       9.675 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99       62.25
     TOTAL RAINFALL   (mm)=      88.54        88.54       88.54
     RUNOFF COEFFICIENT   =       0.98         0.62        0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0616) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |   (cms)    (ha.m.)
                           0.0000     0.0000   |  *******     0.0001

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0116)    106.860     9.675      5.25      62.25
     OUTFLOW: ID= 1 (0616)    106.860     9.675      5.25      62.25

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD   (0208) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303):   712.74  33.444     6.00    69.01
       + ID2= 2 (0616):   106.86   9.675     5.25    62.25
         ================================================
         ID = 3 (0208):   819.60  36.829     6.00    68.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0304) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 404.0) ------>
              Distance      Elevation       Manning
                 0.00         181.00        0.1100
                15.00         178.30        0.1100
                29.00         177.80    0.1100 /0.0700  Main Channel
                31.50         177.20      0.0700        Main Channel
                35.00         177.70    0.0700 /0.1100  Main Channel
                44.00         178.10        0.1100
                50.00         178.10        0.1100
                52.00         178.30        0.1100
                63.00         179.70        0.1100

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.12   177.32    .813E+02       0.0        0.16       98.74
      0.25   177.45    .325E+03       0.1        0.25       62.20
      0.37   177.57    .732E+03       0.3        0.33       47.47
      0.50   177.70    .130E+04       0.6        0.40       39.18
      0.63   177.83    .223E+04       1.1        0.47       32.98
      0.77   177.97    .388E+04       2.0        0.49       31.66
      0.90   178.10    .637E+04       3.4        0.50       31.30
      1.03   178.23    .103E+05       5.4        0.49       32.02
      1.17   178.37    .149E+05       8.3        0.52       30.04
      1.30   178.50    .197E+05      11.9        0.56       27.63
      1.43   178.63    .247E+05      16.2        0.61       25.52
      1.57   178.77    .300E+05      21.1        0.65       23.75
      1.70   178.90    .355E+05      26.6        0.70       22.26
      1.83   179.03    .412E+05      32.7        0.74       21.00
      1.97   179.17    .471E+05      39.4        0.78       19.92
      2.10   179.30    .533E+05      46.8        0.82       18.98
      2.23   179.43    .597E+05      54.8        0.86       18.15
      2.37   179.57    .663E+05      63.4        0.89       17.43
      2.50   179.70    .731E+05      72.6        0.93       16.78

                                    <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0208) 819.60   36.83    6.00  68.13      1.91      0.76
     OUTFLOW: ID= 1 (0304) 819.60   35.40    6.25  68.13      1.89      0.75


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| CALIB             |
| STANDHYD  (0119) |   Area    (ha)=  52.33
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      15.70        36.63
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     590.65        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.78         3.07          4.845 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99         64.46
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.62          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0619) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******      0.0010

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0119)     52.330      4.845      5.25      64.46
     OUTFLOW: ID= 1 (0619)     52.330      4.845      5.25      64.46

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                    TIME SHIFT OF PEAK FLOW          (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| ADD HYD   (0209) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0304):   819.60  35.398     6.25    68.13
       + ID2= 2 (0619):    52.33   4.845     5.25    64.46
         ================================================
         ID = 3 (0209):   871.93  36.968     6.25    67.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0305) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
              <------ DATA FOR SECTION ( 405.0) ------>
              Distance      Elevation       Manning
                 0.00         175.00        0.1200
                10.00         172.40        0.1200
                37.00         171.90    0.1200 /0.0600  Main Channel
                38.50         171.40      0.0600        Main Channel
                40.50         171.40      0.0600        Main Channel
                42.00         171.90    0.0600 /0.1200  Main Channel
                69.00         172.40        0.1200
                75.00         175.00        0.1200

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
      0.17   171.57    .573E+03       0.1        0.28       82.03
      0.33   171.73    .138E+04       0.4        0.41       55.76
      0.50   171.90    .241E+04       0.9        0.51       44.71
      0.69   172.09    .653E+04       2.1        0.44       51.93
      0.89   172.29    .162E+05       4.5        0.38       59.58
      1.08   172.48    .310E+05       9.1        0.40       56.98
      1.28   172.68    .470E+05      15.9        0.47       49.23
      1.47   172.87    .634E+05      24.5        0.53       43.16
      1.66   173.06    .800E+05      34.6        0.59       38.57
      1.86   173.26    .970E+05      46.1        0.65       35.03
      2.05   173.45    .114E+06      59.1        0.71       32.23
      2.24   173.64    .132E+06      73.4        0.77       29.94
      2.44   173.84    .150E+06      89.0        0.82       28.05
      2.63   174.03    .168E+06     105.9        0.87       26.44
      2.83   174.23    .187E+06     124.0        0.91       25.07
      3.02   174.42    .205E+06     143.4        0.96       23.88
      3.21   174.61    .225E+06     164.0        1.00       22.83
      3.41   174.81    .244E+06     185.8        1.05       21.90
      3.60   175.00    .264E+06     208.7        1.09       21.08

                                    <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                        (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0209) 871.93   36.97    6.25  67.91      1.70      0.61
     OUTFLOW: ID= 1 (0305) 871.93   32.83    6.75  67.91      1.63      0.58


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| CALIB             |
| STANDHYD  (0121) |   Area    (ha)=  53.31
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      23.99        29.32
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     596.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
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                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.71         2.46          5.170 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99         69.19
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.62          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0621) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  *******      0.0010

                                  AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0121)     53.310      5.170      5.25      69.19
     OUTFLOW: ID= 1 (0621)     53.310      5.173      5.25      77.78

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.05
                    TIME SHIFT OF PEAK FLOW          (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0002

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD   (0210) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0305):   871.93  32.832     6.75    67.91
       + ID2= 2 (0621):    53.31   5.173     5.25    77.78
         ================================================
         ID = 3 (0210):   925.24  33.765     6.75    68.48

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0118) |   Area    (ha)=  57.78
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.62        27.16
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     620.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
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     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.46         2.28          5.739 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99         71.71
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.62          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0618) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******      0.0010

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0118)     57.780     5.739     5.25       71.71
     OUTFLOW: ID= 1 (0618)     57.780     5.739     5.25       71.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)= 114.26
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      60.56        53.70
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     872.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.82         4.50         11.319 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99         71.71
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.62          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   7.45
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.95         3.50
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     222.86        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.44         0.29          0.738 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99         71.71
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.62          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   2.40
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.27         1.13
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     126.49        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.09          0.238 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99         71.71
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.62          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0276) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):   114.26  11.319     5.25    71.71
       + ID2= 2 (****):     7.45   0.738     5.25    71.71
         ================================================
         ID = 3 (0276):   121.71  12.057     5.25    71.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0276) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0276):   121.71  12.057     5.25    71.71
       + ID2= 2 (****):     2.40   0.238     5.25    71.71
         ================================================
         ID = 1 (0276):   124.11  12.295     5.25    71.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0617) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  29.0800      0.5230
                          0.1200     0.1560   |  30.5000      0.5500
                          0.1800     0.3485   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0276)    124.110    12.295     5.25       71.71
     OUTFLOW: ID= 1 (0617)    124.110    12.694     5.25       71.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=103.24
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4420

     **** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
                    CHECK OUTFLOW/STORAGE TABLE  OR REDUCE DT.
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| ADD HYD   (0211) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0617):   124.11  12.694     5.25    71.71
       + ID2= 2 (0618):    57.78   5.739     5.25    71.71
         ================================================
         ID = 3 (0211):   181.89  18.433     5.25    71.71
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0115) |   Area    (ha)= 210.14
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     111.37        98.77
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1183.61        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      12.54         7.22         19.766 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99         71.71
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.62          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0615) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  *******      0.0010

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0115)    210.140    19.766     5.25       71.71
     OUTFLOW: ID= 1 (0615)    210.140    19.766     5.25       71.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=100.00
                  TIME SHIFT OF PEAK FLOW         (min)=  0.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0000

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| ADD HYD   (0213) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0211):   181.89  18.433     5.25    71.71
       + ID2= 2 (0615):   210.14  19.766     5.25    71.71
         ================================================
         ID = 3 (0213):   392.03  38.199     5.25    71.71
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0214)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0210):	925.24	33.765	6.75	68.48
	+ ID2= 2 (0213):	392.03	38.199	5.25	71.71
	ID = 3 (0214):	1317.27	54.960	5.25	69.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 17.78
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.42	8.36
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	344.29	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.66
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.07 0.70 1.766 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	86.54 54.99 71.71
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.98 0.62 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 49.31
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.13	23.18
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	573.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.66

over (min)	15.00	30.00	
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	15.00	
Unit Hyd. peak (cms)=	0.10	0.06	

		TOTALS
PEAK FLOW	(cms)=	2.96 1.94 4.897 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	86.54 54.99 71.71
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.98 0.62 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 2.27
ID= 1 DT=15.0 min | Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.20	1.07
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	123.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.66
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.14 0.09 0.225 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	86.54 54.99 71.71
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.98 0.62 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0215)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0214):	1317.27	54.960	5.25	69.44
	+ ID2= 2 (****):	17.78	1.766	5.25	71.71
	ID = 3 (0215):	1335.05	56.726	5.25	69.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0215)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0215):	1335.05	56.726	5.25	69.47
	+ ID2= 2 (****):	49.31	4.897	5.25	71.71
	ID = 1 (0215):	1384.36	61.623	5.25	69.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0215)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0215):	1384.36	61.623	5.25	69.55
	+ ID2= 2 (****):	2.27	0.225	5.25	71.71
	ID = 3 (0215):	1386.63	61.849	5.25	69.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0306) |
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (406.0) ------>

Distance	Elevation	Manning	
0.00	173.50	0.1200	
71.00	172.00	0.1200	
170.00	170.00	0.1200	
202.00	168.50	0.1200 /0.0600	Main Channel
202.00	168.60	0.1200 /0.0600	Main Channel
208.00	168.60	0.0600 /0.1200	Main Channel
208.00	168.80	0.0600 /0.1200	Main Channel
240.00	170.00	0.1200	
340.00	172.00	0.1200	
450.00	173.50	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	168.76	.306E+04	0.3	0.17	177.67
0.53	169.03	.110E+05	1.6	0.25	116.39
0.79	169.29	.249E+05	4.2	0.30	99.32
1.05	169.55	.446E+05	8.4	0.34	88.49
1.32	169.82	.703E+05	14.6	0.37	80.40
1.58	170.08	.102E+06	22.5	0.39	75.76
1.84	170.34	.145E+06	32.5	0.40	74.29
2.11	170.61	.200E+06	46.4	0.41	71.63
2.37	170.87	.267E+06	64.9	0.43	68.52
2.63	171.13	.346E+06	88.3	0.45	65.33
2.89	171.39	.438E+06	117.2	0.48	62.24
3.16	171.66	.541E+06	152.1	0.50	59.35
3.42	171.92	.658E+06	193.4	0.52	56.66
3.68	172.18	.787E+06	240.2	0.54	54.58
3.95	172.45	.930E+06	294.3	0.56	52.69

4.21	172.71	.109E+07	356.9	0.58	50.85
4.47	172.97	.126E+07	428.6	0.60	49.10
4.74	173.24	.145E+07	509.8	0.63	47.44
5.00	173.50	.165E+07	601.0	0.65	45.87

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0215)	1386.63	61.85	5.25	69.55	2.33	0.43
OUTFLOW: ID= 1 (0306)	1386.63	40.14	7.00	69.55	1.99	0.41

CALIB
STANDHYD (0131) | Area (ha)= 123.35
ID= 1 DT=15.0 min | Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.37	94.98
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	906.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.92
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	3.19 7.75 10.949 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	86.54 53.49 61.09
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.98 0.60 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0216)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0131):	123.35	10.949	5.25	61.09
	+ ID2= 2 (0306):	1386.63	40.143	7.00	69.55
	ID = 3 (0216):	1509.98	43.512	5.25	68.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (9500) |

IN= 2---> OUT= 1
DT= 15.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	7.2600	12.6630
1.7300	1.5060	20.9800	24.7470
4.8900	2.4510	35.0000	38.4350
6.9200	9.8410	80.0000	39.9350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0216)	1509.980	43.512	5.25	68.86
OUTFLOW: ID= 1 (9500)	1509.980	29.475	8.75	68.85

PEAK FLOW REDUCTION [Qout/Qin](%)= 67.74
TIME SHIFT OF PEAK FLOW (min)=210.00
MAXIMUM STORAGE USED (ha.m.)= 33.0771

ROUTE CHN (0307)
IN= 2---> OUT= 1

Routing time step (min)'= 15.00

<------ DATA FOR SECTION (407.0) ------>

Distance	Elevation	Manning	
0.00	175.00	0.1000	
0.01	168.00	0.1000	
28.00	168.00	0.1000	
65.00	164.30	0.1000 /0.0600	Main Channel
65.01	164.10	0.0600	Main Channel
71.00	164.10	0.0600 /0.1000	Main Channel
71.01	164.30	0.1000	
83.00	169.00	0.1000	
138.00	169.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	164.36	.147E+04	0.6	0.41	37.70
0.52	164.62	.348E+04	2.2	0.58	26.76
0.77	164.87	.627E+04	4.6	0.68	22.75
1.03	165.13	.984E+04	8.0	0.76	20.45
1.29	165.39	.142E+05	12.5	0.83	18.85
1.55	165.65	.193E+05	18.3	0.88	17.63
1.81	165.91	.252E+05	25.3	0.94	16.65
2.06	166.16	.319E+05	33.6	0.98	15.81
2.32	166.42	.394E+05	43.5	1.03	15.10
2.58	166.68	.476E+05	54.9	1.08	14.47
2.84	166.94	.567E+05	67.9	1.12	13.91
3.09	167.19	.665E+05	82.6	1.16	13.41
3.35	167.45	.771E+05	99.2	1.20	12.95
3.61	167.71	.884E+05	117.6	1.24	12.53
3.87	167.97	.101E+06	138.0	1.28	12.15
4.13	168.23	.119E+06	145.9	1.14	13.62
4.38	168.48	.139E+06	178.2	1.20	12.98
4.64	168.74	.159E+06	213.6	1.26	12.37
4.90	169.00	.178E+06	252.1	1.32	11.80

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (9500)	1509.98	29.47	8.75	68.85	1.93	0.96
OUTFLOW: ID= 1 (0307)	1509.98	29.37	9.00	68.85	1.93	0.96

CALIB
STANDHYD (0130)
ID= 1 DT=15.0 min

Area (ha)= 42.30
Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.07	26.23
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	531.04	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	31.92
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06

		TOTALS
PEAK FLOW (cms)=	1.82	2.14	3.959 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	53.49	66.05
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.60	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0217)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0130):	42.30	3.959	5.25	66.05
+ ID2= 2 (0307):	1509.98	29.373	9.00	68.85
ID = 3 (0217):	1552.28	29.573	9.00	68.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 240.54
Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	72.16	168.38
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	1266.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)

		TOTALS
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.08	0.04	
PEAK FLOW (cms)=	8.13	12.32	20.443 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	64.46
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 22.17
Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.65	15.52
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	384.45	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04

		TOTALS
PEAK FLOW (cms)=	0.75	1.14	1.884 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	64.46
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 4.13
Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.24	2.89
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	165.93	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66

over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04

		TOTALS
PEAK FLOW (cms)=	0.14	0.21	0.351 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	64.45
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0269)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	240.54	20.443	5.25	64.46
+ ID2= 2 (****):	22.17	1.884	5.25	64.46
ID = 3 (0269):	262.71	22.327	5.25	64.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0269)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0269):	262.71	22.327	5.25	64.46
+ ID2= 2 (****):	4.13	0.351	5.25	64.45
ID = 1 (0269):	266.84	22.678	5.25	64.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min

Area (ha)= 11.98
Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.59	8.39
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	282.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04

				TOTALS
PEAK FLOW	(cms)=	0.40	0.61	1.018 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	54.99	64.46
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.62	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 20.98
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.29	14.69
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	373.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.66
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

				TOTALS
PEAK FLOW	(cms)=	0.71	1.07	1.783 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	54.99	64.46
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.62	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (****)	Area (ha)= 0.47
ID= 1 DT=15.0 min	Total Imp(%)= 30.00 Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.14	0.33
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.66
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)

				TOTALS
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
PEAK FLOW	(cms)=	0.02	0.02	0.040 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	54.99	64.42
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.62	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0268)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):		20.98	1.783	5.25	64.46
+ ID2= 2 (****):		11.98	1.018	5.25	64.46
ID = 3 (0268):		32.96	2.801	5.25	64.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0268)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0268):		32.96	2.801	5.25	64.46
+ ID2= 2 (****):		0.47	0.040	5.25	64.42
ID = 1 (0268):		33.43	2.841	5.25	64.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0270)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0268):		33.43	2.841	5.25	64.45
+ ID2= 2 (0269):		266.84	22.678	5.25	64.46
ID = 3 (0270):		300.27	25.519	5.25	64.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0620)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)

0.0000 0.0000 | ******* 0.0010

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0270)	300.270	25.519	5.25	64.46
OUTFLOW: ID= 1 (0620)	300.270	25.519	5.25	64.46

PEAK FLOW REDUCTION [Qout/Qin](%)=100.00
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0000

ROUTE CHN (0501)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (601.0) ------>

Distance	Elevation	Manning	
0.00	172.00	0.1000	
29.33	172.00	0.1000	
43.69	171.00	0.1000	
60.63	170.00	0.1000 /0.0600	Main Channel
110.21	171.00	0.0600	Main Channel
119.74	172.00	0.1000	
133.28	172.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	170.11	.427E+03	0.0	0.13	145.32
0.21	170.21	.171E+04	0.3	0.21	91.55
0.32	170.32	.384E+04	0.9	0.28	69.86
0.42	170.42	.683E+04	2.0	0.33	57.67
0.53	170.53	.107E+05	3.6	0.39	49.70
0.63	170.63	.154E+05	5.8	0.44	44.01
0.74	170.74	.209E+05	8.8	0.49	39.71
0.84	170.84	.273E+05	12.5	0.53	36.33
0.95	170.95	.346E+05	17.2	0.58	33.59
1.05	171.05	.426E+05	23.3	0.63	30.46
1.16	171.16	.511E+05	31.0	0.70	27.41
1.26	171.26	.598E+05	39.7	0.77	25.10
1.37	171.37	.688E+05	49.3	0.83	23.27
1.47	171.47	.782E+05	59.8	0.89	21.79
1.58	171.58	.878E+05	71.2	0.94	20.56
1.68	171.68	.978E+05	83.5	0.99	19.52
1.79	171.79	.108E+06	96.7	1.04	18.62
1.89	171.89	.119E+06	110.8	1.08	17.85
2.00	172.00	.129E+06	125.7	1.13	17.16

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0620)	300.27	25.52	5.25	64.46	1.08	0.65
OUTFLOW: ID= 1 (0501)	300.27	20.53	5.50	64.45	1.00	0.61

CALIB	
STANDHYD (0133)	Area (ha)= 112.19
ID= 1 DT=15.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	50.49	61.70
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	864.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.92
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

				TOTALS
PEAK FLOW	(cms)=	5.71	5.04	10.747 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	53.49	68.36
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.60	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0218)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0133):		112.19	10.747	5.25	68.36
+ ID2= 2 (0501):		300.27	20.529	5.50	64.45
ID = 3 (0218):		412.46	29.997	5.25	65.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0502)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (602.0) ------>

Distance	Elevation	Manning	
23.46	169.00	0.1000	
72.48	168.00	0.1000	
96.12	167.00	0.1000	
110.97	165.00	0.1000 /0.0600	Main Channel
116.24	164.00	0.0600	Main Channel
118.36	164.00	0.0600	Main Channel
124.43	165.00	0.0600 /0.1000	Main Channel
141.85	167.00	0.1000	
162.34	168.00	0.1000	
224.13	169.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	164.25	.752E+03	0.3	0.33	42.64
0.50	164.50	.211E+04	1.2	0.49	29.06
0.75	164.75	.406E+04	2.9	0.61	23.08

1.00	165.00	.662E+04	5.7	0.73	19.52
1.27	165.27	.102E+05	10.7	0.90	15.79
1.53	165.53	.147E+05	17.4	1.01	14.06
1.80	165.80	.202E+05	25.8	1.09	13.03
2.07	166.07	.266E+05	36.1	1.15	12.31
2.33	166.33	.341E+05	48.3	1.21	11.75
2.60	166.60	.425E+05	62.7	1.25	11.29
2.87	166.87	.519E+05	79.3	1.30	10.90
3.13	167.13	.624E+05	97.0	1.32	10.73
3.40	167.40	.755E+05	117.0	1.32	10.75
3.67	167.67	.912E+05	141.0	1.31	10.77
3.93	167.93	.110E+06	169.4	1.31	10.78
4.20	168.20	.132E+06	197.1	1.27	11.14
4.47	168.47	.160E+06	232.0	1.23	11.53
4.73	168.73	.196E+06	276.3	1.20	11.82
5.00	169.00	.238E+06	330.6	1.18	12.00

<---- hydrograph ----> <-pipe / channel->

VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0218)		412.46	30.00	5.25	65.52	1.91	1.11
OUTFLOW: ID= 1 (0502)		412.46	27.46	5.50	65.52	1.84	1.10

CALIB			
STANDHYD (0135)	Area (ha)=	55.00	
ID= 1 DT=15.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.90	34.10
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	605.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.46
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.36	2.64 5.004 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	86.54	50.63 64.27
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.98	0.57 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0212)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	ID1= 1 (0135):	55.00	5.004	5.25	64.27
	+ ID2= 2 (0502):	412.46	27.465	5.50	65.52
	ID = 3 (0212):	467.46	31.483	5.25	65.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0219)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	ID1= 1 (0212):	467.46	31.483	5.25	65.37
	+ ID2= 2 (0217):	1552.28	29.573	9.00	68.78
	ID = 3 (0219):	2019.74	41.356	5.25	67.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0308)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (408.0) ------>

Distance	Elevation	Manning	
0.00	174.00	0.1000	
0.00	167.00	0.1000	
31.00	165.00	0.1000	
57.00	163.00	0.1000	
63.00	161.20	0.1000 /0.0600	Main Channel
63.00	161.00	0.0600	Main Channel
67.00	161.00	0.0600 /0.1000	Main Channel
67.00	161.20	0.1000	
95.00	165.00	0.1000	
148.00	167.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	161.32	.221E+04	0.4	0.32	86.34
0.63	161.63	.584E+04	1.5	0.42	65.04
0.95	161.95	.112E+05	3.3	0.49	56.53
1.26	162.26	.184E+05	6.0	0.54	51.16
1.58	162.58	.273E+05	9.7	0.59	47.17
1.89	162.89	.380E+05	14.4	0.63	43.99
2.21	163.21	.509E+05	20.0	0.65	42.31
2.53	163.53	.670E+05	27.2	0.67	41.00
2.84	163.84	.864E+05	36.3	0.70	39.69
3.16	164.16	.109E+06	47.4	0.72	38.38
3.47	164.47	.135E+06	60.9	0.74	37.09
3.79	164.79	.165E+06	76.8	0.77	35.83
4.11	165.11	.198E+06	93.6	0.78	35.27
4.42	165.42	.237E+06	111.4	0.78	35.53
4.74	165.74	.284E+06	134.0	0.78	35.28
5.05	166.05	.337E+06	161.5	0.79	34.76
5.37	166.37	.397E+06	194.1	0.81	34.07
5.68	166.68	.464E+06	232.3	0.83	33.29
6.00	167.00	.538E+06	276.2	0.85	32.46

<---- hydrograph ----> <-pipe / channel->

VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0219)		2019.74	41.36	5.25	67.99	2.99	0.71
OUTFLOW: ID= 1 (0308)		2019.74	34.37	8.50	67.99	2.77	0.69

CALIB			
STANDHYD (0128)	Area (ha)=	59.80	
ID= 1 DT=15.0 min	Total Imp(%)=	30.00	Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.94	41.86
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	631.40	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.66
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	2.03	3.51 5.537 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	86.54	54.99 64.46
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.98	0.62 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0628)					
IN= 2---> OUT= 1	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
DT= 15.0 min	0.0000	0.0000	1.4900	1.2490	
	0.0700	0.4550	1.8500	1.4280	
	0.3100	0.6550	2.0300	1.6290	
	0.7400	0.8680	2.1300	1.8297	
	1.0800	1.0380	2.2500	2.0702	

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0128)		59.800	5.537	5.25	64.46
OUTFLOW: ID= 1 (0628)		59.800	2.130	5.75	64.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 38.48
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 1.8314

CALIB			
STANDHYD (0134)	Area (ha)=	105.90	
ID= 1 DT=15.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.24	65.66
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	840.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	29.74
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW	(cms)=	4.55	4.95 9.502 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25 5.25
RUNOFF VOLUME	(mm)=	86.54	49.26 63.43
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.98	0.56 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0298)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	ID1= 1 (0134):	105.90	9.502	5.25	63.43
	+ ID2= 2 (0628):	59.80	2.130	5.75	64.43
	ID = 3 (0298):	165.70	11.510	5.25	63.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0220)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	ID1= 1 (0298):	165.70	11.510	5.25	63.79
	+ ID2= 2 (0308):	2019.74	34.365	8.50	67.99
	ID = 3 (0220):	2185.44	38.440	6.25	67.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0136)	Area (ha)=	156.42	
ID= 1 DT=15.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.39	86.03
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1021.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.92
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	7.93	7.02	14.950 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	53.49	68.36
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.60	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0221)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0136):	156.42	14.950	5.25	68.36
+ ID2= 2 (0220):	2185.44	38.440	6.25	67.67
ID = 3 (0221):	2341.86	52.362	5.25	67.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min | Area (ha)= 19.42 Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.74	10.68
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	359.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	29.74
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.99	0.81	1.794 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	49.26	66.04
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.56	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min | Area (ha)= 0.73 Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.33	0.40
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	69.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	29.74
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.04	0.03	0.067 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	49.26	66.02

TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.56	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT=15.0 min | Area (ha)= 0.50 Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.28
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	57.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	29.74
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	0.03	0.02	0.046 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	49.26	66.02
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.56	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0222)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0105):	77.03	7.201	5.25	66.79
+ ID2= 2 (****):	0.50	0.046	5.25	66.02
ID = 3 (0222):	77.53	7.247	5.25	66.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

ID1= 3 (0222):	77.53	7.247	5.25	66.78
+ ID2= 2 (****):	19.42	1.794	5.25	66.04
ID = 1 (0222):	96.95	9.041	5.25	66.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0222)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0222):	96.95	9.041	5.25	66.63
+ ID2= 2 (****):	0.73	0.067	5.25	66.02
ID = 3 (0222):	97.68	9.108	5.25	66.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0309)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (409.0) ------>

Distance	Elevation	Manning		
0.00	195.00	0.1000		
11.00	194.00	0.1000		
20.00	192.00	0.1000		
27.00	191.00	0.1000		
46.00	190.00	0.1000 /0.0600	Main Channel	
50.00	189.30	0.0600	Main Channel	
69.00	190.00	0.0600 /0.1000	Main Channel	
74.00	191.00	0.1000		
84.00	194.00	0.1000		
90.00	195.00	0.1000		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	189.53	.206E+04	0.4	0.45	84.92
0.47	189.77	.825E+04	2.6	0.72	53.50
0.70	190.00	.186E+05	7.6	0.94	40.83
1.01	190.31	.379E+05	22.3	1.36	28.24
1.32	190.62	.625E+05	44.3	1.63	23.55
1.64	190.94	.926E+05	73.7	1.83	20.95
1.95	191.25	.127E+06	111.7	2.03	18.97
2.26	191.56	.164E+06	157.5	2.21	17.37
2.58	191.88	.203E+06	210.6	2.39	16.09
2.89	192.19	.245E+06	271.5	2.56	15.02
3.20	192.50	.288E+06	340.1	2.72	14.12
3.51	192.81	.333E+06	415.7	2.88	13.35
3.83	193.13	.380E+06	498.6	3.03	12.70
4.14	193.44	.428E+06	588.5	3.17	12.13
4.45	193.75	.479E+06	685.6	3.30	11.64
4.76	194.06	.531E+06	787.9	3.42	11.23
5.08	194.38	.586E+06	890.7	3.51	10.97
5.39	194.69	.645E+06	1002.4	3.58	10.73
5.70	195.00	.708E+06	1123.3	3.66	10.51

<---- hydrograph ----> <-pipe / channel->

AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX

VEL

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0222)	97.68	9.11	5.25	66.63	0.73	0.97
OUTFLOW: ID= 1 (0309)	97.68	6.80	5.25	66.63	0.66	0.90

CALIB			
STANDHYD (0112)	Area (ha)= 155.68		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	59.16	96.52
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1018.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.66
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	6.66	8.09	14.750 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	54.99	66.98
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.62	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0227)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0112):	155.68	14.750	5.25	66.98
	+ ID2= 2 (0309):	97.68	6.795	5.25	66.63
	ID = 3 (0227):	253.36	21.546	5.25	66.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0113)	Area (ha)= 172.23		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)= 38.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	65.45	106.78
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1071.54	40.00

Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		40.71	32.66		
over (min)		15.00	30.00		
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)		
Unit Hyd. Tpeak (min)=		15.00	15.00		
Unit Hyd. peak (cms)=		0.08	0.06		
				TOTALS	
PEAK FLOW	(cms)=	7.37	8.95	16.318 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME	(mm)=	86.54	54.99	66.98	
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54	
RUNOFF COEFFICIENT	=	0.98	0.62	0.76	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0228)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0113):	172.23	16.318	5.25	66.98
	+ ID2= 2 (0227):	253.36	21.546	5.25	66.84
	ID = 3 (0228):	425.59	37.864	5.25	66.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0310)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (410.0) ------>

Distance	Elevation	Manning	
0.00	185.00	0.1000	
41.00	184.00	0.1000	
85.00	183.00	0.1000	
90.00	182.00	0.1000 /0.0600	Main Channel
99.00	180.00	0.0600	Main Channel
106.00	181.00	0.0600	Main Channel
109.00	182.00	0.0600 /0.1000	Main Channel
117.00	183.00	0.1000	
142.00	184.00	0.1000	
211.00	185.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	180.25	.341E+03	0.1	0.37	42.84
0.50	180.50	.136E+04	0.8	0.59	26.99
0.75	180.75	.307E+04	2.5	0.77	20.59
1.00	181.00	.545E+04	5.3	0.93	17.00
1.25	181.25	.840E+04	9.9	1.12	14.12
1.50	181.50	.118E+05	16.0	1.28	12.31
1.75	181.75	.156E+05	23.6	1.43	11.03
2.00	182.00	.199E+05	32.9	1.57	10.07

2.27	182.27	.253E+05	47.7	1.79	8.83
2.55	182.55	.316E+05	65.0	1.95	8.09
2.82	182.82	.388E+05	85.1	2.08	7.59
3.09	183.09	.471E+05	107.4	2.16	7.31
3.36	183.36	.594E+05	133.7	2.13	7.41
3.64	183.64	.766E+05	166.2	2.06	7.68
3.91	183.91	.987E+05	206.0	1.98	7.99
4.18	184.18	.126E+06	252.1	1.89	8.35
4.45	184.45	.161E+06	309.2	1.82	8.70
4.73	184.73	.204E+06	379.5	1.76	8.97
5.00	185.00	.255E+06	464.5	1.73	9.15

<---- hydrograph ----> <-pipe / channel->

VEL

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0228)	425.59	37.86	5.25	66.90	2.09	1.64
OUTFLOW: ID= 1 (0310)	425.59	36.53	5.25	66.90	2.06	1.62

CALIB			
STANDHYD (0114)	Area (ha)= 165.04		
ID= 1 DT=15.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	87.47	77.57
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1048.94	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.92
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	9.85	6.33	16.182 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	53.49	71.01
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.60	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0614)				
IN= 2---> OUT= 1				
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	25.0000	0.2500
	0.3900	0.1050	40.0000	0.2600
	6.5900	0.2338	45.0000	0.2800

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)		165.040	16.182	5.25	71.01
OUTFLOW: ID= 1 (0614)		165.040	16.921	5.25	71.01
	PEAK FLOW REDUCTION [Qout/Qin](%)=			104.56	
	TIME SHIFT OF PEAK FLOW (min)=			0.00	
	MAXIMUM STORAGE USED (ha.m.)=			0.2761	

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0229)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0310):	425.59	36.530	5.25	66.90
	+ ID2= 2 (0614):	165.04	16.921	5.25	71.01
	ID = 3 (0229):	590.63	53.451	5.25	68.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0311)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (411.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
85.00	179.00	0.1000	
96.00	178.00	0.1000	
127.00	177.00	0.1000	
160.00	176.20	0.1000	
186.00	176.00	0.1000 /0.0600	Main Channel
192.00	175.30	0.0600	Main Channel
196.00	176.00	0.0600 /0.1000	Main Channel
232.00	179.00	0.1000	
257.00	179.50	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	175.48	.211E+03	0.0	0.21	77.93
0.35	175.65	.844E+03	0.3	0.33	49.09
0.53	175.83	.190E+04	0.8	0.43	37.47
0.70	176.00	.338E+04	1.8	0.52	30.93
0.93	176.23	.931E+04	4.9	0.50	31.85
1.17	176.47	.198E+05	10.9	0.53	30.26
1.40	176.70	.330E+05	19.9	0.58	27.59
1.63	176.93	.490E+05	32.3	0.64	25.30
1.87	177.17	.677E+05	48.6	0.69	23.23
2.10	177.40	.887E+05	68.8	0.75	21.49
2.33	177.63	.112E+06	93.0	0.80	20.07
2.57	177.87	.137E+06	121.3	0.85	18.88
2.80	178.10	.165E+06	155.2	0.91	17.73
3.03	178.33	.194E+06	195.2	0.97	16.58
3.27	178.57	.224E+06	239.5	1.03	15.61
3.50	178.80	.256E+06	288.3	1.09	14.79
3.73	179.03	.289E+06	337.2	1.13	14.27
3.97	179.27	.326E+06	369.5	1.09	14.72
4.20	179.50	.371E+06	413.9	1.08	14.94

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                                     <---- hydrograph ---->   <-pipe /
channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0229)  590.63    53.45    5.25  68.05      1.92      0.70
     OUTFLOW: ID= 1 (0311)  590.63    44.16    5.50  68.05      1.80      0.68


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| CALIB              |
| STANDHYD  (****) |   Area    (ha)=  22.22
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.11        17.11
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     384.88        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.58         1.43          2.012 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99          62.25
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.98         0.62           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD  (****) |   Area    (ha)= 147.52
|ID= 1 DT=15.0 min |   Total Imp(%)=  23.00   Dir. Conn.(%)=  23.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.93       113.59
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     991.70        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                           *TOTALS*
     PEAK FLOW       (cms)=       3.84         9.52         13.356 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
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     RUNOFF VOLUME    (mm)=      86.54        54.99          62.25
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.98         0.62           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD  (****) |   Area    (ha)=   4.39
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.33         2.06
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     171.08        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.26         0.17          0.436 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99          71.71
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.98         0.62           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0272) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):    22.22   2.012     5.25    62.25
        + ID2= 2 (****):   147.52  13.356     5.25    62.25
          ==================================================
          ID = 3 (0272):   169.74  15.368     5.25    62.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0272) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
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--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0272):   169.74  15.368     5.25    62.25
        + ID2= 2 (****):     4.39   0.436     5.25    71.71
          ==================================================
          ID = 1 (0272):   174.13  15.804     5.25    62.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0623) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.5800     0.5400
                          0.2100     0.1580   |   0.8200     0.7657
                          0.3100     0.3380   |   0.9400     0.9136
                          0.5600     0.3765   |  21.0800     1.0000

                             AREA     QPEAK      TPEAK       R.V.
                             (ha)     (cms)      (hrs)       (mm)
     INFLOW : ID= 2 (0272)    174.130    15.804      5.25      62.49
     OUTFLOW: ID= 1 (0623)    174.130    15.548      5.00      62.49

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.38
                  TIME SHIFT OF PEAK FLOW         (min)=-15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.9340

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| ADD HYD   (0230) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0311):   590.63  44.159     5.50    68.05
        + ID2= 2 (0623):   174.13  15.548     5.00    62.49
          ==================================================
          ID = 3 (0230):   764.76  58.035     5.25    66.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0312) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 412.0) ------>
               Distance      Elevation       Manning
                   0.00        173.50        0.1000
                  35.00        172.00        0.1000
                  85.00        171.00        0.1000
                  94.00        168.50    0.1000 /0.0600  Main Channel
                  94.00        168.30    0.1000 /0.0600  Main Channel
                  97.00        168.30    0.0600 /0.1000  Main Channel
                  97.00        168.50    0.0600 /0.1000  Main Channel
                  99.00        169.00        0.1000
                 125.00        174.00        0.1000

         <--------------------- TRAVEL TIME TABLE --------------------->
          DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
           (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
          0.27   168.57    .150E+04       0.4          0.42      71.21
          0.55   168.85    .374E+04       1.2          0.57      52.20
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          0.82   169.12    .701E+04       2.6          0.66      45.23
          1.09   169.39    .114E+05       4.6          0.72      41.28
          1.37   169.67    .170E+05       7.4          0.77      38.38
          1.64   169.94    .238E+05      11.0          0.82      36.03
          1.92   170.22    .317E+05      15.5          0.87      34.04
          2.19   170.49    .408E+05      21.1          0.92      32.31
          2.46   170.76    .511E+05      27.7          0.96      30.79
          2.74   171.04    .626E+05      34.6          0.98      30.18
          3.01   171.31    .792E+05      41.3          0.93      31.95
          3.28   171.58    .103E+06      52.5          0.91      32.75
          3.56   171.86    .134E+06      67.6          0.89      33.15
          3.83   172.13    .173E+06      87.9          0.91      32.73
          4.11   172.41    .215E+06     113.5          0.94      31.60
          4.38   172.68    .261E+06     143.4          0.98      30.38
          4.65   172.95    .312E+06     177.9          1.02      29.19
          4.93   173.23    .365E+06     217.1          1.06      28.05
          5.20   173.50    .423E+06     261.3          1.10      27.00

                                     <---- hydrograph ---->   <-pipe /
channel->
                             AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                             (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0230)  764.76    58.04    5.25  66.78      3.39      0.90
     OUTFLOW: ID= 1 (0312)  764.76    45.13    5.75  66.78      3.11      0.92


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| CALIB              |
| STANDHYD  (0126) |   Area    (ha)= 105.36
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      40.04        65.32
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     838.09        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.46
                over (min)       15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                           *TOTALS*
     PEAK FLOW       (cms)=       4.53         5.06          9.586 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54        50.63          64.28
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.98         0.57           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0231) |
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1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0126):	105.36	9.586	5.25	64.28
+ ID2= 2 (0312):	764.76	45.125	5.75	66.78
ID = 3 (0231):	870.12	49.010	5.50	66.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 84.16
ID= 1 DT=15.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	50.50	33.66
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	749.04	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06
		TOTALS
PEAK FLOW (cms)=	5.71	2.82	8.531 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	73.92
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.10
ID= 1 DT=15.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.06	0.04
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	25.82	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06
		TOTALS
PEAK FLOW (cms)=	0.01	0.00	0.010 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	73.85

TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0273)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	84.16	8.531	5.25	73.92
+ ID2= 2 (****):	0.10	0.010	5.25	73.85
ID = 3 (0273):	84.26	8.541	5.25	73.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0313)
IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (413.0) ------>

Distance	Elevation	Manning	
0.00	180.00	0.1000	
17.49	180.00	0.1000	
117.61	179.00	0.1000 /0.0600	Main Channel
149.88	178.00	0.0600	Main Channel
158.35	178.00	0.0600	Main Channel
166.10	179.00	0.0600 /0.1000	Main Channel
307.85	180.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	178.10	.981E+03	0.2	0.17	89.26
0.20	178.20	.234E+04	0.6	0.26	60.26
0.30	178.30	.407E+04	1.4	0.32	48.14
0.40	178.40	.617E+04	2.5	0.38	41.07
0.50	178.50	.865E+04	4.0	0.43	36.27
0.60	178.60	.115E+05	5.9	0.48	32.74
0.70	178.70	.147E+05	8.2	0.52	30.00
0.80	178.80	.183E+05	11.0	0.56	27.79
0.90	178.90	.223E+05	14.3	0.60	25.96
1.00	179.00	.267E+05	18.2	0.64	24.42
1.10	179.10	.324E+05	23.8	0.69	22.70
1.21	179.21	.413E+05	31.0	0.70	22.19
1.32	179.32	.531E+05	39.8	0.70	22.24
1.43	179.43	.676E+05	50.2	0.70	22.44
1.54	179.54	.850E+05	62.6	0.69	22.63
1.66	179.66	.105E+06	77.1	0.69	22.74
1.77	179.77	.128E+06	93.8	0.69	22.76
1.88	179.88	.154E+06	113.0	0.69	22.69
1.99	179.99	.182E+06	134.9	0.69	22.54

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0273)	84.26	8.54	5.25	73.92	0.71	0.53
OUTFLOW: ID= 1 (0313)	84.26	7.34	5.25	73.92	0.66	0.50

CALIB
STANDHYD (0106) | Area (ha)= 23.78
ID= 1 DT=15.0 min | Total Imp(%)= 23.00 Dir. Conn.(%)= 23.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.47	18.31
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	398.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06
		TOTALS
PEAK FLOW (cms)=	0.62	1.53	2.153 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	62.25
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 43.89
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.68	27.21
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	540.93	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06
		TOTALS
PEAK FLOW (cms)=	1.89	2.28	4.166 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	66.98
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.19
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.07	0.12
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	35.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06
		TOTALS
PEAK FLOW (cms)=	0.01	0.01	0.018 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	66.94
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.62	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.12
ID= 1 DT=15.0 min | Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.05	0.07
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	28.28	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	15.00	30.00
Storage Coeff. (min)=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.10	0.06
		TOTALS
PEAK FLOW (cms)=	0.01	0.01	0.011 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	54.99	66.88

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 TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
 RUNOFF COEFFICIENT   =       0.98         0.62          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0271) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):    43.89   4.166     5.25    66.98
       + ID2= 2 (****):     0.19   0.018     5.25    66.94
         ================================================
         ID = 3 (0271):    44.08   4.184     5.25    66.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0271) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0271):    44.08   4.184     5.25    66.98
       + ID2= 2 (****):     0.12   0.011     5.25    66.88
         ================================================
         ID = 1 (0271):    44.20   4.196     5.25    66.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0235) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0106):    23.78   2.153     5.25    62.25
       + ID2= 2 (0271):    44.20   4.196     5.25    66.98
         ================================================
         ID = 3 (0235):    67.98   6.349     5.25    65.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0235) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0235):    67.98   6.349     5.25    65.32
       + ID2= 2 (0313):    84.26   7.342     5.25    73.92
         ================================================
         ID = 1 (0235):   152.24  13.691     5.25    70.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=  57.42
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      21.82         35.60
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     618.71         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         32.66
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.47          2.98          5.451 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54         54.99          66.98
     TOTAL RAINFALL   (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT   =       0.98          0.62           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.56
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.21          0.35
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      61.10         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         32.66
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02          0.03          0.053 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54         54.99          66.96
     TOTAL RAINFALL   (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT   =       0.98          0.62           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.02
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.39          0.63
     Dep. Storage     (mm)=       2.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      82.46         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      40.71         32.66
               over (min)        15.00         30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00         15.00
     Unit Hyd. peak  (cms)=       0.10          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04          0.05          0.097 (iii)
     TIME TO PEAK    (hrs)=       5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54         54.99          66.97
     TOTAL RAINFALL   (mm)=      88.54         88.54          88.54
     RUNOFF COEFFICIENT   =       0.98          0.62           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0236) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0235):   152.24  13.691     5.25    70.08
       + ID2= 2 (****):     1.02   0.097     5.25    66.97
         ================================================
         ID = 3 (0236):   153.26  13.788     5.25    70.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0236) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0236):   153.26  13.788     5.25    70.06
       + ID2= 2 (****):    57.42   5.451     5.25    66.98
         ================================================
         ID = 1 (0236):   210.68  19.239     5.25    69.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0236) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0236):   210.68  19.239     5.25    69.22
       + ID2= 2 (****):     0.56   0.053     5.25    66.96
         ================================================
         ID = 3 (0236):   211.24  19.292     5.25    69.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0314) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
              <------ DATA FOR SECTION ( 414.0) ------>
              Distance      Elevation       Manning
                 0.00         173.00        0.1000
               107.79         172.00    0.1000 /0.0600  Main Channel
               112.20         171.00        0.0600      Main Channel
               119.59         171.00        0.0600      Main Channel
               125.21         172.00    0.0600 /0.1000  Main Channel
               137.91         173.00        0.1000
               156.48         173.00        0.1000
               191.39         172.00        0.1000
               197.94         172.00        0.1000
               204.07         173.00        0.1000

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)    (cu.m.)      (cms)       (m/s)       (min)
      0.10   171.10    .111E+04        0.2          0.29       81.52
      0.20   171.20    .236E+04        0.7          0.44       53.20
      0.30   171.30    .376E+04        1.5          0.56       41.84
      0.40   171.40    .529E+04        2.5          0.66       35.43
      0.50   171.50    .697E+04        3.7          0.75       31.22
      0.60   171.60    .878E+04        5.2          0.83       28.19
      0.70   171.70    .107E+05        6.9          0.91       25.88
      0.80   171.80    .128E+05        8.9          0.98       24.04
      0.90   171.90    .151E+05       11.2          1.04       22.53
      1.00   172.00    .175E+05       13.7          1.10       21.26
      1.11   172.11    .226E+05       17.7          1.10       21.32
      1.22   172.22    .306E+05       22.7          1.05       22.45
      1.33   172.33    .413E+05       29.0          0.99       23.76
      1.44   172.44    .549E+05       36.9          0.94       24.84
      1.56   172.56    .713E+05       46.5          0.92       25.58
      1.67   172.67    .905E+05       58.0          0.90       26.00
      1.78   172.78    .113E+06       71.7          0.90       26.14
      1.89   172.89    .137E+06       87.8          0.90       26.07
      2.00   173.00    .165E+06      103.2          0.88       26.63

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0236)  211.24    19.29     5.25  69.21      1.15      1.08
     OUTFLOW: ID= 1 (0314)  211.24    16.50     5.25  69.21      1.08      1.10

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| CALIB           |
| STANDHYD  (0127) |   Area    (ha)=  63.11
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      33.45        29.66
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     648.64        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.78         2.30       6.079 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      86.54        50.63       69.66
     TOTAL RAINFALL   (mm)=      88.54        88.54       88.54
     RUNOFF COEFFICIENT   =       0.98         0.57        0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0232) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0127):    63.11   6.079     5.25    69.66
       + ID2= 2 (0314):   211.24  16.498     5.25    69.21
         ================================================
         ID = 3 (0232):   274.35  22.578     5.25    69.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0234) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0231):   870.12  49.010     5.50    66.48
       + ID2= 2 (0232):   274.35  22.578     5.25    69.31
         ================================================
         ID = 3 (0234):  1144.47  70.686     5.25    67.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0315) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                  <------ DATA FOR SECTION ( 415.0) ------>
                  Distance      Elevation       Manning
                     0.00         164.00         0.1000
                    34.00         164.30         0.1000
                    37.00         163.10         0.1000
                    38.60         163.00    0.1000 /0.0800  Main Channel
                    40.00         163.00         0.0800      Main Channel
                    42.30         163.00    0.0800 /0.1000  Main Channel
                    43.90         163.10         0.1000
                    46.00         164.30         0.1000
                    80.00         164.30         0.1000
                   100.00         168.00         0.1000

        <---------------------- TRAVEL TIME TABLE ---------------------->
         DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
          (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
         0.05   163.05    .424E+03       0.0          0.09     338.86
         0.11   163.11    .101E+04       0.1          0.13     228.21
         0.16   163.16    .166E+04       0.2          0.17     174.49
         0.21   163.21    .234E+04       0.3          0.20     144.34
         0.26   163.26    .304E+04       0.4          0.24     124.91
         0.32   163.32    .376E+04       0.6          0.27     111.22
         0.37   163.37    .450E+04       0.7          0.29     100.98
         0.42   163.42    .526E+04       0.9          0.32      92.99
         0.47   163.47    .604E+04       1.2          0.34      86.55
         0.53   163.53    .685E+04       1.4          0.36      81.22
         0.58   163.58    .767E+04       1.7          0.39      76.73
         0.63   163.63    .852E+04       1.9          0.41      72.89
         0.68   163.68    .938E+04       2.2          0.43      69.55
         0.74   163.74    .103E+05       2.6          0.44      66.63
         0.79   163.79    .112E+05       2.9          0.46      64.03
         0.84   163.84    .121E+05       3.3          0.48      61.71
         0.89   163.89    .131E+05       3.6          0.50      59.62
         0.95   163.95    .140E+05       4.0          0.51      57.73
         1.00   164.00    .150E+05       4.5          0.53      56.00

     **** WARNING:  TRAVEL TIME TABLE EXCEEDED
                                          <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0234) 1144.47    70.69     5.25   67.16      0.96      0.52
     OUTFLOW: ID= 1 (0315) 1144.47    42.77     6.50   67.15      1.00      0.53

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| CALIB           |
| STANDHYD  (0129) |   Area    (ha)= 146.96
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      66.13        80.83
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     989.81        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                        *TOTALS*
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     PEAK FLOW       (cms)=       7.45         6.26      13.706 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      86.54        50.63       66.79
     TOTAL RAINFALL   (mm)=      88.54        88.54       88.54
     RUNOFF COEFFICIENT   =       0.98         0.57        0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0237) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0129):   146.96  13.706     5.25    66.79
       + ID2= 2 (0315):  1144.47  42.771     6.50    67.15
         ================================================
         ID = 3 (0237):  1291.43  45.964     6.25    67.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
| STANDHYD  (0138) |   Area    (ha)= 184.05
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      69.94       114.11
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1107.70        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.88         7.63      15.503 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      86.54        50.63       64.28
     TOTAL RAINFALL   (mm)=      88.54        88.54       88.54
     RUNOFF COEFFICIENT   =       0.98         0.57        0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0238) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0138):   184.05  15.503     5.25    64.28
       + ID2= 2 (0237):  1291.43  45.964     6.25    67.11
         ================================================
         ID = 3 (0238):  1475.48  52.759     5.25    66.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
| STANDHYD  (0139) |   Area    (ha)=  21.16
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      11.21         9.95
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     375.59        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        31.92
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.27         0.81       2.080 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25        5.25
     RUNOFF VOLUME    (mm)=      86.54        53.49       71.01
     TOTAL RAINFALL   (mm)=      88.54        88.54       88.54
     RUNOFF COEFFICIENT   =       0.98         0.60        0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0239) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0139):    21.16   2.080     5.25    71.01
       + ID2= 2 (0238):  1475.48  52.759     5.25    66.76
         ================================================
         ID = 3 (0239):  1496.64  54.839     5.25    66.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0233) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0221):  2341.86  52.362     5.25    67.72
```

+ ID2= 2 (0239):	1496.64	54.839	5.25	66.82
ID = 3 (0233):	3838.50	107.201	5.25	67.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0316) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (416.0) ------>

Distance	Elevation	Manning	
0.00	165.00	0.1200	
10.00	160.00	0.1200	
14.00	158.00	0.1200 /0.0600	Main Channel
15.00	157.20	0.0600	Main Channel
18.00	157.20	0.0600	Main Channel
24.00	158.00	0.0600 /0.1200	Main Channel
28.00	159.00	0.1200	
130.00	161.00	0.1200	
250.00	163.00	0.1200	
310.00	164.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	157.47	.146E+04	0.3	0.26	84.50
0.53	157.73	.373E+04	1.1	0.38	57.82
0.80	158.00	.681E+04	2.5	0.47	46.30
1.17	158.37	.123E+05	6.1	0.65	33.48
1.55	158.75	.188E+05	11.2	0.78	28.11
1.92	159.12	.270E+05	17.5	0.85	25.76
2.30	159.50	.430E+05	26.1	0.80	27.45
2.67	159.87	.688E+05	38.4	0.73	29.84
3.05	160.25	.104E+06	55.4	0.70	31.39
3.42	160.62	.150E+06	77.9	0.68	32.01
3.80	161.00	.205E+06	106.7	0.68	31.95
4.17	161.37	.270E+06	142.0	0.69	31.72
4.55	161.75	.347E+06	185.6	0.70	31.20
4.92	162.12	.436E+06	238.2	0.72	30.49
5.30	162.50	.536E+06	300.9	0.74	29.68
5.67	162.87	.647E+06	374.2	0.76	28.82
6.05	163.25	.770E+06	458.9	0.78	27.96
6.42	163.62	.904E+06	555.8	0.81	27.11
6.80	164.00	.105E+07	665.5	0.83	26.29

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0233)	3838.50	107.20	5.25	67.37	3.80	0.68
OUTFLOW: ID= 1 (0316)	3838.50	90.93	6.50	67.37	3.58	0.68

CALIB | STANDHYD (0137) | ID= 1 DT=15.0 min | Area (ha)= 151.99 | Total Imp(%)= 45.00 | Dir. Conn.(%)= 45.00

Surface Area	(ha)=	IMPERVIOUS 68.40	PERVIOUS (i) 83.59

Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1006.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	32.66
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06
			TOTALS
PEAK FLOW (cms)	=	7.70	7.01 14.707 (iii)
TIME TO PEAK (hrs)	=	5.25	5.25 5.25
RUNOFF VOLUME (mm)	=	86.54	54.99 69.19
TOTAL RAINFALL (mm)	=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.98	0.62 0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0240) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	151.99	14.707	5.25	69.19
+ ID2= 2 (0316):	3838.50	90.926	6.50	67.37
ID = 3 (0240):	3990.49	94.611	6.25	67.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0317) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (417.0) ------>

Distance	Elevation	Manning	
0.00	165.50	0.1200	
13.00	165.00	0.1200	
21.00	160.00	0.1200	
31.00	155.50	0.1200 /0.0600	Main Channel
31.01	155.30	0.0600	Main Channel
39.00	155.30	0.0600 /0.1200	Main Channel
39.01	155.50	0.1200	
135.00	157.00	0.1200	
167.00	160.00	0.1200	
200.00	163.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	155.71	.363E+04	1.4	0.31	42.78
0.81	156.11	.147E+05	6.2	0.33	39.56
1.22	156.52	.344E+05	16.2	0.37	35.35
1.62	156.92	.625E+05	32.9	0.41	31.66
2.03	157.33	.969E+05	60.1	0.49	26.90

2.43	157.73	.133E+06	95.4	0.56	23.27
2.84	158.14	.171E+06	137.8	0.63	20.69
3.24	158.54	.211E+06	187.1	0.70	18.76
3.65	158.95	.252E+06	243.1	0.76	17.26
4.05	159.35	.295E+06	305.8	0.81	16.06
4.46	159.76	.339E+06	375.1	0.87	15.07
4.86	160.16	.385E+06	451.1	0.92	14.24
5.27	160.57	.433E+06	533.7	0.96	13.53
5.67	160.97	.483E+06	622.9	1.01	12.91
6.08	161.38	.534E+06	718.9	1.05	12.37
6.48	161.78	.586E+06	821.6	1.10	11.89
6.89	162.19	.640E+06	931.2	1.14	11.46
7.29	162.59	.696E+06	1047.7	1.18	11.08
7.70	163.00	.754E+06	1171.2	1.22	10.73

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0240)	3990.49	94.61	6.25	67.44	2.42	0.56
OUTFLOW: ID= 1 (0317)	3990.49	92.67	6.75	67.44	2.40	0.55

CALIB | STANDHYD (0140) | ID= 1 DT=15.0 min | Area (ha)= 106.10 | Total Imp(%)= 60.00 | Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	63.66	42.44
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	841.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	30.46
over (min)		15.00	30.00
Storage Coeff. (min)	=	6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.10	0.06
			TOTALS
PEAK FLOW (cms)	=	7.20	3.29 10.485 (iii)
TIME TO PEAK (hrs)	=	5.25	5.25 5.25
RUNOFF VOLUME (mm)	=	86.54	50.63 72.18
TOTAL RAINFALL (mm)	=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.98	0.57 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0241) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0140):	106.10	10.485	5.25	72.18

+ ID2= 2 (0317):	3990.49	92.668	6.75	67.44
ID = 3 (0241):	4096.59	94.680	6.50	67.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0141) | ID= 1 DT=15.0 min | Area (ha)= 125.58 | Total Imp(%)= 30.00 | Dir. Conn.(%)= 30.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.67	87.91
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	914.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	31.92
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	15.00
Unit Hyd. peak (cms)	=	0.08	0.06
			TOTALS
PEAK FLOW (cms)	=	4.24	7.18 11.419 (iii)
TIME TO PEAK (hrs)	=	5.25	5.25 5.25
RUNOFF VOLUME (mm)	=	86.54	53.49 63.41
TOTAL RAINFALL (mm)	=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.98	0.60 0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0223) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0141):	125.58	11.419	5.25	63.41
+ ID2= 2 (0241):	4096.59	94.680	6.50	67.56
ID = 3 (0223):	4222.17	97.727	6.25	67.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0318) | IN= 2---> OUT= 1 | Routing time step (min)'= 15.00

<------ DATA FOR SECTION (418.0) ------>

Distance	Elevation	Manning	
0.00	165.00	0.1200	
22.00	160.00	0.1200	
43.00	160.00	0.1200	
136.00	156.00	0.1200 /0.0600	Main Channel

145.00	152.60	0.0600		Main Channel
156.00	152.60	0.0600		Main Channel
170.00	158.00	0.0600 /0.1200		Main Channel
180.00	162.00	0.1200		
187.00	162.40	0.1200		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	153.09	.371E+04	3.6	0.60	17.17
0.97	153.57	.820E+04	12.0	0.91	11.43
1.46	154.06	.135E+05	24.6	1.14	9.10
1.94	154.54	.195E+05	41.8	1.34	7.77
2.43	155.03	.263E+05	63.6	1.51	6.88
2.91	155.51	.338E+05	90.5	1.67	6.23
3.40	156.00	.422E+05	122.6	1.81	5.73
3.93	156.53	.540E+05	168.9	1.95	5.33
4.47	157.07	.705E+05	224.8	1.99	5.22
5.00	157.60	.915E+05	292.3	1.99	5.22
5.53	158.13	.117E+06	375.1	2.00	5.20
6.07	158.67	.147E+06	479.8	2.03	5.12
6.60	159.20	.182E+06	600.9	2.06	5.05
7.13	159.73	.221E+06	739.5	2.08	4.99
7.67	160.27	.268E+06	885.7	2.06	5.05
8.20	160.80	.320E+06	1081.6	2.10	4.94
8.73	161.33	.374E+06	1298.4	2.17	4.80
9.27	161.87	.428E+06	1535.4	2.23	4.65
9.80	162.40	.485E+06	1788.6	2.30	4.52

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0223)	4222.17	97.73	6.25	67.44	3.02	1.70
OUTFLOW: ID= 1 (0318)	4222.17	97.72	6.50	67.44	3.02	1.70

CALIB STANDHYD (0142) ID= 1 DT=15.0 min	Area (ha)= 132.90 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	79.74	53.16
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	941.28	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.18
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW (cms)=		8.98	4.23	13.206 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		86.54	52.04	72.74
TOTAL RAINFALL (mm)=		88.54	88.54	88.54
RUNOFF COEFFICIENT =		0.98	0.59	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (9501) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0142):	132.90	13.206	5.25	72.74
+ ID2= 2 (0318):	4222.17	97.718	6.50	67.44
ID = 3 (9501):	4355.07	100.742	6.25	67.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0161) ID= 1 DT=15.0 min	Area (ha)= 259.82 Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	137.70	122.12
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1316.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.18
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW (cms)=		15.51	8.41	23.918 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		86.54	52.04	70.32
TOTAL RAINFALL (mm)=		88.54	88.54	88.54
RUNOFF COEFFICIENT =		0.98	0.59	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0224) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0161):	259.82	23.918	5.25	70.32
+ ID2= 2 (9501):	4355.07	100.742	6.25	67.60
ID = 3 (0224):	4614.89	117.595	5.25	67.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0319) IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (418.0) ------>

Distance	Elevation	Manning		
0.00	163.50	0.1000		
28.00	163.00	0.1000		
84.00	151.20	0.1000 /0.0600		Main Channel
84.00	151.00	0.1000 /0.0600		Main Channel
92.00	151.00	0.0600 /0.1000		Main Channel
92.00	151.20	0.0600 /0.1000		Main Channel
98.00	153.00	0.1000		
148.00	155.00	0.1000		
158.00	160.00	0.1000		
248.00	161.00	0.1000		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	151.53	.865E+04	2.1	0.45	69.80
1.05	152.05	.212E+05	7.1	0.63	49.68
1.58	152.58	.379E+05	15.2	0.75	41.66
2.11	153.11	.590E+05	26.1	0.82	37.68
2.63	153.63	.919E+05	41.2	0.84	37.20
3.16	154.16	.140E+06	63.2	0.84	36.97
3.68	154.68	.204E+06	93.5	0.86	36.33
4.21	155.21	.282E+06	135.3	0.90	34.71
4.74	155.74	.365E+06	189.9	0.97	32.07
5.26	156.26	.453E+06	253.9	1.05	29.71
5.79	156.79	.543E+06	326.9	1.12	27.69
6.32	157.32	.637E+06	409.0	1.20	25.97
6.84	157.84	.735E+06	499.9	1.27	24.50
7.37	158.37	.836E+06	599.6	1.34	23.24
7.89	158.89	.941E+06	708.2	1.40	22.14
8.42	159.42	.105E+07	825.6	1.47	21.17
8.95	159.95	.116E+07	951.9	1.53	20.31
9.47	160.47	.129E+07	945.7	1.36	22.80
10.00	161.00	.148E+07	1018.3	1.29	24.15

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0224)	4614.89	117.59	5.25	67.75	3.99	0.88
OUTFLOW: ID= 1 (0319)	4614.89	103.62	6.75	67.75	3.81	0.86

CALIB STANDHYD (0160) ID= 1 DT=15.0 min	Area (ha)= 38.29 Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.55	23.74
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	505.24	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		40.71	32.66	
over (min)		15.00	30.00	
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		15.00	15.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW (cms)=		1.65	1.99	3.635 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		86.54	54.99	66.98
TOTAL RAINFALL (mm)=		88.54	88.54	88.54
RUNOFF COEFFICIENT =		0.98	0.62	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0225) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0160):	38.29	3.635	5.25	66.98
+ ID2= 2 (0319):	4614.89	103.617	6.75	67.75
ID = 3 (0225):	4653.18	104.286	6.75	67.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0143) ID= 1 DT=15.0 min	Area (ha)= 64.11 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.47	25.64
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	653.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.18
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06
			TOTALS
PEAK FLOW (cms)=		4.35	2.04	6.389 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		86.54	52.04	72.74
TOTAL RAINFALL (mm)=		88.54	88.54	88.54
RUNOFF COEFFICIENT =		0.98	0.59	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0643)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	2.3600	1.3663	
	0.4900	0.9264	2.9600	1.5789	
	1.0100	1.1079	6.7000	2.1840	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0143)	64.110	6.389	5.25	72.74
OUTFLOW: ID= 1 (0643)	64.110	4.546	5.50	72.73

PEAK FLOW REDUCTION [Qout/Qin](%)= 71.16
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 1.9168

CALIB				
STANDHYD (0156)	Area (ha)= 51.93			
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.16	20.77
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	588.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.18
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.52	1.65	5.175 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	52.04	72.74
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.59	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0226)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0156):	51.93	5.175	5.25	72.74
+ ID2= 2 (0643):	64.11	4.546	5.50	72.73

ID = 3 (0226):	116.04	9.707	5.25	72.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0145)	Area (ha)= 27.64			
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.58	11.06
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	429.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	29.74
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	1.88	0.83	2.709 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	49.26	71.63
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.56	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0645)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	8.7100	0.8050	
	0.1300	0.7000	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0145)	27.640	2.709	5.25	71.63
OUTFLOW: ID= 1 (0645)	27.640	2.794	5.00	71.58

PEAK FLOW REDUCTION [Qout/Qin](%)=103.14
TIME SHIFT OF PEAK FLOW (min)=-15.00
MAXIMUM STORAGE USED (ha.m.)= 0.7241

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

CALIB				
STANDHYD (0157)	Area (ha)= 52.48			
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	31.49	20.99
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	591.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.46
over (min)		15.00	30.00
Storage Coeff. (min)=		6.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.10	0.06

		TOTALS
PEAK FLOW	(cms)=	3.56	1.63	5.186 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	50.63	72.18
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.57	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0657)					
IN= 2---> OUT= 1					
DT= 15.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	8.0000	1.7050	
	0.3100	1.7000	15.9900	1.7100	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0157)	52.480	5.186	5.25	72.18
OUTFLOW: ID= 1 (0657)	52.480	8.189	5.25	72.15

PEAK FLOW REDUCTION [Qout/Qin](%)=157.90
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 2.0920

**** WARNING : HYDROGRAPH PEAK WAS NOT REDUCED.
CHECK OUTFLOW/STORAGE TABLE OR REDUCE DT.

ADD HYD (0242)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0645):	27.64	2.794	5.00	71.58
+ ID2= 2 (0657):	52.48	8.189	5.25	72.15
ID = 3 (0242):	80.12	10.768	5.25	71.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0243)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0226):	116.04	9.707	5.25	72.74
+ ID2= 2 (0242):	80.12	10.768	5.25	71.95
ID = 3 (0243):	196.16	20.475	5.25	72.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0159)	Area (ha)= 122.82			
ID= 1 DT=15.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	73.69	49.13
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	904.88	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.66
over (min)		15.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		15.00	15.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	8.30	4.12	12.415 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	54.99	73.92
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.62	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0248)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0159):	122.82	12.415	5.25	73.92
+ ID2= 2 (0243):	196.16	20.475	5.25	72.42
ID = 3 (0248):	318.98	32.890	5.25	73.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0251)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

```
          ID1= 1 (0225):  4653.18 104.286     6.75    67.75
        + ID2= 2 (0248):   318.98  32.890     5.25    73.00
          ================================================
          ID = 3 (0251):  4972.16 113.962     6.25    68.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0320) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 420.0) ------>
              Distance      Elevation       Manning
                 0.00        154.00        0.1000
                 9.00        149.00        0.1000
                11.00        148.00    0.1000 /0.0600  Main Channel
                12.00        146.80        0.0600      Main Channel
                19.00        146.80        0.0600      Main Channel
                20.00        147.00    0.0600 /0.1000  Main Channel
                22.00        148.00        0.1000
               142.00        150.00        0.1000
               144.00        152.00        0.1000
               161.00        155.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   147.00    .195E+04       0.4         0.24       89.36
       0.57   147.37    .608E+04       2.2         0.47       45.34
       0.94   147.74    .107E+05       5.3         0.63       33.88
       1.31   148.11    .162E+05       9.3         0.74       29.19
       1.67   148.47    .300E+05      15.7         0.68       31.77
       2.04   148.84    .546E+05      26.3         0.62       34.57
       2.41   149.21    .900E+05      42.5         0.61       35.34
       2.78   149.58    .136E+06      65.4         0.62       34.74
       3.15   149.95    .193E+06      96.2         0.64       33.50
       3.52   150.32    .257E+06     141.4         0.71       30.34
       3.88   150.68    .322E+06     195.9         0.78       27.41
       4.25   151.05    .387E+06     258.0         0.86       25.02
       4.62   151.42    .453E+06     327.4         0.93       23.05
       4.99   151.79    .519E+06     403.8         1.00       21.42
       5.36   152.16    .586E+06     485.6         1.07       20.11
       5.73   152.53    .654E+06     572.0         1.13       19.05
       6.09   152.89    .723E+06     664.7         1.19       18.12
       6.46   153.26    .793E+06     763.7         1.24       17.32
       6.83   153.63    .865E+06     868.7         1.29       16.60

                                    <---- hydrograph ---->   <-pipe /
channel->
                            AREA    QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL                                                                      
                            (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0251) 4972.16   113.96     6.25   68.08      3.29      0.67
     OUTFLOW: ID= 1 (0320) 4972.16   108.76     7.25   68.08      3.24      0.66


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| CALIB            |
| STANDHYD  (0162) |   Area    (ha)= 117.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
```



```
     Surface Area     (ha)=      53.02        64.81
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     886.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.08         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.97         5.02        10.989 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      86.54        50.63        66.79
     TOTAL RAINFALL   (mm)=      88.54        88.54        88.54
     RUNOFF COEFFICIENT   =       0.98         0.57         0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0254) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0162):   117.83  10.989     5.25    66.79
        + ID2= 2 (0320):  4972.16 108.758     7.25    68.08
          ================================================
          ID = 3 (0254):  5089.99 110.629     7.25    68.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0321) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 421.0) ------>
              Distance      Elevation       Manning
                 0.00        154.00        0.1000
                26.00        150.00        0.1000
               128.00        148.50        0.1000
               170.00        148.00        0.1000
               175.00        147.00    0.1000 /0.0600  Main Channel
               176.00        146.60        0.0600      Main Channel
               182.00        146.60        0.0600      Main Channel
               185.00        147.00    0.0600 /0.1000  Main Channel
               187.00        148.00        0.1000
               227.00        154.00        0.1000

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.20   146.80    .232E+04       0.4         0.28       96.99
       0.40   147.00    .530E+04       1.4         0.42       65.03
       0.81   147.41    .131E+05       5.5         0.69       39.69
       1.22   147.82    .229E+05      12.0         0.87       31.65
```



```
       1.64   148.24    .384E+05      20.7         0.89       30.89
       2.05   148.65    .770E+05      36.3         0.78       35.32
       2.46   149.06    .137E+06      62.2         0.75       36.79
       2.87   149.47    .219E+06     100.7         0.76       36.20
       3.28   149.88    .321E+06     154.1         0.79       34.73
       3.69   150.29    .440E+06     231.8         0.87       31.64
       4.11   150.71    .563E+06     328.9         0.97       28.55
       4.52   151.12    .690E+06     441.6         1.06       26.05
       4.93   151.53    .821E+06     569.3         1.15       24.03
       5.34   151.94    .955E+06     711.7         1.23       22.37
       5.75   152.35    .109E+07     868.5         1.31       20.98
       6.16   152.76    .124E+07    1039.6         1.39       19.80
       6.58   153.18    .138E+07    1224.8         1.47       18.79
       6.99   153.59    .153E+07    1424.0         1.54       17.91
       7.40   154.00    .168E+07    1637.2         1.61       17.13

                                    <---- hydrograph ---->   <-pipe /
channel->
                            AREA    QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL                                                                      
                            (ha)    (cms)    (hrs)    (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0254) 5089.99   110.63     7.25   68.05      2.95      0.77
     OUTFLOW: ID= 1 (0321) 5089.99   107.29     7.75   68.05      2.92      0.77


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| CALIB            |
| STANDHYD  (0163) |   Area    (ha)= 103.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      39.24        64.03
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     829.74        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.44         4.96         9.396 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      86.54        50.63        64.28
     TOTAL RAINFALL   (mm)=      88.54        88.54        88.54
     RUNOFF COEFFICIENT   =       0.98         0.57         0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0255) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
```



```
          ID1= 1 (0163):   103.27   9.396     5.25    64.28
        + ID2= 2 (0321):  5089.99 107.292     7.75    68.05
          ================================================
          ID = 3 (0255):  5193.26 108.283     7.75    67.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0168) |   Area    (ha)= 182.67
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      82.20       100.47
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1103.54        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        29.74
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       9.26         6.52        15.773 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25         5.25
     RUNOFF VOLUME    (mm)=      86.54        49.26        66.04
     TOTAL RAINFALL   (mm)=      88.54        88.54        88.54
     RUNOFF COEFFICIENT   =       0.98         0.56         0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0256) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0168):   182.67  15.773     5.25    66.04
        + ID2= 2 (0255):  5193.26 108.283     7.75    67.98
          ================================================
          ID = 3 (0256):  5375.93 110.605     7.50    67.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0158) |   Area    (ha)=  28.59
|ID= 1 DT=15.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      17.15        11.44
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
```

```
     Length            (m)=     436.58        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.94         0.96          2.898 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99          73.92
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.98         0.62           0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0658) |
| IN= 2---> OUT= 1 |
| DT= 15.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.6450      0.5926
                          0.0440     0.1178   |  1.0280      0.7036
                          0.0470     0.2198   |  1.4580      0.8166
                          0.0490     0.3238   |  1.6970      0.8738
                          0.3350     0.4836   |  1.9480      1.1200

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0158)     28.590     2.898      5.25      73.92
     OUTFLOW: ID= 1 (0658)     28.590     1.752      5.50      73.90

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 60.46
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.9505

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| CALIB            |
| STANDHYD  (0164) |   Area    (ha)= 109.27
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      57.91        51.36
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     853.50        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       6.55         4.30          10.853 (iii)
```



```
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54        54.99          71.71
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.98         0.62           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0257) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0164):   109.27  10.853     5.25    71.71
        + ID2= 2 (0658):    28.59   1.752     5.50    73.90
          ================================================
          ID = 3 (0257):   137.86  12.574     5.25    72.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0244) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0256):  5375.93 110.605     7.50    67.91
        + ID2= 2 (0257):   137.86  12.574     5.25    72.17
          ================================================
          ID = 3 (0244):  5513.79 112.971     7.25    68.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0322) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 422.0) ------>
               Distance      Elevation       Manning
                  0.00         146.00        0.1000
                 10.00         144.00        0.1000
                 50.00         143.00        0.1000
                 61.00         142.50    0.1000 /0.0300  Main Channel
                 72.00         138.00        0.0300      Main Channel
                 72.00         137.80        0.0300      Main Channel
                 75.00         137.80        0.0300      Main Channel
                 75.00         138.00        0.0300      Main Channel
                 86.00         142.50    0.0300 /0.1000  Main Channel
                108.00         150.00        0.1000

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME    FLOW RATE     VELOCITY   TRAV.TIME
            (m)     (m)     (cu.m.)      (cms)         (m/s)      (min)
           0.43   138.23    .221E+04       1.2           0.83      31.62
           0.85   138.65    .568E+04       4.3           1.19      22.02
           1.28   139.08    .105E+05      10.0           1.49      17.62
```



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           1.71   139.51    .168E+05      18.7           1.75      14.96
           2.14   139.94    .245E+05      31.1           2.00      13.14
           2.56   140.36    .336E+05      47.5           2.22      11.79
           2.99   140.79    .441E+05      68.3           2.44      10.75
           3.42   141.22    .560E+05      94.1           2.65       9.91
           3.85   141.65    .692E+05     125.2           2.84       9.22
           4.27   142.07    .839E+05     161.9           3.03       8.64
           4.70   142.50    .100E+06     204.7           3.22       8.14
           5.14   142.94    .121E+06     267.2           3.47       7.55
           5.58   143.38    .151E+06     338.2           3.51       7.46
           6.01   143.81    .195E+06     419.9           3.39       7.73
           6.45   144.25    .249E+06     515.7           3.25       8.06
           6.89   144.69    .307E+06     625.1           3.20       8.19
           7.33   145.13    .367E+06     746.1           3.19       8.21
           7.76   145.56    .430E+06     878.6           3.21       8.16
           8.20   146.00    .495E+06    1022.1           3.25       8.07

                                    <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK    TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)    (hrs)   (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0244) 5513.79   112.97    7.25  68.02      3.68      2.76
     OUTFLOW: ID= 1 (0322) 5513.79   112.73    7.50  68.02      3.66      2.76


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| CALIB            |
| STANDHYD  (0167) |   Area    (ha)=  67.37
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      30.32        37.05
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     670.17        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        31.18
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.43         2.95          6.375 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54        52.04          67.56
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.98         0.59           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| ADD HYD   (0245) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```



```
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0167):    67.37   6.375     5.25    67.56
        + ID2= 2 (0322):  5513.79 112.731     7.50    68.02
          ================================================
          ID = 3 (0245):  5581.16 113.463     7.50    68.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (0169) |   Area    (ha)= 180.24
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      68.49       111.75
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1096.18        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        30.46
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       7.71         7.47         15.182 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      86.54        50.63          64.28
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.98         0.57           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| ADD HYD   (0246) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0169):   180.24  15.182     5.25    64.28
        + ID2= 2 (0245):  5581.16 113.463     7.50    68.01
          ================================================
          ID = 3 (0246):  5761.40 116.054     7.25    67.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-
--------------------
| ROUTE CHN (0323) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
--------------------
               <------ DATA FOR SECTION ( 423.0) ------>
               Distance      Elevation       Manning
                  0.00         145.00        0.1200
                 90.00         136.00        0.1200
```

95.00	134.90	0.1200 /0.0600	Main Channel	
95.00	134.70	0.1200 /0.0600	Main Channel	
105.00	134.70	0.0600 /0.1200	Main Channel	
105.00	134.90	0.0600 /0.1200	Main Channel	
108.00	136.00	0.1200		
255.00	136.00	0.1200		
308.00	145.00	0.1200		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	135.24	.548E+04	3.3	0.56	27.64
1.08	135.78	.128E+05	11.0	0.81	19.38
1.63	136.33	.675E+05	33.0	0.46	34.09
2.17	136.87	.156E+06	92.4	0.55	28.17
2.71	137.41	.249E+06	180.6	0.68	23.00
3.25	137.95	.347E+06	294.4	0.80	19.62
3.79	138.49	.448E+06	432.5	0.90	17.28
4.34	139.04	.554E+06	594.0	1.00	15.56
4.88	139.58	.665E+06	778.4	1.10	14.24
5.42	140.12	.780E+06	985.6	1.18	13.19
5.96	140.66	.899E+06	1215.3	1.27	12.33
6.51	141.21	.102E+07	1467.6	1.34	11.62
7.05	141.75	.115E+07	1742.4	1.42	11.01
7.59	142.29	.128E+07	2040.0	1.49	10.48
8.13	142.83	.142E+07	2360.4	1.56	10.03
8.67	143.37	.156E+07	2703.8	1.62	9.62
9.22	143.92	.171E+07	3070.5	1.69	9.26
9.76	144.46	.186E+07	3460.6	1.75	8.94
10.30	145.00	.201E+07	3874.4	1.81	8.65

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0246)	5761.40	116.05	7.25	67.89	2.31	0.58
OUTFLOW: ID= 1 (0323)	5761.40	114.49	7.75	67.89	2.30	0.58

ADD HYD (0247)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0170):	30.06	2.152	5.50	54.17
+ ID2= 2 (0323):	5761.40	114.493	7.75	67.89
ID = 3 (0247):	5791.46	114.894	7.75	67.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	Area (ha)= 260.96
STANDHYD (0166)	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00
ID= 1 DT=15.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	117.43	143.53
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1318.99	40.00

Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	40.71	31.18	
over (min)		15.00	30.00	
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)	=	15.00	30.00	
Unit Hyd. peak (cms)	=	0.08	0.04	

		TOTALS
PEAK FLOW (cms)	=	13.22 9.89 23.110 (iii)
TIME TO PEAK (hrs)	=	5.25 5.25 5.25
RUNOFF VOLUME (mm)	=	86.54 52.04 67.56
TOTAL RAINFALL (mm)	=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.98 0.59 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0249)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0166):	260.96	23.110	5.25	67.56
+ ID2= 2 (0247):	5791.46	114.894	7.75	67.82
ID = 3 (0249):	6052.42	117.998	7.50	67.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0324)	Routing time step (min)'= 15.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (424.0) ------>

Distance	Elevation	Manning	
0.00	138.00	0.1000	
34.00	130.00	0.1000	
35.00	129.70	0.1000 /0.0600	Main Channel
41.00	129.70	0.0600 /0.1000	Main Channel
42.00	130.00	0.1000	
44.00	131.00	0.1000	
98.00	132.00	0.1000	
122.00	133.00	0.1000	
150.00	140.00	0.1000	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.44	130.14	.561E+04	1.5	0.46	62.25
0.87	130.57	.133E+05	5.1	0.67	43.14
1.31	131.01	.231E+05	10.7	0.80	35.80
1.75	131.45	.438E+05	19.1	0.75	38.25
2.18	131.88	.837E+05	34.5	0.71	40.41
2.62	132.32	.140E+06	60.4	0.74	38.66
3.06	132.76	.206E+06	96.4	0.81	35.64
3.49	133.19	.281E+06	144.5	0.89	32.39
3.93	133.63	.359E+06	205.4	0.99	29.15

4.37	134.07	.440E+06	276.2	1.08	26.58
4.81	134.51	.524E+06	356.4	1.17	24.51
5.24	134.94	.611E+06	446.1	1.26	22.82
5.68	135.38	.700E+06	544.9	1.34	21.41
6.12	135.82	.792E+06	652.9	1.42	20.21
6.55	136.25	.887E+06	770.1	1.50	19.19
6.99	136.69	.984E+06	896.3	1.57	18.30
7.43	137.13	.108E+07	1031.7	1.64	17.51
7.86	137.56	.119E+07	1176.1	1.71	16.82
8.30	138.00	.129E+07	1329.8	1.77	16.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0249)	6052.42	118.00	7.50	67.81	3.25	0.84
OUTFLOW: ID= 1 (0324)	6052.42	116.17	8.25	67.81	3.23	0.84

CALIB	Area (ha)= 277.59
STANDHYD (0171)	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00
ID= 1 DT=15.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	105.48	172.11
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1360.37	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	40.71	31.18
over (min)		15.00	30.00
Storage Coeff. (min)	=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)	=	15.00	30.00
Unit Hyd. peak (cms)	=	0.08	0.04

		TOTALS
PEAK FLOW (cms)	=	11.88 11.86 23.733 (iii)
TIME TO PEAK (hrs)	=	5.25 5.25 5.25
RUNOFF VOLUME (mm)	=	86.54 52.04 65.15
TOTAL RAINFALL (mm)	=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.98 0.59 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0250)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0171):	277.59	23.733	5.25	65.15
+ ID2= 2 (0324):	6052.42	116.165	8.25	67.81
ID = 3 (0250):	6330.01	118.820	8.00	67.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0325)	Routing time step (min)'= 15.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (425.0) ------>

Distance	Elevation	Manning	
0.00	135.00	0.1200	
30.00	133.00	0.1200	
53.00	130.00	0.1200	
70.00	127.00	0.1200 /0.0800	Main Channel
74.00	126.30	0.0800	Main Channel
78.00	126.30	0.0800	Main Channel
82.00	127.00	0.0800 /0.1200	Main Channel
96.00	129.00	0.1200	
118.00	135.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	126.65	.244E+04	0.6	0.28	69.40
0.70	127.00	.651E+04	2.3	0.41	47.37
1.17	127.47	.147E+05	7.6	0.60	32.40
1.64	127.94	.262E+05	16.0	0.71	27.32
2.11	128.41	.409E+05	27.9	0.79	24.46
2.58	128.88	.589E+05	43.6	0.86	22.49
3.05	129.35	.799E+05	63.9	0.93	20.83
3.52	129.82	.103E+06	88.6	1.00	19.43
3.99	130.29	.129E+06	117.5	1.06	18.34
4.46	130.76	.158E+06	151.0	1.11	17.45
4.94	131.24	.190E+06	189.7	1.16	16.68
5.41	131.71	.224E+06	233.7	1.21	16.01
5.88	132.18	.262E+06	283.4	1.26	15.41
6.35	132.65	.303E+06	339.0	1.30	14.88
6.82	133.12	.346E+06	399.4	1.34	14.44
7.29	133.59	.394E+06	463.2	1.37	14.17
7.76	134.06	.446E+06	535.2	1.39	13.90
8.23	134.53	.504E+06	615.8	1.42	13.63
8.70	135.00	.566E+06	705.3	1.45	13.37

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0250)	6330.01	118.82	8.00	67.69	4.01	1.06
OUTFLOW: ID= 1 (0325)	6330.01	118.43	8.25	67.69	4.01	1.06

CALIB	Area (ha)= 182.59
STANDHYD (0172)	Total Imp(%)= 38.00 Dir. Conn.(%)= 38.00
ID= 1 DT=15.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	69.38	113.21
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	1103.30	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	30.46	
over (min)	15.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.08	0.04	
			TOTALS
PEAK FLOW (cms)=	7.81	7.57	15.380 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	50.63	64.28
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.57	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0252)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0172):		182.59	15.380	5.25	64.28
+ ID2= 2 (0325):		6330.01	118.431	8.25	67.69
ID = 3 (0252):		6512.60	120.150	8.25	67.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0173)	Area (ha)= 162.52		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)=	38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	61.76	100.76
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	1040.90	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	31.18
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	15.00
Unit Hyd. peak (cms)=	0.08	0.06

			TOTALS
PEAK FLOW (cms)=	6.95	8.01	14.967 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	52.04	65.15
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.59	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0253)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0173):		162.52	14.967	5.25	65.15
+ ID2= 2 (0252):		6512.60	120.150	8.25	67.60
ID = 3 (0253):		6675.12	121.627	8.25	67.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0326)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (426.0) ------>

Distance	Elevation	Manning	
0.00	137.00	0.1200	
45.00	135.00	0.1200	
53.00	130.00	0.1200	
137.00	125.20	0.1200 /0.0800	Main Channel
137.00	125.00	0.1200 /0.0800	Main Channel
143.00	125.00	0.0800 /0.1200	Main Channel
143.00	125.20	0.0800 /0.1200	Main Channel
195.00	126.00	0.1200	
260.00	130.00	0.1200	
325.00	135.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	125.53	.747E+04	2.3	0.30	54.64
1.05	126.05	.359E+05	14.2	0.39	42.17
1.58	126.58	.789E+05	42.5	0.53	30.93
2.11	127.11	.131E+06	86.4	0.65	25.33
2.63	127.63	.193E+06	146.7	0.75	21.91
3.16	128.16	.264E+06	224.7	0.84	19.56
3.68	128.68	.344E+06	321.8	0.93	17.80
4.21	129.21	.433E+06	439.3	1.00	16.43
4.74	129.74	.532E+06	578.4	1.08	15.32
5.26	130.26	.639E+06	748.6	1.16	14.22
5.79	130.79	.751E+06	949.8	1.25	13.17
6.32	131.32	.867E+06	1173.6	1.34	12.31
6.84	131.84	.987E+06	1419.9	1.42	11.58
7.37	132.37	.111E+07	1688.7	1.51	10.96
7.89	132.89	.124E+07	1980.1	1.58	10.42
8.42	133.42	.137E+07	2294.3	1.66	9.95
8.95	133.95	.151E+07	2631.2	1.73	9.54
9.47	134.47	.165E+07	2991.2	1.80	9.17
10.00	135.00	.179E+07	3374.5	1.87	8.84

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0253)	6675.12	121.63	8.25	67.54	2.41	0.71
OUTFLOW: ID= 1 (0326)	6675.12	120.85	8.50	67.54	2.40	0.70

CALIB				
NASHYD (0176)	Area (ha)=	51.49	Curve Number (CN)=	85.0
ID= 1 DT=15.0 min	Ia (mm)=	7.00	# of Linear Res.(N)=	5.00
	U.H. Tp(hrs)=	1.03		

Unit Hyd Qpeak (cms)= 2.756

PEAK FLOW (cms)= 2.865 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 52.622
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.594

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0258)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0176):		51.49	2.865	5.75	52.62
+ ID2= 2 (0326):		6675.12	120.853	8.50	67.54
ID = 3 (0258):		6726.61	121.535	8.25	67.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0174)	Area (ha)= 177.89		
ID= 1 DT=15.0 min	Total Imp(%)= 38.00	Dir. Conn.(%)=	38.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	67.60	110.29
Dep. Storage (mm)=	2.00	6.00
Average Slope (%)=	1.00	1.00
Length (m)=	1089.01	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	29.74
over (min)	15.00	30.00
Storage Coeff. (min)=	12.00 (ii)	24.00 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04

			TOTALS
PEAK FLOW (cms)=	7.61	7.15	14.766 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	49.26	63.43
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.56	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0174):		177.89	14.766	5.25	63.43
+ ID2= 2 (0258):		6726.61	121.535	8.25	67.42
ID = 3 (0259):		6904.50	123.192	8.25	67.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (0327)	
IN= 2---> OUT= 1	Routing time step (min)'= 15.00

<------ DATA FOR SECTION (427.0) ------>

Distance	Elevation	Manning	
0.00	130.00	0.1200	
45.00	124.00	0.1200	
85.00	123.00	0.1200	
91.00	120.40	0.1200 /0.0800	Main Channel
91.00	120.20	0.1200 /0.0800	Main Channel
98.00	120.20	0.0800 /0.1200	Main Channel
98.00	120.40	0.0800 /0.1200	Main Channel
115.00	123.00	0.1200	
195.00	123.00	0.1200	
210.00	130.00	0.1200	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.52	120.72	.450E+04	2.3	0.56	32.81
1.03	121.23	.114E+05	8.1	0.78	23.58
1.55	121.75	.209E+05	17.6	0.93	19.79
2.06	122.26	.331E+05	31.4	1.05	17.54
2.58	122.78	.478E+05	49.9	1.16	15.97
3.09	123.29	.930E+05	70.1	0.84	22.09
3.61	123.81	.169E+06	135.6	0.89	20.81
4.13	124.33	.256E+06	232.6	1.01	18.35
4.64	124.84	.346E+06	357.4	1.15	16.16
5.16	125.36	.440E+06	506.4	1.28	14.47
5.67	125.87	.536E+06	678.4	1.41	13.16
6.19	126.39	.635E+06	872.8	1.53	12.12
6.71	126.91	.736E+06	1089.1	1.64	11.27
7.22	127.42	.841E+06	1326.9	1.75	10.56
7.74	127.94	.948E+06	1586.0	1.86	9.96
8.25	128.45	.106E+07	1866.4	1.96	9.45
8.77	128.97	.117E+07	2167.8	2.05	9.01
9.28	129.48	.129E+07	2490.3	2.15	8.62
9.80	130.00	.141E+07	2833.8	2.24	8.27

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0259)	6904.50	123.19	8.25	67.32	3.51	0.88
OUTFLOW: ID= 1 (0327)	6904.50	122.53	8.50	67.32	3.51	0.88

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| CALIB           |
| NASHYD    (0175) |   Area    (ha)=  18.01   Curve Number   (CN)= 82.0
|ID= 1 DT=15.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 5.00
-------------------   U.H. Tp(hrs)=   0.59

     Unit Hyd Qpeak  (cms)=   1.672

     PEAK FLOW       (cms)=   1.186 (i)
     TIME TO PEAK    (hrs)=   5.500
     RUNOFF VOLUME    (mm)=  48.538
     TOTAL RAINFALL   (mm)=  88.540
     RUNOFF COEFFICIENT   =   0.548

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0260) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0175):    18.01   1.186     5.50    48.54
      + ID2= 2 (0327):  6904.50 122.530     8.50    67.32
        ================================================
        ID = 3 (0260):  6922.51 122.673     8.50    67.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0328) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 428.0) ------>
               Distance      Elevation       Manning
                   0.00         116.00        0.1200
                  26.00         110.00    0.1200 /0.0800  Main Channel
                  28.00         109.70        0.0800      Main Channel
                  36.00         109.70        0.0800      Main Channel
                  37.00         110.00    0.0800 /0.1200  Main Channel
                  55.00         115.00        0.1200
                  60.00         115.50        0.1200
                  70.00         116.00        0.1200
                 110.00         117.00        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.30   110.00    .387E+04       1.0         0.36      63.21
        0.62   110.32    .912E+04       3.9         0.58      38.81
        0.93   110.63    .154E+05       8.4         0.74      30.61
        1.25   110.95    .228E+05      14.5         0.86      26.27
        1.56   111.26    .313E+05      22.2         0.96      23.51
        1.88   111.58    .409E+05      31.6         1.05      21.56
        2.19   111.89    .515E+05      42.7         1.13      20.08
        2.51   112.21    .632E+05      55.7         1.20      18.92
        2.83   112.53    .759E+05      70.5         1.26      17.96
        3.14   112.84    .898E+05      87.2         1.32      17.15
        3.46   113.16    .105E+06     106.0         1.37      16.45
        3.77   113.47    .121E+06     126.9         1.43      15.85
        4.09   113.79    .138E+06     149.9         1.48      15.31
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        4.41   114.11    .156E+06     175.2         1.53      14.83
        4.72   114.42    .175E+06     202.8         1.57      14.39
        5.04   114.74    .195E+06     232.7         1.62      13.99
        5.35   115.05    .217E+06     264.5         1.66      13.66
        5.67   115.37    .240E+06     296.6         1.68      13.47
        5.98   115.68    .265E+06     329.5         1.69      13.40

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0260) 6922.51   122.67    8.50  67.27      3.71      1.42
     OUTFLOW: ID= 1 (0328) 6922.51   122.38    8.75  67.27      3.69      1.41


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| CALIB           |
| STANDHYD  (0177) |   Area    (ha)= 265.44
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     119.45       145.99
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1330.26        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        25.65
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      13.45         7.91      21.364 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      86.54        41.86      61.97
     TOTAL RAINFALL   (mm)=      88.54        88.54      88.54
     RUNOFF COEFFICIENT   =       0.98         0.47       0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0261) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0177):   265.44  21.364     5.25    61.97
      + ID2= 2 (0328):  6922.51 122.378     8.75    67.27
        ================================================
        ID = 3 (0261):  7187.95 123.879     8.50    67.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB           |
| STANDHYD  (0178) |   Area    (ha)= 271.86
|ID= 1 DT=15.0 min |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     122.34       149.52
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1346.25        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        26.30
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      13.78         8.35      22.126 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      86.54        43.01      62.60
     TOTAL RAINFALL   (mm)=      88.54        88.54      88.54
     RUNOFF COEFFICIENT   =       0.98         0.49       0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  77.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0262) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0178):   271.86  22.126     5.25    62.60
      + ID2= 2 (0261):  7187.95 123.879     8.50    67.08
        ================================================
        ID = 3 (0262):  7459.81 125.965     8.25    66.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0329) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
               <------ DATA FOR SECTION ( 429.0) ------>
               Distance      Elevation       Manning
                   0.00         112.00        0.1800
                  42.00         110.00        0.1800
                  69.00         107.00        0.1800
                  72.00         106.20        0.1800
                  72.00         106.00    0.1800 /0.0700  Main Channel
                  82.00         106.00    0.0700 /0.1800  Main Channel
                  82.00         106.20    0.0700 /0.1800  Main Channel
                  86.00         107.00        0.1800
                 102.00         109.00        0.1800
                 169.00         111.00        0.1800

      <---------------------- TRAVEL TIME TABLE ---------------------->
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       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)     (m)     (cu.m.)      (cms)       (m/s)      (min)
        0.26   106.26    .682E+04       1.4         0.52      82.26
        0.53   106.53    .147E+05       4.4         0.78      55.27
        0.79   106.79    .242E+05       8.9         0.95      45.23
        1.05   107.05    .353E+05      14.7         1.07      39.91
        1.32   107.32    .489E+05      21.9         1.15      37.24
        1.58   107.58    .656E+05      30.6         1.20      35.72
        1.84   107.84    .853E+05      41.0         1.24      34.70
        2.11   108.11    .108E+06      53.1         1.26      33.92
        2.37   108.37    .134E+06      67.0         1.29      33.27
        2.63   108.63    .163E+06      82.9         1.31      32.70
        2.89   108.89    .194E+06     100.8         1.33      32.16
        3.16   109.16    .230E+06     119.2         1.33      32.18
        3.42   109.42    .273E+06     140.0         1.32      32.50
        3.68   109.68    .323E+06     164.3         1.31      32.80
        3.95   109.95    .381E+06     192.3         1.30      33.06
        4.21   110.21    .448E+06     222.3         1.28      33.57
        4.47   110.47    .524E+06     256.6         1.26      34.02
        4.74   110.74    .609E+06     295.8         1.25      34.34
        5.00   111.00    .705E+06     340.1         1.24      34.53

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)       (m)      (m/s)
     INFLOW : ID= 2 (0262) 7459.81   125.97    8.25  66.91      3.24      1.33
     OUTFLOW: ID= 1 (0329) 7459.81   124.51    9.00  66.91      3.21      1.33


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| CALIB           |
| STANDHYD  (0179) |   Area    (ha)=  85.00
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      32.30        52.70
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     752.77        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        25.65
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.65         3.38       7.032 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25       5.25
     RUNOFF VOLUME    (mm)=      86.54        41.86      58.84
     TOTAL RAINFALL   (mm)=      88.54        88.54      88.54
     RUNOFF COEFFICIENT   =       0.98         0.47       0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0263) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0179):    85.00   7.032     5.25    58.84
        + ID2= 2 (0329):  7459.81 124.509     9.00    66.91
          ================================================
          ID = 3 (0263):  7544.81 124.878     9.00    66.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (0182) |   Area    (ha)= 183.03
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      97.01        86.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1104.63        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        23.06
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      10.92         4.39        15.317 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        39.66         64.51
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.45          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0264) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0182):   183.03  15.317     5.25    64.51
        + ID2= 2 (0263):  7544.81 124.878     9.00    66.82
          ================================================
          ID = 3 (0264):  7727.84 125.749     9.00    66.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN (0330) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
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                <------ DATA FOR SECTION ( 430.0) ------>
                Distance      Elevation       Manning
                   0.00         90.00        0.1200
                   7.00         85.00        0.1200
                  10.00         83.00        0.1200
                  10.00         82.80    0.1200 /0.0800  Main Channel
                  19.00         82.80        0.0800      Main Channel
                  19.00         83.00    0.0800 /0.1200  Main Channel
                  20.00         84.00        0.1200
                  45.00         85.00        0.1200
                  85.00         90.00        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.38    83.18    .243E+04       1.8         0.53      21.92
       0.76    83.56    .507E+04       5.9         0.82      14.23
       1.14    83.94    .796E+04      11.9         1.05      11.19
       1.52    84.32    .120E+05      19.7         1.16      10.14
       1.89    84.69    .186E+05      30.7         1.16      10.08
       2.27    85.07    .279E+05      46.3         1.17      10.04
       2.65    85.45    .386E+05      67.3         1.22       9.57
       3.03    85.83    .504E+05      93.0         1.30       9.03
       3.41    86.21    .631E+05     123.2         1.37       8.53
       3.79    86.59    .767E+05     158.1         1.45       8.08
       4.17    86.97    .913E+05     197.8         1.52       7.69
       4.55    87.35    .107E+06     242.4         1.60       7.34
       4.93    87.73    .123E+06     292.0         1.67       7.04
       5.31    88.11    .141E+06     346.7         1.73       6.76
       5.68    88.48    .159E+06     406.7         1.80       6.52
       6.06    88.86    .178E+06     472.2         1.86       6.30
       6.44    89.24    .199E+06     543.2         1.92       6.09
       6.82    89.62    .220E+06     620.0         1.98       5.91
       7.20    90.00    .242E+06     702.7         2.04       5.74

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0264) 7727.84   125.75     9.00   66.77      3.44      1.38
     OUTFLOW: ID= 1 (0330) 7727.84   125.68     9.00   66.77      3.43      1.38


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| CALIB             |
| STANDHYD  (0181) |   Area    (ha)=  55.83
|ID= 1 DT=15.0 min |   Total Imp(%)=  30.00   Dir. Conn.(%)=  30.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      16.75        39.08
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     610.08        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        23.06
               over (min)        15.00        30.00
     Storage Coeff.  (min)=       6.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        15.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.89         2.37          4.267 (iii)
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     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        39.66         53.72
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.45          0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0265) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0181):    55.83   4.267     5.25    53.72
        + ID2= 2 (0330):  7727.84 125.683     9.00    66.77
          ================================================
          ID = 3 (0265):  7783.67 125.915     9.00    66.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (0183) |   Area    (ha)= 330.88
|ID= 1 DT=15.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=     175.37       155.51
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=    1485.22        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        23.06
               over (min)        15.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   24.00 (ii)
     Unit Hyd. Tpeak (min)=      15.00        30.00
     Unit Hyd. peak  (cms)=       0.08         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      19.75         7.94         27.690 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=      86.54        39.66         64.51
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.98         0.45          0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0266) |
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|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0183):   330.88  27.690     5.25    64.51
        + ID2= 2 (0265):  7783.67 125.915     9.00    66.67
          ================================================
          ID = 3 (0266):  8114.55 127.490     9.00    66.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN (0331) |
| IN= 2---> OUT= 1 |     Routing time step (min)'= 15.00
-------------------
                <------ DATA FOR SECTION ( 431.0) ------>
                Distance      Elevation       Manning
                   0.00         90.00        0.1200
                   7.00         85.00        0.1200
                  10.00         83.00        0.1200
                  10.00         82.80    0.1200 /0.0600  Main Channel
                  19.00         82.80        0.0600      Main Channel
                  19.00         83.00    0.0600 /0.1200  Main Channel
                  20.00         84.00        0.1200
                  45.00         85.00        0.1200
                  85.00         90.00        0.1200

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)       (m/s)      (min)
       0.38    83.18    .218E+04       2.8         0.81      13.04
       0.76    83.56    .456E+04       8.9         1.24       8.50
       1.14    83.94    .716E+04      17.8         1.57       6.71
       1.52    84.32    .107E+05      29.3         1.72       6.11
       1.89    84.69    .167E+05      45.0         1.70       6.19
       2.27    85.07    .250E+05      66.2         1.67       6.30
       2.65    85.45    .347E+05      94.2         1.71       6.15
       3.03    85.83    .453E+05     127.7         1.78       5.91
       3.41    86.21    .567E+05     166.8         1.86       5.66
       3.79    86.59    .689E+05     211.6         1.94       5.43
       4.17    86.97    .820E+05     262.2         2.02       5.22
       4.55    87.35    .960E+05     318.6         2.10       5.02
       4.93    87.73    .111E+06     381.1         2.17       4.85
       5.31    88.11    .126E+06     449.7         2.25       4.69
       5.68    88.48    .143E+06     524.7         2.32       4.54
       6.06    88.86    .160E+06     606.1         2.39       4.41
       6.44    89.24    .179E+06     694.2         2.46       4.29
       6.82    89.62    .198E+06     789.1         2.52       4.18
       7.20    90.00    .218E+06     890.9         2.59       4.07

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)    (hrs)    (mm)      (m)      (m/s)
     INFLOW : ID= 2 (0266) 8114.55   127.49     9.00   66.58      3.03      1.78
     OUTFLOW: ID= 1 (0331) 8114.55   127.49     8.50   66.58      3.02      1.78


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| CALIB             |
| STANDHYD  (0180) |   Area    (ha)= 157.15
|ID= 1 DT=15.0 min |   Total Imp(%)=  38.00   Dir. Conn.(%)=  38.00
-------------------
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```
                    407 TWY 3 - Mimico - 12hr AES (EX)
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       59.72         97.43
     Dep. Storage     (mm)=        2.00          6.00
     Average Slope     (%)=        1.00          1.00
     Length            (m)=     1023.56         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       40.71         23.06
                 over (min)       15.00         30.00
     Storage Coeff.  (min)=       12.00 (ii)    24.00 (ii)
     Unit Hyd. Tpeak (min)=       15.00         30.00
     Unit Hyd. peak  (cms)=        0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        6.72          4.98         11.701 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=       86.54         39.66          57.47
     TOTAL RAINFALL   (mm)=       88.54         88.54          88.54
     RUNOFF COEFFICIENT   =        0.98          0.45           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  74.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0267) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0180):    157.15  11.701     5.25    57.47
        + ID2= 2 (0331):  8114.55 127.489     8.50    66.58
          ==========================================
          ID = 3 (0267):  8271.70 128.524     8.50    66.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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Humber Watershed

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I      SS   U   U  AAAAA  L
        V  V    I       SS  U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M M M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\VH Suite 4.0\VO2\voin.dat

  Output  filename:
C:\Users\P006437C\AppData\Local\Civica\VH4\40fcb7f5-f544-4d5a-b245-a4eb17eaad5
7\02f5616a-a15e-43d2-a386-d71602c98ed0\sce
  Summary filename:
C:\Users\P006437C\AppData\Local\Civica\VH4\40fcb7f5-f544-4d5a-b245-a4eb17eaad5
7\02f5616a-a15e-43d2-a386-d71602c98ed0\sce


DATE: 11/07/2017                          TIME: 01:12:37

USER:


COMMENTS: _____________________________________________________

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  **********************************
  ** Run 01                       **
  **********************************


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|    READ STORM    |    Filename: C:\Users\P006437C\AppD

|                  |              ata\Local\Temp\

|                  |
f7ebd774-4d60-4524-9e4d-f3a754ad6227\0a24ccfb
| Ptotal= 42.00 mm |    Comments: 2yr/12hr
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	2.94	10.50	0.42
1.00	0.42	4.25	7.14	7.50	1.68	10.75	0.42
1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42

2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

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| CALIB            |
| NASHYD  (  0189) |   Area    (ha)=     10.73   Curve Number   (CN)= 78.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     34.68   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.18

        NOTE:  RAINFALL WAS TRANSFORMED TO      5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

```
    Unit Hyd Qpeak  (cms)=     2.277

    PEAK FLOW       (cms)=     0.007 (i)
    TIME TO PEAK    (hrs)=     7.250
    RUNOFF VOLUME    (mm)=     0.677
    TOTAL RAINFALL   (mm)=    42.000
    RUNOFF COEFFICIENT   =     0.016
```



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    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD  (  0199) |   Area    (ha)=      4.35   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     34.68   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.22

    Unit Hyd Qpeak  (cms)=     0.755

    PEAK FLOW       (cms)=     0.001 (i)
    TIME TO PEAK    (hrs)=     7.333
    RUNOFF VOLUME    (mm)=     0.356
    TOTAL RAINFALL   (mm)=    42.000
    RUNOFF COEFFICIENT   =     0.008

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0205) |   Area    (ha)=     89.47
|ID= 1 DT= 5.0 min |   Total Imp(%)=     25.70   Dir. Conn.(%)=  25.40
--------------------

                             IMPERVIOUS     PERVIOUS (i)
    Surface Area     (ha)=       22.99          66.48
    Dep. Storage     (mm)=        2.00           5.00
    Average Slope     (%)=        2.32           2.32
    Length            (m)=      772.31          40.00
    Mannings n             =     0.013          0.250

    Max.Eff.Inten.(mm/hr)=       19.32           5.53
              over (min)         15.00          35.00
    Storage Coeff.  (min)=       13.06 (ii)     34.56 (ii)
    Unit Hyd. Tpeak (min)=       15.00          35.00
    Unit Hyd. peak  (cms)=        0.08           0.03
                                                          *TOTALS*
    PEAK FLOW       (cms)=        1.21           0.66           1.741 (iii)
    TIME TO PEAK    (hrs)=        5.25           5.58           5.25
    RUNOFF VOLUME    (mm)=       40.00           9.10          16.95
    TOTAL RAINFALL   (mm)=       42.00          42.00          42.00
    RUNOFF COEFFICIENT   =        0.95           0.22           0.40

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  69.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD  (  0207) |   Area    (ha)=     23.76   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     34.68   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.54

    Unit Hyd Qpeak  (cms)=     1.696

    PEAK FLOW       (cms)=     0.007 (i)
    TIME TO PEAK    (hrs)=     8.333
```



```
    RUNOFF VOLUME    (mm)=     0.405
    TOTAL RAINFALL   (mm)=    42.000
    RUNOFF COEFFICIENT   =     0.010

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| CALIB            |
| NASHYD  (  0208) |   Area    (ha)=     20.56   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     34.68   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.63

    Unit Hyd Qpeak  (cms)=     1.246

    PEAK FLOW       (cms)=     0.007 (i)
    TIME TO PEAK    (hrs)=     8.417
    RUNOFF VOLUME    (mm)=     0.482
    TOTAL RAINFALL   (mm)=    42.000
    RUNOFF COEFFICIENT   =     0.011

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD  (  0214) |   Area    (ha)=     25.97   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     34.68   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.50

    Unit Hyd Qpeak  (cms)=     2.004

    PEAK FLOW       (cms)=     0.008 (i)
    TIME TO PEAK    (hrs)=     8.333
    RUNOFF VOLUME    (mm)=     0.405
    TOTAL RAINFALL   (mm)=    42.000
    RUNOFF COEFFICIENT   =     0.010

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD  (  0251) |   Area    (ha)=     21.18   Curve Number   (CN)= 48.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     34.68   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.42

    Unit Hyd Qpeak  (cms)=     1.926

    PEAK FLOW       (cms)=     0.003 (i)
    TIME TO PEAK    (hrs)=     8.333
    RUNOFF VOLUME    (mm)=     0.190
    TOTAL RAINFALL   (mm)=    42.000
    RUNOFF COEFFICIENT   =     0.005

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD  (  0258) |   Area    (ha)=     46.00   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     34.68   # of Linear Res.(N)= 3.00
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--------------------  U.H. Tp(hrs)=      0.79

     Unit Hyd Qpeak  (cms)=     2.224

     PEAK FLOW       (cms)=     0.011 (i)
     TIME TO PEAK    (hrs)=     8.583
     RUNOFF VOLUME    (mm)=     0.357
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.008

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0295)|   Area    (ha)=    320.24   Curve Number   (CN)= 63.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     34.68   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      2.16

     Unit Hyd Qpeak  (cms)=     5.650

     PEAK FLOW       (cms)=     0.049 (i)
     TIME TO PEAK    (hrs)=    10.500
     RUNOFF VOLUME    (mm)=     0.342
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.008

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=     99.93   Curve Number   (CN)= 56.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.44

     Unit Hyd Qpeak  (cms)=     0.699

     PEAK FLOW       (cms)=     0.106 (i)
     TIME TO PEAK    (hrs)=     9.250
     RUNOFF VOLUME    (mm)=     4.487
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.107

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=     73.58   Curve Number   (CN)= 57.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     34.10   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.33

     Unit Hyd Qpeak  (cms)=     0.945

     PEAK FLOW       (cms)=     0.008 (i)
     TIME TO PEAK    (hrs)=    10.250
     RUNOFF VOLUME    (mm)=     0.317
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.008

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=    275.70   Curve Number   (CN)= 72.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.79

     Unit Hyd Qpeak  (cms)=     1.687

     PEAK FLOW       (cms)=     0.470 (i)
     TIME TO PEAK    (hrs)=     9.500
     RUNOFF VOLUME    (mm)=     8.034
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.191

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0007)|   Area    (ha)=    464.50   Curve Number   (CN)= 73.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      4.13

     Unit Hyd Qpeak  (cms)=     1.920

     PEAK FLOW       (cms)=     0.586 (i)
     TIME TO PEAK    (hrs)=    11.250
     RUNOFF VOLUME    (mm)=     8.330
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.198

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0008)|   Area    (ha)=    285.26   Curve Number   (CN)= 74.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.05

     Unit Hyd Qpeak  (cms)=     1.597

     PEAK FLOW       (cms)=     0.485 (i)
     TIME TO PEAK    (hrs)=     9.750
     RUNOFF VOLUME    (mm)=     8.642
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.206

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN(  3122)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <----- DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         453.33        0.0600
                  11.58         452.40        0.0801      Main Channel
                  26.32         451.04        0.0801      Main Channel
                  37.78         450.07        0.0801      Main Channel
```



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                  48.44         449.03        0.0801      Main Channel
                  65.63         448.40        0.0801      Main Channel
                  88.40         447.65        0.0801      Main Channel
                  92.68         447.67        0.0801      Main Channel
                 107.42         447.40        0.0801      Main Channel
                 129.54         447.16        0.0801      Main Channel
                 173.78         447.20        0.0801      Main Channel
                 195.90         447.29        0.0801      Main Channel
                 259.16         448.00        0.0801      Main Channel
                 262.25         448.13        0.0801      Main Channel
                 291.74         449.67        0.0801      Main Channel
                 299.12         450.14        0.0801      Main Channel
                 313.86         450.98        0.0801      Main Channel
                 335.98         452.22        0.0801      Main Channel
                 343.35         452.24    0.0801 /0.0600  Main Channel
                 369.86         451.69        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.23   447.39    .245E+05          1.8          0.12     232.23
        0.46   447.62    .660E+05          7.5          0.18     146.16
        0.68   447.84    .120E+06         17.6          0.24     114.10
        0.91   448.07    .185E+06         33.0          0.29      93.43
        1.14   448.30    .255E+06         54.2          0.34      78.49
        1.37   448.53    .329E+06         80.0          0.39      68.61
        1.60   448.76    .408E+06        110.4          0.44      61.53
        1.83   448.99    .490E+06        145.3          0.48      56.19
        2.05   449.21    .575E+06        186.0          0.52      51.57
        2.28   449.44    .664E+06        231.5          0.56      47.78
        2.51   449.67    .754E+06        281.3          0.60      44.68
        2.74   449.90    .847E+06        336.1          0.64      42.00
        2.97   450.13    .942E+06        395.0          0.67      39.74
        3.20   450.36    .104E+07        457.7          0.71      37.85
        3.42   450.58    .114E+07        524.5          0.74      36.20
        3.65   450.81    .124E+07        595.7          0.77      34.73
        3.88   451.04    .135E+07        671.2          0.80      33.43
        4.11   451.27    .145E+07        755.2          0.84      32.08
        4.43   451.59    .161E+07        882.4          0.88      30.41

                                       <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0008)     285.26     0.49    9.75   8.64      0.06
0.12
   OUTFLOW: ID= 1 (  3122)     285.26     0.39   14.08   8.64      0.05
0.12

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--------------------
| ADD HYD  (  2005)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3122):    285.26      0.388       14.08        8.64
     + ID2= 2 (  0007):    464.50      0.586       11.25        8.33
       ========================================================
       ID = 3 (  2005):    749.76      0.954       12.58        8.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



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--------------------
| ROUTE CHN(  3123)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         453.33        0.0600
                  11.58         452.40        0.0801      Main Channel
                  26.32         451.04        0.0801      Main Channel
                  37.78         450.07        0.0801      Main Channel
                  48.44         449.03        0.0801      Main Channel
                  65.63         448.40        0.0801      Main Channel
                  88.40         447.65        0.0801      Main Channel
                  92.68         447.67        0.0801      Main Channel
                 107.42         447.40        0.0801      Main Channel
                 129.54         447.16        0.0801      Main Channel
                 173.78         447.20        0.0801      Main Channel
                 195.90         447.29        0.0801      Main Channel
                 259.16         448.00        0.0801      Main Channel
                 262.25         448.13        0.0801      Main Channel
                 291.74         449.67        0.0801      Main Channel
                 299.12         450.14        0.0801      Main Channel
                 313.86         450.98        0.0801      Main Channel
                 335.98         452.22        0.0801      Main Channel
                 343.35         452.24    0.0801 /0.0600  Main Channel
                 369.86         451.69        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.23   447.39    .271E+05          2.8          0.18     161.40
        0.46   447.62    .729E+05         12.0          0.29     101.58
        0.68   447.84    .133E+06         28.0          0.37      79.30
        0.91   448.07    .204E+06         52.5          0.46      64.93
        1.14   448.30    .282E+06         86.2          0.54      54.55
        1.37   448.53    .364E+06        127.3          0.62      47.68
        1.60   448.76    .451E+06        175.7          0.69      42.76
        1.83   448.99    .542E+06        231.2          0.76      39.05
        2.05   449.21    .636E+06        295.9          0.83      35.84
        2.28   449.44    .734E+06        368.2          0.89      33.21
        2.51   449.67    .834E+06        447.5          0.95      31.05
        2.74   449.90    .936E+06        534.6          1.02      29.19
        2.97   450.13    .104E+07        628.5          1.07      27.62
        3.20   450.36    .115E+07        728.1          1.13      26.30
        3.42   450.58    .126E+07        834.5          1.18      25.16
        3.65   450.81    .137E+07        947.7          1.23      24.14
        3.88   451.04    .149E+07       1067.8          1.28      23.23
        4.11   451.27    .161E+07       1201.4          1.33      22.29
        4.43   451.59    .178E+07       1403.8          1.40      21.14

                                       <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2005)     749.76     0.95   12.58   8.45      0.08
0.18
   OUTFLOW: ID= 1 (  3123)     749.76     0.88   15.58   8.45      0.07
0.18

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--------------------
| ROUTE CHN(  2365)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         445.51        0.0600
                   8.11         445.57        0.0801      Main Channel
                  20.04         446.02        0.0801      Main Channel
                  43.91         447.23        0.0801      Main Channel
                  55.84         447.29        0.0801      Main Channel
                  79.71         446.45        0.0801      Main Channel
                  96.26         442.04        0.0801      Main Channel
                 103.57         440.36        0.0801      Main Channel
                 210.97         440.36        0.0801      Main Channel
                 234.84         441.85        0.0801      Main Channel
                 246.77         442.75        0.0801      Main Channel
                 270.64         443.76        0.0801      Main Channel
                 297.84         445.05        0.0801      Main Channel
                 306.44         445.38        0.0801      Main Channel
                 322.48         445.85        0.0801      Main Channel
                 342.24         446.49        0.0801      Main Channel
                 389.47         447.09        0.0801      Main Channel
                 407.80         449.17        0.0801      Main Channel
                 413.84         449.05    0.0801 /0.0600  Main Channel
                 435.83         448.22        0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)      (cu.m.)        (cms)        (m/s)      (min)
       0.44   440.80    .461E+05         59.1          1.21      12.99
       0.87   441.23    .958E+05        190.6          1.88       8.38
       1.31   441.67    .149E+06        380.8          2.42       6.53
       1.74   442.10    .206E+06        627.5          2.88       5.47
       2.18   442.54    .266E+06        928.9          3.30       4.78
       2.61   442.97    .330E+06       1271.2          3.65       4.32
       3.05   443.41    .398E+06       1656.3          3.94       4.00
       3.48   443.84    .471E+06       2098.4          4.22       3.74
       3.92   444.28    .548E+06       2604.0          4.49       3.51
       4.35   444.71    .630E+06       3168.1          4.76       3.31
       4.79   445.15    .717E+06       3786.8          5.00       3.15
       5.22   445.58    .809E+06       4430.7          5.18       3.04
       5.66   446.02    .913E+06       5139.2          5.33       2.96
       6.19   446.55    .105E+07       5927.8          5.33       2.96
       6.71   447.07    .122E+07       6537.0          5.08       3.11
       7.24   447.60    .141E+07       7913.6          5.31       2.97
       7.76   448.12    .161E+07       9747.2          5.74       2.75
       8.29   448.65    .181E+07      11742.0          6.15       2.57
       8.81   449.17    .202E+07      13774.7          6.46       2.44

                                      <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3123)     749.76     0.88   15.58   8.45      0.01
1.21
   OUTFLOW: ID= 1 (  2365)     749.76     0.88   15.83   8.45      0.01
1.21


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| ADD HYD  (  7488)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2365):     749.76      0.875       15.83        8.45
     + ID2= 2 (  0004):     275.70      0.470        9.50        8.03
       ==============================================================
       ID = 3 (  7488):    1025.46      1.206       13.83        8.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0005)|   Area    (ha)=    423.49   Curve Number   (CN)= 56.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.61

     Unit Hyd Qpeak  (cms)=     2.003

     PEAK FLOW       (cms)=     0.323 (i)
     TIME TO PEAK    (hrs)=    10.583
     RUNOFF VOLUME    (mm)=     4.488
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.107

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0006)|   Area    (ha)=    700.54   Curve Number   (CN)= 75.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      5.55

     Unit Hyd Qpeak  (cms)=     2.155

     PEAK FLOW       (cms)=     0.736 (i)
     TIME TO PEAK    (hrs)=    12.583
     RUNOFF VOLUME    (mm)=     8.943
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN(  2211)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         420.60        0.0600
                  29.95         419.75        0.0801      Main Channel
                  39.94         419.53        0.0801      Main Channel
                  69.89         419.77        0.0801      Main Channel
                  79.88         419.53        0.0801      Main Channel
                  89.86         418.29        0.0801      Main Channel
                 119.82         415.50        0.0801      Main Channel
                 139.79         414.41        0.0801      Main Channel
                 169.74         413.86        0.0801      Main Channel
                 189.71         413.75        0.0801      Main Channel
                 199.70         413.35        0.0801      Main Channel
                 279.58         413.52        0.0801      Main Channel
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                 319.52         414.82        0.0801      Main Channel
                 329.50         415.47        0.0801      Main Channel
                 359.46         416.58        0.0801      Main Channel
                 379.43         417.78        0.0801      Main Channel
                 389.41         419.14        0.0801      Main Channel
                 399.40         421.34        0.0801      Main Channel
                 419.37         420.23    0.0801 /0.0600  Main Channel
                 429.35         420.28        0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)      (cu.m.)        (cms)        (m/s)      (min)
       0.41   413.76    .215E+05          8.9          0.31      40.39
       0.82   414.17    .607E+05         38.4          0.47      26.34
       1.24   414.59    .111E+06         92.8          0.62      19.87
       1.65   415.00    .167E+06        173.6          0.77      16.06
       2.06   415.41    .229E+06        278.7          0.90      13.67
       2.47   415.82    .294E+06        404.7          1.02      12.12
       2.89   416.23    .365E+06        553.3          1.13      10.99
       3.30   416.65    .440E+06        726.3          1.23      10.09
       3.71   417.06    .519E+06        929.4          1.33       9.31
       4.12   417.47    .602E+06       1155.9          1.43       8.67
       4.53   417.88    .688E+06       1409.1          1.52       8.13
       4.95   418.30    .776E+06       1695.0          1.62       7.63
       5.36   418.71    .867E+06       2008.8          1.72       7.19
       5.77   419.12    .960E+06       2346.0          1.81       6.82
       6.18   419.53    .105E+07       2712.1          1.91       6.48
       6.59   419.94    .116E+07       2918.6          1.87       6.63
       7.05   420.40    .129E+07       3409.4          1.96       6.30
       7.50   420.85    .143E+07       3912.9          2.03       6.08
       7.95   421.30    .157E+07       4460.3          2.11       5.86

                                      <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0006)     700.54     0.74   12.58   8.94      0.03
0.31
   OUTFLOW: ID= 1 (  2211)     700.54     0.73   13.33   8.97      0.03
0.31


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--------------------
| ROUTE CHN(  2212)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         440.12        0.0600
                  39.58         440.13        0.0801      Main Channel
                  69.26         432.69        0.0801      Main Channel
                 128.63         424.23        0.0801      Main Channel
                 148.42         422.34        0.0801      Main Channel
                 237.47         418.16        0.0801      Main Channel
                 286.94         414.64        0.0801      Main Channel
                 306.73         411.38        0.0801      Main Channel
                 336.41         410.25        0.0801      Main Channel
                 366.10         414.37        0.0801      Main Channel
                 395.78         416.93        0.0801      Main Channel
                 425.46         416.28        0.0801      Main Channel
                 494.73         428.23        0.0801      Main Channel
                 524.41         430.12        0.0801      Main Channel
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                 544.20         429.31        0.0801      Main Channel
                 603.57         429.97        0.0801      Main Channel
                 633.25         433.89        0.0801      Main Channel
                 653.04         434.35        0.0801      Main Channel
                 672.83         437.13    0.0801 /0.0600  Main Channel
                 682.72         435.76        0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)      (cu.m.)        (cms)        (m/s)      (min)
       1.50   411.75    .279E+05         29.6          0.82      15.70
       2.99   413.24    .887E+05        157.6          1.37       9.38
       4.49   414.74    .173E+06        390.1          1.74       7.38
       5.98   416.24    .293E+06        734.4          1.94       6.65
       7.48   417.73    .485E+06       1274.1          2.03       6.34
       8.98   419.23    .725E+06       2210.6          2.35       5.47
      10.47   420.72    .101E+07       3452.4          2.63       4.88
      11.97   422.22    .134E+07       5053.0          2.90       4.44
      13.46   423.72    .172E+07       7197.3          3.24       3.98
      14.96   425.21    .212E+07       9790.0          3.57       3.60
      16.46   426.71    .254E+07      12793.6          3.89       3.31
      17.95   428.20    .298E+07      16184.5          4.19       3.07
      19.45   429.70    .346E+07      18405.0          4.10       3.14
      20.94   431.20    .406E+07      22144.2          4.21       3.06
      22.44   432.69    .469E+07      27398.1          4.51       2.85
      24.30   434.55    .551E+07      34515.0          4.84       2.66
      26.16   436.41    .637E+07      43223.7          5.24       2.46
      28.02   438.27    .728E+07      53265.4          5.65       2.28
      29.88   440.13    .819E+07      64514.2          6.08       2.12

                                      <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2211)     700.54     0.73   13.33   8.97      0.04
0.82
   OUTFLOW: ID= 1 (  2212)     700.54     0.73   13.58   8.97      0.04
0.82


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| ADD HYD  (  7487)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2212):     700.54      0.732       13.58        8.97
     + ID2= 2 (  0005):     423.49      0.323       10.58        4.49
       ==============================================================
       ID = 3 (  7487):    1124.03      1.036       12.67        7.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0735)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0003):      73.58      0.008       10.25        0.32
     + ID2= 2 (  7487):    1124.03      1.036       12.67        7.28
       ==============================================================
```

ID = 3 (0735): 1197.61 1.043 12.58 6.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0735)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0735):		1197.61	1.043	12.58	6.85
+ ID2= 2 (7488):		1025.46	1.206	13.83	8.34
ID = 1 (0735):		2223.07	2.241	13.25	7.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2351)		
IN= 2---> OUT= 1	Routing time step (min)'= 5.00	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	425.62	0.0600	
48.39	425.66	0.0801	Main Channel
70.72	423.73	0.0801	Main Channel
85.61	423.03	0.0801	Main Channel
93.05	422.71	0.0801	Main Channel
107.93	423.30	0.0801	Main Channel
110.97	423.00	0.0801	Main Channel
115.38	421.92	0.0801	Main Channel
130.26	413.75	0.0801	Main Channel
137.70	410.32	0.0801	Main Channel
152.59	405.93	0.0801	Main Channel
174.91	405.43	0.0801	Main Channel
204.68	406.45	0.0801	Main Channel
227.01	408.72	0.0801	Main Channel
234.24	413.13	0.0801	Main Channel
241.90	421.92	0.0801	Main Channel
245.44	424.03	0.0801	Main Channel
249.34	425.09	0.0801	Main Channel
286.55	425.78	0.0801 /0.0600	Main Channel
304.10	425.94	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.02	406.45	.476E+05	31.0	0.95	25.59
2.03	407.46	.137E+06	155.8	1.65	14.69
3.05	408.48	.247E+06	366.6	2.16	11.23
4.07	409.50	.373E+06	687.2	2.69	9.05
5.08	410.51	.507E+06	1102.1	3.17	7.67
6.10	411.53	.647E+06	1606.2	3.62	6.71
7.12	412.55	.793E+06	2189.9	4.03	6.04
8.13	413.56	.945E+06	2855.3	4.41	5.51
9.15	414.58	.110E+07	3606.0	4.78	5.09
10.17	415.60	.126E+07	4430.7	5.12	4.74
11.18	416.61	.143E+07	5326.7	5.45	4.46
12.20	417.63	.159E+07	6292.9	5.76	4.22
13.22	418.65	.177E+07	7328.8	6.05	4.02
14.23	419.66	.194E+07	8433.7	6.33	3.84
15.25	420.68	.212E+07	9607.2	6.60	3.68
16.27	421.70	.231E+07	10849.4	6.85	3.55

17.28	422.71	.250E+07	12036.0	7.02	3.46
18.30	423.73	.273E+07	11667.1	6.23	3.90
19.32	424.75	.300E+07	13422.7	6.52	3.72

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0735)	2223.07	2.24	13.25	7.54	0.07	0.95
OUTFLOW: ID= 1 (2351)	2223.07	2.24	13.67	7.54	0.07	0.95

ROUTE CHN(3933)		
IN= 2---> OUT= 1	Routing time step (min)'= 5.00	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	427.25	0.0600	
25.38	427.54	0.0801	Main Channel
35.42	428.03	0.0801	Main Channel
45.46	425.73	0.0801	Main Channel
55.50	418.68	0.0801	Main Channel
65.54	412.37	0.0801	Main Channel
85.61	402.97	0.0801	Main Channel
105.69	392.03	0.0801	Main Channel
125.77	388.88	0.0801	Main Channel
155.89	390.03	0.0801	Main Channel
175.96	391.33	0.0801	Main Channel
186.00	393.68	0.0801	Main Channel
206.08	398.92	0.0801	Main Channel
246.23	412.78	0.0801	Main Channel
256.27	417.98	0.0801	Main Channel
266.31	423.60	0.0801	Main Channel
276.35	426.18	0.0801	Main Channel
306.47	426.85	0.0801	Main Channel
366.70	427.38	0.0801 /0.0600	Main Channel
379.79	427.27	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.03	390.91	.335E+05	107.9	1.72	5.17
4.05	392.93	.110E+06	625.1	3.04	2.93
6.08	394.96	.202E+06	1557.7	4.12	2.16
8.11	396.99	.306E+06	2869.6	5.01	1.78
10.13	399.01	.422E+06	4567.4	5.77	1.54
12.16	401.04	.550E+06	6703.2	6.50	1.37
14.18	403.06	.689E+06	9238.3	7.16	1.24
16.21	405.09	.838E+06	12165.2	7.75	1.15
18.24	407.12	.998E+06	15523.9	8.31	1.07
20.26	409.14	.117E+07	19331.0	8.83	1.01
22.29	411.17	.135E+07	23603.2	9.33	0.95
24.32	413.20	.154E+07	28428.4	9.83	0.91
26.34	415.22	.175E+07	33918.0	10.37	0.86
28.37	417.25	.195E+07	39878.7	10.89	0.82
30.39	419.27	.217E+07	46348.8	11.39	0.78
32.42	421.30	.240E+07	53334.9	11.88	0.75
34.45	423.33	.263E+07	60800.5	12.35	0.72
36.47	425.35	.287E+07	68164.1	12.69	0.70

38.50	427.38	.314E+07	62854.3	10.68	0.83

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2351)	2223.07	2.24	13.67	7.54	0.04	1.72
OUTFLOW: ID= 1 (3933)	2223.07	2.24	13.83	7.54	0.04	1.72

CALIB					
NASHYD (0013)	Area (ha)=	75.62	Curve Number (CN)=	56.4	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.83			

Unit Hyd Qpeak (cms)= 0.705

PEAK FLOW	(cms)=	0.100 (i)
TIME TO PEAK	(hrs)=	8.417
RUNOFF VOLUME	(mm)=	4.486
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.107

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0014)	Area (ha)=	396.73	Curve Number (CN)=	56.4	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	3.04			

Unit Hyd Qpeak (cms)= 2.228

PEAK FLOW	(cms)=	0.350 (i)
TIME TO PEAK	(hrs)=	9.833
RUNOFF VOLUME	(mm)=	4.488
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.107

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0002)	Area (ha)=	52.70			
ID= 1 DT= 5.0 min	Total Imp(%)=	40.60	Dir. Conn.(%)=	35.40	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	21.40	31.30
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.71	2.71
Length (m)=	592.73	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	4.47
over (min)	10.00	35.00

Storage Coeff. (min)=	10.64 (ii)	32.98 (ii)	
Unit Hyd. Tpeak (min)=	10.00	35.00	
Unit Hyd. peak (cms)=	0.11	0.03	
			TOTALS
PEAK FLOW (cms)=	1.00	0.25	1.205 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	6.85	18.59
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.16	0.44

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 58.3 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1084)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0001):		99.93	0.106	9.25	4.49
+ ID2= 2 (0013):		75.62	0.100	8.42	4.49
ID = 3 (1084):		175.55	0.205	8.83	4.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1084):		175.55	0.205	8.83	4.49
+ ID2= 2 (0014):		396.73	0.350	9.83	4.49
ID = 1 (1084):		572.28	0.551	9.42	4.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1084):		572.28	0.551	9.42	4.49
+ ID2= 2 (0002):		52.70	1.205	5.25	18.59
ID = 3 (1084):		624.98	1.348	5.25	5.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1084)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 1		(ha)	(cms)	(hrs)	(mm)

ID1= 3 (	1084):	624.98	1.348	5.25	5.68
+ ID2= 2 (	3933):	2223.07	2.236	13.83	7.54
ID = 1 (	1084):	2848.05	2.698	12.33	7.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3934)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	427.25	0.0600	
25.38	427.54	0.0801	Main Channel
35.42	428.03	0.0801	Main Channel
45.46	425.73	0.0801	Main Channel
55.50	418.68	0.0801	Main Channel
65.54	412.37	0.0801	Main Channel
85.61	402.97	0.0801	Main Channel
105.69	392.03	0.0801	Main Channel
125.77	388.88	0.0801	Main Channel
155.89	390.03	0.0801	Main Channel
175.96	391.33	0.0801	Main Channel
186.00	393.68	0.0801	Main Channel
206.08	398.92	0.0801	Main Channel
246.23	412.78	0.0801	Main Channel
256.27	417.98	0.0801	Main Channel
266.31	423.60	0.0801	Main Channel
276.35	426.18	0.0801	Main Channel
306.47	426.85	0.0801	Main Channel
366.70	427.38	0.0801 /0.0600	Main Channel
379.79	427.27	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.03	390.91	.700E+05	85.4	1.36	13.65
4.05	392.93	.230E+06	495.0	2.40	7.74
6.08	394.96	.421E+06	1233.5	3.27	5.69
8.11	396.99	.639E+06	2272.3	3.97	4.69
10.13	399.01	.883E+06	3616.7	4.57	4.07
12.16	401.04	.115E+07	5307.9	5.15	3.61
14.18	403.06	.144E+07	7315.3	5.67	3.28
16.21	405.09	.175E+07	9632.9	6.14	3.03
18.24	407.12	.208E+07	12292.5	6.58	2.83
20.26	409.14	.244E+07	15307.1	6.99	2.66
22.29	411.17	.282E+07	18690.0	7.39	2.52
24.32	413.20	.323E+07	22510.9	7.78	2.39
26.34	415.22	.365E+07	26857.7	8.21	2.26
28.37	417.25	.408E+07	31577.7	8.62	2.16
30.39	419.27	.454E+07	36701.0	9.02	2.06
32.42	421.30	.501E+07	42232.9	9.41	1.98
34.45	423.33	.549E+07	48144.5	9.78	1.90
36.47	425.35	.599E+07	53975.3	10.05	1.85
38.50	427.38	.657E+07	49770.8	8.45	2.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1084)	2848.05	2.70	12.33	7.13	0.06	0.87

OUTFLOW: ID= 1 (	3934)	2848.05	2.69	12.50	7.13	0.06

1.36

1.36

ROUTE CHN(3812)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	388.23	0.0600	
72.71	381.55	0.0801	Main Channel
119.56	377.87	0.0801	Main Channel
129.56	377.36	0.0801	Main Channel
149.56	371.18	0.0801	Main Channel
159.56	368.39	0.0801	Main Channel
169.56	366.26	0.0801	Main Channel
199.56	365.11	0.0801	Main Channel
209.56	365.26	0.0801	Main Channel
244.33	366.05	0.0801	Main Channel
254.43	368.04	0.0801	Main Channel
259.56	370.04	0.0801	Main Channel
284.71	376.72	0.0801	Main Channel
309.56	377.86	0.0801	Main Channel
329.56	377.31	0.0801	Main Channel
359.57	376.12	0.0801	Main Channel
379.57	376.80	0.0801	Main Channel
409.57	380.90	0.0801	Main Channel
426.05	382.27	0.0801 /0.0600	Main Channel
442.32	382.32	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.85	365.96	.108E+05	24.3	0.87	7.38
1.70	366.81	.356E+05	150.3	1.63	3.95
2.55	367.66	.635E+05	369.6	2.24	2.86
3.40	368.51	.941E+05	675.7	2.76	2.32
4.25	369.36	.127E+06	1067.2	3.25	1.98
5.10	370.21	.161E+06	1533.3	3.67	1.75
5.95	371.06	.197E+06	2067.9	4.04	1.59
6.81	371.92	.235E+06	2681.5	4.39	1.46
7.66	372.77	.275E+06	3372.2	4.72	1.36
8.51	373.62	.317E+06	4140.7	5.03	1.28
9.36	374.47	.361E+06	4988.2	5.32	1.21
10.21	375.32	.407E+06	5916.2	5.59	1.15
11.06	376.17	.455E+06	6847.1	5.79	1.11
11.91	377.02	.513E+06	6875.6	5.16	1.24
12.76	377.87	.590E+06	7264.0	4.74	1.35
13.87	378.98	.709E+06	9622.0	5.22	1.23
14.99	380.10	.838E+06	12296.9	5.65	1.14
16.10	381.21	.977E+06	15258.5	6.01	1.07
17.21	382.32	.113E+07	18502.3	6.32	1.02

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (| 3934)	2848.05	2.69	12.50	7.13	0.09	0.87
OUTFLOW: ID= 1 (| 3812)	2848.05	2.69	12.75	7.13	0.09	

0.87

ROUTE CHN(3814)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ----->

Distance	Elevation	Manning	
0.00	388.23	0.0600	
72.71	381.55	0.0801	Main Channel
119.56	377.87	0.0801	Main Channel
129.56	377.36	0.0801	Main Channel
149.56	371.18	0.0801	Main Channel
159.56	368.39	0.0801	Main Channel
169.56	366.26	0.0801	Main Channel
199.56	365.11	0.0801	Main Channel
209.56	365.26	0.0801	Main Channel
244.33	366.05	0.0801	Main Channel
254.43	368.04	0.0801	Main Channel
259.56	370.04	0.0801	Main Channel
284.71	376.72	0.0801	Main Channel
309.56	377.86	0.0801	Main Channel
329.56	377.31	0.0801	Main Channel
359.57	376.12	0.0801	Main Channel
379.57	376.80	0.0801	Main Channel
409.57	380.90	0.0801	Main Channel
426.05	382.27	0.0801 /0.0600	Main Channel
442.32	382.32	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.85	365.96	.345E+05	19.4	0.69	29.55
1.70	366.81	.114E+06	120.0	1.30	15.80
2.55	367.66	.203E+06	295.3	1.79	11.47
3.40	368.51	.301E+06	539.8	2.21	9.29
4.25	369.36	.405E+06	852.7	2.59	7.91
5.10	370.21	.514E+06	1225.1	2.93	6.99
5.95	371.06	.630E+06	1652.2	3.23	6.35
6.81	371.92	.751E+06	2142.4	3.51	5.85
7.66	372.77	.880E+06	2694.3	3.77	5.44
8.51	373.62	.101E+07	3308.2	4.02	5.11
9.36	374.47	.115E+07	3985.4	4.25	4.83
10.21	375.32	.130E+07	4726.8	4.47	4.59
11.06	376.17	.145E+07	5470.5	4.63	4.43
11.91	377.02	.164E+07	5493.3	4.12	4.98
12.76	377.87	.189E+07	5803.6	3.79	5.42
13.87	378.98	.227E+07	7687.5	4.17	4.92
14.99	380.10	.268E+07	9824.6	4.51	4.55
16.10	381.21	.312E+07	12190.8	4.80	4.27
17.21	382.32	.360E+07	14782.4	5.05	4.06

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (| 3812)	2848.05	2.69	12.75	7.13	0.12	0.69
OUTFLOW: ID= 1 (| 3814)	2848.05	2.68	13.50	7.13	0.12	0.69

CALIB
NASHYD (0012) | Area (ha)= 186.97 Curve Number (CN)= 56.4
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.73

Unit Hyd Qpeak (cms)= 1.845

PEAK FLOW (cms)= 0.258 (i)
TIME TO PEAK (hrs)= 8.333
RUNOFF VOLUME (mm)= 4.486
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.107

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7489)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (	0012):	186.97	0.258	8.33	4.49
+ ID2= 2 (	3814):	2848.05	2.681	13.50	7.13
ID = 3 (	7489):	3035.02	2.829	13.00	6.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0011) | Area (ha)= 416.72 Curve Number (CN)= 56.4
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 3.51

Unit Hyd Qpeak (cms)= 2.027

PEAK FLOW (cms)= 0.325 (i)
TIME TO PEAK (hrs)= 10.417
RUNOFF VOLUME (mm)= 4.488
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.107

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1081)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (	0011):	416.72	0.325	10.42	4.49
+ ID2= 2 (	7489):	3035.02	2.829	13.00	6.97
ID = 3 (	1081):	3451.74	3.136	12.83	6.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3813)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00        388.23        0.0600
                   72.71        381.55        0.0801      Main Channel
                  119.56        377.87        0.0801      Main Channel
                  129.56        377.36        0.0801      Main Channel
                  149.56        371.18        0.0801      Main Channel
                  159.56        368.39        0.0801      Main Channel
                  169.56        366.26        0.0801      Main Channel
                  199.56        365.11        0.0801      Main Channel
                  209.56        365.26        0.0801      Main Channel
                  244.33        366.05        0.0801      Main Channel
                  254.43        368.04        0.0801      Main Channel
                  259.56        370.04        0.0801      Main Channel
                  284.71        376.72        0.0801      Main Channel
                  309.56        377.86        0.0801      Main Channel
                  329.56        377.31        0.0801      Main Channel
                  359.57        376.12        0.0801      Main Channel
                  379.57        376.80        0.0801      Main Channel
                  409.57        380.90        0.0801      Main Channel
                  426.05        382.27    0.0801 /0.0600  Main Channel
                  442.32        382.32        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
        0.85   365.96    .160E+05          18.0          0.64       14.88
        1.70   366.81    .530E+05         111.0          1.20        7.95
        2.55   367.66    .946E+05         273.1          1.65        5.77
        3.40   368.51    .140E+06         499.2          2.04        4.68
        4.25   369.36    .188E+06         788.6          2.40        3.98
        5.10   370.21    .239E+06        1132.9          2.71        3.52
        5.95   371.06    .293E+06        1528.0          2.99        3.20
        6.81   371.92    .350E+06        1981.3          3.25        2.94
        7.66   372.77    .410E+06        2491.7          3.49        2.74
        8.51   373.62    .472E+06        3059.5          3.71        2.57
        9.36   374.47    .538E+06        3685.7          3.93        2.43
       10.21   375.32    .606E+06        4371.4          4.13        2.31
       11.06   376.17    .677E+06        5059.2          4.28        2.23
       11.91   377.02    .764E+06        5080.2          3.81        2.51
       12.76   377.87    .878E+06        5367.3          3.50        2.73
       13.87   378.98    .106E+07        7109.5          3.86        2.48
       14.99   380.10    .125E+07        9085.9          4.17        2.29
       16.10   381.21    .145E+07       11274.2          4.44        2.15
       17.21   382.32    .168E+07       13671.0          4.67        2.05

                                      <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1081)    3451.74     3.14   12.83   6.67      0.15
0.64
  OUTFLOW: ID= 1 (  3813)    3451.74     3.13   13.08   6.67      0.15
0.64


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| CALIB               |
| NASHYD   (  0010)|   Area    (ha)=    141.81   Curve Number   (CN)= 56.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.96

     Unit Hyd Qpeak  (cms)=     1.235

     PEAK FLOW       (cms)=     0.178 (i)
     TIME TO PEAK    (hrs)=     8.583
     RUNOFF VOLUME    (mm)=     4.486
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.107

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1465)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0010):    141.81      0.178        8.58        4.49
     + ID2= 2 (  3813):   3451.74      3.133       13.08        6.67
       ========================================================
       ID = 3 (  1465):   3593.55      3.253       12.92        6.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3204)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00        352.28        0.0600
                   57.77        351.50        0.0801      Main Channel
                  153.65        348.30        0.0801      Main Channel
                  189.04        348.44        0.0801      Main Channel
                  196.12        347.34        0.0801      Main Channel
                  224.44        341.27        0.0801      Main Channel
                  245.67        340.63        0.0801      Main Channel
                  324.83        339.59        0.0801      Main Channel
                  364.84        339.83        0.0801      Main Channel
                  394.84        341.21        0.0801      Main Channel
                  404.84        342.90        0.0801      Main Channel
                  414.84        345.79        0.0801      Main Channel
                  424.85        347.37        0.0801      Main Channel
                  484.86        349.00        0.0801      Main Channel
                  504.86        349.79        0.0801      Main Channel
                  524.86        349.54        0.0801      Main Channel
                  544.87        349.86        0.0801      Main Channel
                  599.22        350.19        0.0801      Main Channel
                  682.29        351.50    0.0801 /0.0600  Main Channel
                  695.67        351.81        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
        0.62   340.21    .416E+05          22.3          0.61       31.10
        1.24   340.83    .130E+06         111.8          0.98       19.42
        1.87   341.46    .246E+06         291.5          1.35       14.09
        2.49   342.08    .372E+06         563.5          1.73       10.99
        3.11   342.70    .502E+06         906.2          2.07        9.22
```



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        3.73   343.32    .636E+06        1319.1          2.37        8.03
        4.36   343.95    .774E+06        1797.5          2.66        7.18
        4.98   344.57    .915E+06        2337.3          2.92        6.53
        5.60   345.19    .106E+07        2937.0          3.17        6.02
        6.22   345.81    .121E+07        3594.6          3.40        5.61
        6.84   346.43    .136E+07        4291.2          3.60        5.29
        7.47   347.06    .152E+07        5045.8          3.79        5.02
        8.09   347.68    .168E+07        5708.0          3.87        4.92
        8.71   348.30    .187E+07        6313.6          3.87        4.93
        9.41   349.00    .213E+07        6801.3          3.65        5.21
       10.11   349.70    .243E+07        7734.7          3.64        5.23
       10.82   350.41    .281E+07        8436.7          3.43        5.55
       11.52   351.11    .325E+07        9969.2          3.50        5.44
       12.22   351.81    .375E+07       12035.6          3.67        5.20

                                      <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1465)    3593.55     3.25   12.92   6.58      0.09
0.61
  OUTFLOW: ID= 1 (  3204)    3593.55     3.24   13.42   6.58      0.09
0.61


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--------------------
| ROUTE CHN(  3206)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00        352.28        0.0600
                   57.77        351.50        0.0801      Main Channel
                  153.65        348.30        0.0801      Main Channel
                  189.04        348.44        0.0801      Main Channel
                  196.12        347.34        0.0801      Main Channel
                  224.44        341.27        0.0801      Main Channel
                  245.67        340.63        0.0801      Main Channel
                  324.83        339.59        0.0801      Main Channel
                  364.84        339.83        0.0801      Main Channel
                  394.84        341.21        0.0801      Main Channel
                  404.84        342.90        0.0801      Main Channel
                  414.84        345.79        0.0801      Main Channel
                  424.85        347.37        0.0801      Main Channel
                  484.86        349.00        0.0801      Main Channel
                  504.86        349.79        0.0801      Main Channel
                  524.86        349.54        0.0801      Main Channel
                  544.87        349.86        0.0801      Main Channel
                  599.22        350.19        0.0801      Main Channel
                  682.29        351.50    0.0801 /0.0600  Main Channel
                  695.67        351.81        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
        0.62   340.21    .578E+05          18.9          0.52       50.89
        1.24   340.83    .181E+06          94.9          0.83       31.78
        1.87   341.46    .342E+06         247.2          1.15       23.06
        2.49   342.08    .516E+06         478.0          1.47       17.99
        3.11   342.70    .696E+06         768.7          1.75       15.09
        3.73   343.32    .883E+06        1119.0          2.01       13.15
        4.36   343.95    .107E+07        1524.8          2.25       11.74
```



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        4.98   344.57    .127E+07        1982.7          2.48       10.68
        5.60   345.19    .147E+07        2491.4          2.69        9.85
        6.22   345.81    .168E+07        3049.3          2.88        9.17
        6.84   346.43    .189E+07        3640.2          3.05        8.66
        7.47   347.06    .211E+07        4280.3          3.22        8.22
        8.09   347.68    .234E+07        4842.1          3.29        8.05
        8.71   348.30    .259E+07        5355.7          3.28        8.06
        9.41   349.00    .295E+07        5769.5          3.10        8.53
       10.11   349.70    .337E+07        6561.3          3.09        8.56
       10.82   350.41    .390E+07        7156.8          2.91        9.08
       11.52   351.11    .452E+07        8456.8          2.97        8.90
       12.22   351.81    .521E+07       10209.7          3.11        8.50

                                      <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3204)    3593.55     3.24   13.42   6.58      0.11
0.52
  OUTFLOW: ID= 1 (  3206)    3593.55     3.21   14.33   6.58      0.11
0.52


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--------------------
| ROUTE CHN(  3902)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00        328.18        0.0600
                   32.12        326.11        0.0801      Main Channel
                   92.12        323.88        0.0801      Main Channel
                  142.12        323.25        0.0801      Main Channel
                  182.12        321.53        0.0801      Main Channel
                  261.80        320.08        0.0801      Main Channel
                  282.12        321.45        0.0801      Main Channel
                  312.12        321.50        0.0801      Main Channel
                  352.20        323.01        0.0801      Main Channel
                  392.38        321.87        0.0801      Main Channel
                  412.13        319.51        0.0801      Main Channel
                  462.69        319.08        0.0801      Main Channel
                  502.13        317.48        0.0801      Main Channel
                  533.00        317.79        0.0801      Main Channel
                  643.48        317.44        0.0801      Main Channel
                  732.13        316.88        0.0801      Main Channel
                  752.13        317.43        0.0801      Main Channel
                  772.13        317.23        0.0801      Main Channel
                  792.13        319.49    0.0801 /0.0600  Main Channel
                  841.96        319.37        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
        0.13   317.01    .951E+03           0.2          0.10       91.36
        0.26   317.14    .380E+04           1.1          0.17       57.55
        0.39   317.27    .861E+04           3.2          0.21       45.45
        0.52   317.40    .161E+05           6.9          0.25       39.02
        0.65   317.53    .267E+05          12.8          0.28       34.71
        0.78   317.66    .414E+05          21.8          0.30       31.66
        0.91   317.79    .605E+05          35.3          0.33       28.58
        1.04   317.92    .818E+05          57.8          0.41       23.61
        1.17   318.05    .103E+06          84.6          0.47       20.39
```

1.30	318.18	.125E+06	115.4	0.53	18.11	
1.44	318.32	.148E+06	150.2	0.58	16.40	
1.57	318.45	.170E+06	188.6	0.64	15.06	
1.70	318.58	.193E+06	230.6	0.68	13.97	
1.83	318.71	.217E+06	276.2	0.73	13.08	
1.96	318.84	.240E+06	325.1	0.78	12.32	
2.09	318.97	.264E+06	377.5	0.82	11.67	
2.22	319.10	.289E+06	431.6	0.86	11.14	
2.35	319.23	.314E+06	480.3	0.88	10.89	
2.48	319.36	.340E+06	532.7	0.90	10.64	

		<---- hydrograph ---->	<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3206)	3593.55	3.21	14.33	6.58	0.39	0.21
OUTFLOW: ID= 1 (3902)	3593.55	3.19	14.92	6.58	0.39	0.21

CALIB					
NASHYD (0009)	Area (ha)=	481.20	Curve Number (CN)=	56.4	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	3.65			

Unit Hyd Qpeak (cms)= 2.251

PEAK FLOW (cms)= 0.363 (i)
TIME TO PEAK (hrs)= 10.667
RUNOFF VOLUME (mm)= 4.488
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.107

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7490)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3902):	3593.55	3.193	14.92	6.58
+ ID2= 2 (0009):	481.20	0.363	10.67	4.49
ID = 3 (7490):	4074.75	3.502	14.58	6.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0015)	Area (ha)=	15.38	Curve Number (CN)=	56.4	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	0.49			

Unit Hyd Qpeak (cms)= 0.536

PEAK FLOW (cms)= 0.046 (i)

TIME TO PEAK (hrs)= 6.250
RUNOFF VOLUME (mm)= 4.464
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0016)	Area (ha)=	105.58	Curve Number (CN)=	56.4	
ID= 1 DT= 5.0 min	Ia (mm)=	22.80	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.43			

Unit Hyd Qpeak (cms)= 1.261

PEAK FLOW (cms)= 0.062 (i)
TIME TO PEAK (hrs)= 8.750
RUNOFF VOLUME (mm)= 1.710
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.041

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0017)	Area (ha)=	173.38	Curve Number (CN)=	52.6	
ID= 1 DT= 5.0 min	Ia (mm)=	35.70	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.93			

Unit Hyd Qpeak (cms)= 1.534

PEAK FLOW (cms)= 0.008 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 0.169
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.004

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0018)	Area (ha)=	296.86	Curve Number (CN)=	56.4	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.98			

Unit Hyd Qpeak (cms)= 2.560

PEAK FLOW (cms)= 0.370 (i)
TIME TO PEAK (hrs)= 8.667
RUNOFF VOLUME (mm)= 4.486
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.107

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0019)	Area (ha)=	439.60	Curve Number (CN)=	56.4	

ID= 1 DT= 5.0 min	Ia (mm)=	43.40	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	4.25			

Unit Hyd Qpeak (cms)= 1.766

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1256)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0018):	296.86	0.370	8.67	4.49
+ ID2= 2 (0019):	439.60	0.000	0.00	0.00
ID = 3 (1256):	736.46	0.370	8.67	1.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2909)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	350.88	0.0600	
32.17	346.10	0.0801	Main Channel
57.68	343.36	0.0801	Main Channel
75.52	340.57	0.0801	Main Channel
103.64	335.47	0.0801	Main Channel
132.22	333.50	0.0801	Main Channel
160.81	324.86	0.0801	Main Channel
167.96	323.82	0.0801	Main Channel
196.54	323.75	0.0801	Main Channel
208.38	324.29	0.0801	Main Channel
232.28	326.05	0.0801	Main Channel
246.57	324.43	0.0801	Main Channel
268.01	325.14	0.0801	Main Channel
282.30	327.06	0.0801	Main Channel
312.40	328.83	0.0801	Main Channel
362.27	334.55	0.0801	Main Channel
382.35	337.49	0.0801	Main Channel
409.33	342.25	0.0801	Main Channel
453.82	343.04	0.0801 /0.0600	Main Channel
475.13	344.28	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.07	324.82	.430E+05	31.3	0.66	22.89
2.14	325.89	.134E+06	151.3	1.02	14.78
3.21	326.96	.252E+06	398.6	1.43	10.55
4.29	328.04	.386E+06	731.8	1.72	8.79
5.36	329.11	.541E+06	1181.3	1.98	7.63
6.43	330.18	.710E+06	1770.3	2.26	6.69
7.50	331.25	.892E+06	2472.1	2.51	6.01

8.57	332.32	.109E+07	3288.6	2.74	5.51
9.64	333.39	.129E+07	4222.5	2.96	5.11
10.72	334.47	.152E+07	5148.9	3.07	4.91
11.79	335.54	.177E+07	6246.4	3.21	4.71
12.86	336.61	.203E+07	7630.3	3.41	4.43
13.93	337.68	.231E+07	9161.5	3.60	4.20
15.00	338.75	.260E+07	10858.1	3.79	3.99
16.07	339.82	.290E+07	12702.0	3.97	3.80
17.15	340.90	.321E+07	14687.4	4.15	3.64
18.22	341.97	.353E+07	16808.0	4.31	3.51
19.29	343.04	.389E+07	17894.8	4.17	3.62
20.36	344.11	.428E+07	20875.6	4.42	3.42

		<---- hydrograph ---->	<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1256)	736.46	0.37	8.67	1.81	0.01	0.66
OUTFLOW: ID= 1 (2909)	736.46	0.37	9.08	1.81	0.01	0.66

ROUTE CHN(2555)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	327.09	0.0600	
14.45	326.91	0.0801	Main Channel
21.78	326.64	0.0801	Main Channel
43.77	325.72	0.0801	Main Channel
58.43	323.51	0.0801	Main Channel
62.85	322.17	0.0801	Main Channel
65.76	321.04	0.0801	Main Channel
80.42	319.08	0.0801	Main Channel
102.41	318.96	0.0801	Main Channel
117.06	319.06	0.0801	Main Channel
120.44	318.54	0.0801	Main Channel
124.39	318.29	0.0801	Main Channel
139.05	319.82	0.0801	Main Channel
146.38	320.34	0.0801	Main Channel
161.04	322.05	0.0801	Main Channel
168.37	323.22	0.0801	Main Channel
175.70	323.98	0.0801	Main Channel
189.55	324.59	0.0801	Main Channel
219.68	324.61	0.0801 /0.0600	Main Channel
239.23	324.12	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	318.59	.471E+03	0.2	0.16	42.35
0.60	318.89	.166E+04	1.1	0.27	25.76
0.90	319.19	.614E+04	3.5	0.24	29.15
1.20	319.49	.131E+05	11.7	0.37	18.68
1.50	319.79	.207E+05	23.7	0.47	14.56
1.81	320.10	.291E+05	39.1	0.56	12.39
2.11	320.40	.382E+05	58.3	0.63	10.93
2.41	320.70	.480E+05	81.8	0.71	9.78
2.71	321.00	.584E+05	109.2	0.77	8.92

3.01	321.30	.694E+05	141.4	0.84	8.18
3.31	321.60	.807E+05	177.6	0.91	7.58
3.61	321.90	.925E+05	217.5	0.97	7.09
3.91	322.20	.105E+06	261.8	1.04	6.66
4.21	322.50	.117E+06	310.1	1.09	6.30
4.51	322.80	.130E+06	362.1	1.15	5.99
4.81	323.10	.143E+06	418.0	1.21	5.72
5.12	323.41	.157E+06	476.0	1.25	5.50
5.42	323.71	.171E+06	535.0	1.29	5.33
5.72	324.01	.186E+06	596.2	1.33	5.20

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2909)	736.46	0.37	9.08	1.81	0.36	0.18
OUTFLOW: ID= 1 (2555)	736.46	0.36	9.75	1.81	0.36	0.18

ADD HYD (2031)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0016):	105.58	0.062	8.75	1.71
+ ID2= 2 (0017):	173.38	0.008	12.33	0.17
ID = 3 (2031):	278.96	0.067	9.25	0.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2031)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (2031):	278.96	0.067	9.25	0.75
+ ID2= 2 (2555):	736.46	0.360	9.75	1.81
ID = 1 (2031):	1015.42	0.426	9.58	1.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3931)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	319.49	0.0600	
35.63	319.55	0.0801	Main Channel
55.79	318.05	0.0801	Main Channel
75.31	318.52	0.0801	Main Channel
96.12	318.39	0.0801	Main Channel
106.21	317.90	0.0801	Main Channel
148.42	318.69	0.0801	Main Channel

173.54	317.36	0.0801 Main Channel
196.95	317.39	0.0801 Main Channel
217.12	316.90	0.0801 Main Channel
247.37	317.58	0.0801 Main Channel
262.85	318.69	0.0801 Main Channel
280.71	320.99	0.0801 Main Channel
298.57	320.28	0.0801 Main Channel
317.95	320.53	0.0801 Main Channel
338.11	320.22	0.0801 Main Channel
355.25	320.55	0.0801 Main Channel
368.77	321.23	0.0801 Main Channel
449.86	327.32	0.0801 /0.0600 Main Channel
458.08	327.16	0.0600

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	317.28	.440E+04	1.8	0.28	41.21
0.77	317.67	.218E+05	14.1	0.45	25.85
1.15	318.05	.457E+05	40.7	0.62	18.73
1.73	318.63	.109E+06	109.8	0.70	16.55
2.31	319.21	.198E+06	283.4	1.00	11.66
2.89	319.79	.299E+06	530.8	1.24	9.39
3.47	320.37	.411E+06	808.5	1.38	8.47
4.05	320.95	.550E+06	1148.0	1.46	7.98
4.63	321.53	.699E+06	1678.8	1.68	6.94
5.21	322.11	.851E+06	2302.6	1.89	6.16
5.79	322.69	.101E+07	3007.7	2.09	5.58
6.36	323.26	.117E+07	3791.4	2.27	5.12
6.94	323.84	.133E+07	4651.6	2.45	4.76
7.52	324.42	.149E+07	5586.7	2.62	4.45
8.10	325.00	.166E+07	6595.5	2.78	4.20
8.68	325.58	.183E+07	7677.0	2.93	3.98
9.26	326.16	.201E+07	8830.4	3.08	3.79
9.84	326.74	.218E+07	10055.3	3.22	3.62
10.42	327.32	.237E+07	11351.4	3.36	3.47

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2031)	1015.42	0.43	9.58	1.52	0.09	0.28
OUTFLOW: ID= 1 (3931)	1015.42	0.42	10.42	1.52	0.09	0.28

ADD HYD (7491)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0015):	15.38	0.046	6.25	4.46
+ ID2= 2 (3931):	1015.42	0.416	10.42	1.52
ID = 3 (7491):	1030.80	0.427	10.25	1.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0766)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7490):	4074.75	3.502	14.58	6.33
+ ID2= 2 (7491):	1030.80	0.427	10.25	1.56
ID = 3 (0766):	5105.55	3.805	14.17	5.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2539)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	321.74	0.0600	
38.04	323.09	0.0801	Main Channel
73.43	321.47	0.0801	Main Channel
115.91	319.67	0.0801	Main Channel
196.50	319.15	0.0801	Main Channel
207.93	317.11	0.0801	Main Channel
245.40	315.24	0.0801	Main Channel
326.57	314.96	0.0801	Main Channel
441.53	314.27	0.0801	Main Channel
529.49	313.48	0.0801	Main Channel
576.02	312.21	0.0801	Main Channel
690.30	312.85	0.0801	Main Channel
751.24	312.33	0.0801	Main Channel
809.97	314.82	0.0801	Main Channel
967.79	317.38	0.0801	Main Channel
1019.00	316.72	0.0801	Main Channel
1253.95	324.25	0.0801	Main Channel
1289.72	321.43	0.0801	Main Channel
1325.49	316.86	0.0801 /0.0600	Main Channel
1368.38	317.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.58	312.79	.531E+05	20.5	0.40	43.25
1.16	313.37	.188E+06	142.8	0.79	21.92
1.74	313.95	.353E+06	344.4	1.01	17.06
2.33	314.54	.566E+06	637.4	1.16	14.80
2.91	315.12	.847E+06	1021.6	1.25	13.81
3.49	315.70	.121E+07	1684.2	1.44	11.95
4.07	316.28	.160E+07	2562.2	1.66	10.40
4.65	316.86	.202E+07	3565.6	1.82	9.44
5.32	317.53	.259E+07	4895.5	1.96	8.81
5.99	318.20	.321E+07	6804.2	2.19	7.87
6.67	318.88	.386E+07	9003.2	2.41	7.15
7.34	319.55	.454E+07	11077.2	2.52	6.83
8.01	320.22	.529E+07	13741.6	2.69	6.41
8.68	320.89	.606E+07	16826.1	2.87	6.00
9.35	321.56	.686E+07	20229.3	3.05	5.66
10.02	322.23	.770E+07	24064.1	3.23	5.33
10.70	322.91	.858E+07	28223.2	3.40	5.07
11.37	323.58	.950E+07	32731.8	3.56	4.84
12.04	324.25	.104E+08	37581.8	3.72	4.63

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0766)	5105.55	3.81	14.17	5.37	0.11	0.40
OUTFLOW: ID= 1 (2539)	5105.55	3.78	14.83	5.37	0.11	0.40

ROUTE CHN(2540)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	321.74	0.0600	
38.04	323.09	0.0801	Main Channel
73.43	321.47	0.0801	Main Channel
115.91	319.67	0.0801	Main Channel
196.50	319.15	0.0801	Main Channel
207.93	317.11	0.0801	Main Channel
245.40	315.24	0.0801	Main Channel
326.57	314.96	0.0801	Main Channel
441.53	314.27	0.0801	Main Channel
529.49	313.48	0.0801	Main Channel
576.02	312.21	0.0801	Main Channel
690.30	312.85	0.0801	Main Channel
751.24	312.33	0.0801	Main Channel
809.97	314.82	0.0801	Main Channel
967.79	317.38	0.0801	Main Channel
1019.00	316.72	0.0801	Main Channel
1253.95	324.25	0.0801	Main Channel
1289.72	321.43	0.0801	Main Channel
1325.49	316.86	0.0801 /0.0600	Main Channel
1368.38	317.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.58	312.79	.275E+05	18.3	0.36	25.01
1.16	313.37	.971E+05	127.7	0.70	12.67
1.74	313.95	.182E+06	308.1	0.90	9.87
2.33	314.54	.293E+06	570.3	1.04	8.56
2.91	315.12	.438E+06	914.0	1.12	7.99
3.49	315.70	.625E+06	1506.9	1.29	6.91
4.07	316.28	.827E+06	2292.3	1.48	6.02
4.65	316.86	.105E+07	3190.1	1.63	5.46
5.32	317.53	.134E+07	4380.0	1.75	5.09
5.99	318.20	.166E+07	6087.7	1.96	4.55
6.67	318.88	.200E+07	8055.1	2.16	4.13
7.34	319.55	.235E+07	9910.7	2.26	3.95
8.01	320.22	.273E+07	12294.6	2.41	3.71
8.68	320.89	.314E+07	15054.2	2.57	3.47
9.35	321.56	.355E+07	18099.0	2.73	3.27
10.02	322.23	.399E+07	21530.1	2.89	3.08
10.70	322.91	.444E+07	25251.2	3.04	2.93
11.37	323.58	.492E+07	29285.0	3.19	2.80
12.04	324.25	.540E+07	33624.3	3.33	2.68

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

(m/s)
INFLOW : ID= 2 (2539) 5105.55 3.78 14.83 5.37 0.12
0.36
OUTFLOW: ID= 1 (2540) 5105.55 3.77 15.25 5.37 0.12
0.36

| ROUTE CHN(2471) |
| IN= 2---> OUT= 1 |

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	322.20	0.0600	
47.23	322.48	0.0801	Main Channel
69.32	321.23	0.0801	Main Channel
102.44	317.36	0.0801	Main Channel
128.60	319.11	0.0801	Main Channel
157.65	321.87	0.0801	Main Channel
188.77	320.78	0.0801	Main Channel
245.98	317.44	0.0801	Main Channel
286.54	315.10	0.0801	Main Channel
323.27	307.26	0.0801	Main Channel
354.23	302.62	0.0801	Main Channel
367.43	303.82	0.0801	Main Channel
389.51	304.08	0.0801	Main Channel
429.44	309.53	0.0801	Main Channel
455.76	312.21	0.0801	Main Channel
519.69	314.12	0.0801	Main Channel
610.34	318.63	0.0801	Main Channel
730.28	319.73	0.0801	Main Channel
737.80	318.33	0.0801 /0.0600	Main Channel
769.91	320.11	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.98	303.60	.852E+04	7.1	0.84	19.92
1.96	304.58	.458E+05	56.6	1.24	13.49
2.95	305.57	.104E+06	188.8	1.82	9.15
3.93	306.55	.175E+06	398.2	2.27	7.33
4.91	307.53	.260E+06	693.9	2.67	6.24
5.89	308.51	.357E+06	1086.0	3.04	5.47
6.87	309.49	.465E+06	1573.4	3.38	4.93
7.85	310.47	.586E+06	2143.3	3.66	4.56
8.84	311.46	.721E+06	2826.0	3.92	4.25
9.82	312.44	.871E+06	3555.3	4.08	4.08
10.80	313.42	.105E+07	4242.0	4.04	4.13
11.78	314.40	.127E+07	5228.6	4.13	4.04
12.76	315.38	.151E+07	6507.2	4.31	3.87
13.75	316.37	.179E+07	7898.2	4.42	3.77
14.73	317.35	.210E+07	9571.4	4.56	3.66
15.71	318.33	.246E+07	11184.3	4.55	3.67
16.69	319.31	.291E+07	12288.9	4.22	3.95
18.08	320.70	.376E+07	16625.7	4.42	3.77
19.46	322.08	.471E+07	22837.6	4.85	3.44

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2540)	5105.55	3.77	15.25	5.37	0.52	

0.84
OUTFLOW: ID= 1 (2471) 5105.55 3.77 15.58 5.37 0.51
0.84

CALIB	
NASHYD (0026)	Area (ha)= 302.36 Curve Number (CN)= 56.4
ID= 1 DT= 5.0 min	Ia (mm)= 27.30 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.58

Unit Hyd Qpeak (cms)= 2.001

PEAK FLOW (cms)= 0.068 (i)
TIME TO PEAK (hrs)= 11.167
RUNOFF VOLUME (mm)= 1.025
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.024

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0027)	Area (ha)= 283.63 Curve Number (CN)= 56.4
ID= 1 DT= 5.0 min	Ia (mm)= 43.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.96

Unit Hyd Qpeak (cms)= 1.636

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1421)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2471):	5105.55	3.768	15.58	5.37
+ ID2= 2 (0026):	302.36	0.068	11.17	1.02
ID = 3 (1421):	5407.91	3.818	15.50	5.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1421)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1421):	5407.91	3.818	15.50	5.13
+ ID2= 2 (0027):	283.63	0.000	0.00	0.00
ID = 1 (1421):	5691.54	3.818	15.50	4.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(2472) |
| IN= 2---> OUT= 1 |

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
49.41	302.64	0.0600	
59.30	301.93	0.0801	Main Channel
69.18	300.14	0.0801	Main Channel
98.84	292.40	0.0801	Main Channel
108.72	290.57	0.0801	Main Channel
168.02	290.58	0.0801	Main Channel
207.55	287.88	0.0801	Main Channel
237.20	286.56	0.0801	Main Channel
276.34	286.39	0.0801	Main Channel
286.12	285.52	0.0801	Main Channel
305.69	286.83	0.0801	Main Channel
325.25	289.49	0.0801	Main Channel
335.04	289.99	0.0801	Main Channel
354.60	290.01	0.0801	Main Channel
393.74	289.41	0.0801	Main Channel
423.08	289.58	0.0801	Main Channel
452.43	289.51	0.0801	Main Channel
481.78	291.99	0.0801	Main Channel
491.57	294.36	0.0801 /0.0600	Main Channel
511.13	303.24	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.88	286.40	.118E+05	4.0	0.39	49.00
1.77	287.29	.846E+05	46.0	0.63	30.66
2.65	288.17	.188E+06	148.2	0.91	21.16
3.54	289.06	.313E+06	311.6	1.15	16.76
4.42	289.94	.501E+06	438.0	1.01	19.05
5.31	290.83	.815E+06	783.7	1.11	17.33
6.19	291.71	.119E+07	1437.8	1.40	13.82
7.08	292.59	.158E+07	2266.3	1.66	11.65
7.96	293.48	.198E+07	3256.6	1.90	10.15
8.85	294.36	.239E+07	4390.4	2.13	9.07
9.77	295.28	.282E+07	5744.5	2.36	8.18
10.69	296.20	.326E+07	7245.4	2.58	7.49
11.61	297.12	.370E+07	8888.8	2.79	6.93
12.52	298.04	.414E+07	10671.1	2.98	6.47
13.44	298.96	.460E+07	12589.4	3.17	6.09
14.36	299.88	.506E+07	14641.3	3.36	5.76
15.28	300.80	.552E+07	16889.3	3.54	5.45
16.20	301.72	.599E+07	19299.2	3.73	5.18
17.12	302.64	.648E+07	21850.3	3.91	4.94

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1421)	5691.54	3.82	15.50	4.87	0.84	0.39
OUTFLOW: ID= 1 (2472)	5691.54	3.78	16.42	4.87	0.83	0.39

CALIB	
NASHYD (0024)	Area (ha)= 291.29 Curve Number (CN)= 56.4
ID= 1 DT= 5.0 min	Ia (mm)= 43.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.29

Unit Hyd Qpeak (cms)= 2.172

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1419)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0024):	291.29	0.000	0.00	0.00
+ ID2= 2 (2472):	5691.54	3.781	16.42	4.87
ID = 3 (1419):	5982.83	3.781	16.42	4.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0025)	Area (ha)= 480.45 Curve Number (CN)= 64.1
ID= 1 DT= 5.0 min	Ia (mm)= 43.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 3.61

Unit Hyd Qpeak (cms)= 2.272

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1416)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1419):	5982.83	3.781	16.42	4.64
+ ID2= 2 (0025):	480.45	0.000	0.00	0.00
ID = 3 (1416):	6463.28	3.781	16.42	4.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2473)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         298.56        0.0600
                    9.94         298.09        0.0801      Main Channel
                   39.75         287.75        0.0801      Main Channel
                   49.68         284.94        0.0801      Main Channel
                   89.43         282.11        0.0801      Main Channel
                  129.17         282.46        0.0801      Main Channel
                  278.22         282.68        0.0801      Main Channel
                  308.03         282.44        0.0801      Main Channel
                  387.52         282.97        0.0801      Main Channel
                  447.14         283.91        0.0801      Main Channel
                  506.76         283.93        0.0801      Main Channel
                  546.50         285.29        0.0801      Main Channel
                  626.00         284.37        0.0801      Main Channel
                  725.36         284.82        0.0801      Main Channel
                  735.30         285.37        0.0801      Main Channel
                  755.17         288.99        0.0801      Main Channel
                  854.53         290.85        0.0801      Main Channel
                  864.47         292.50        0.0801      Main Channel
                  894.28         303.08    0.0801 /0.0600  Main Channel
                  943.96         303.94        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
        0.81   282.92    .108E+06          39.1         0.36       46.21
        1.61   283.72    .379E+06         275.8         0.73       22.92
        2.42   284.53    .734E+06         660.9         0.90       18.50
        3.22   285.33    .124E+07        1302.2         1.05       15.81
        4.03   286.14    .179E+07        2400.1         1.34       12.44
        4.83   286.94    .235E+07        3754.3         1.59       10.44
        5.64   287.75    .292E+07        5343.9         1.83        9.11
        6.54   288.65    .356E+07        7402.1         2.08        8.02
        7.44   289.55    .422E+07        9518.6         2.26        7.38
        8.34   290.45    .492E+07       11773.0         2.39        6.96
        9.24   291.35    .565E+07       14550.9         2.57        6.48
       10.14   292.25    .640E+07       17799.2         2.78        6.00
       11.05   293.16    .716E+07       21344.7         2.98        5.59
       11.95   294.06    .792E+07       25163.0         3.17        5.25
       12.85   294.96    .868E+07       29235.5         3.36        4.95
       13.75   295.86    .945E+07       33556.1         3.55        4.70
       14.65   296.76    .102E+08       38119.5         3.72        4.47
       15.55   297.66    .110E+08       42921.0         3.90        4.27
       16.45   298.56    .118E+08       47966.7         4.06        4.10

                                       <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1416)    6463.28     3.78   16.42   4.29      0.08
0.36
  OUTFLOW: ID= 1 (  2473)    6463.28     3.75   17.25   4.29      0.08
0.36


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| ROUTE CHN(  3977)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         288.94        0.0600
                   37.83         287.46        0.0801      Main Channel
                  109.19         287.13        0.0801      Main Channel
                  139.77         285.09        0.0801      Main Channel
                  190.74         290.50        0.0801      Main Channel
                  200.94         288.45        0.0801      Main Channel
                  211.13         281.78        0.0801      Main Channel
                  251.91         279.31        0.0801      Main Channel
                  282.49         279.19        0.0801      Main Channel
                  313.08         279.01        0.0801      Main Channel
                  343.66         279.65        0.0801      Main Channel
                  455.80         279.70        0.0801      Main Channel
                  577.76         281.16        0.0801      Main Channel
                  659.69         281.37        0.0801      Main Channel
                  731.05         283.45        0.0801      Main Channel
                  802.41         283.51        0.0801      Main Channel
                  873.77         286.30        0.0801      Main Channel
                  914.54         296.44        0.0801      Main Channel
                  934.93         296.86    0.0801 /0.0600  Main Channel
                  950.04         294.70        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
        0.90   279.91    .296E+05          40.4         0.43       12.20
        1.80   280.81    .108E+06         279.9         0.81        6.41
        2.71   281.72    .220E+06         723.4         1.03        5.06
        3.61   282.62    .354E+06        1531.3         1.35        3.85
        4.51   283.52    .499E+06        2391.1         1.50        3.48
        5.41   284.42    .670E+06        3806.3         1.78        2.93
        6.32   285.33    .849E+06        5463.5         2.02        2.59
        7.22   286.23    .104E+07        7302.7         2.20        2.37
        8.12   287.13    .124E+07        9540.1         2.41        2.16
        9.09   288.10    .148E+07       12437.8         2.63        1.99
       10.07   289.08    .174E+07       15713.6         2.83        1.84
       11.04   290.05    .201E+07       19374.8         3.02        1.73
       12.01   291.02    .228E+07       23543.8         3.24        1.61
       12.99   292.00    .255E+07       28196.5         3.46        1.51
       13.96   292.97    .282E+07       33204.4         3.68        1.42
       14.93   293.94    .310E+07       38555.5         3.90        1.34
       15.90   294.91    .337E+07       44239.7         4.11        1.27
       16.88   295.89    .365E+07       50251.6         4.31        1.21
       17.85   296.86    .394E+07       55826.7         4.44        1.18

                                       <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2473)    6463.28     3.75   17.25   4.29      0.08
0.43
  OUTFLOW: ID= 1 (  3977)    6463.28     3.75   17.42   4.29      0.08
0.43


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| ROUTE CHN(  3978)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         288.94        0.0600
                   37.83         287.46        0.0801      Main Channel
                  109.19         287.13        0.0801      Main Channel
                  139.77         285.09        0.0801      Main Channel
                  190.74         290.50        0.0801      Main Channel
                  200.94         288.45        0.0801      Main Channel
                  211.13         281.78        0.0801      Main Channel
                  251.91         279.31        0.0801      Main Channel
                  282.49         279.19        0.0801      Main Channel
                  313.08         279.01        0.0801      Main Channel
                  343.66         279.65        0.0801      Main Channel
                  455.80         279.70        0.0801      Main Channel
                  577.76         281.16        0.0801      Main Channel
                  659.69         281.37        0.0801      Main Channel
                  731.05         283.45        0.0801      Main Channel
                  802.41         283.51        0.0801      Main Channel
                  873.77         286.30        0.0801      Main Channel
                  914.54         296.44        0.0801      Main Channel
                  934.93         296.86    0.0801 /0.0600  Main Channel
                  950.04         294.70        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
        0.90   279.91    .504E+05          20.5         0.22       40.99
        1.80   280.81    .184E+06         142.0         0.41       21.55
        2.71   281.72    .374E+06         367.0         0.52       17.00
        3.61   282.62    .604E+06         776.8         0.69       12.95
        4.51   283.52    .850E+06        1213.0         0.76       11.68
        5.41   284.42    .114E+07        1930.9         0.90        9.86
        6.32   285.33    .145E+07        2771.5         1.02        8.70
        7.22   286.23    .177E+07        3704.5         1.12        7.96
        8.12   287.13    .211E+07        4839.5         1.22        7.27
        9.09   288.10    .253E+07        6309.5         1.33        6.67
       10.07   289.08    .297E+07        7971.2         1.43        6.20
       11.04   290.05    .342E+07        9828.5         1.53        5.80
       12.01   291.02    .388E+07       11943.3         1.64        5.42
       12.99   292.00    .435E+07       14303.6         1.76        5.06
       13.96   292.97    .481E+07       16844.0         1.87        4.76
       14.93   293.94    .528E+07       19558.5         1.98        4.50
       15.90   294.91    .575E+07       22441.9         2.08        4.27
       16.88   295.89    .623E+07       25491.7         2.19        4.07
       17.85   296.86    .671E+07       28319.8         2.25        3.95

                                       <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3977)    6463.28     3.75   17.42   4.29      0.17
0.22
  OUTFLOW: ID= 1 (  3978)    6463.28     3.73   18.17   4.29      0.16
0.22


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| CALIB              |
| NASHYD   (  0022)|   Area    (ha)=    186.08   Curve Number   (CN)= 66.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     27.60   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.38
```



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     Unit Hyd Qpeak  (cms)=     1.335

     PEAK FLOW       (cms)=     0.062 (i)
     TIME TO PEAK    (hrs)=    10.750
     RUNOFF VOLUME    (mm)=     1.427
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.034

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  7492)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0022):    186.08      0.062       10.75        1.43
     + ID2= 2 (  3978):   6463.28      3.727       18.17        4.29
       ==========================================================
       ID = 3 (  7492):   6649.36      3.756       18.08        4.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| NASHYD   (  0023)|   Area    (ha)=    588.67   Curve Number   (CN)= 56.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.98

     Unit Hyd Qpeak  (cms)=     2.525

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  2009)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0023):    588.67      0.000        0.00        0.00
     + ID2= 2 (  7492):   6649.36      3.756       18.08        4.21
       ==========================================================
       ID = 3 (  2009):   7238.03      3.756       18.08        3.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3979)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         288.94        0.0600
```

37.83	287.46	0.0801		Main Channel
109.19	287.13	0.0801		Main Channel
139.77	285.09	0.0801		Main Channel
190.74	290.50	0.0801		Main Channel
200.94	288.45	0.0801		Main Channel
211.13	281.78	0.0801		Main Channel
251.91	279.31	0.0801		Main Channel
282.49	279.19	0.0801		Main Channel
313.08	279.01	0.0801		Main Channel
343.66	279.65	0.0801		Main Channel
455.80	279.70	0.0801		Main Channel
577.76	281.16	0.0801		Main Channel
659.69	281.37	0.0801		Main Channel
731.05	283.45	0.0801		Main Channel
802.41	283.51	0.0801		Main Channel
873.77	286.30	0.0801		Main Channel
914.54	296.44	0.0801		Main Channel
934.93	296.86	0.0801	/0.0600	Main Channel
950.04	294.70	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.90	279.91	.558E+05	21.3	0.23	43.70
1.80	280.81	.203E+06	147.4	0.43	22.98
2.71	281.72	.414E+06	381.0	0.54	18.12
3.61	282.62	.668E+06	806.5	0.71	13.81
4.51	283.52	.941E+06	1259.4	0.79	12.46
5.41	284.42	.126E+07	2004.8	0.94	10.51
6.32	285.33	.160E+07	2877.6	1.06	9.27
7.22	286.23	.196E+07	3846.3	1.16	8.49
8.12	287.13	.234E+07	5024.7	1.27	7.76
9.09	288.10	.280E+07	6550.9	1.38	7.11
10.07	289.08	.328E+07	8276.2	1.49	6.61
11.04	290.05	.378E+07	10204.6	1.59	6.18
12.01	291.02	.430E+07	12400.4	1.71	5.77
12.99	292.00	.481E+07	14850.9	1.82	5.40
13.96	292.97	.533E+07	17488.5	1.94	5.08
14.93	293.94	.585E+07	20306.9	2.05	4.80
15.90	294.91	.637E+07	23300.7	2.16	4.55
16.88	295.89	.689E+07	26467.2	2.27	4.34
17.85	296.86	.743E+07	29403.6	2.34	4.21

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2009)	7238.03	3.76	18.08	3.87	0.16	0.23
OUTFLOW: ID= 1 (3979)	7238.03	3.73	18.83	3.87	0.16	0.23

-

CALIB NASHYD (0021) | ID= 1 DT= 5.0 min	Area (ha)= 398.59	Curve Number (CN)= 57.4
	Ia (mm)= 43.40	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.66	

Unit Hyd Qpeak (cms)= 2.558

PEAK FLOW (cms)= 0.000 (i)

TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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ADD HYD (1831) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0021):	398.59	0.000	0.00	0.00
+ ID2= 2 (3979):	7238.03	3.727	18.83	3.87
ID = 3 (1831):	7636.62	3.727	18.83	3.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-

ROUTE CHN(3980) | IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	289.98	0.0600	
29.76	288.24	0.0801	Main Channel
49.60	287.60	0.0801	Main Channel
69.44	285.25	0.0801	Main Channel
99.21	282.71	0.0801	Main Channel
138.89	279.84	0.0801	Main Channel
188.49	278.36	0.0801	Main Channel
277.78	277.38	0.0801	Main Channel
297.62	278.04	0.0801	Main Channel
307.54	277.69	0.0801	Main Channel
357.14	275.66	0.0801	Main Channel
416.67	275.64	0.0801	Main Channel
446.43	275.52	0.0801	Main Channel
486.11	275.25	0.0801	Main Channel
535.71	275.57	0.0801	Main Channel
605.16	276.50	0.0801	Main Channel
644.84	278.89	0.0801	Main Channel
694.44	286.81	0.0801	Main Channel
724.21	288.15	0.0801	/0.0600 Main Channel
754.00	287.56	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.62	275.87	.492E+05	21.3	0.32	38.46
1.23	276.49	.156E+06	122.2	0.57	21.22
1.85	277.11	.282E+06	309.1	0.80	15.20
2.47	277.72	.425E+06	534.0	0.92	13.26
3.09	278.34	.608E+06	842.8	1.01	12.03
3.70	278.96	.816E+06	1314.4	1.17	10.35
4.32	279.57	.104E+07	1892.4	1.33	9.13
4.94	280.19	.127E+07	2584.2	1.49	8.17
5.56	280.81	.150E+07	3383.4	1.64	7.41
6.17	281.43	.175E+07	4272.8	1.79	6.81
6.79	282.04	.199E+07	5250.5	1.92	6.33
7.41	282.66	.225E+07	6314.9	2.05	5.93
8.03	283.28	.250E+07	7473.9	2.18	5.59

8.64	283.90	.277E+07	8718.4	2.30	5.29
9.26	284.51	.304E+07	10047.0	2.41	5.04
9.88	285.13	.331E+07	11458.9	2.52	4.81
10.49	285.75	.359E+07	12974.7	2.64	4.61
11.11	286.37	.387E+07	14577.9	2.75	4.43
11.73	286.98	.416E+07	16217.7	2.84	4.27

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1831)	7636.62	3.73	18.83	3.67	0.11	0.32
OUTFLOW: ID= 1 (3980)	7636.62	3.71	19.50	3.67	0.11	0.32

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ROUTE CHN(3716) | IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	289.70	0.0600	
48.24	288.00	0.0801	Main Channel
125.03	280.32	0.0801	Main Channel
168.92	276.61	0.0801	Main Channel
201.83	277.57	0.0801	Main Channel
223.77	277.01	0.0801	Main Channel
256.68	274.27	0.0801	Main Channel
322.51	276.98	0.0801	Main Channel
356.70	276.50	0.0801	Main Channel
399.31	273.34	0.0801	Main Channel
421.25	275.17	0.0801	Main Channel
487.07	276.67	0.0801	Main Channel
519.99	287.47	0.0801	Main Channel
530.96	288.03	0.0801	Main Channel
585.81	283.17	0.0801	Main Channel
596.78	282.69	0.0801	Main Channel
648.47	284.25	0.0801	Main Channel
684.55	285.94	0.0801	Main Channel
761.34	289.03	0.0801	/0.0600 Main Channel
790.92	288.96	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.78	274.12	.637E+04	2.2	0.28	49.32
1.55	274.89	.313E+05	14.3	0.38	36.59
2.33	275.67	.900E+05	51.8	0.48	28.96
3.10	276.44	.195E+06	138.2	0.59	23.47
3.88	277.22	.359E+06	289.8	0.67	20.62
4.65	277.99	.569E+06	579.2	0.85	16.39
5.43	278.77	.791E+06	980.3	1.03	13.46
6.20	279.54	.102E+07	1466.1	1.19	11.61
6.98	280.32	.126E+07	2032.5	1.34	10.32
7.84	281.18	.153E+07	2794.9	1.52	9.12
8.71	282.05	.181E+07	3657.2	1.68	8.25
9.57	282.91	.210E+07	4525.1	1.79	7.73
10.44	283.78	.242E+07	5300.3	1.82	7.61
11.30	284.64	.278E+07	6266.0	1.88	7.39
12.16	285.50	.316E+07	7404.4	1.95	7.12

13.03	286.37	.358E+07	8659.6	2.01	6.88
13.89	287.23	.402E+07	10040.5	2.08	6.68
14.76	288.10	.450E+07	11484.6	2.12	6.53
15.62	288.96	.501E+07	13367.3	2.22	6.25

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3980)	7636.62	3.71	19.50	3.67	0.88	0.29
OUTFLOW: ID= 1 (3716)	7636.62	3.68	20.33	3.67	0.87	0.29

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

-

ROUTE CHN(3715) | IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	289.70	0.0600	
48.24	288.00	0.0801	Main Channel
125.03	280.32	0.0801	Main Channel
168.92	276.61	0.0801	Main Channel
201.83	277.57	0.0801	Main Channel
223.77	277.01	0.0801	Main Channel
256.68	274.27	0.0801	Main Channel
322.51	276.98	0.0801	Main Channel
356.70	276.50	0.0801	Main Channel
399.31	273.34	0.0801	Main Channel
421.25	275.17	0.0801	Main Channel
487.07	276.67	0.0801	Main Channel
519.99	287.47	0.0801	Main Channel
530.96	288.03	0.0801	Main Channel
585.81	283.17	0.0801	Main Channel
596.78	282.69	0.0801	Main Channel
648.47	284.25	0.0801	Main Channel
684.55	285.94	0.0801	Main Channel
761.34	289.03	0.0801	/0.0600 Main Channel
790.92	288.96	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.78	274.12	.410E+04	3.4	0.44	20.35
1.55	274.89	.201E+05	22.2	0.59	15.10
2.33	275.67	.579E+05	80.8	0.75	11.95
3.10	276.44	.125E+06	215.5	0.92	9.69
3.88	277.22	.231E+06	452.0	1.05	8.51
4.65	277.99	.366E+06	903.3	1.32	6.76
5.43	278.77	.509E+06	1528.8	1.61	5.55
6.20	279.54	.657E+06	2286.3	1.86	4.79
6.98	280.32	.809E+06	3169.6	2.10	4.26
7.84	281.18	.985E+06	4358.5	2.37	3.76
8.71	282.05	.116E+07	5703.3	2.62	3.40
9.57	282.91	.135E+07	7056.7	2.79	3.19
10.44	283.78	.156E+07	8265.5	2.84	3.14
11.30	284.64	.179E+07	9771.5	2.93	3.05
12.16	285.50	.204E+07	11546.9	3.04	2.94
13.03	286.37	.230E+07	13504.3	3.14	2.84

13.89	287.23	.259E+07	15657.8	3.24	2.75
14.76	288.10	.290E+07	17909.8	3.31	2.69
15.62	288.96	.323E+07	20845.7	3.46	2.58

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3716)	7636.62	3.68	20.33	3.67	0.79	0.44
OUTFLOW: ID= 1 (3715)	7636.62	3.68	20.67	3.67	0.79	0.44

ROUTE CHN(3717)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	289.70	0.0600	
48.24	288.00	0.0801	Main Channel
125.03	280.32	0.0801	Main Channel
168.92	276.61	0.0801	Main Channel
201.83	277.57	0.0801	Main Channel
223.77	277.01	0.0801	Main Channel
256.68	274.27	0.0801	Main Channel
322.51	276.98	0.0801	Main Channel
356.70	276.50	0.0801	Main Channel
399.31	273.34	0.0801	Main Channel
421.25	275.17	0.0801	Main Channel
487.07	276.67	0.0801	Main Channel
519.99	287.47	0.0801	Main Channel
530.96	288.03	0.0801	Main Channel
585.81	283.17	0.0801	Main Channel
596.78	282.69	0.0801	Main Channel
648.47	284.25	0.0801	Main Channel
684.55	285.94	0.0801	Main Channel
761.34	289.03	0.0801 /0.0600	Main Channel
790.92	288.96	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.78	274.12	.381E+04	3.3	0.43	19.31
1.55	274.89	.187E+05	21.8	0.58	14.33
2.33	275.67	.539E+05	79.2	0.73	11.34
3.10	276.44	.117E+06	211.2	0.90	9.19
3.88	277.22	.215E+06	443.1	1.03	8.08
4.65	277.99	.341E+06	885.4	1.29	6.42
5.43	278.77	.474E+06	1498.6	1.57	5.27
6.20	279.54	.611E+06	2241.2	1.83	4.55
6.98	280.32	.753E+06	3107.1	2.05	4.04
7.84	281.18	.916E+06	4272.5	2.32	3.57
8.71	282.05	.108E+07	5590.7	2.57	3.23
9.57	282.91	.126E+07	6917.4	2.74	3.03
10.44	283.78	.145E+07	8102.4	2.78	2.98
11.30	284.64	.166E+07	9578.6	2.87	2.89
12.16	285.50	.189E+07	11319.0	2.98	2.79
13.03	286.37	.214E+07	13237.7	3.08	2.70
13.89	287.23	.241E+07	15348.7	3.17	2.61
14.76	288.10	.269E+07	17556.3	3.24	2.56

15.62	288.96	.300E+07	20434.2	3.39	2.45

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3715)	7636.62	3.68	20.67	3.67	0.79	0.43
OUTFLOW: ID= 1 (3717)	7636.62	3.67	21.00	3.67	0.79	0.43

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3180)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
152.58	280.47	0.0600	
160.73	277.37	0.0801	Main Channel
163.02	276.62	0.0801	Main Channel
170.74	274.45	0.0801	Main Channel
180.74	272.58	0.0801	Main Channel
183.90	272.15	0.0801	Main Channel
190.75	270.89	0.0801	Main Channel
194.33	270.40	0.0801	Main Channel
204.77	269.25	0.0801	Main Channel
220.78	267.93	0.0801	Main Channel
225.65	267.40	0.0801	Main Channel
230.79	267.19	0.0801	Main Channel
236.08	266.27	0.0801	Main Channel
240.80	265.95	0.0801	Main Channel
246.52	265.90	0.0801	Main Channel
250.80	266.24	0.0801	Main Channel
260.81	270.64	0.0801	Main Channel
267.40	273.18	0.0801	Main Channel
277.83	278.85	0.0801 /0.0600	Main Channel
280.83	279.24	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.67	266.57	.583E+04	5.0	0.60	19.46
1.34	267.24	.151E+05	19.8	0.91	12.76
2.01	267.91	.289E+05	45.7	1.10	10.53
2.68	268.58	.468E+05	86.4	1.28	9.03
3.35	269.25	.692E+05	144.9	1.46	7.96
4.02	269.92	.956E+05	227.1	1.65	7.02
4.69	270.59	.126E+06	331.3	1.84	6.32
5.36	271.26	.159E+06	462.2	2.03	5.72
6.03	271.93	.194E+06	617.5	2.21	5.24
6.70	272.60	.232E+06	792.0	2.37	4.89
7.37	273.27	.273E+06	997.1	2.54	4.57
8.04	273.94	.317E+06	1229.6	2.70	4.29
8.71	274.61	.362E+06	1490.1	2.86	4.05
9.38	275.28	.410E+06	1784.1	3.03	3.83
10.05	275.95	.459E+06	2103.4	3.19	3.64
10.72	276.62	.510E+06	2448.3	3.34	3.47
11.39	277.29	.562E+06	2854.8	3.54	3.28
12.26	278.16	.632E+06	3425.5	3.77	3.08
13.14	279.04	.705E+06	4052.1	4.00	2.90

3	288.96	.323E+07	20845.7	3.46	2.58

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3717)	7636.62	3.67	21.00	3.67	0.49	0.60
OUTFLOW: ID= 1 (3180)	7636.62	3.67	21.33	3.67	0.49	0.60

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	
NASHYD (0020)	Area (ha)= 478.77 Curve Number (CN)= 67.9
ID= 1 DT= 5.0 min	Ia (mm)= 43.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.94

Unit Hyd Qpeak (cms)= 2.780

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7493)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0020):	478.77	0.000	0.00	0.00
+ ID2= 2 (3180):	7636.62	3.669	21.33	3.67
ID = 3 (7493):	8115.39	3.669	21.33	3.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0028)	Area (ha)= 254.27 Curve Number (CN)= 63.1
ID= 1 DT= 5.0 min	Ia (mm)= 22.20 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.28

Unit Hyd Qpeak (cms)= 1.904

PEAK FLOW (cms)= 0.144 (i)
TIME TO PEAK (hrs)= 9.750
RUNOFF VOLUME (mm)= 2.330
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.055

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0029)	Area (ha)= 136.15 Curve Number (CN)= 57.4
ID= 1 DT= 5.0 min	Ia (mm)= 43.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.46

Unit Hyd Qpeak (cms)= 0.945

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0030)	Area (ha)= 438.15 Curve Number (CN)= 63.1
ID= 1 DT= 5.0 min	Ia (mm)= 43.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 4.11

Unit Hyd Qpeak (cms)= 1.820

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0031)	Area (ha)= 285.81 Curve Number (CN)= 63.1
ID= 1 DT= 5.0 min	Ia (mm)= 36.80 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.59

Unit Hyd Qpeak (cms)= 1.884

PEAK FLOW (cms)= 0.012 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 0.176
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.004

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0032)	Area (ha)= 50.20 Curve Number (CN)= 58.3
ID= 1 DT= 5.0 min	Ia (mm)= 26.30 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.10

Unit Hyd Qpeak (cms)= 0.779

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 8.583
RUNOFF VOLUME (mm)= 1.249
TOTAL RAINFALL (mm)= 42.000

RUNOFF COEFFICIENT = 0.030

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0033)	Area	(ha)=	581.39	Curve Number	(CN)= 59.3
ID= 1 DT= 5.0 min	Ia	(mm)=	42.60	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		3.63		

Unit Hyd Qpeak (cms)= 2.734

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0034)	Area	(ha)=	270.38	Curve Number	(CN)= 56.4
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		2.65		

Unit Hyd Qpeak (cms)= 1.742

PEAK FLOW (cms)= 0.268 (i)
TIME TO PEAK (hrs)= 9.417
RUNOFF VOLUME (mm)= 4.488
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.107

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0736)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0033):	581.39	0.000	0.00	0.00
	+ ID2= 2 (0034):	270.38	0.268	9.42	4.49
	ID = 3 (0736):	851.77	0.268	9.42	1.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (2210)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	319.81	0.0600	
9.82	318.95	0.0801	Main Channel
19.64	317.81	0.0801	Main Channel
39.29	315.05	0.0801	Main Channel

58.93	312.01	0.0801	Main Channel
68.75	310.61	0.0801	Main Channel
78.58	309.97	0.0801	Main Channel
108.04	309.22	0.0801	Main Channel
117.86	309.12	0.0801	Main Channel
127.69	309.64	0.0801	Main Channel
137.51	310.98	0.0801	Main Channel
147.33	312.12	0.0801	Main Channel
176.80	313.45	0.0801	Main Channel
186.62	313.97	0.0801	Main Channel
196.44	314.77	0.0801	Main Channel
206.26	315.92	0.0801	Main Channel
216.09	317.29	0.0801	Main Channel
225.91	319.21	0.0801	Main Channel
235.73	322.04	0.0801 /0.0600	Main Channel
245.55	324.33	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	309.66	.111E+05	6.8	0.60	27.12
1.09	310.20	.367E+05	37.7	1.00	16.21
1.63	310.75	.698E+05	97.8	1.36	11.90
2.17	311.29	.108E+06	187.0	1.69	9.61
2.72	311.83	.150E+06	302.8	1.96	8.27
3.26	312.38	.198E+06	438.2	2.15	7.52
3.80	312.92	.253E+06	597.4	2.30	7.05
4.35	313.46	.316E+06	795.1	2.45	6.62
4.89	314.01	.387E+06	1042.0	2.62	6.19
5.43	314.55	.464E+06	1346.4	2.82	5.74
5.98	315.09	.546E+06	1700.7	3.03	5.35
6.52	315.64	.633E+06	2100.6	3.22	5.02
7.06	316.18	.725E+06	2547.5	3.42	4.74
7.61	316.72	.820E+06	3042.1	3.61	4.49
8.15	317.27	.919E+06	3582.0	3.79	4.28
8.69	317.81	.102E+07	4180.6	3.97	4.08
9.36	318.48	.116E+07	5048.7	4.25	3.81
10.03	319.14	.129E+07	5991.6	4.50	3.60
10.70	319.81	.144E+07	7033.6	4.75	3.41

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0736)	851.77	0.27	9.42	1.42	0.02	0.60
OUTFLOW: ID= 1 (2210)	851.77	0.27	9.92	1.42	0.02	0.60

ADD HYD (7495)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2210):	851.77	0.266	9.92	1.42
	+ ID2= 2 (0032):	50.20	0.025	8.58	1.25
	ID = 3 (7495):	901.97	0.289	9.75	1.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0035)	Area	(ha)=	208.58	Curve Number	(CN)= 61.2
ID= 1 DT= 5.0 min	Ia	(mm)=	30.90	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		1.85		

Unit Hyd Qpeak (cms)= 1.925

PEAK FLOW (cms)= 0.041 (i)
TIME TO PEAK (hrs)= 10.417
RUNOFF VOLUME (mm)= 0.716
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.017

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0036)	Area	(ha)=	487.07	Curve Number	(CN)= 63.1
ID= 1 DT= 5.0 min	Ia	(mm)=	43.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		4.18		

Unit Hyd Qpeak (cms)= 1.989

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (2207)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	327.88	0.0600	
29.50	327.38	0.0801	Main Channel
39.33	326.97	0.0801	Main Channel
49.17	326.37	0.0801	Main Channel
59.00	325.51	0.0801	Main Channel
78.67	323.15	0.0801	Main Channel
88.50	322.87	0.0801	Main Channel
98.34	321.84	0.0801	Main Channel
118.00	319.12	0.0801	Main Channel
127.84	318.43	0.0801	Main Channel
137.67	318.18	0.0801	Main Channel
206.51	316.99	0.0801	Main Channel
216.34	316.99	0.0801	Main Channel
245.84	317.59	0.0801	Main Channel
255.67	318.33	0.0801	Main Channel
265.51	319.58	0.0801	Main Channel
285.17	322.38	0.0801	Main Channel
334.34	329.09	0.0801	Main Channel
344.18	330.27	0.0801 /0.0600	Main Channel
363.84	333.74	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	317.55	.218E+05	13.0	0.60	27.85
1.11	318.10	.719E+05	69.8	0.97	17.17
1.66	318.66	.141E+06	188.6	1.34	12.45
2.22	319.21	.218E+06	369.6	1.69	9.84
2.77	319.76	.301E+06	608.5	2.02	8.24
3.33	320.32	.388E+06	898.7	2.31	7.19
3.88	320.87	.479E+06	1238.5	2.58	6.45
4.44	321.43	.575E+06	1627.4	2.82	5.89
4.99	321.98	.676E+06	2063.2	3.05	5.46
5.55	322.54	.781E+06	2541.9	3.25	5.12
6.10	323.09	.892E+06	3019.4	3.38	4.92
6.65	323.65	.101E+07	3603.9	3.56	4.67
7.21	324.20	.113E+07	4259.1	3.75	4.44
7.76	324.76	.126E+07	4969.6	3.92	4.24
8.32	325.31	.140E+07	5736.6	4.10	4.06
8.87	325.86	.154E+07	6544.0	4.25	3.91
9.43	326.42	.168E+07	7397.4	4.39	3.79
9.98	326.97	.183E+07	8268.6	4.50	3.69
10.54	327.53	.199E+07	9384.8	4.70	3.54

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN (2208)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	316.77	0.0600	
9.71	316.42	0.0801	Main Channel
19.41	315.98	0.0801	Main Channel
29.12	315.82	0.0801	Main Channel
38.82	315.43	0.0801	Main Channel
67.94	313.09	0.0801	Main Channel
77.65	312.67	0.0801	Main Channel
87.35	312.44	0.0801	Main Channel
97.06	311.81	0.0801	Main Channel
106.76	310.51	0.0801	Main Channel
126.17	306.11	0.0801	Main Channel
135.88	304.81	0.0801	Main Channel
145.58	304.65	0.0801	Main Channel
165.00	304.52	0.0801	Main Channel
174.70	305.06	0.0801	Main Channel
184.41	306.87	0.0801	Main Channel
242.64	316.24	0.0801	Main Channel
252.35	317.25	0.0801	Main Channel
262.05	317.77	0.0801 /0.0600	Main Channel
270.47	319.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.64	305.15	.193E+05	15.6	0.82	20.69
1.27	305.79	.490E+05	65.1	1.34	12.56
1.91	306.43	.838E+05	145.3	1.76	9.62
2.55	307.06	.123E+06	255.6	2.11	8.01
3.19	307.70	.166E+06	395.0	2.41	7.01
3.82	308.34	.214E+06	565.4	2.68	6.30
4.46	308.98	.266E+06	768.2	2.93	5.77
5.10	309.61	.322E+06	1004.9	3.16	5.34
5.73	310.25	.383E+06	1277.0	3.38	5.00

6.37	310.89	.448E+06	1575.9	3.56	4.74
7.01	311.52	.519E+06	1908.7	3.72	4.53
7.65	312.16	.596E+06	2254.6	3.83	4.41
8.28	312.80	.683E+06	2555.7	3.79	4.46
8.92	313.44	.783E+06	3008.6	3.89	4.34
9.56	314.07	.891E+06	3560.3	4.05	4.17
10.19	314.71	.101E+07	4176.1	4.20	4.02
10.83	315.35	.113E+07	4858.7	4.35	3.88
11.47	315.98	.126E+07	5417.1	4.34	3.89
12.25	316.77	.145E+07	6624.3	4.63	3.65

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (7496)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 2208 <ID= 1> IS DRY.				
*** W A R N I N G : HYDROGRAPH 7496 = HYDROGRAPH 0035				
ID1= 1 (2208):	0.00	0.000	0.00	0.00
+ ID2= 2 (0035):	208.58	0.041	10.42	0.72
ID = 3 (7496):	208.58	0.041	10.42	0.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0740)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7495):	901.97	0.289	9.75	1.41
+ ID2= 2 (7496):	208.58	0.041	10.42	0.72
ID = 3 (0740):	1110.55	0.330	9.83	1.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3591)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>			
Distance	Elevation	Manning	
0.00	325.91	0.0600	
20.61	327.41	0.0801	Main Channel
54.15	326.05	0.0801	Main Channel
76.51	319.70	0.0801	Main Channel
132.42	308.48	0.0801	Main Channel
162.67	306.26	0.0801	Main Channel
170.12	307.41	0.0801	Main Channel
207.39	303.28	0.0801	Main Channel
281.92	302.71	0.0801	Main Channel
326.65	300.20	0.0801	Main Channel
371.37	296.84	0.0801	Main Channel
402.06	298.77	0.0801	Main Channel
431.00	306.95	0.0801	Main Channel
490.19	326.01	0.0801	Main Channel

550.25	311.20	0.0801	Main Channel
565.16	309.74	0.0801	Main Channel
594.97	311.10	0.0801	Main Channel
639.70	316.99	0.0801	Main Channel
676.96	315.21	0.0801 /0.0600	Main Channel
747.05	310.93	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.53	298.37	.508E+05	35.7	1.04	23.71
3.06	299.90	.191E+06	229.5	1.78	13.89
4.59	301.43	.397E+06	614.0	2.29	10.77
6.12	302.96	.682E+06	1118.6	2.43	10.16
7.65	304.49	.116E+07	2239.1	2.85	8.66
9.18	306.02	.170E+07	3979.3	3.47	7.11
10.72	307.56	.230E+07	5928.8	3.82	6.47
12.25	309.09	.298E+07	8718.2	4.34	5.70
13.78	310.62	.371E+07	11572.5	4.62	5.35
15.31	312.15	.458E+07	15142.6	4.91	5.04
16.84	313.68	.557E+07	19657.7	5.23	4.72
18.37	315.21	.669E+07	24976.3	5.54	4.46
19.90	316.74	.794E+07	30238.3	5.65	4.38
21.64	318.48	.949E+07	39131.0	6.12	4.04
23.39	320.23	.111E+08	49502.7	6.62	3.74
25.13	321.97	.128E+08	61107.6	7.11	3.48
26.87	323.71	.145E+08	73840.1	7.58	3.26
28.62	325.46	.162E+08	87690.6	8.03	3.08
30.36	327.20	.180E+08	103853.4	8.54	2.89

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3591)	1110.55	0.33	9.92	1.28	0.01	1.04
OUTFLOW: ID= 1 (3592)	1110.55	0.33	10.33	1.28	0.01	1.04

ROUTE CHN(3071)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>			
Distance	Elevation	Manning	
0.00	295.04	0.0600	
29.72	295.48	0.0801	Main Channel
72.23	292.36	0.0801	Main Channel
164.35	287.45	0.0801	Main Channel
178.52	285.17	0.0801	Main Channel
206.86	279.87	0.0801	Main Channel
227.62	278.78	0.0801	Main Channel
280.03	280.79	0.0801	Main Channel
337.71	284.30	0.0801	Main Channel
366.50	285.67	0.0801	Main Channel
387.75	288.14	0.0801	Main Channel
414.54	289.77	0.0801	Main Channel
437.80	288.97	0.0801	Main Channel
472.43	292.74	0.0801	Main Channel
507.81	294.66	0.0801	Main Channel
543.18	292.75	0.0801	Main Channel
578.56	297.82	0.0801	Main Channel
602.15	297.65	0.0801	Main Channel

613.94	298.75	0.0801 /0.0600	Main Channel
641.46	303.48	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.85	279.63	.862E+04	8.0	0.49	17.97
1.70	280.48	.331E+05	51.3	0.82	10.77
2.55	281.33	.691E+05	145.5	1.12	7.92
3.39	282.17	.114E+06	294.2	1.37	6.44
4.24	283.02	.167E+06	500.5	1.59	5.55
5.09	283.87	.228E+06	769.9	1.79	4.93
5.94	284.72	.298E+06	1100.6	1.96	4.51
6.79	285.57	.377E+06	1499.8	2.11	4.19
7.64	286.42	.465E+06	2029.9	2.31	3.82
8.49	287.27	.559E+06	2647.8	2.51	3.52
9.34	288.12	.660E+06	3281.9	2.64	3.35
10.18	288.96	.773E+06	3944.5	2.71	3.27
11.03	289.81	.906E+06	4489.4	2.63	3.36
11.88	290.66	.106E+07	5546.1	2.78	3.18
12.73	291.51	.122E+07	6736.3	2.93	3.02
13.58	292.36	.139E+07	8065.6	3.07	2.88
14.43	293.21	.158E+07	9524.1	3.20	2.76
15.32	294.10	.180E+07	11053.1	3.26	2.71
16.22	295.00	.204E+07	13012.8	3.39	2.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3592)	1110.55	0.33	10.33	1.28	0.03	0.49
OUTFLOW: ID= 1 (3071)	1110.55	0.33	10.67	1.28	0.03	0.49

ADD HYD (7497)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3071):	1110.55	0.327	10.67	1.28
+ ID2= 2 (0031):	285.81	0.012	12.75	0.18
ID = 3 (7497):	1396.36	0.336	10.83	1.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1663)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0029):	136.15	0.000	0.00	0.00
+ ID2= 2 (0030):	438.15	0.000	0.00	0.00
ID = 3 (1663):	574.30	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1663)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1663):    574.30      0.000        0.00        0.00
     + ID2= 2 (  7497):   1396.36      0.336       10.83        1.06
       ============================================================
       ID = 1 (  1663):   1970.66      0.336       10.83        0.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3072)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         295.04        0.0600
                29.72         295.48        0.0801      Main Channel
                72.23         292.36        0.0801      Main Channel
               164.35         287.45        0.0801      Main Channel
               178.52         285.17        0.0801      Main Channel
               206.86         279.87        0.0801      Main Channel
               227.62         278.78        0.0801      Main Channel
               280.03         280.79        0.0801      Main Channel
               337.71         284.30        0.0801      Main Channel
               366.50         285.67        0.0801      Main Channel
               387.75         288.14        0.0801      Main Channel
               414.54         289.77        0.0801      Main Channel
               437.80         288.97        0.0801      Main Channel
               472.43         292.74        0.0801      Main Channel
               507.81         294.66        0.0801      Main Channel
               543.18         292.75        0.0801      Main Channel
               578.56         297.82        0.0801      Main Channel
               602.15         297.65        0.0801      Main Channel
               613.94         298.75    0.0801 /0.0600  Main Channel
               641.46         303.48        0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)          (m/s)       (min)
       0.85   279.63    .123E+05          8.1           0.50       25.29
       1.70   280.48    .474E+05         52.1           0.83       15.16
       2.55   281.33    .989E+05        147.9           1.13       11.15
       3.39   282.17    .163E+06        299.1           1.40        9.07
       4.24   283.02    .238E+06        508.8           1.62        7.81
       5.09   283.87    .326E+06        782.6           1.82        6.94
       5.94   284.72    .426E+06       1118.8           1.99        6.34
       6.79   285.57    .540E+06       1524.7           2.14        5.90
       7.64   286.42    .666E+06       2063.5           2.35        5.38
       8.49   287.27    .800E+06       2691.7           2.55        4.96
       9.34   288.12    .945E+06       3336.3           2.68        4.72
      10.18   288.96    .111E+07       4009.9           2.75        4.60
      11.03   289.81    .130E+07       4563.8           2.67        4.74
      11.88   290.66    .151E+07       5638.0           2.83        4.48
      12.73   291.51    .175E+07       6847.9           2.98        4.25
      13.58   292.36    .200E+07       8199.2           3.12        4.06
      14.43   293.21    .226E+07       9681.9           3.25        3.89
      15.32   294.10    .257E+07      11236.3           3.32        3.81
      16.22   295.00    .291E+07      13228.4           3.45        3.67
```



```
                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1663)    1970.66     0.34   10.83   0.75      0.04
0.50
   OUTFLOW: ID= 1 (  3072)    1970.66     0.33   11.25   0.75      0.03
0.50


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-
--------------------
| ROUTE CHN(  2669)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         299.02        0.0600
                32.59         297.78        0.0801      Main Channel
                75.82         292.09        0.0801      Main Channel
                95.94         288.94        0.0801      Main Channel
               106.00         288.78        0.0801      Main Channel
               136.18         279.30        0.0801      Main Channel
               196.54         270.23        0.0801      Main Channel
               206.60         271.20        0.0801      Main Channel
               266.96         271.66        0.0801      Main Channel
               297.14         274.76        0.0801      Main Channel
               348.68         275.92        0.0801      Main Channel
               377.52         280.63        0.0801      Main Channel
               383.61         280.92        0.0801      Main Channel
               406.89         280.11        0.0801      Main Channel
               430.18         283.43        0.0801      Main Channel
               441.82         284.13        0.0801      Main Channel
               455.64         283.38        0.0801      Main Channel
               500.03         284.12        0.0801      Main Channel
               523.32         285.91    0.0801 /0.0600  Main Channel
               564.10         290.58        0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)          (m/s)       (min)
       1.05   271.28    .861E+04          4.2           0.43       34.27
       2.09   272.32    .773E+05         72.3           0.83       17.82
       3.14   273.37    .170E+06        239.5           1.26       11.83
       4.18   274.41    .279E+06        494.6           1.58        9.39
       5.23   275.46    .411E+06        781.1           1.70        8.77
       6.27   276.50    .585E+06       1256.2           1.92        7.77
       7.32   277.55    .776E+06       1922.7           2.21        6.73
       8.36   278.59    .979E+06       2717.8           2.48        6.00
       9.41   279.64    .119E+07       3652.8           2.73        5.45
      10.45   280.68    .142E+07       4513.2           2.83        5.26
      11.50   281.73    .169E+07       5678.3           3.00        4.96
      12.54   282.77    .196E+07       7128.0           3.24        4.59
      13.59   283.82    .226E+07       8128.5           3.22        4.63
      14.63   284.86    .261E+07       9608.2           3.29        4.53
      15.68   285.91    .298E+07      11667.8           3.49        4.26
      16.73   286.96    .337E+07      14189.1           3.76        3.96
      17.89   288.12    .382E+07      17257.6           4.04        3.69
      19.06   289.29    .428E+07      20290.9           4.23        3.52
      20.23   290.46    .477E+07      23832.8           4.46        3.34

                                  <---- hydrograph ---->   <-pipe /
channel->
```



```
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3072)    1970.66     0.33   11.25   0.75      0.08
0.43
   OUTFLOW: ID= 1 (  2669)    1970.66     0.33   12.00   0.75      0.08
0.43


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--------------------
| ROUTE CHN(  2671)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         299.02        0.0600
                32.59         297.78        0.0801      Main Channel
                75.82         292.09        0.0801      Main Channel
                95.94         288.94        0.0801      Main Channel
               106.00         288.78        0.0801      Main Channel
               136.18         279.30        0.0801      Main Channel
               196.54         270.23        0.0801      Main Channel
               206.60         271.20        0.0801      Main Channel
               266.96         271.66        0.0801      Main Channel
               297.14         274.76        0.0801      Main Channel
               348.68         275.92        0.0801      Main Channel
               377.52         280.63        0.0801      Main Channel
               383.61         280.92        0.0801      Main Channel
               406.89         280.11        0.0801      Main Channel
               430.18         283.43        0.0801      Main Channel
               441.82         284.13        0.0801      Main Channel
               455.64         283.38        0.0801      Main Channel
               500.03         284.12        0.0801      Main Channel
               523.32         285.91    0.0801 /0.0600  Main Channel
               564.10         290.58        0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)          (m/s)       (min)
       1.05   271.28    .611E+04          4.2           0.44       24.00
       2.09   272.32    .549E+05         73.3           0.85       12.48
       3.14   273.37    .121E+06        242.8           1.28        8.29
       4.18   274.41    .198E+06        501.4           1.61        6.58
       5.23   275.46    .292E+06        791.9           1.72        6.14
       6.27   276.50    .416E+06       1273.6           1.94        5.44
       7.32   277.55    .551E+06       1949.3           2.24        4.71
       8.36   278.59    .695E+06       2755.3           2.51        4.20
       9.41   279.64    .848E+06       3703.3           2.77        3.82
      10.45   280.68    .101E+07       4575.5           2.87        3.68
      11.50   281.73    .120E+07       5756.7           3.04        3.47
      12.54   282.77    .139E+07       7226.5           3.28        3.22
      13.59   283.82    .160E+07       8240.8           3.26        3.24
      14.63   284.86    .185E+07       9740.9           3.33        3.17
      15.68   285.91    .212E+07      11829.0           3.54        2.99
      16.73   286.96    .239E+07      14385.2           3.81        2.77
      17.89   288.12    .271E+07      17496.0           4.09        2.58
      19.06   289.29    .304E+07      20571.3           4.29        2.46
      20.23   290.46    .339E+07      24162.1           4.52        2.34

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
```



```
                          (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2669)    1970.66     0.33   12.00   0.75      0.08
0.44
   OUTFLOW: ID= 1 (  2671)    1970.66     0.33   12.42   0.75      0.08
0.44


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--------------------
| ADD HYD  (  7494)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2671):   1970.66      0.329       12.42        0.75
     + ID2= 2 (  0028):    254.27      0.144        9.75        2.33
       ============================================================
       ID = 3 (  7494):   2224.93      0.461       12.00        0.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0731)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7493):   8115.39      3.669       21.33        3.45
     + ID2= 2 (  7494):   2224.93      0.461       12.00        0.93
       ============================================================
       ID = 3 (  0731):  10340.32      3.833       21.00        2.91

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3021)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         282.93        0.0600
                48.91         276.88        0.0801      Main Channel
                61.64         275.83        0.0801      Main Channel
                99.83         274.64        0.0801      Main Channel
               125.29         272.78        0.0801      Main Channel
               138.03         272.39        0.0801      Main Channel
               188.95         267.91        0.0801      Main Channel
               214.24         263.20        0.0801      Main Channel
               239.87         260.62        0.0801      Main Channel
               246.56         261.02        0.0801      Main Channel
               252.60         262.09        0.0801      Main Channel
               265.33         262.19        0.0801      Main Channel
               278.07         262.72        0.0801      Main Channel
               311.19         265.12        0.0801      Main Channel
               361.34         268.46        0.0801      Main Channel
               394.59         269.63        0.0801      Main Channel
               429.68         273.93        0.0801      Main Channel
               463.85         279.41        0.0801      Main Channel
               509.42         285.83    0.0801 /0.0600  Main Channel
               544.02         287.31        0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
```

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.17	261.79	.839E+04	6.0	0.40	23.10
2.34	262.96	.377E+05	36.9	0.55	17.05
3.51	264.13	.882E+05	123.4	0.78	11.90
4.68	265.30	.153E+06	266.8	0.97	9.58
5.85	266.47	.234E+06	473.4	1.13	8.24
7.02	267.64	.330E+06	753.8	1.28	7.30
8.19	268.81	.444E+06	1084.9	1.37	6.82
9.36	269.98	.585E+06	1517.2	1.45	6.42
10.53	271.15	.744E+06	2130.8	1.60	5.82
11.70	272.32	.919E+06	2859.0	1.74	5.36
12.87	273.49	.111E+07	3653.1	1.84	5.08
14.04	274.66	.132E+07	4641.7	1.96	4.76
15.21	275.83	.156E+07	5601.4	2.01	4.64
16.39	277.01	.182E+07	7116.8	2.19	4.26
17.58	278.20	.209E+07	8798.5	2.36	3.96
18.76	279.38	.237E+07	10649.4	2.52	3.71
19.94	280.56	.267E+07	12655.3	2.66	3.51
21.13	281.75	.297E+07	14836.7	2.80	3.34
22.31	282.93	.329E+07	17197.8	2.93	3.19

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0731)	10340.32	3.83	21.00	2.91	0.74	0.40
OUTFLOW: ID= 1 (3021)	10340.32	3.82	21.33	2.91	0.74	0.40

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2895)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	288.82	0.0600	
61.78	288.49	0.0801	Main Channel
97.18	286.47	0.0801	Main Channel
132.57	284.61	0.0801	Main Channel
144.37	281.40	0.0801	Main Channel
156.17	276.98	0.0801	Main Channel
179.76	262.52	0.0801	Main Channel
226.95	259.28	0.0801	Main Channel
238.75	261.34	0.0801	Main Channel
250.55	261.87	0.0801	Main Channel
299.72	262.26	0.0801	Main Channel
333.13	261.38	0.0801	Main Channel
344.93	261.75	0.0801	Main Channel
368.53	264.06	0.0801	Main Channel
403.92	264.88	0.0801	Main Channel
427.52	264.98	0.0801	Main Channel
439.31	265.64	0.0801	Main Channel
462.91	268.04	0.0801	Main Channel
498.30	274.90	0.0801 /0.0600	Main Channel
538.23	273.50	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.74	260.02	.422E+04	1.9	0.33	37.50
1.49	260.77	.169E+05	11.9	0.53	23.63
2.23	261.51	.386E+05	30.9	0.60	20.84
2.98	262.26	.966E+05	70.2	0.55	22.93
3.72	263.00	.194E+06	212.9	0.83	15.17
4.46	263.74	.296E+06	417.9	1.06	11.81
5.21	264.49	.406E+06	653.9	1.21	10.34
5.95	265.23	.537E+06	912.3	1.28	9.80
6.69	265.97	.684E+06	1325.7	1.46	8.60
7.44	266.72	.836E+06	1815.4	1.63	7.68
8.18	267.46	.994E+06	2370.0	1.79	6.99
8.93	268.21	.116E+07	2993.2	1.95	6.44
9.67	268.95	.132E+07	3696.6	2.10	5.96
10.41	269.69	.149E+07	4461.6	2.25	5.56
11.16	270.44	.166E+07	5287.0	2.39	5.23
11.90	271.18	.183E+07	6171.5	2.53	4.95
12.64	271.92	.201E+07	7114.5	2.66	4.71
13.39	272.67	.219E+07	8115.1	2.79	4.50
14.13	273.41	.237E+07	9172.9	2.91	4.31

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3021)	10340.32	3.82	21.33	2.91	0.89	0.36
OUTFLOW: ID= 1 (2895)	10340.32	3.81	21.92	2.91	0.88	0.36

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	NASHYD (0083)	ID= 1 DT= 5.0 min

Area (ha)= 80.90 Curve Number (CN)= 86.1
Ia (mm)= 19.70 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.85

Unit Hyd Qpeak (cms)= 0.747

PEAK FLOW (cms)= 0.184 (i)
TIME TO PEAK (hrs)= 8.917
RUNOFF VOLUME (mm)= 7.844
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.187

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0080)	ID= 1 DT= 5.0 min

Area (ha)= 25.20
Total Imp(%)= 48.80 Dir. Conn.(%)= 39.60

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.30	12.90
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.50	3.50
Length	(m)=	409.88	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	20.11	
over (min)	10.00	20.00	
Storage Coeff. (min)=	7.89 (ii)	19.23 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
			TOTALS
PEAK FLOW (cms)=	0.54	0.63	1.170 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	28.62	33.13
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.68	0.79

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4031)	IN= 2---> OUT= 1	DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.8200	0.2014
0.5700	0.0882	2.3800	0.2646
1.0900	0.1514	20.0000	0.2940

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0080)	25.200	1.170	5.25	33.13
OUTFLOW: ID= 1 (4031)	25.200	1.013	5.33	33.13

PEAK FLOW REDUCTION [Qout/Qin](%)= 86.62
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.1433

ROUTE CHN(2536)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	288.67	0.0600	
6.42	288.43	0.0801	Main Channel
19.12	287.83	0.0801	Main Channel
37.07	287.29	0.0801	Main Channel
47.29	286.62	0.0801	Main Channel
52.92	286.09	0.0801	Main Channel
61.37	285.55	0.0801	Main Channel
67.72	285.27	0.0801	Main Channel
95.16	283.68	0.0801	Main Channel
108.59	282.90	0.0801	Main Channel
118.81	282.62	0.0801	Main Channel
120.50	282.70	0.0801	Main Channel
129.02	282.67	0.0801	Main Channel
137.40	284.30	0.0801	Main Channel
139.24	284.55	0.0801	Main Channel

145.85	285.62	0.0801	Main Channel
149.46	286.36	0.0801	Main Channel
154.30	287.08	0.0801	Main Channel
169.89	288.69	0.0801 /0.0600	Main Channel
177.09	289.28	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	282.93	.409E+04	1.7	0.40	39.07
0.61	283.23	.114E+05	8.1	0.66	23.59
0.92	283.54	.207E+05	18.9	0.85	18.28
1.23	283.85	.319E+05	34.6	1.01	15.38
1.53	284.15	.451E+05	55.7	1.15	13.49
1.84	284.46	.603E+05	82.6	1.28	12.17
2.15	284.77	.776E+05	116.0	1.39	11.15
2.45	285.07	.969E+05	156.6	1.51	10.32
2.76	285.38	.118E+06	203.9	1.61	9.68
3.06	285.68	.142E+06	259.8	1.70	9.12
3.37	285.99	.168E+06	327.1	1.82	8.55
3.68	286.30	.195E+06	405.8	1.94	8.02
3.98	286.60	.224E+06	493.3	2.05	7.57
4.29	286.91	.255E+06	585.5	2.14	7.25
4.60	287.22	.287E+06	685.9	2.23	6.98
4.90	287.52	.322E+06	779.8	2.26	6.89
5.21	287.83	.361E+06	883.7	2.28	6.81
5.63	288.25	.419E+06	1106.1	2.46	6.32
6.05	288.67	.483E+06	1354.3	2.61	5.94

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4031)	25.20	1.01	5.33	33.13	0.18	0.40
OUTFLOW: ID= 1 (2536)	25.20	0.76	5.75	33.12	0.13	0.40

ROUTE CHN(3853)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	292.27	0.0600	
25.18	287.25	0.0801	Main Channel
39.45	283.52	0.0801	Main Channel
53.71	279.52	0.0801	Main Channel
60.84	278.71	0.0801	Main Channel
75.10	276.92	0.0801	Main Channel
114.43	274.74	0.0801	Main Channel
125.01	275.25	0.0801	Main Channel
139.27	275.04	0.0801	Main Channel
153.53	274.21	0.0801	Main Channel
183.65	273.18	0.0801	Main Channel
203.45	274.06	0.0801	Main Channel
217.71	276.03	0.0801	Main Channel
231.97	278.36	0.0801	Main Channel
239.10	279.86	0.0801	Main Channel
253.36	282.66	0.0801	Main Channel
267.62	285.33	0.0801	Main Channel

272.00	286.44	0.0801	Main Channel
289.01	289.04	0.0801 /0.0600	Main Channel
295.10	290.57	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.86	274.04	.139E+05	12.9	0.67	17.90
1.72	274.90	.499E+05	77.5	1.12	10.73
2.59	275.77	.114E+06	224.2	1.42	8.50
3.45	276.63	.196E+06	492.6	1.82	6.62
4.31	277.49	.289E+06	880.6	2.21	5.47
5.17	278.35	.390E+06	1380.6	2.56	4.71
6.03	279.21	.498E+06	1988.0	2.89	4.18
6.89	280.07	.613E+06	2720.0	3.21	3.76
7.76	280.94	.733E+06	3566.4	3.52	3.42
8.62	281.80	.857E+06	4515.1	3.81	3.16
9.48	282.66	.986E+06	5565.8	4.08	2.95
10.34	283.52	.112E+07	6714.9	4.34	2.78
11.35	284.53	.128E+07	8265.7	4.66	2.59
12.35	285.53	.145E+07	9970.0	4.97	2.43
13.36	286.54	.163E+07	11844.4	5.26	2.29
14.37	287.55	.181E+07	13794.8	5.51	2.19
15.38	288.56	.200E+07	15906.8	5.75	2.10
16.38	289.56	.220E+07	18337.7	6.03	2.00
17.39	290.57	.240E+07	21091.2	6.35	1.90

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2536)	25.20	0.76	5.75	33.12	0.05	0.67
OUTFLOW: ID= 1 (3853)	25.20	0.71	6.08	33.11	0.05	0.67

ADD HYD (7512)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3853):	25.20	0.715	6.08	33.11
	+ ID2= 2 (0083):	80.90	0.184	8.92	7.84
	ID = 3 (7512):	106.10	0.813	6.25	13.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0084)	Area (ha)= 137.06
ID= 1 DT= 5.0 min	Ia (mm)= 40.10
	U.H. Tp(hrs)= 1.20

Curve Number (CN)= 79.4
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 1.950

PEAK FLOW (cms)= 0.004 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 0.053

TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.001

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0085)	Area (ha)= 360.48
ID= 1 DT= 5.0 min	Ia (mm)= 43.40
	U.H. Tp(hrs)= 2.51

Curve Number (CN)= 67.9
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 2.452

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (2712)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	287.45	0.0600	
27.77	286.19	0.0801	Main Channel
35.61	285.50	0.0801	Main Channel
37.82	285.52	0.0801	Main Channel
69.01	283.24	0.0801	Main Channel
78.01	282.30	0.0801	Main Channel
91.28	281.50	0.0801	Main Channel
98.10	280.75	0.0801	Main Channel
113.55	280.47	0.0801	Main Channel
118.20	280.70	0.0801	Main Channel
124.68	282.20	0.0801	Main Channel
128.25	282.58	0.0801	Main Channel
138.29	280.57	0.0801	Main Channel
188.53	280.36	0.0801	Main Channel
198.58	280.24	0.0801	Main Channel
224.89	281.51	0.0801	Main Channel
228.72	281.60	0.0801	Main Channel
236.02	283.11	0.0801	Main Channel
238.77	283.32	0.0801 /0.0600	Main Channel
248.81	286.14	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	280.55	.556E+04	2.1	0.26	45.15
0.62	280.86	.242E+05	18.8	0.54	21.51
0.92	281.16	.463E+05	51.0	0.77	15.11
1.23	281.47	.710E+05	97.0	0.96	12.20
1.54	281.78	.986E+05	156.4	1.11	10.51
1.85	282.09	.128E+06	232.1	1.27	9.22
2.16	282.40	.160E+06	321.5	1.41	8.31
2.46	282.70	.194E+06	429.2	1.55	7.54
2.77	283.01	.229E+06	555.4	1.70	6.88
3.08	283.32	.265E+06	690.6	1.82	6.40
3.39	283.63	.303E+06	849.1	1.96	5.96

3.71	283.95	.343E+06	1022.2	2.09	5.59
4.02	284.26	.383E+06	1210.0	2.21	5.28
4.33	284.57	.425E+06	1412.4	2.33	5.01
4.65	284.89	.468E+06	1629.7	2.44	4.78
4.96	285.20	.512E+06	1861.9	2.55	4.58
5.27	285.51	.557E+06	2098.9	2.64	4.42
5.59	285.83	.604E+06	2387.3	2.77	4.22
5.90	286.14	.652E+06	2698.0	2.90	4.03

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN (2502)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	290.26	0.0600	
13.22	288.75	0.0801	Main Channel
43.69	284.38	0.0801	Main Channel
53.85	283.93	0.0801	Main Channel
64.01	282.19	0.0801	Main Channel
94.48	275.18	0.0801	Main Channel
104.64	274.40	0.0801	Main Channel
108.36	274.79	0.0801	Main Channel
114.79	274.46	0.0801	Main Channel
120.72	275.37	0.0801	Main Channel
145.44	278.45	0.0801	Main Channel
165.58	282.68	0.0801	Main Channel
175.74	282.49	0.0801	Main Channel
185.90	281.80	0.0801	Main Channel
196.06	283.60	0.0801	Main Channel
206.21	288.28	0.0801	Main Channel
216.37	288.69	0.0801	Main Channel
226.53	290.45	0.0801	Main Channel
269.05	291.38	0.0801 /0.0600	Main Channel
275.71	291.36	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.83	275.23	.144E+05	7.5	0.59	32.00
1.66	276.06	.431E+05	37.4	0.98	19.24
2.49	276.89	.816E+05	91.1	1.27	14.92
3.33	277.73	.130E+06	172.4	1.51	12.54
4.16	278.56	.188E+06	285.8	1.73	10.94
4.99	279.39	.253E+06	438.8	1.96	9.63
5.82	280.22	.326E+06	626.5	2.17	8.68
6.65	281.05	.407E+06	850.9	2.37	7.97
7.48	281.88	.494E+06	1101.0	2.52	7.48
8.32	282.72	.599E+06	1260.8	2.38	7.92
9.15	283.55	.727E+06	1657.0	2.58	7.31
9.98	284.38	.863E+06	2069.3	2.72	6.95
10.81	285.21	.101E+07	2663.6	2.98	6.33
11.81	286.21	.120E+07	3464.7	3.27	5.77
12.81	287.21	.140E+07	4362.3	3.53	5.35
13.81	288.21	.161E+07	5358.3	3.77	5.00
14.81	289.21	.184E+07	6247.8	3.86	4.90
15.81	290.21	.208E+07	7428.4	4.04	4.67
16.81	291.21	.235E+07	8029.7	3.86	4.89

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (7513)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3					
*** W A R N I N G : HYDROGRAPH 2502 <ID= 1> IS DRY.					
*** W A R N I N G : HYDROGRAPH 7513 = HYDROGRAPH 0084					
	ID1= 1 (2502):	0.00	0.000	0.00	0.00
	+ ID2= 2 (0084):	137.06	0.004	12.58	0.05
	ID = 3 (7513):	137.06	0.004	12.58	0.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0730)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3					
	ID1= 1 (7512):	106.10	0.813	6.25	13.85
	+ ID2= 2 (7513):	137.06	0.004	12.58	0.05
	ID = 3 (0730):	243.16	0.813	6.25	6.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (2359)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
64.19	274.40	0.0600	
71.51	274.02	0.0801	Main Channel
78.83	272.64	0.0801	Main Channel
93.46	268.99	0.0801	Main Channel
103.85	268.17	0.0801	Main Channel
122.73	264.68	0.0801	Main Channel
144.68	263.49	0.0801	Main Channel
159.32	262.93	0.0801	Main Channel
173.19	263.19	0.0801	Main Channel
195.97	264.72	0.0801	Main Channel
201.07	264.20	0.0801	Main Channel
212.51	263.49	0.0801	Main Channel
218.02	263.78	0.0801	Main Channel
250.35	264.17	0.0801	Main Channel
304.06	264.20	0.0801	Main Channel
340.89	265.07	0.0801	Main Channel
368.51	266.50	0.0801	Main Channel
389.99	270.70	0.0801	Main Channel
400.73	272.32	0.0801 /0.0600	Main Channel
410.33	272.78	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	263.42	.404E+04	4.9	0.57	13.70
0.99	263.92	.148E+05	24.3	0.76	10.18
1.48	264.41	.437E+05	80.0	0.85	9.11

1.98	264.91	.893E+05	233.3	1.22	6.38
2.47	265.40	.140E+06	473.0	1.57	4.95
2.97	265.90	.195E+06	786.4	1.89	4.12
3.46	266.39	.252E+06	1167.0	2.17	3.59
3.95	266.88	.311E+06	1631.2	2.45	3.18
4.45	267.38	.371E+06	2165.0	2.72	2.86
4.94	267.87	.433E+06	2760.8	2.98	2.61
5.44	268.37	.496E+06	3405.9	3.21	2.43
5.93	268.86	.561E+06	4093.5	3.41	2.28
6.42	269.35	.628E+06	4870.7	3.62	2.15
6.92	269.85	.695E+06	5717.5	3.84	2.03
7.41	270.34	.764E+06	6621.9	4.05	1.92
7.91	270.84	.834E+06	7579.7	4.24	1.83
8.40	271.33	.905E+06	8585.2	4.43	1.76
8.90	271.83	.977E+06	9646.4	4.61	1.69
9.39	272.32	.105E+07	10763.1	4.79	1.63

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0730)	243.16	0.81	6.25	6.07	0.08	0.57
OUTFLOW: ID= 1 (2359)	243.16	0.79	6.50	6.07	0.08	0.57

ROUTE CHN(3027) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
64.91	262.92	0.0600	
79.16	261.43	0.0801	Main Channel
86.29	260.59	0.0801	Main Channel
100.54	259.03	0.0801	Main Channel
114.79	258.53	0.0801	Main Channel
129.04	258.63	0.0801	Main Channel
136.17	258.53	0.0801	Main Channel
150.42	259.03	0.0801	Main Channel
164.67	258.91	0.0801	Main Channel
178.93	258.72	0.0801	Main Channel
189.04	258.37	0.0801	Main Channel
193.18	258.62	0.0801	Main Channel
196.39	258.40	0.0801	Main Channel
209.06	258.30	0.0801	Main Channel
237.91	258.35	0.0801	Main Channel
250.19	258.70	0.0801	Main Channel
278.69	258.85	0.0801	Main Channel
285.07	258.76	0.0801	Main Channel
292.94	260.71	0.0801 /0.0600	Main Channel
297.74	263.02	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	258.53	.204E+04	2.3	0.24	14.80
0.46	258.76	.654E+04	9.8	0.32	11.15
0.69	258.99	.142E+05	27.3	0.42	8.67
0.92	259.22	.234E+05	60.6	0.56	6.45
1.14	259.44	.328E+05	105.1	0.69	5.20

1.37	259.67	.424E+05	159.2	0.81	4.44
1.60	259.90	.521E+05	222.1	0.92	3.91
1.83	260.13	.619E+05	293.4	1.03	3.52
2.06	260.36	.719E+05	372.8	1.12	3.22
2.29	260.59	.821E+05	459.9	1.21	2.97
2.52	260.82	.924E+05	558.6	1.31	2.76
2.78	261.08	.104E+06	680.6	1.41	2.55
3.04	261.34	.116E+06	812.4	1.52	2.38
3.30	261.60	.128E+06	954.2	1.61	2.24
3.55	261.85	.140E+06	1105.9	1.71	2.12
3.81	262.11	.153E+06	1267.3	1.80	2.01
4.07	262.37	.165E+06	1438.4	1.88	1.92
4.33	262.63	.178E+06	1619.2	1.97	1.83
4.59	262.89	.191E+06	1809.7	2.05	1.76

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2359)	243.16	0.79	6.50	6.07	0.08	0.24
OUTFLOW: ID= 1 (3027)	243.16	0.77	6.75	6.07	0.08	0.24

ADD HYD (1751)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2895):	10340.32	3.810	21.92	2.91
	+ ID2= 2 (3027):	243.16	0.775	6.75	6.07
	ID = 3 (1751):	10583.48	3.832	21.83	2.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2897) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	288.82	0.0600	
61.78	288.49	0.0801	Main Channel
97.18	286.47	0.0801	Main Channel
132.57	284.61	0.0801	Main Channel
144.37	281.40	0.0801	Main Channel
156.17	276.98	0.0801	Main Channel
179.76	262.52	0.0801	Main Channel
226.95	259.28	0.0801	Main Channel
238.75	261.34	0.0801	Main Channel
250.55	261.87	0.0801	Main Channel
299.72	262.26	0.0801	Main Channel
333.13	261.38	0.0801	Main Channel
344.93	261.75	0.0801	Main Channel
368.53	264.06	0.0801	Main Channel
403.92	264.88	0.0801	Main Channel
427.52	264.98	0.0801	Main Channel
439.31	265.64	0.0801	Main Channel

462.91	268.04	0.0801	Main Channel
498.30	274.90	0.0801 /0.0600	Main Channel
538.23	273.50	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.74	260.02	.158E+04	1.3	0.22	21.03
1.49	260.77	.633E+04	8.0	0.35	13.25
2.23	261.51	.145E+05	20.7	0.40	11.69
2.98	262.26	.362E+05	47.0	0.37	12.85
3.72	263.00	.727E+05	142.4	0.55	8.50
4.46	263.74	.111E+06	279.5	0.71	6.62
5.21	264.49	.152E+06	437.4	0.81	5.80
5.95	265.23	.201E+06	610.2	0.86	5.50
6.69	265.97	.256E+06	886.8	0.98	4.82
7.44	266.72	.314E+06	1214.3	1.09	4.30
8.18	267.46	.373E+06	1585.2	1.20	3.92
8.93	268.21	.433E+06	2002.1	1.30	3.61
9.67	268.95	.495E+06	2472.6	1.41	3.34
10.41	269.69	.559E+06	2984.3	1.51	3.12
11.16	270.44	.623E+06	3536.4	1.60	2.93
11.90	271.18	.688E+06	4128.0	1.69	2.78
12.64	271.92	.754E+06	4758.8	1.78	2.64
13.39	272.67	.822E+06	5428.1	1.86	2.52
14.13	273.41	.890E+06	6135.6	1.94	2.42

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1751)	10583.48	3.83	21.83	2.98	1.03	0.26
OUTFLOW: ID= 1 (2897)	10583.48	3.83	22.00	2.98	1.03	0.26

ROUTE CHN(3147) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	286.38	0.0600	
20.20	288.07	0.0801	Main Channel
49.95	285.11	0.0801	Main Channel
71.90	281.21	0.0801	Main Channel
94.07	275.61	0.0801	Main Channel
164.97	265.67	0.0801	Main Channel
175.31	263.13	0.0801	Main Channel
227.01	261.82	0.0801	Main Channel
251.25	258.70	0.0801	Main Channel
288.52	258.40	0.0801	Main Channel
340.76	257.95	0.0801	Main Channel
358.69	256.47	0.0801	Main Channel
382.12	255.51	0.0801	Main Channel
392.46	256.64	0.0801	Main Channel
413.14	267.08	0.0801	Main Channel
454.03	267.27	0.0801	Main Channel
513.43	271.43	0.0801	Main Channel
554.63	273.28	0.0801	Main Channel
645.17	275.86	0.0801 /0.0600	Main Channel

676.02	276.85	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.70	257.21	.108E+05	21.4	0.49	8.42
3.39	258.90	.455E+05	104.6	0.57	7.25
5.09	260.60	.111E+06	428.0	0.96	4.31
6.78	262.29	.184E+06	884.5	1.19	3.46
8.48	263.99	.277E+06	1549.6	1.38	2.98
10.17	265.68	.378E+06	2521.7	1.65	2.50
11.87	267.38	.486E+06	3337.7	1.70	2.43
13.57	269.08	.621E+06	4653.1	1.85	2.22
15.26	270.77	.771E+06	6236.3	2.00	2.06
16.96	272.47	.937E+06	8014.9	2.12	1.95
18.65	274.16	.112E+07	9932.2	2.18	1.89
20.35	275.86	.134E+07	12165.2	2.24	1.84
22.05	277.56	.158E+07	15782.6	2.46	1.67
23.79	279.30	.184E+07	19959.7	2.68	1.54
25.53	281.04	.210E+07	24566.7	2.90	1.42
27.28	282.79	.236E+07	29510.4	3.09	1.33
29.02	284.53	.263E+07	34843.3	3.28	1.26
30.77	286.28	.290E+07	40838.2	3.48	1.18
32.51	288.02	.318E+07	47394.0	3.68	1.12

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2897)	10583.48	3.83	22.00	2.98	0.30	0.49
OUTFLOW: ID= 1 (3147)	10583.48	3.83	22.08	2.98	0.30	0.49

CALIB | NASHYD (0082) | ID= 1 DT= 5.0 min | Area (ha)= 172.02 | Curve Number (CN)= 59.3 | Ia (mm)= 43.40 | # of Linear Res.(N)= 1.50 | U.H. Tp(hrs)= 2.46

Unit Hyd Qpeak (cms)= 1.194

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7514)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3147):	10583.48	3.828	22.08	2.98
	+ ID2= 2 (0082):	172.02	0.000	0.00	0.00
	ID = 3 (7514):	10755.50	3.828	22.08	2.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD   (  0037)|   Area    (ha)=     28.96   Curve Number   (CN)= 72.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.81

     Unit Hyd Qpeak  (cms)=     0.610

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD   (  0039)|   Area    (ha)=    130.58   Curve Number   (CN)= 93.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.36

     Unit Hyd Qpeak  (cms)=     1.639

     PEAK FLOW       (cms)=     1.032 (i)
     TIME TO PEAK    (hrs)=     7.417
     RUNOFF VOLUME    (mm)=    20.887
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.497

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD   (  0040)|   Area    (ha)=     71.99   Curve Number   (CN)= 89.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.93

     Unit Hyd Qpeak  (cms)=     1.322

     PEAK FLOW       (cms)=     0.588 (i)
     TIME TO PEAK    (hrs)=     6.833
     RUNOFF VOLUME    (mm)=    16.889
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.402

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD   (  0041)|   Area    (ha)=     13.32   Curve Number   (CN)= 94.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.63

     Unit Hyd Qpeak  (cms)=     0.361
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     PEAK FLOW       (cms)=     0.189 (i)
     TIME TO PEAK    (hrs)=     6.250
     RUNOFF VOLUME    (mm)=    22.063
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.525

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD (  0042)|   Area    (ha)=     34.47
|ID= 1 DT= 5.0 min |   Total Imp(%)=     52.90   Dir. Conn.(%)=  46.50
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                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        18.23           16.24
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         1.84            1.84
     Length            (m)=       479.37           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           15.74
               over (min)          10.00           30.00
     Storage Coeff.  (min)=        10.52 (ii)      25.68 (ii)
     Unit Hyd. Tpeak (min)=        10.00           30.00
     Unit Hyd. peak  (cms)=         0.11            0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.86            0.54           1.366 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.42            5.25
     RUNOFF VOLUME    (mm)=        40.00           22.55           30.66
     TOTAL RAINFALL   (mm)=        42.00           42.00           42.00
     RUNOFF COEFFICIENT   =         0.95            0.54            0.73


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  89.9     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4029)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------          (cms)        (ha.m.)   |   (cms)          (ha.m.)
                              0.0000        0.0000   |      2.2600
0.6189
                              0.6300        0.3255   |      3.0300
0.7234
                              1.2700        0.4461   |     30.0000
0.8038

                                 AREA        QPEAK        TPEAK       R.V.
                                  (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0042)       34.470       1.366         5.25      30.66
   OUTFLOW: ID= 1 (  4029)       34.470       0.817         5.67      30.66

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 59.82
                TIME SHIFT OF PEAK FLOW          (min)= 25.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3609
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| ADD HYD  (  0738)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  4029):     34.47      0.817        5.67       30.66
     + ID2= 2 (  0041):     13.32      0.189        6.25       22.06
       ==========================================================
       ID = 3 (  0738):     47.79      0.995        5.67       28.26
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2201)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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                <----- DATA FOR SECTION (   1.1) ------>
                Distance       Elevation      Manning
                   0.00          297.24       0.0600
                  29.21          295.37       0.0801      Main Channel
                  38.94          294.28       0.0801      Main Channel
                  48.68          292.16       0.0801      Main Channel
                  87.62          288.96       0.0801      Main Channel
                  97.36          287.66       0.0801      Main Channel
                 116.83          283.98       0.0801      Main Channel
                 126.56          282.71       0.0801      Main Channel
                 136.30          281.98       0.0801      Main Channel
                 146.04          281.83       0.0801      Main Channel
                 155.77          281.95       0.0801      Main Channel
                 194.72          281.75       0.0801      Main Channel
                 204.45          282.06       0.0801      Main Channel
                 233.66          284.52       0.0801      Main Channel
                 253.13          286.97       0.0801      Main Channel
                 262.87          287.81       0.0801      Main Channel
                 272.60          288.36       0.0801      Main Channel
                 311.54          290.19       0.0801      Main Channel
                 321.28          290.71    0.0801 /0.0600  Main Channel
                 331.02          290.77       0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)       (m)    (cu.m.)         (cms)        (m/s)      (min)
        0.47   282.22    .220E+05          18.8         0.77       19.49
        0.94   282.70    .557E+05          79.9         1.29       11.61
        1.41   283.17    .939E+05         178.2         1.71        8.78
        1.89   283.64    .136E+06         310.5         2.06        7.30
        2.36   284.11    .182E+06         477.6         2.36        6.35
        2.83   284.58    .231E+06         681.9         2.65        5.66
        3.30   285.05    .284E+06         926.6         2.94        5.11
        3.77   285.52    .339E+06        1205.8         3.20        4.69
        4.24   285.99    .397E+06        1519.8         3.45        4.35
        4.71   286.47    .457E+06        1868.9         3.68        4.08
        5.18   286.94    .520E+06        2253.6         3.90        3.85
        5.66   287.41    .586E+06        2658.9         4.08        3.68
        6.13   287.88    .656E+06        3090.9         4.25        3.54
        6.60   288.35    .730E+06        3530.8         4.36        3.45
        7.07   288.82    .809E+06        3996.7         4.45        3.38
        7.54   289.29    .895E+06        4493.4         4.53        3.32
        8.01   289.76    .987E+06        5039.5         4.60        3.26
        8.48   290.24    .109E+07        5648.1         4.69        3.20
        8.95   290.71    .119E+07        6334.0         4.79        3.13
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                                   <---- hydrograph ---->   <-pipe /
channel->
                                   AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                    (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0738)      47.79     0.99    5.67  28.26      0.02
0.77
   OUTFLOW: ID= 1 (  2201)      47.79     0.92    6.08  28.26      0.02
0.77


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| ADD HYD  (  7501)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2201):     47.79      0.918        6.08       28.26
     + ID2= 2 (  0040):     71.99      0.588        6.83       16.89
       ==========================================================
       ID = 3 (  7501):    119.78      1.472        6.25       21.43

     NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD   (  0045)|   Area    (ha)=    130.79   Curve Number   (CN)= 67.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     13.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.79

     Unit Hyd Qpeak  (cms)=     1.247

     PEAK FLOW       (cms)=     0.207 (i)
     TIME TO PEAK    (hrs)=     8.500
     RUNOFF VOLUME    (mm)=     5.309
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.126

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD   (  0046)|   Area    (ha)=    157.89   Curve Number   (CN)= 63.1
|ID= 1 DT= 5.0 min |   Ia      (mm)=     12.90   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      2.35

     Unit Hyd Qpeak  (cms)=     1.147

     PEAK FLOW       (cms)=     0.183 (i)
     TIME TO PEAK    (hrs)=     9.250
     RUNOFF VOLUME    (mm)=     4.770
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.114

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1044)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0045):    130.79      0.207        8.50        5.31
     + ID2= 2 (  0046):    157.89      0.183        9.25        4.77
       ========================================================
       ID = 3 (  1044):    288.68      0.388        8.83        5.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN(  2644)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         309.82        0.0600
                   4.25         309.85        0.0801      Main Channel
                   8.48         309.76        0.0801      Main Channel
                  17.55         309.29        0.0801      Main Channel
                  29.47         307.88        0.0801      Main Channel
                  39.96         307.21        0.0801      Main Channel
                  60.95         306.53        0.0801      Main Channel
                  71.44         306.53        0.0801      Main Channel
                  92.43         306.42        0.0801      Main Channel
                 123.91         306.31        0.0801      Main Channel
                 127.38         306.26        0.0801      Main Channel
                 134.41         306.04        0.0801      Main Channel
                 144.90         305.63        0.0801      Main Channel
                 149.48         305.60        0.0801      Main Channel
                 155.40         305.68        0.0801      Main Channel
                 158.16         305.80        0.0801      Main Channel
                 165.89         306.25        0.0801      Main Channel
                 173.55         306.60        0.0801      Main Channel
                 197.37         308.19     0.0801 /0.0600  Main Channel
                 228.85         309.56        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)       (m)     (cu.m.)         (cms)         (m/s)      (min)
        0.22   305.82    .243E+04           1.0          0.37      42.33
        0.43   306.03    .704E+04           4.3          0.57      27.39
        0.65   306.25    .136E+05          10.4          0.71      21.90
        0.86   306.46    .254E+05          17.0          0.62      24.92
        1.08   306.68    .472E+05          38.6          0.76      20.37
        1.30   306.90    .720E+05          74.0          0.96      16.22
        1.51   307.11    .988E+05         119.3          1.12      13.80
        1.73   307.33    .127E+06         175.5          1.28      12.10
        1.94   307.54    .157E+06         242.6          1.43      10.82
        2.16   307.76    .189E+06         319.3          1.57       9.86
        2.37   307.97    .222E+06         406.6          1.71       9.08
        2.59   308.19    .255E+06         504.7          1.84       8.43
        2.83   308.43    .294E+06         630.8          2.00       7.76
        3.06   308.66    .334E+06         769.6          2.15       7.23
        3.30   308.90    .376E+06         921.3          2.28       6.80
        3.54   309.14    .419E+06        1086.4          2.41       6.43
        3.78   309.38    .464E+06        1261.2          2.53       6.13
        4.01   309.61    .511E+06        1443.5          2.63       5.90
        4.25   309.85    .560E+06        1652.1          2.75       5.65

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
```



```
                                 (ha)     (cms)   (hrs)   (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  1044)     288.68     0.39    8.83   5.01      0.09
0.37
   OUTFLOW: ID= 1 (  2644)     288.68     0.38    9.67   5.01      0.08
0.37


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| ROUTE CHN(  3956)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  76.41         297.76        0.0600
                  87.40         295.80        0.0801      Main Channel
                  89.72         295.46        0.0801      Main Channel
                 102.55         294.78        0.0801      Main Channel
                 103.03         294.75        0.0801      Main Channel
                 106.54         294.78        0.0801      Main Channel
                 116.35         294.78        0.0801      Main Channel
                 117.70         294.86        0.0801      Main Channel
                 129.66         295.27        0.0801      Main Channel
                 132.85         295.39        0.0801      Main Channel
                 142.97         296.17        0.0801      Main Channel
                 148.00         296.57     0.0801 /0.0600  Main Channel
                 156.29         296.65        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)       (m)     (cu.m.)         (cms)         (m/s)      (min)
        0.09   294.84    .782E+03           0.2          0.19      72.75
        0.18   294.93    .211E+04           0.8          0.32      43.64
        0.27   295.02    .375E+04           1.8          0.41      33.84
        0.35   295.10    .570E+04           3.3          0.49      28.50
        0.44   295.19    .798E+04           5.3          0.56      25.01
        0.53   295.28    .106E+05           7.8          0.62      22.49
        0.62   295.37    .135E+05          10.9          0.68      20.50
        0.71   295.46    .166E+05          14.8          0.75      18.69
        0.80   295.55    .200E+05          19.7          0.83      16.86
        0.91   295.66    .242E+05          26.6          0.92      15.20
        1.02   295.77    .287E+05          34.3          1.00      13.94
        1.12   295.87    .333E+05          42.9          1.08      12.93
        1.23   295.98    .381E+05          52.5          1.15      12.11
        1.34   296.09    .431E+05          63.0          1.22      11.41
        1.45   296.20    .483E+05          74.4          1.29      10.82
        1.56   296.31    .537E+05          86.9          1.36      10.30
        1.66   296.41    .592E+05         100.2          1.42       9.85
        1.77   296.52    .649E+05         114.6          1.48       9.45
        1.88   296.63    .710E+05         131.0          1.55       9.03

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  2644)     288.68     0.38    9.67   5.01      0.12
0.22
   OUTFLOW: ID= 1 (  3956)     288.68     0.36   10.75   5.01      0.11
0.22

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| CALIB             |
| STANDHYD (  0044)|   Area    (ha)=     40.39
|ID= 1 DT= 5.0 min |   Total Imp(%)=     33.60   Dir. Conn.(%)=  28.90
-------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        13.57          26.82
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         2.63           2.63
     Length            (m)=       518.91          40.00
     Mannings n            =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32           6.42
               over (min)          10.00          30.00
     Storage Coeff.  (min)=         9.91 (ii)     29.41 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.11           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.63           0.32          0.909 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50          5.25
     RUNOFF VOLUME    (mm)=        40.00           9.64         18.41
     TOTAL RAINFALL   (mm)=        42.00          42.00         42.00
     RUNOFF COEFFICIENT   =         0.95           0.23          0.44


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  68.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7504)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3956):    288.68      0.364       10.75        5.01
     + ID2= 2 (  0044):     40.39      0.909        5.25       18.41
       ========================================================
       ID = 3 (  7504):    329.07      0.913        5.25        6.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD (  0043)|   Area    (ha)=      6.64
|ID= 1 DT= 5.0 min |   Total Imp(%)=     70.10   Dir. Conn.(%)=  69.80
-------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         4.65           1.99
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         1.75           1.75
     Length            (m)=       210.40          40.00
     Mannings n            =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32           5.02
               over (min)           5.00          35.00
     Storage Coeff.  (min)=         6.51 (ii)     30.82 (ii)
     Unit Hyd. Tpeak (min)=         5.00          35.00
     Unit Hyd. peak  (cms)=         0.18           0.04
                                                          *TOTALS*
```



```
     PEAK FLOW       (cms)=         0.25           0.02          0.264 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.58          5.25
     RUNOFF VOLUME    (mm)=        40.00          8.24          30.41
     TOTAL RAINFALL   (mm)=        42.00          42.00         42.00
     RUNOFF COEFFICIENT   =         0.95           0.20          0.72


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  66.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4030)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
-------------------           (cms)        (ha.m.)   |   (cms)          (ha.m.)
                              0.0000        0.0000   |      0.0630
0.2162
                              0.0200        0.1226   |      0.0910
0.2759
                              0.0350        0.1502   |      1.0000
0.3066

                                 AREA        QPEAK        TPEAK        R.V.
                                 (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  0043)       6.640       0.264         5.25       30.41
   OUTFLOW: ID= 1 (  4030)       6.640       0.035         7.33       30.17

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.40
                TIME SHIFT OF PEAK FLOW       (min)=125.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1511

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| ADD HYD  (  7502)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  4030):      6.64      0.035        7.33       30.17
     + ID2= 2 (  7504):    329.07      0.913        5.25        6.66
       ========================================================
       ID = 3 (  7502):    335.71      0.932        5.25        7.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| NASHYD   (  0051)|   Area    (ha)=      9.24   Curve Number   (CN)= 72.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.90   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.49

     Unit Hyd Qpeak  (cms)=     0.322

     PEAK FLOW       (cms)=     0.036 (i)
     TIME TO PEAK    (hrs)=     6.333
     RUNOFF VOLUME    (mm)=     5.960
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.142
```

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0052)|   Area    (ha)=     74.70   Curve Number   (CN)= 61.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=      7.50   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.09

     Unit Hyd Qpeak  (cms)=     1.170

     PEAK FLOW       (cms)=     0.194 (i)
     TIME TO PEAK    (hrs)=     7.250
     RUNOFF VOLUME    (mm)=     6.080
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.145

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN(  3844)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 20.79        299.36       0.0600
                 25.77        298.91       0.0801      Main Channel
                 33.43        298.18       0.0801      Main Channel
                 35.67        297.97       0.0801      Main Channel
                 46.07        297.21       0.0801      Main Channel
                 52.02        296.61       0.0801      Main Channel
                 58.71        296.16       0.0801      Main Channel
                 68.37        296.82       0.0801      Main Channel
                 71.35        297.15       0.0801      Main Channel
                 81.54        297.83       0.0801      Main Channel
                 84.00        298.00       0.0801      Main Channel
                 84.71        298.02       0.0801      Main Channel
                 96.64        298.55       0.0801      Main Channel
                101.06        298.85    0.0801 /0.0600  Main Channel
                109.28        299.60       0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.17   296.33    .128E+03          0.1         0.24      21.55
        0.34   296.50    .511E+03          0.6         0.37      13.57
        0.50   296.66    .115E+04          1.9         0.50      10.25
        0.67   296.83    .200E+04          4.0         0.61       8.31
        0.84   297.00    .305E+04          7.3         0.73       6.99
        1.01   297.17    .425E+04         11.5         0.83       6.15
        1.18   297.34    .566E+04         16.6         0.89       5.69
        1.35   297.51    .732E+04         23.1         0.96       5.29
        1.51   297.67    .923E+04         31.1         1.03       4.95
        1.68   297.84    .114E+05         40.8         1.10       4.65
        1.85   298.01    .138E+05         52.4         1.16       4.38
        2.02   298.18    .165E+05         65.5         1.21       4.19
        2.19   298.35    .194E+05         82.3         1.29       3.94
        2.36   298.52    .227E+05        101.4         1.36       3.73
        2.53   298.69    .262E+05        124.1         1.45       3.52
        2.69   298.85    .299E+05        149.6         1.53       3.33
        2.86   299.02    .339E+05        181.6         1.64       3.11
        3.03   299.19    .380E+05        216.7         1.74       2.92
```



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        3.20   299.36    .423E+05        255.0          1.84       2.77

                                     <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0052)      74.70     0.19    7.25   6.08      0.20
0.25
  OUTFLOW: ID= 1 (  3844)      74.70     0.19    7.58   6.08      0.20
0.25


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| ADD HYD  (  1750)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3844):     74.70      0.191        7.58        6.08
     + ID2= 2 (  0051):      9.24      0.036        6.33        5.96
       ==========================================================
       ID = 3 (  1750):     83.94      0.222        7.42        6.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2993)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 76.48        293.59       0.0600
                 86.83        293.47       0.0801      Main Channel
                 88.35        293.44       0.0801      Main Channel
                 98.63        292.92       0.0801      Main Channel
                107.92        292.61       0.0801      Main Channel
                109.70        292.52       0.0801      Main Channel
                120.77        292.36       0.0801      Main Channel
                129.01        292.12       0.0801      Main Channel
                131.84        292.05       0.0801      Main Channel
                134.96        291.92       0.0801      Main Channel
                142.91        291.66       0.0801      Main Channel
                150.10        292.24       0.0801      Main Channel
                153.98        292.37       0.0801      Main Channel
                158.27        292.81       0.0801      Main Channel
                165.05        293.26       0.0801      Main Channel
                171.18        293.33       0.0801      Main Channel
                176.12        293.44       0.0801      Main Channel
                187.19        293.41       0.0801      Main Channel
                198.26        293.51    0.0801 /0.0600  Main Channel
                204.89        293.63       0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.10   291.76    .578E+02          0.0         0.15      30.34
        0.20   291.86    .231E+03          0.2         0.24      19.11
        0.30   291.96    .519E+03          0.6         0.32      14.42
        0.40   292.06    .908E+03          1.3         0.39      11.80
        0.49   292.15    .142E+04          2.3         0.44      10.49
        0.59   292.25    .206E+04          3.7         0.49       9.39
```



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        0.69   292.35    .285E+04          5.4         0.52       8.73
        0.79   292.45    .384E+04          7.7         0.55       8.28
        0.89   292.55    .504E+04         11.0         0.60       7.62
        0.99   292.65    .635E+04         15.5         0.67       6.83
        1.09   292.75    .776E+04         20.6         0.73       6.29
        1.19   292.85    .928E+04         26.4         0.78       5.86
        1.29   292.95    .109E+05         33.0         0.83       5.51
        1.38   293.04    .127E+05         40.7         0.89       5.18
        1.48   293.14    .145E+05         49.3         0.94       4.90
        1.58   293.24    .164E+05         58.8         0.98       4.65
        1.68   293.34    .185E+05         66.4         0.99       4.64
        1.78   293.44    .209E+05         69.8         0.92       4.98
        1.93   293.59    .256E+05         92.0         0.99       4.64

                                     <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1750)      83.94     0.22    7.42   6.07      0.20
0.24
  OUTFLOW: ID= 1 (  2993)      83.94     0.22    7.67   6.07      0.20
0.24


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| CALIB            |
| STANDHYD (  0050)|   Area    (ha)=      8.60
|ID= 1 DT= 5.0 min |   Total Imp(%)=     31.70   Dir. Conn.(%)=  28.20
--------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          2.73            5.87
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          2.36            2.36
     Length            (m)=        239.44           40.00
     Mannings n            =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32            5.82
               over (min)           5.00           30.00
     Storage Coeff.  (min)=          6.44 (ii)      27.39 (ii)
     Unit Hyd. Tpeak (min)=          5.00           30.00
     Unit Hyd. peak  (cms)=          0.18            0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=          0.13            0.07      0.190 (iii)
     TIME TO PEAK    (hrs)=          5.25            5.50       5.25
     RUNOFF VOLUME    (mm)=         40.00            9.16      17.86
     TOTAL RAINFALL   (mm)=         42.00           42.00      42.00
     RUNOFF COEFFICIENT   =          0.95            0.22       0.43

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  67.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7498)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
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       ID1= 1 (  2993):     83.94      0.220        7.67        6.07
     + ID2= 2 (  0050):      8.60      0.190        5.25       17.86
       ==========================================================
       ID = 3 (  7498):     92.54      0.260        7.25        7.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0053)|   Area    (ha)=     87.63   Curve Number   (CN)= 70.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.55

     Unit Hyd Qpeak  (cms)=     0.965

     PEAK FLOW       (cms)=     0.219 (i)
     TIME TO PEAK    (hrs)=     8.250
     RUNOFF VOLUME    (mm)=     7.475
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.178

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0055)|   Area    (ha)=    125.55   Curve Number   (CN)= 66.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.55

     Unit Hyd Qpeak  (cms)=     1.383

     PEAK FLOW       (cms)=     0.263 (i)
     TIME TO PEAK    (hrs)=     8.250
     RUNOFF VOLUME    (mm)=     6.281
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.150

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0057)|   Area    (ha)=    337.07   Curve Number   (CN)= 61.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.06

     Unit Hyd Qpeak  (cms)=     1.881

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN(  2912)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
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                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   75.25         332.00        0.0600
                   79.20         330.59        0.0801      Main Channel
                   87.07         327.58        0.0801      Main Channel
                  110.71         318.31        0.0801      Main Channel
                  122.53         313.54        0.0801      Main Channel
                  132.47         310.88        0.0801      Main Channel
                  134.35         310.35        0.0801      Main Channel
                  135.45         310.17        0.0801      Main Channel
                  146.17         308.69        0.0801      Main Channel
                  172.96         305.19        0.0801      Main Channel
                  181.64         304.30        0.0801      Main Channel
                  191.71         303.71        0.0801      Main Channel
                  210.46         301.83        0.0801      Main Channel
                  217.10         301.75        0.0801      Main Channel
                  228.43         302.77        0.0801      Main Channel
                  240.74         305.05        0.0801      Main Channel
                  252.57         307.85        0.0801      Main Channel
                  266.71         311.31        0.0801      Main Channel
                  276.21         313.18    0.0801 /0.0600  Main Channel
                  285.46         313.69        0.0600

       <--------------------- TRAVEL TIME TABLE ---------------------->
        DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
        0.60   302.35    .786E+04          3.9          0.56       33.20
        1.20   302.95    .243E+05         18.7          0.85       21.65
        1.80   303.55    .475E+05         47.8          1.11       16.57
        2.41   304.16    .776E+05         90.2          1.29       14.34
        3.01   304.76    .116E+06        155.9          1.49       12.38
        3.61   305.36    .160E+06        245.6          1.70       10.87
        4.21   305.96    .209E+06        360.0          1.90        9.70
        4.81   306.56    .263E+06        497.5          2.09        8.83
        5.41   307.16    .322E+06        659.2          2.27        8.15
        6.02   307.77    .386E+06        846.3          2.43        7.60
        6.62   308.37    .454E+06       1060.3          2.59        7.14
        7.22   308.97    .527E+06       1302.6          2.74        6.75
        7.82   309.57    .605E+06       1574.5          2.88        6.40
        8.42   310.17    .687E+06       1875.8          3.03        6.10
        9.02   310.77    .773E+06       2224.4          3.19        5.79
        9.63   311.38    .862E+06       2605.5          3.35        5.52
       10.23   311.98    .955E+06       3010.2          3.49        5.29
       10.83   312.58    .105E+07       3445.9          3.63        5.09
       11.43   313.18    .115E+07       3913.2          3.77        4.90


     **** WARNING:  INFLOW HYDROGRAPH IS DRY!!

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--------------------
| ADD HYD  (  1002)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
*** W A R N I N G :  HYDROGRAPH   2912 <ID= 1> IS DRY.
*** W A R N I N G :  HYDROGRAPH   1002 = HYDROGRAPH 0055
       ID1= 1 (  2912):     0.00       0.000        0.00        0.00
     + ID2= 2 (  0055):   125.55       0.263        8.25        6.28
       ==========================================================
       ID = 3 (  1002):   125.55       0.263        8.25        6.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN(  2593)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   63.31         298.13        0.0600
                   73.44         297.80        0.0801      Main Channel
                   83.56         297.26        0.0801      Main Channel
                  103.81         296.41        0.0801      Main Channel
                  113.94         296.01        0.0801      Main Channel
                  124.06         295.81        0.0801      Main Channel
                  134.18         295.49        0.0801      Main Channel
                  154.56         294.55        0.0801      Main Channel
                  166.59         294.24        0.0801      Main Channel
                  184.81         293.70        0.0801      Main Channel
                  205.05         293.40        0.0801      Main Channel
                  225.30         293.42        0.0801      Main Channel
                  238.75         293.62        0.0801      Main Channel
                  250.77         293.88        0.0801      Main Channel
                  265.80         294.01        0.0801      Main Channel
                  276.88         294.44        0.0801      Main Channel
                  281.82         294.62        0.0801      Main Channel
                  302.11         295.92        0.0801      Main Channel
                  312.26         297.06    0.0801 /0.0600  Main Channel
                  325.80         298.20        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.24   293.64    .747E+04          1.8          0.22       67.42
       0.49   293.89    .210E+05          8.2          0.34       42.88
       0.73   294.13    .402E+05         19.7          0.43       33.97
       0.98   294.38    .632E+05         38.1          0.53       27.66
       1.22   294.62    .895E+05         62.7          0.62       23.79
       1.46   294.86    .118E+06         95.4          0.71       20.67
       1.71   295.11    .149E+06        134.4          0.80       18.49
       1.95   295.35    .182E+06        179.8          0.88       16.86
       2.20   295.60    .217E+06        230.7          0.94       15.65
       2.44   295.84    .254E+06        286.7          1.00       14.75
       2.68   296.08    .294E+06        349.2          1.05       14.03
       2.93   296.33    .336E+06        424.7          1.12       13.20
       3.17   296.57    .380E+06        507.8          1.18       12.48
       3.42   296.82    .426E+06        598.5          1.24       11.87
       3.66   297.06    .474E+06        696.8          1.30       11.33
       3.93   297.33    .528E+06        822.1          1.38       10.70
       4.20   297.60    .584E+06        968.5          1.47       10.05
       4.46   297.86    .642E+06       1125.6          1.55        9.51
       4.73   298.13    .703E+06       1294.4          1.63        9.05

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1002)    125.55     0.26    8.25   6.28      0.03
0.22
   OUTFLOW: ID= 1 (  2593)    125.55     0.24    9.42   6.28      0.03
0.22

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| CALIB            |
| STANDHYD (  0054)|   Area    (ha)=      6.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=     59.20   Dir. Conn.(%)=  53.30
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         3.91           2.70
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         1.55           1.55
     Length            (m)=       209.92          40.00
     Mannings n             =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32           7.08
               over (min)          5.00          30.00
     Storage Coeff.  (min)=         6.75 (ii)     28.71 (ii)
     Unit Hyd. Tpeak (min)=         5.00          30.00
     Unit Hyd. peak  (cms)=         0.18           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.19           0.04       0.222 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50       5.25
     RUNOFF VOLUME    (mm)=        40.00          10.27      26.11
     TOTAL RAINFALL   (mm)=        42.00          42.00      42.00
     RUNOFF COEFFICIENT   =         0.95           0.24       0.62

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  68.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4028)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |     0.0630
0.1746
                             0.0200        0.0822   |     0.0910
0.2277
                             0.0350        0.1126   |     1.0000
0.2530

                                AREA       QPEAK       TPEAK       R.V.
                                (ha)       (cms)       (hrs)       (mm)
   INFLOW : ID= 2 (  0054)     6.610       0.222        5.25      26.11
   OUTFLOW: ID= 1 (  4028)     6.610       0.038        7.33      25.95

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.01
                  TIME SHIFT OF PEAK FLOW         (min)=125.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1188

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| ADD HYD  (  1789)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2593):   125.55       0.244        9.42        6.28
     + ID2= 2 (  4028):     6.61       0.038        7.33       25.95
       ==========================================================
       ID = 3 (  1789):   132.16       0.277        9.25        7.27
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3648)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   49.12         291.09        0.0600
                   52.28         291.03        0.0801      Main Channel
                   61.50         290.64        0.0801      Main Channel
                   64.77         290.42        0.0801      Main Channel
                   73.87         290.30        0.0801      Main Channel
                   79.08         290.03        0.0801      Main Channel
                   93.40         289.76        0.0801      Main Channel
                  100.55         289.75        0.0801      Main Channel
                  114.87         289.88        0.0801      Main Channel
                  129.18         289.98        0.0801      Main Channel
                  148.13         290.00        0.0801      Main Channel
                  179.29         290.01        0.0801      Main Channel
                  210.01         289.77        0.0801      Main Channel
                  229.39         289.67        0.0801      Main Channel
                  243.70         289.93        0.0801      Main Channel
                  258.02         290.18        0.0801      Main Channel
                  259.52         290.30        0.0801      Main Channel
                  271.89         290.17        0.0801      Main Channel
                  289.90         290.66    0.0801 /0.0600  Main Channel
                  300.96         291.15        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.07   289.74    .349E+03          0.0          0.04      190.27
       0.15   289.82    .177E+04          0.2          0.07      127.89
       0.22   289.89    .420E+04          0.7          0.09       94.38
       0.30   289.97    .766E+04          1.6          0.11       77.69
       0.37   290.04    .131E+05          2.9          0.11       74.54
       0.45   290.12    .197E+05          5.6          0.14       58.18
       0.52   290.19    .264E+05          9.0          0.17       49.21
       0.60   290.27    .336E+05         12.8          0.19       43.75
       0.67   290.34    .412E+05         17.4          0.21       39.47
       0.75   290.42    .492E+05         22.8          0.23       36.03
       0.82   290.49    .574E+05         29.0          0.25       32.93
       0.90   290.57    .657E+05         36.0          0.28       30.43
       0.97   290.64    .742E+05         43.6          0.30       28.39
       1.05   290.72    .829E+05         52.2          0.32       26.45
       1.12   290.79    .916E+05         61.6          0.34       24.80
       1.20   290.87    .101E+06         71.6          0.36       23.40
       1.27   290.94    .110E+06         82.3          0.38       22.19
       1.35   291.02    .119E+06         93.7          0.40       21.14
       1.42   291.09    .128E+06        105.7          0.42       20.21

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1789)    132.16     0.28    9.25   7.27      0.16
0.07
   OUTFLOW: ID= 1 (  3648)    132.16     0.24   11.17   7.26      0.15
0.07
```

ADD HYD (7499)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3648):		132.16	0.238	11.17	7.26
+ ID2= 2 (0053):		87.63	0.219	8.25	7.48
ID = 3 (7499):		219.79	0.415	9.92	7.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0728)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7498):		92.54	0.260	7.25	7.16
+ ID2= 2 (7499):		219.79	0.415	9.92	7.35
ID = 3 (0728):		312.33	0.612	8.67	7.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2239) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
91.92	291.26	0.0600	
98.99	291.04	0.0801	Main Channel
106.06	290.59	0.0801	Main Channel
110.54	290.19	0.0801	Main Channel
120.20	289.60	0.0801	Main Channel
124.68	289.41	0.0801	Main Channel
129.87	289.13	0.0801	Main Channel
148.49	287.99	0.0801	Main Channel
155.56	288.55	0.0801	Main Channel
162.63	288.34	0.0801	Main Channel
169.70	288.09	0.0801	Main Channel
172.29	288.19	0.0801	Main Channel
176.77	288.22	0.0801	Main Channel
186.44	289.00	0.0801	Main Channel
190.91	289.45	0.0801	Main Channel
195.39	289.72	0.0801	Main Channel
200.58	290.06	0.0801	Main Channel
205.06	290.37	0.0801	Main Channel
212.13	290.98	0.0801 /0.0600	Main Channel
214.72	291.27	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	288.15	.620E+02	0.1	0.11	18.94
0.33	288.32	.412E+03	0.6	0.19	11.06
0.49	288.48	.103E+04	2.2	0.27	7.87
0.65	288.64	.188E+04	5.2	0.35	6.04
0.81	288.80	.284E+04	9.6	0.43	4.90

0.98	288.96	.389E+04	15.4	0.50	4.22
1.14	289.13	.504E+04	22.4	0.57	3.74
1.30	289.29	.628E+04	30.8	0.62	3.40
1.46	289.45	.762E+04	40.3	0.67	3.15
1.63	289.62	.907E+04	50.8	0.71	2.98
1.79	289.78	.106E+05	63.4	0.76	2.80
1.95	289.94	.123E+05	77.6	0.80	2.65
2.11	290.10	.141E+05	93.5	0.84	2.52
2.28	290.27	.160E+05	111.5	0.88	2.39
2.44	290.43	.180E+05	131.7	0.93	2.28
2.60	290.59	.200E+05	153.8	0.97	2.17
2.82	290.81	.230E+05	189.8	1.05	2.02
3.05	291.04	.262E+05	230.2	1.12	1.89
3.27	291.26	.295E+05	277.5	1.19	1.77

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0728)	312.33	0.61	8.67	7.29	0.32	0.19
OUTFLOW: ID= 1 (2239)	312.33	0.61	8.67	7.29	0.32	0.19

CALIB | STANDHYD (0049) | ID= 1 DT= 5.0 min | Area (ha)= 36.07 | Total Imp(%)= 47.40 | Dir. Conn.(%)= 41.90

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.10	18.97
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.30	3.30
Length	(m)=	490.37	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.26
over (min)		10.00	25.00
Storage Coeff. (min)=		8.95 (ii)	24.68 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05
			TOTALS
PEAK FLOW (cms)=		0.81	0.36 1.151 (iii)
TIME TO PEAK (hrs)=		5.25	5.42 5.25
RUNOFF VOLUME (mm)=		40.00	13.46 24.58
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.32 0.59

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7500)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3					

ID1= 1 (2239):	312.33	0.611	8.67	7.29
+ ID2= 2 (0049):	36.07	1.151	5.25	24.58
ID = 3 (7500):	348.40	1.397	5.25	9.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0048) | ID= 1 DT= 5.0 min | Area (ha)= 89.40 | Total Imp(%)= 34.20 | Dir. Conn.(%)= 30.90

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.57	58.83
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.75	2.75
Length	(m)=	772.01	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.46
over (min)		10.00	30.00
Storage Coeff. (min)=		12.41 (ii)	29.63 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.10	0.04
			TOTALS
PEAK FLOW (cms)=		1.47	0.95 2.312 (iii)
TIME TO PEAK (hrs)=		5.25	5.50 5.25
RUNOFF VOLUME (mm)=		40.00	12.89 21.27
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.31 0.51

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0842)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0048):		89.40	2.312	5.25	21.27
+ ID2= 2 (7500):		348.40	1.397	5.25	9.08
ID = 3 (0842):		437.80	3.709	5.25	11.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2398) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
91.92	291.26	0.0600	
98.99	291.04	0.0801	Main Channel
106.06	290.59	0.0801	Main Channel

110.54	290.19	0.0801	Main Channel
120.20	289.60	0.0801	Main Channel
124.68	289.41	0.0801	Main Channel
129.87	289.13	0.0801	Main Channel
148.49	287.99	0.0801	Main Channel
155.56	288.55	0.0801	Main Channel
162.63	288.34	0.0801	Main Channel
169.70	288.09	0.0801	Main Channel
172.29	288.19	0.0801	Main Channel
176.77	288.22	0.0801	Main Channel
186.44	289.00	0.0801	Main Channel
190.91	289.45	0.0801	Main Channel
195.39	289.72	0.0801	Main Channel
200.58	290.06	0.0801	Main Channel
205.06	290.37	0.0801	Main Channel
212.13	290.98	0.0801 /0.0600	Main Channel
214.72	291.27	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	288.15	.290E+03	0.1	0.10	95.10
0.33	288.32	.193E+04	0.6	0.18	55.53
0.49	288.48	.482E+04	2.0	0.25	39.53
0.65	288.64	.878E+04	4.8	0.33	30.31
0.81	288.80	.133E+05	9.0	0.40	24.62
0.98	288.96	.182E+05	14.3	0.47	21.20
1.14	289.13	.236E+05	20.9	0.53	18.80
1.30	289.29	.294E+05	28.7	0.58	17.09
1.46	289.45	.356E+05	37.6	0.63	15.79
1.63	289.62	.424E+05	47.3	0.66	14.94
1.79	289.78	.498E+05	59.0	0.70	14.06
1.95	289.94	.577E+05	72.3	0.74	13.30
2.11	290.10	.660E+05	87.1	0.78	12.63
2.28	290.27	.749E+05	103.9	0.82	12.02
2.44	290.43	.841E+05	122.7	0.87	11.43
2.60	290.59	.938E+05	143.3	0.91	10.90
2.82	290.81	.108E+06	176.8	0.98	10.15
3.05	291.04	.122E+06	214.5	1.04	9.51
3.27	291.26	.138E+06	258.5	1.11	8.90

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0842)	437.80	3.71	5.25	11.57	0.58	0.29
OUTFLOW: ID= 1 (2398)	437.80	2.86	5.42	11.57	0.53	0.27

ROUTE CHN(3577) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	292.78	0.0600	
17.96	293.08	0.0801	Main Channel
32.14	292.01	0.0801	Main Channel
60.51	290.60	0.0801	Main Channel
74.69	289.13	0.0801	Main Channel

81.79	288.81	0.0801		Main Channel
88.88	289.80	0.0801		Main Channel
103.06	288.01	0.0801		Main Channel
110.15	287.27	0.0801		Main Channel
120.32	286.75	0.0801		Main Channel
144.39	286.36	0.0801		Main Channel
166.89	286.31	0.0801		Main Channel
173.00	286.03	0.0801		Main Channel
181.07	286.52	0.0801		Main Channel
202.35	288.81	0.0801		Main Channel
209.44	289.67	0.0801		Main Channel
216.53	290.19	0.0801		Main Channel
225.69	291.55	0.0801		Main Channel
244.90	292.50	0.0801 /0.0600		Main Channel
259.08	293.75	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	286.38	.153E+04	0.3	0.09	82.81
0.70	286.73	.937E+04	4.4	0.21	35.68
1.06	287.09	.201E+05	14.1	0.32	23.86
1.41	287.44	.325E+05	29.0	0.41	18.68
1.76	287.79	.460E+05	49.0	0.48	15.63
2.11	288.14	.605E+05	73.9	0.55	13.64
2.46	288.49	.760E+05	103.7	0.62	12.22
2.81	288.84	.925E+05	137.4	0.67	11.21
3.17	289.20	.111E+06	170.2	0.70	10.86
3.52	289.55	.131E+06	212.4	0.73	10.30
3.87	289.90	.154E+06	261.5	0.77	9.80
4.22	290.25	.178E+06	321.2	0.82	9.21
4.57	290.60	.202E+06	389.9	0.87	8.65
4.92	290.95	.229E+06	459.3	0.91	8.29
5.28	291.31	.256E+06	535.7	0.95	7.97
5.63	291.66	.285E+06	616.2	0.98	7.72
5.98	292.01	.317E+06	698.3	1.00	7.56
6.33	292.36	.350E+06	805.1	1.04	7.25
6.72	292.75	.389E+06	944.8	1.10	6.85

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2398)	437.80	2.86	5.42	11.57	0.57	0.14
OUTFLOW: ID= 1 (3577)	437.80	1.96	6.25	11.57	0.49	0.12

CALIB STANDHYD (0047) ID= 1 DT= 5.0 min	Area (ha)= 32.92	Imp(%)= 39.50	Dir. Conn.(%)= 35.50

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	13.00	19.92
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	3.23	3.23
Length (m)=	468.47	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)= 19.32 8.70

over (min)	10.00	25.00	
Storage Coeff. (min)=	8.76 (ii)	25.00 (ii)	
Unit Hyd. Tpeak (min)=	10.00	25.00	
Unit Hyd. peak (cms)=	0.12	0.05	
			TOTALS
PEAK FLOW (cms)=	0.63	0.36	0.958 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	40.00	13.06	22.63
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.31	0.54

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7503) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3577):	437.80	1.960	6.25	11.57
+ ID2= 2 (0047):	32.92	0.958	5.25	22.63
ID = 3 (7503):	470.72	2.356	5.92	12.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0725) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7502):	335.71	0.932	5.25	7.12
+ ID2= 2 (7503):	470.72	2.356	5.92	12.34
ID = 3 (0725):	806.43	3.209	5.33	10.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3075) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
49.00	291.13	0.0600	
63.17	290.80	0.0801	Main Channel
77.34	289.92	0.0801	Main Channel
84.43	289.62	0.0801	Main Channel
91.51	288.82	0.0801	Main Channel
105.68	285.99	0.0801	Main Channel
109.89	285.02	0.0801	Main Channel
112.77	284.52	0.0801	Main Channel
116.05	284.22	0.0801	Main Channel
119.85	284.02	0.0801	Main Channel
126.94	284.09	0.0801	Main Channel
134.03	283.65	0.0801	Main Channel

136.51	283.73	0.0801		Main Channel
141.11	284.05	0.0801		Main Channel
155.28	284.32	0.0801		Main Channel
169.45	284.42	0.0801		Main Channel
183.63	285.68	0.0801		Main Channel
191.79	288.46	0.0801		Main Channel
197.80	290.77	0.0801 /0.0600		Main Channel
204.88	291.61	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.39	284.04	.136E+04	0.6	0.22	37.25
0.78	284.43	.813E+04	5.2	0.31	26.19
1.18	284.83	.194E+05	20.3	0.50	15.91
1.57	285.22	.318E+05	43.6	0.66	12.18
1.96	285.61	.455E+05	74.6	0.79	10.16
2.35	286.00	.601E+05	115.1	0.92	8.70
2.74	286.39	.753E+05	163.1	1.04	7.69
3.13	286.78	.910E+05	218.2	1.15	6.95
3.53	287.18	.107E+06	280.4	1.26	6.38
3.92	287.57	.124E+06	349.5	1.35	5.93
4.31	287.96	.142E+06	425.6	1.44	5.55
4.70	288.35	.160E+06	508.5	1.53	5.24
5.09	288.74	.179E+06	598.8	1.61	4.97
5.49	289.14	.198E+06	691.3	1.68	4.77
5.88	289.53	.218E+06	790.1	1.74	4.60
6.27	289.92	.239E+06	876.2	1.76	4.55
6.66	290.31	.262E+06	1011.0	1.85	4.33
7.07	290.72	.287E+06	1159.3	1.94	4.13
7.47	291.12	.315E+06	1325.4	2.02	3.96

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0725)	806.43	3.21	5.33	10.17	0.62	0.26
OUTFLOW: ID= 1 (3075)	806.43	2.75	6.33	10.17	0.58	0.25

CALIB NASHYD (0056) ID= 1 DT= 5.0 min	Area (ha)= 14.35	Curve Number (CN)= 80.3	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50	U.H. Tp(hrs)= 0.66

Unit Hyd Qpeak (cms)= 0.371

PEAK FLOW (cms)= 0.091 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 10.839
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.258

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2022) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3075):	806.43	2.750	6.33	10.17
+ ID2= 2 (0056):	14.35	0.091	6.33	10.84
ID = 3 (2022):	820.78	2.842	6.33	10.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3076) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
49.00	291.13	0.0600	
63.17	290.80	0.0801	Main Channel
77.34	289.92	0.0801	Main Channel
84.43	289.62	0.0801	Main Channel
91.51	288.82	0.0801	Main Channel
105.68	285.99	0.0801	Main Channel
109.89	285.02	0.0801	Main Channel
112.77	284.52	0.0801	Main Channel
116.05	284.22	0.0801	Main Channel
119.85	284.02	0.0801	Main Channel
126.94	284.09	0.0801	Main Channel
134.03	283.65	0.0801	Main Channel
136.51	283.73	0.0801	Main Channel
141.11	284.05	0.0801	Main Channel
155.28	284.32	0.0801	Main Channel
169.45	284.42	0.0801	Main Channel
183.63	285.68	0.0801	Main Channel
191.79	288.46	0.0801	Main Channel
197.80	290.77	0.0801 /0.0600	Main Channel
204.88	291.61	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.39	284.04	.914E+03	0.4	0.14	37.59
0.78	284.43	.544E+04	3.4	0.20	26.43
1.18	284.83	.130E+05	13.5	0.33	16.05
1.57	285.22	.213E+05	28.9	0.44	12.29
1.96	285.61	.305E+05	49.6	0.52	10.25
2.35	286.00	.403E+05	76.4	0.61	8.78
2.74	286.39	.504E+05	108.3	0.69	7.76
3.13	286.78	.610E+05	144.9	0.77	7.01
3.53	287.18	.719E+05	186.2	0.83	6.44
3.92	287.57	.833E+05	232.1	0.90	5.98
4.31	287.96	.950E+05	282.6	0.96	5.60
4.70	288.35	.107E+06	337.7	1.02	5.29
5.09	288.74	.120E+06	397.6	1.07	5.02
5.49	289.14	.133E+06	459.1	1.12	4.82
5.88	289.53	.146E+06	524.7	1.16	4.64
6.27	289.92	.160E+06	581.8	1.17	4.60
6.66	290.31	.176E+06	671.4	1.23	4.37
7.07	290.72	.193E+06	769.8	1.29	4.17
7.47	291.12	.211E+06	880.2	1.34	4.00

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL

		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	2022)	820.78	2.84	6.33	10.18	0.71	0.19
OUTFLOW: ID= 1 (	3076)	820.78	2.67	6.58	10.18	0.68	0.18

ROUTE CHN(2941)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	295.25	0.0600	
33.94	292.13	0.0801	Main Channel
36.60	291.78	0.0801	Main Channel
53.48	288.24	0.0801	Main Channel
59.88	287.12	0.0801	Main Channel
73.02	285.61	0.0801	Main Channel
83.16	283.81	0.0801	Main Channel
92.56	281.99	0.0801	Main Channel
106.44	281.65	0.0801	Main Channel
257.76	281.65	0.0801	Main Channel
281.04	281.96	0.0801	Main Channel
292.68	282.58	0.0801	Main Channel
304.32	284.62	0.0801	Main Channel
327.02	291.11	0.0801	Main Channel
339.24	295.10	0.0801	Main Channel
346.56	297.27	0.0801	Main Channel
350.88	298.37	0.0801	Main Channel
357.24	299.57	0.0801	Main Channel
362.52	300.69	0.0801 /0.0600	Main Channel
373.86	301.72	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.68	282.33	.458E+05	77.2	0.63	9.89
1.35	283.00	.971E+05	260.3	1.00	6.22
2.03	283.68	.150E+06	527.0	1.31	4.75
2.70	284.35	.205E+06	866.4	1.57	3.95
3.38	285.03	.262E+06	1276.8	1.81	3.43
4.05	285.70	.321E+06	1752.9	2.04	3.05
4.73	286.38	.381E+06	2283.4	2.23	2.78
5.40	287.05	.444E+06	2875.5	2.42	2.57
6.08	287.73	.508E+06	3542.7	2.60	2.39
6.75	288.40	.574E+06	4273.6	2.78	2.24
7.43	289.08	.642E+06	5069.2	2.95	2.11
8.10	289.75	.711E+06	5924.0	3.11	2.00
8.78	290.43	.781E+06	6837.6	3.27	1.90
9.45	291.10	.852E+06	7809.5	3.42	1.82
10.13	291.78	.926E+06	8844.5	3.56	1.74
11.00	292.65	.102E+07	10346.5	3.78	1.65
11.87	293.52	.112E+07	11954.9	3.97	1.56
12.73	294.38	.123E+07	13675.0	4.16	1.49
13.60	295.25	.133E+07	15509.9	4.34	1.43

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	3076)	820.78	2.67	6.58	10.18	0.02	0.63
OUTFLOW: ID= 1 (	2941)	820.78	2.65	6.83	10.18	0.02	0.63

ADD HYD (0950)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2941):	820.78	2.652	6.83	10.18
+ ID2= 2 (7501):	119.78	1.472	6.25	21.43
ID = 3 (0950):	940.56	4.062	6.67	11.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0038)	Area (ha)= 81.21 Curve Number (CN)= 64.1
ID= 1 DT= 5.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.70

Unit Hyd Qpeak (cms)= 0.816

PEAK FLOW (cms)= 0.149 (i)
TIME TO PEAK (hrs)= 8.333
RUNOFF VOLUME (mm)= 5.868
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.140

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2013)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0038):	81.21	0.149	8.33	5.87
+ ID2= 2 (0039):	130.58	1.032	7.42	20.89
ID = 3 (2013):	211.79	1.175	7.50	15.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2013)	3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (2013):	211.79	1.175	7.50	15.13
+ ID2= 2 (0950):	940.56	4.062	6.67	11.61
ID = 1 (2013):	1152.35	5.173	6.75	12.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2584)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
42.43	285.32	0.0600	
56.83	282.85	0.0801	Main Channel
62.24	281.82	0.0801	Main Channel
71.23	281.20	0.0801	Main Channel
84.47	281.08	0.0801	Main Channel
92.83	281.52	0.0801	Main Channel
114.43	281.81	0.0801	Main Channel
128.83	281.37	0.0801	Main Channel
134.75	280.76	0.0801	Main Channel
164.82	280.33	0.0801	Main Channel
179.22	279.85	0.0801	Main Channel
186.42	279.85	0.0801	Main Channel
200.82	279.72	0.0801	Main Channel
219.35	280.21	0.0801	Main Channel
267.69	281.64	0.0801	Main Channel
287.22	282.71	0.0801	Main Channel
294.41	282.80	0.0801	Main Channel
308.81	283.31	0.0801	Main Channel
337.61	284.03	0.0801 /0.0600	Main Channel
351.62	284.65	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.23	279.95	.241E+04	0.4	0.10	90.99
0.47	280.19	.776E+04	2.4	0.17	54.01
0.70	280.42	.152E+05	5.9	0.22	42.71
0.93	280.65	.255E+05	11.5	0.25	37.03
1.17	280.89	.387E+05	20.6	0.29	31.32
1.40	281.12	.534E+05	32.3	0.33	27.58
1.63	281.35	.714E+05	46.2	0.36	25.77
1.87	281.59	.922E+05	63.4	0.38	24.23
2.10	281.82	.117E+06	84.5	0.40	23.12
2.33	282.05	.144E+06	118.1	0.45	20.40
2.62	282.34	.179E+06	165.0	0.51	18.04
2.90	282.62	.214E+06	218.4	0.57	16.30
3.18	282.90	.250E+06	274.0	0.61	15.22
3.47	283.19	.289E+06	339.2	0.65	14.18
3.75	283.47	.329E+06	409.1	0.69	13.39
4.03	283.75	.371E+06	484.4	0.72	12.75
4.31	284.03	.415E+06	566.9	0.76	12.19
4.60	284.32	.460E+06	671.9	0.81	11.42
4.88	284.60	.507E+06	784.8	0.86	10.77

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (| 2013)	1152.35	5.17	6.75	12.26	0.65	0.20
OUTFLOW: ID= 1 (| 2584)	1152.35	4.73	7.58	12.26	0.62	0.20

ADD HYD (0803)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2584):	1152.35	4.730	7.58	12.26
+ ID2= 2 (0037):	28.96	0.000	0.00	0.00
ID = 3 (0803):	1181.31	4.730	7.58	11.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2358)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
131.97	283.52	0.0600	
139.83	283.25	0.0801	Main Channel
146.92	282.82	0.0801	Main Channel
148.94	282.61	0.0801	Main Channel
161.10	281.20	0.0801	Main Channel
164.24	280.77	0.0801	Main Channel
168.19	280.32	0.0801	Main Channel
171.61	280.15	0.0801	Main Channel
175.28	279.88	0.0801	Main Channel
184.82	279.56	0.0801	Main Channel
189.46	279.36	0.0801	Main Channel
194.84	279.29	0.0801	Main Channel
203.64	279.34	0.0801	Main Channel
211.25	279.49	0.0801	Main Channel
232.00	281.17	0.0801	Main Channel
237.67	282.55	0.0801	Main Channel
239.09	282.86	0.0801	Main Channel
246.18	282.97	0.0801	Main Channel
267.45	283.36	0.0801 /0.0600	Main Channel
274.54	283.51	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.22	279.51	.183E+04	0.4	0.11	75.12
0.44	279.73	.507E+04	1.8	0.18	46.49
0.66	279.95	.930E+04	4.3	0.23	35.74
0.88	280.17	.142E+05	8.1	0.28	29.32
1.10	280.39	.199E+05	13.0	0.32	25.48
1.32	280.61	.261E+05	19.4	0.37	22.45
1.54	280.83	.328E+05	27.0	0.40	20.25
1.76	281.05	.400E+05	36.0	0.44	18.54
1.99	281.28	.476E+05	46.5	0.48	17.07
2.21	281.50	.556E+05	58.6	0.52	15.80
2.43	281.72	.639E+05	72.1	0.56	14.77
2.65	281.94	.725E+05	86.8	0.59	13.91
2.87	282.16	.813E+05	102.9	0.62	13.18
3.09	282.38	.905E+05	120.2	0.65	12.55
3.31	282.60	.100E+06	138.9	0.68	12.00
3.53	282.82	.110E+06	158.6	0.71	11.54
3.75	283.04	.121E+06	171.3	0.70	11.73
3.98	283.27	.134E+06	187.1	0.69	11.90
4.21	283.50	.149E+06	214.6	0.71	11.53

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0803)	1181.31	4.73	7.58	11.96	0.68	0.23
OUTFLOW: ID= 1 (2358)	1181.31	4.53	8.25	11.96	0.67	0.23

ROUTE CHN(3200)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
26.38	282.32	0.0600	
46.40	281.74	0.0801	Main Channel
76.43	281.69	0.0801	Main Channel
96.45	281.30	0.0801	Main Channel
110.77	279.69	0.0801	Main Channel
127.27	279.24	0.0801	Main Channel
146.51	278.98	0.0801	Main Channel
176.55	278.88	0.0801	Main Channel
190.35	278.90	0.0801	Main Channel
284.95	278.84	0.0801	Main Channel
295.47	278.82	0.0801	Main Channel
296.68	278.75	0.0801	Main Channel
305.98	279.89	0.0801	Main Channel
316.49	279.61	0.0801	Main Channel
348.02	279.97	0.0801	Main Channel
356.75	280.80	0.0801	Main Channel
366.76	280.84	0.0801	Main Channel
376.77	281.24	0.0801	Main Channel
390.07	281.90	0.0801 /0.0600	Main Channel
396.79	282.28	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	278.93	.295E+04	0.5	0.06	94.37
0.37	279.12	.128E+05	5.4	0.15	39.68
0.55	279.30	.238E+05	14.3	0.21	27.69
0.73	279.48	.353E+05	26.8	0.26	21.93
0.92	279.67	.474E+05	41.6	0.31	19.01
1.10	279.85	.611E+05	58.4	0.33	17.45
1.29	280.04	.762E+05	81.0	0.37	15.69
1.47	280.22	.918E+05	109.2	0.41	14.00
1.65	280.40	.108E+06	140.9	0.46	12.72
1.84	280.59	.124E+06	175.9	0.50	11.71
2.02	280.77	.140E+06	214.0	0.53	10.89
2.20	280.95	.157E+06	249.4	0.55	10.47
2.39	281.14	.174E+06	293.0	0.59	9.91
2.57	281.32	.192E+06	339.3	0.62	9.44
2.76	281.51	.211E+06	383.9	0.63	9.15
2.94	281.69	.230E+06	431.9	0.65	8.88
3.14	281.89	.253E+06	497.1	0.68	8.49
3.33	282.08	.278E+06	571.5	0.72	8.09
3.53	282.28	.302E+06	651.4	0.75	7.74

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2358)	1181.31	4.53	8.25	11.96	0.33	0.12
OUTFLOW: ID= 1 (3200)	1181.31	4.28	8.83	11.96	0.33	0.11

CALIB			
NASHYD (0070)	Area (ha)=	133.18	Curve Number (CN)= 74.6
ID= 1 DT= 5.0 min	Ia (mm)=	43.40	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.94	

Unit Hyd Qpeak (cms)= 1.172

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7506)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3200):	1181.31	4.279	8.83	11.96
+ ID2= 2 (0070):	133.18	0.000	0.00	0.00
ID = 3 (7506):	1314.49	4.279	8.83	10.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0071)	Area (ha)=	97.36	Curve Number (CN)= 68.9
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.63	

Unit Hyd Qpeak (cms)= 1.020

PEAK FLOW (cms)= 0.219 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 6.968
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0072)	Area (ha)=	202.69	Curve Number (CN)= 74.6
ID= 1 DT= 5.0 min	Ia (mm)=	23.10	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	2.14	

Unit Hyd Qpeak (cms)= 1.617

PEAK FLOW (cms)= 0.176 (i)
TIME TO PEAK (hrs)= 9.583
RUNOFF VOLUME (mm)= 3.389
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.081

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2346)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	291.28	0.0600	
28.20	290.47	0.0801	Main Channel
35.36	291.35	0.0801	Main Channel
114.05	291.22	0.0801	Main Channel
142.25	290.84	0.0801	Main Channel
199.90	290.86	0.0801	Main Channel
235.68	290.57	0.0801	Main Channel
340.66	290.19	0.0801	Main Channel
430.71	289.79	0.0801	Main Channel
462.95	288.76	0.0801	Main Channel
513.01	285.73	0.0801	Main Channel
543.05	282.61	0.0801	Main Channel
573.09	280.82	0.0801	Main Channel
597.88	282.60	0.0801	Main Channel
653.20	288.59	0.0801	Main Channel
664.55	289.27	0.0801	Main Channel
723.29	290.47	0.0801	Main Channel
783.37	294.81	0.0801	Main Channel
813.41	293.50	0.0801 /0.0600	Main Channel
893.87	289.11	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.70	281.52	.686E+04	2.2	0.30	51.17
1.40	282.22	.275E+05	14.2	0.47	32.23
2.11	282.93	.612E+05	42.9	0.64	23.77
2.81	283.63	.104E+06	91.3	0.79	19.02
3.51	284.33	.156E+06	159.6	0.93	16.25
4.21	285.03	.215E+06	249.8	1.05	14.37
4.91	285.73	.284E+06	363.9	1.16	13.00
5.62	286.44	.362E+06	495.0	1.24	12.19
6.32	287.14	.452E+06	657.4	1.32	11.45
7.02	287.84	.553E+06	853.7	1.40	10.80
7.72	288.54	.666E+06	1086.7	1.48	10.21
8.42	289.24	.793E+06	1316.7	1.51	10.04
9.13	289.95	.956E+06	1428.5	1.35	11.16
9.83	290.65	.123E+07	1535.3	1.13	13.33
10.53	291.35	.164E+07	1952.1	1.08	13.99
11.23	292.05	.214E+07	2978.1	1.26	11.98
12.10	292.92	.278E+07	4500.2	1.47	10.29
12.96	293.78	.344E+07	6273.8	1.65	9.13
13.83	294.65	.412E+07	8264.2	1.82	8.31

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0072)	202.69	0.18	9.58	3.39	0.06	0.30
OUTFLOW: ID= 1 (2346)	202.69	0.17	10.75	3.39	0.05	0.30

ADD HYD (7505)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2346):	202.69	0.171	10.75	3.39
+ ID2= 2 (0071):	97.36	0.219	8.25	6.97
ID = 3 (7505):	300.05	0.366	9.33	4.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1723)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7505):	300.05	0.366	9.33	4.55
+ ID2= 2 (7506):	1314.49	4.279	8.83	10.75
ID = 3 (1723):	1614.54	4.640	8.83	9.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2348)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	287.98	0.0600	
39.57	287.65	0.0801	Main Channel
59.35	286.99	0.0801	Main Channel
98.92	286.67	0.0801	Main Channel
118.70	286.31	0.0801	Main Channel
148.38	285.87	0.0801	Main Channel
207.73	284.66	0.0801	Main Channel
217.62	284.25	0.0801	Main Channel
247.29	282.45	0.0801	Main Channel
257.19	281.73	0.0801	Main Channel
267.08	280.74	0.0801	Main Channel
276.97	279.18	0.0801	Main Channel
286.86	278.15	0.0801	Main Channel
296.75	278.60	0.0801	Main Channel
316.54	279.95	0.0801	Main Channel
326.43	282.51	0.0801	Main Channel
336.32	285.75	0.0801	Main Channel
346.21	287.27	0.0801	Main Channel
356.10	287.66	0.0801 /0.0600	Main Channel
366.00	287.74	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	278.64	.444E+04	0.6	0.16	124.16
0.98	279.13	.166E+05	3.6	0.26	75.91
1.47	279.63	.352E+05	10.3	0.34	57.15
1.96	280.12	.595E+05	21.5	0.42	46.12
2.45	280.61	.874E+05	38.0	0.51	38.28
2.95	281.10	.118E+06	58.3	0.57	33.81
3.44	281.59	.153E+06	83.2	0.63	30.68
3.93	282.08	.192E+06	112.2	0.68	28.55
4.42	282.57	.236E+06	146.3	0.72	26.90
4.91	283.06	.285E+06	186.2	0.76	25.54
5.40	283.55	.340E+06	233.3	0.80	24.29
5.89	284.04	.400E+06	288.0	0.84	23.16
6.38	284.53	.466E+06	347.3	0.87	22.38
6.87	285.03	.542E+06	398.5	0.86	22.66
7.36	285.52	.632E+06	461.8	0.85	22.79
7.85	286.01	.736E+06	537.4	0.85	22.84
8.35	286.50	.860E+06	627.1	0.85	22.86
8.84	286.99	.101E+07	711.7	0.82	23.56
9.33	287.48	.117E+07	901.6	0.89	21.71

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1723)	1614.54	4.64	8.83	9.60	1.06	0.27
OUTFLOW: ID= 1 (2348)	1614.54	4.06	10.17	9.60	1.01	0.26

CALIB			
NASHYD (0069) ID= 1 DT= 5.0 min	Area (ha)= 171.05	Curve Number (CN)= 74.6	
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 2.25		

Unit Hyd Qpeak (cms)= 1.298

PEAK FLOW (cms)= 0.373 (i)
TIME TO PEAK (hrs)= 8.917
RUNOFF VOLUME (mm)= 8.640
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.206

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7508)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2348):	1614.54	4.057	10.17	9.60
	+ ID2= 2 (0069):	171.05	0.373	8.92	8.64
	ID = 3 (7508):	1785.59	4.415	10.08	9.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0066) ID= 1 DT= 5.0 min	Area (ha)= 472.25	Curve Number (CN)= 65.0	
	Ia (mm)= 43.40	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 3.75		

Unit Hyd Qpeak (cms)= 2.150

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0067) ID= 1 DT= 5.0 min	Area (ha)= 327.27	Curve Number (CN)= 67.9	
	Ia (mm)= 30.60	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 2.01		

Unit Hyd Qpeak (cms)= 2.780

PEAK FLOW (cms)= 0.085 (i)
TIME TO PEAK (hrs)= 10.750
RUNOFF VOLUME (mm)= 0.988
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.024

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0068) ID= 1 DT= 5.0 min	Area (ha)= 398.57	Curve Number (CN)= 61.2	
	Ia (mm)= 43.40	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 2.56		

Unit Hyd Qpeak (cms)= 2.658

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (3709)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
64.01	371.83	0.0600	
90.62	363.24	0.0801	Main Channel
121.04	356.78	0.0801	Main Channel
141.32	354.98	0.0801	Main Channel

171.75	350.96	0.0801		Main Channel
181.89	350.40	0.0801		Main Channel
222.46	350.40	0.0801		Main Channel
237.52	351.30	0.0801		Main Channel
263.03	354.19	0.0801		Main Channel
273.17	354.28	0.0801		Main Channel
289.58	354.42	0.0801		Main Channel
323.88	357.03	0.0801		Main Channel
344.16	358.74	0.0801		Main Channel
367.66	359.46	0.0801		Main Channel
393.68	360.66	0.0801		Main Channel
425.30	366.35	0.0801		Main Channel
437.06	367.91	0.0801		Main Channel
455.72	368.44	0.0801		Main Channel
476.01	371.32	0.0801	/0.0600	Main Channel
492.08	370.61	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.06	351.46	.604E+05	86.9	1.42	11.58
2.13	352.53	.144E+06	318.6	2.18	7.53
3.19	353.59	.246E+06	688.5	2.76	5.94
4.25	354.65	.374E+06	1106.3	2.91	5.63
5.32	355.72	.542E+06	1854.6	3.37	4.87
6.38	356.78	.737E+06	2821.6	3.77	4.36
7.44	357.84	.956E+06	4152.5	4.28	3.84
8.51	358.91	.119E+07	5679.1	4.68	3.50
9.57	359.97	.146E+07	7298.2	4.91	3.34
10.63	361.03	.176E+07	9456.7	5.28	3.10
11.70	362.10	.208E+07	12152.0	5.76	2.85
12.76	363.16	.240E+07	15150.7	6.21	2.64
13.83	364.23	.274E+07	18486.1	6.65	2.47
14.89	365.29	.308E+07	22128.6	7.06	2.32
15.95	366.35	.344E+07	26075.5	7.46	2.20
17.02	367.42	.381E+07	30215.0	7.81	2.10
18.08	368.48	.419E+07	33765.3	7.93	2.07
19.15	369.55	.459E+07	38681.0	8.29	1.98
20.21	370.61	.501E+07	43927.9	8.63	1.90

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (1770)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	*** W A R N I N G : HYDROGRAPH 3709 <ID= 1> IS DRY.				
	*** W A R N I N G : HYDROGRAPH 1770 = HYDROGRAPH 0067				
	ID1= 1 (3709):	0.00	0.000	0.00	0.00
	+ ID2= 2 (0067):	327.27	0.085	10.75	0.99
	ID = 3 (1770):	327.27	0.085	10.75	0.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3624)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
130.77	345.82	0.0600	
134.69	344.48	0.0801	Main Channel
144.70	341.93	0.0801	Main Channel
150.47	341.59	0.0801	Main Channel
174.70	339.76	0.0801	Main Channel
180.03	338.00	0.0801	Main Channel
184.70	337.39	0.0801	Main Channel
194.70	333.43	0.0801	Main Channel
199.73	333.52	0.0801	Main Channel
204.70	333.02	0.0801	Main Channel
244.71	335.99	0.0801	Main Channel
258.84	336.58	0.0801	Main Channel
284.71	337.46	0.0801	Main Channel
314.71	339.28	0.0801	Main Channel
344.72	342.55	0.0801	Main Channel
354.72	342.77	0.0801	Main Channel
384.72	344.05	0.0801	Main Channel
406.62	346.09	0.0801	Main Channel
434.73	347.23	0.0801	/0.0600 Main Channel
451.08	347.15	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.74	333.76	.573E+04	6.6	0.86	14.41
1.49	334.51	.204E+05	40.8	1.48	8.35
2.23	335.25	.417E+05	108.6	1.93	6.39
2.97	335.99	.694E+05	217.2	2.31	5.33
3.71	336.73	.106E+06	357.3	2.50	4.94
4.46	337.48	.155E+06	561.3	2.68	4.59
5.20	338.22	.215E+06	876.3	3.02	4.09
5.94	338.96	.284E+06	1287.5	3.36	3.67
6.68	339.70	.360E+06	1810.9	3.72	3.31
7.43	340.45	.443E+06	2387.3	3.99	3.09
8.17	341.19	.535E+06	3064.5	4.23	2.91
8.91	341.93	.637E+06	3839.6	4.46	2.77
9.67	342.69	.749E+06	4825.2	4.77	2.59
10.42	343.44	.873E+06	5844.1	4.95	2.49
11.18	344.20	.101E+07	7074.6	5.19	2.38
11.94	344.96	.115E+07	8598.3	5.52	2.23
12.70	345.72	.130E+07	10270.2	5.84	2.11
13.45	346.47	.146E+07	11946.2	6.07	2.03
14.21	347.23	.162E+07	13649.6	6.23	1.98

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1770)	327.27	0.08	10.75	0.99	0.01	0.86
OUTFLOW: ID= 1 (3624)	327.27	0.08	11.00	0.99	0.01	0.86

ROUTE CHN (3447)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning
70.70	326.60	0.0600

80.70	326.12	0.0801	Main Channel	
104.52	324.19	0.0801	Main Channel	
130.70	322.10	0.0801	Main Channel	
150.71	320.44	0.0801	Main Channel	
153.89	320.34	0.0801	Main Channel	
160.71	319.95	0.0801	Main Channel	
173.63	319.92	0.0801	Main Channel	
203.25	319.96	0.0801	Main Channel	
240.71	320.03	0.0801	Main Channel	
260.72	320.37	0.0801	Main Channel	
270.72	320.55	0.0801	Main Channel	
272.36	320.61	0.0801	Main Channel	
280.72	320.77	0.0801	Main Channel	
290.72	321.25	0.0801	Main Channel	
292.10	321.34	0.0801	Main Channel	
321.72	322.88	0.0801	Main Channel	
340.72	323.84	0.0801	Main Channel	
341.47	323.90	0.0801 /0.0600	Main Channel	
360.72	326.80	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	320.25	.374E+05	13.3	0.53	47.01
0.66	320.58	.923E+05	51.5	0.83	29.84
1.00	320.92	.157E+06	115.3	1.09	22.72
1.33	321.25	.228E+06	204.0	1.33	18.63
1.66	321.58	.304E+06	315.7	1.54	16.06
1.99	321.91	.385E+06	449.1	1.73	14.31
2.32	322.24	.472E+06	604.4	1.90	13.01
2.65	322.57	.563E+06	782.0	2.06	12.01
2.99	322.91	.660E+06	982.4	2.21	11.20
3.32	323.24	.762E+06	1205.6	2.35	10.53
3.65	323.57	.869E+06	1452.9	2.48	9.97
3.98	323.90	.982E+06	1726.8	2.61	9.47
4.37	324.29	.112E+07	2118.7	2.82	8.79
4.75	324.67	.126E+07	2567.2	3.03	8.16
5.14	325.06	.140E+07	3053.3	3.24	7.65
5.52	325.44	.155E+07	3577.5	3.43	7.22
5.91	325.83	.170E+07	4140.0	3.61	6.85
6.29	326.21	.186E+07	4742.4	3.79	6.53
6.68	326.60	.202E+07	5388.1	3.96	6.25

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3624)	327.27	0.08	11.00	0.99	0.00	0.53
OUTFLOW: ID= 1 (3447)	327.27	0.08	12.17	0.99	0.00	0.53

ROUTE CHN(2998)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
128.07	315.63	0.0600	
130.07	315.24	0.0801	Main Channel
141.84	312.47	0.0801	Main Channel

144.62	311.60	0.0801	Main Channel
155.61	309.08	0.0801	Main Channel
159.17	308.54	0.0801	Main Channel
173.71	307.31	0.0801	Main Channel
183.14	305.22	0.0801	Main Channel
188.26	303.95	0.0801	Main Channel
196.91	301.18	0.0801	Main Channel
210.68	298.41	0.0801	Main Channel
217.36	298.02	0.0801	Main Channel
224.45	298.18	0.0801	Main Channel
275.55	300.70	0.0801	Main Channel
307.06	302.51	0.0801	Main Channel
319.19	302.64	0.0801	Main Channel
320.83	302.82	0.0801	Main Channel
348.29	309.28	0.0801	Main Channel
362.13	311.55	0.0801 /0.0600	Main Channel
375.90	312.48	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	298.77	.314E+05	7.4	0.60	70.70
1.50	299.52	.102E+06	37.3	0.93	45.68
2.25	300.27	.209E+06	98.0	1.19	35.60
3.01	301.03	.352E+06	198.4	1.43	29.59
3.76	301.78	.527E+06	346.2	1.67	25.38
4.51	302.53	.732E+06	538.1	1.87	22.67
5.26	303.28	.978E+06	799.2	2.08	20.39
6.01	304.03	.124E+07	1148.2	2.36	17.95
6.76	304.78	.151E+07	1548.4	2.61	16.21
7.52	305.54	.179E+07	2001.1	2.85	14.89
8.27	306.29	.208E+07	2505.9	3.06	13.85
9.02	307.04	.239E+07	3064.8	3.26	12.99
9.77	307.79	.271E+07	3634.4	3.41	12.43
10.52	308.54	.305E+07	4241.4	3.53	12.00
11.27	309.29	.342E+07	4977.1	3.70	11.45
12.03	310.05	.380E+07	5771.1	3.87	10.96
12.78	310.80	.419E+07	6627.9	4.02	10.53
13.53	311.55	.460E+07	7548.9	4.18	10.15
14.46	312.48	.513E+07	8938.5	4.43	9.57

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3447)	327.27	0.08	12.17	0.99	0.01	0.60
OUTFLOW: ID= 1 (2998)	327.27	0.08	13.42	0.99	0.01	0.60

ADD HYD (7507)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2998):	327.27	0.081	13.42	0.99
+ ID2= 2 (0066):	472.25	0.000	0.00	0.00
ID = 3 (7507):	799.52	0.081	13.42	0.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1729)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7507):	799.52	0.081	13.42	0.40
+ ID2= 2 (7508):	1785.59	4.415	10.08	0.50
ID = 3 (1729):	2585.11	4.470	10.17	6.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3846)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	288.89	0.0600	
48.87	287.55	0.0801	Main Channel
88.89	285.37	0.0801	Main Channel
128.90	283.93	0.0801	Main Channel
178.91	281.23	0.0801	Main Channel
198.92	281.38	0.0801	Main Channel
258.93	283.80	0.0801	Main Channel
268.94	283.83	0.0801	Main Channel
308.95	281.77	0.0801	Main Channel
335.19	281.18	0.0801	Main Channel
378.97	278.08	0.0801	Main Channel
393.81	277.48	0.0801	Main Channel
428.98	279.57	0.0801	Main Channel
481.74	281.70	0.0801	Main Channel
530.59	284.78	0.0801	Main Channel
569.02	287.28	0.0801	Main Channel
669.05	290.32	0.0801	Main Channel
749.07	293.91	0.0801	Main Channel
789.08	297.43	0.0801 /0.0600	Main Channel
831.06	298.51	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	278.04	.483E+04	1.8	0.27	44.49
1.13	278.61	.182E+05	11.4	0.46	26.76
1.69	279.17	.388E+05	31.7	0.60	20.45
2.25	279.73	.667E+05	64.8	0.71	17.15
2.82	280.30	.103E+06	113.5	0.81	15.15
3.38	280.86	.149E+06	182.7	0.90	13.56
3.94	281.42	.206E+06	246.0	0.87	13.95
4.51	281.99	.291E+06	363.8	0.92	13.31
5.07	282.55	.395E+06	539.4	1.00	12.20
5.64	283.12	.517E+06	766.2	1.08	11.26
6.20	283.68	.658E+06	1049.5	1.17	10.45
6.76	284.24	.818E+06	1409.9	1.26	9.67
7.33	284.81	.989E+06	1858.9	1.38	8.86
7.89	285.37	.117E+07	2370.3	1.48	8.22
8.45	285.93	.136E+07	3000.1	1.61	7.55
9.16	286.64	.161E+07	3878.5	1.77	6.91
9.86	287.34	.187E+07	4853.1	1.90	6.41
10.57	288.05	.215E+07	5865.0	2.00	6.10
11.27	288.75	.245E+07	6998.5	2.09	5.83

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1729)	2585.11	4.47	10.17	6.69	0.72	0.31
OUTFLOW: ID= 1 (3846)	2585.11	4.36	10.83	6.69	0.71	0.31

ROUTE CHN(3847)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	288.89	0.0600	
48.87	287.55	0.0801	Main Channel
88.89	285.37	0.0801	Main Channel
128.90	283.93	0.0801	Main Channel
178.91	281.23	0.0801	Main Channel
198.92	281.38	0.0801	Main Channel
258.93	283.80	0.0801	Main Channel
268.94	283.83	0.0801	Main Channel
308.95	281.77	0.0801	Main Channel
335.19	281.18	0.0801	Main Channel
378.97	278.08	0.0801	Main Channel
393.81	277.48	0.0801	Main Channel
428.98	279.57	0.0801	Main Channel
481.74	281.70	0.0801	Main Channel
530.59	284.78	0.0801	Main Channel
569.02	287.28	0.0801	Main Channel
669.05	290.32	0.0801	Main Channel
749.07	293.91	0.0801	Main Channel
789.08	297.43	0.0801 /0.0600	Main Channel
831.06	298.51	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	278.04	.387E+04	1.4	0.21	47.40
1.13	278.61	.146E+05	8.5	0.34	28.51
1.69	279.17	.311E+05	23.8	0.45	21.79
2.25	279.73	.535E+05	48.8	0.53	18.28
2.82	280.30	.827E+05	85.4	0.61	16.14
3.38	280.86	.119E+06	137.4	0.68	14.45
3.94	281.42	.165E+06	185.0	0.66	14.87
4.51	281.99	.233E+06	273.5	0.69	14.19
5.07	282.55	.316E+06	405.6	0.75	13.00
5.64	283.12	.415E+06	576.2	0.81	11.99
6.20	283.68	.527E+06	789.2	0.88	11.14
6.76	284.24	.655E+06	1060.1	0.95	10.30
7.33	284.81	.792E+06	1397.8	1.03	9.44
7.89	285.37	.937E+06	1782.4	1.12	8.76
8.45	285.93	.109E+07	2255.9	1.21	8.05
9.16	286.64	.129E+07	2916.4	1.33	7.36
9.86	287.34	.150E+07	3649.3	1.43	6.83
10.57	288.05	.172E+07	4410.1	1.50	6.50
11.27	288.75	.196E+07	5262.5	1.57	6.21

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3846)	2585.11	4.36	10.83	6.69	0.80	0.25
OUTFLOW: ID= 1 (3847)	2585.11	4.25	11.50	6.69	0.79	0.25

ROUTE CHN(3851) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	288.89	0.0600	
48.87	287.55	0.0801	Main Channel
88.89	285.37	0.0801	Main Channel
128.90	283.93	0.0801	Main Channel
178.91	281.23	0.0801	Main Channel
198.92	281.38	0.0801	Main Channel
258.93	283.80	0.0801	Main Channel
268.94	283.83	0.0801	Main Channel
308.95	281.77	0.0801	Main Channel
335.19	281.18	0.0801	Main Channel
378.97	278.08	0.0801	Main Channel
393.81	277.48	0.0801	Main Channel
428.98	279.57	0.0801	Main Channel
481.74	281.70	0.0801	Main Channel
530.59	284.78	0.0801	Main Channel
569.02	287.28	0.0801	Main Channel
669.05	290.32	0.0801	Main Channel
749.07	293.91	0.0801	Main Channel
789.08	297.43	0.0801 /0.0600	Main Channel
831.06	298.51	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	278.04	.208E+04	1.8	0.27	19.37
1.13	278.61	.785E+04	11.2	0.45	11.65
1.69	279.17	.167E+05	31.3	0.59	8.91
2.25	279.73	.287E+05	64.1	0.70	7.47
2.82	280.30	.444E+05	112.3	0.80	6.60
3.38	280.86	.640E+05	180.7	0.89	5.91
3.94	281.42	.887E+05	243.2	0.86	6.08
4.51	281.99	.125E+06	359.7	0.91	5.80
5.07	282.55	.170E+06	533.4	0.99	5.31
5.64	283.12	.223E+06	757.7	1.07	4.90
6.20	283.68	.283E+06	1037.8	1.15	4.55
6.76	284.24	.352E+06	1394.1	1.25	4.21
7.33	284.81	.426E+06	1838.2	1.36	3.86
7.89	285.37	.504E+06	2343.9	1.47	3.58
8.45	285.93	.585E+06	2966.6	1.60	3.29
9.16	286.64	.692E+06	3835.2	1.75	3.01
9.86	287.34	.804E+06	4799.0	1.88	2.79
10.57	288.05	.924E+06	5799.6	1.98	2.66
11.27	288.75	.105E+07	6920.4	2.07	2.54

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

VEL	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3847)	2585.11	4.25	11.50	6.69	0.71	0.30
OUTFLOW: ID= 1 (3851)	2585.11	4.23	11.75	6.69	0.71	0.30

CALIB					
NASHYD (0065) ID= 1 DT= 5.0 min	Area (ha)=	84.23	Curve Number (CN)=	82.3	
	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.58			

Unit Hyd Qpeak (cms)= 0.910

PEAK FLOW (cms)= 0.330 (i)
TIME TO PEAK (hrs)= 8.167
RUNOFF VOLUME (mm)= 11.789
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.281

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7509)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (3851):	2585.11	4.226	11.75	6.69
+ ID2= 2 (0065):	84.23	0.330	8.17	11.79
ID = 3 (7509):	2669.34	4.443	11.67	6.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0063) ID= 1 DT= 5.0 min	Area (ha)=	356.24	Curve Number (CN)=	63.1	
	Ia (mm)=	43.40	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	2.85			

Unit Hyd Qpeak (cms)= 2.134

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0064) ID= 1 DT= 5.0 min	Area (ha)=	225.00	Curve Number (CN)=	65.0	
	Ia (mm)=	43.40	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	2.85			

Unit Hyd Qpeak (cms)= 1.348

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(3174) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	322.51	0.0600	
11.08	320.08	0.0801	Main Channel
21.36	316.51	0.0801	Main Channel
30.31	314.95	0.0801	Main Channel
41.93	314.37	0.0801	Main Channel
50.31	312.99	0.0801	Main Channel
52.21	312.78	0.0801	Main Channel
80.32	311.21	0.0801	Main Channel
90.33	310.33	0.0801	Main Channel
103.62	309.09	0.0801	Main Channel
110.33	308.87	0.0801	Main Channel
113.90	308.62	0.0801	Main Channel
130.34	307.88	0.0801	Main Channel
140.35	307.67	0.0801	Main Channel
150.35	308.06	0.0801	Main Channel
190.36	316.26	0.0801	Main Channel
206.43	319.50	0.0801	Main Channel
230.38	323.44	0.0801	Main Channel
247.56	324.56	0.0801 /0.0600	Main Channel
252.94	325.08	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.74	308.41	.158E+05	10.9	0.72	24.24
1.47	309.14	.488E+05	52.4	1.13	15.50
2.21	309.88	.938E+05	136.5	1.52	11.45
2.95	310.62	.148E+06	260.1	1.84	9.46
3.68	311.35	.211E+06	423.8	2.11	8.29
4.42	312.09	.286E+06	626.5	2.30	7.60
5.16	312.83	.373E+06	889.5	2.49	7.00
5.89	313.56	.471E+06	1250.6	2.78	6.28
6.63	314.30	.575E+06	1673.4	3.05	5.72
7.37	315.04	.688E+06	2097.7	3.19	5.46
8.10	315.77	.810E+06	2665.4	3.45	5.06
8.84	316.51	.938E+06	3299.1	3.68	4.74
9.70	317.37	.109E+07	4185.3	4.01	4.36
10.55	318.22	.126E+07	5164.4	4.31	4.05
11.41	319.08	.142E+07	6236.9	4.59	3.81
12.27	319.94	.160E+07	7391.6	4.84	3.60
13.13	320.80	.178E+07	8635.3	5.08	3.43
13.98	321.65	.197E+07	9980.2	5.31	3.29
14.84	322.51	.217E+07	11429.5	5.53	3.16

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(3014) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	316.46	0.0600	
19.21	316.36	0.0801	Main Channel
24.46	315.67	0.0801	Main Channel
47.18	311.45	0.0801	Main Channel
75.15	308.39	0.0801	Main Channel
89.14	307.76	0.0801	Main Channel
103.13	306.73	0.0801	Main Channel
117.11	305.26	0.0801	Main Channel
153.20	302.14	0.0801	Main Channel
187.04	298.73	0.0801	Main Channel
224.72	295.15	0.0801	Main Channel
229.00	294.87	0.0801	Main Channel
239.02	294.68	0.0801	Main Channel
256.97	296.07	0.0801	Main Channel
270.96	297.63	0.0801	Main Channel
312.92	304.17	0.0801	Main Channel
326.90	305.14	0.0801	Main Channel
368.86	307.21	0.0801	Main Channel
417.49	310.61	0.0801 /0.0600	Main Channel
430.09	311.60	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.88	295.56	.225E+05	11.9	0.73	31.66
1.77	296.45	.717E+05	58.8	1.13	20.34
2.65	297.33	.143E+06	151.5	1.47	15.70
3.54	298.22	.234E+06	300.3	1.77	13.01
4.42	299.10	.344E+06	510.9	2.05	11.24
5.31	299.99	.472E+06	788.1	2.31	9.99
6.19	300.87	.618E+06	1137.0	2.55	9.06
7.08	301.76	.781E+06	1563.1	2.77	8.33
7.96	302.64	.963E+06	2066.0	2.97	7.77
8.85	303.53	.116E+07	2654.7	3.16	7.30
9.73	304.41	.138E+07	3319.1	3.32	6.95
10.62	305.30	.163E+07	4031.7	3.42	6.74
11.50	306.18	.191E+07	4849.8	3.52	6.56
12.39	307.07	.222E+07	5797.0	3.62	6.38
13.27	307.95	.256E+07	6912.5	3.74	6.18
14.16	308.84	.294E+07	8216.8	3.87	5.97
15.04	309.72	.335E+07	9777.7	4.04	5.71
15.93	310.61	.378E+07	11507.6	4.22	5.47
16.92	311.60	.429E+07	13961.8	4.51	5.12

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(2520) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
120.96	296.49	0.0600	
133.28	295.22	0.0801	Main Channel
144.31	293.08	0.0801	Main Channel

152.65	291.31	0.0801		Main Channel
161.05	289.00	0.0801		Main Channel
167.66	286.95	0.0801		Main Channel
179.34	284.65	0.0801		Main Channel
202.69	282.61	0.0801		Main Channel
214.36	281.81	0.0801		Main Channel
226.04	281.45	0.0801		Main Channel
237.72	281.34	0.0801		Main Channel
272.74	281.43	0.0801		Main Channel
284.42	282.04	0.0801		Main Channel
288.25	282.34	0.0801		Main Channel
307.62	284.38	0.0801		Main Channel
319.45	285.34	0.0801		Main Channel
331.13	286.87	0.0801		Main Channel
354.48	290.76	0.0801		Main Channel
377.83	293.66	0.0801	/0.0600	Main Channel
389.51	294.43	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.65	281.99	.421E+05	18.5	0.52	37.98
1.30	282.64	.104E+06	72.5	0.82	23.94
1.96	283.30	.178E+06	160.5	1.06	18.45
2.61	283.95	.262E+06	281.4	1.27	15.50
3.26	284.60	.356E+06	435.5	1.44	13.63
3.91	285.25	.461E+06	632.0	1.61	12.16
4.57	285.91	.574E+06	874.2	1.79	10.94
5.22	286.56	.693E+06	1154.7	1.96	10.00
5.87	287.21	.818E+06	1477.9	2.13	9.22
6.52	287.86	.948E+06	1845.0	2.29	8.57
7.17	288.51	.108E+07	2249.3	2.45	8.02
7.83	289.17	.122E+07	2690.2	2.59	7.57
8.48	289.82	.137E+07	3166.8	2.73	7.19
9.13	290.47	.152E+07	3681.2	2.86	6.86
9.78	291.12	.167E+07	4224.4	2.98	6.59
10.44	291.78	.183E+07	4792.8	3.09	6.36
11.09	292.43	.200E+07	5399.5	3.19	6.16
11.74	293.08	.217E+07	6048.3	3.29	5.97
13.09	294.43	.255E+07	7763.9	3.59	5.47

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (7510)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 2520 <ID= 1> IS DRY.
*** W A R N I N G : HYDROGRAPH 7510 = HYDROGRAPH 0063

ID1= 1 (2520):	0.00	0.000	0.00	0.00
+ ID2= 2 (0063):	356.24	0.000	0.00	0.00
ID = 3 (7510):	356.24	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1738)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7509):	2669.34	4.443	11.67	6.85
+ ID2= 2 (7510):	356.24	0.000	0.00	0.00
ID = 3 (1738):	3025.58	4.443	11.67	6.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3852)			
IN= 2---> OUT= 1	Routing time step (min)'=	5.00	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	288.75	0.0600	
9.89	288.21	0.0801	Main Channel
19.77	287.27	0.0801	Main Channel
39.55	284.83	0.0801	Main Channel
49.44	283.25	0.0801	Main Channel
79.10	278.04	0.0801	Main Channel
88.98	275.73	0.0801	Main Channel
98.87	274.00	0.0801	Main Channel
108.76	274.52	0.0801	Main Channel
138.42	275.01	0.0801	Main Channel
148.31	275.48	0.0801	Main Channel
197.74	279.51	0.0801	Main Channel
217.52	280.89	0.0801	Main Channel
227.40	281.28	0.0801	Main Channel
247.18	281.36	0.0801	Main Channel
257.07	281.57	0.0801	Main Channel
266.95	282.11	0.0801	Main Channel
276.84	283.04	0.0801	Main Channel
296.62	285.70	0.0801	/0.0600 Main Channel
316.38	289.18	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.73	274.73	.888E+04	2.4	0.32	61.31
1.46	275.46	.484E+05	24.4	0.60	33.03
2.19	276.19	.104E+06	76.5	0.88	22.67
2.93	276.92	.170E+06	156.2	1.09	18.16
3.66	277.65	.247E+06	264.9	1.28	15.54
4.39	278.38	.334E+06	403.5	1.44	13.81
5.12	279.12	.433E+06	574.7	1.58	12.56
5.85	279.85	.543E+06	779.8	1.71	11.61
6.58	280.58	.666E+06	1021.8	1.83	10.87
7.31	281.31	.803E+06	1252.8	1.86	10.68
8.04	282.04	.976E+06	1536.8	1.87	10.59
8.78	282.77	.116E+07	1982.7	2.03	9.79
9.51	283.50	.136E+07	2496.7	2.18	9.09
10.24	284.23	.157E+07	3071.7	2.33	8.51
10.97	284.97	.178E+07	3702.4	2.47	8.03
11.70	285.70	.201E+07	4381.9	2.60	7.64
12.72	286.72	.234E+07	5514.9	2.81	7.07
13.74	287.74	.268E+07	6829.3	3.03	6.55
14.76	288.75	.305E+07	8350.4	3.26	6.09

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3849)	3025.58	4.17	13.25	6.04	0.79	0.33
OUTFLOW: ID= 1 (3849)	3025.58	4.17	13.25	6.04	0.79	0.33

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN (3022)			
IN= 2---> OUT= 1	Routing time step (min)'=	5.00	

INFLOW : ID= 2 (1738)	3025.58	4.44	11.67	6.04	0.80	0.34
OUTFLOW: ID= 1 (3852)	3025.58	4.21	12.75	6.04	0.79	0.34

ROUTE CHN (3849)			
IN= 2---> OUT= 1	Routing time step (min)'=	5.00	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	288.75	0.0600	
9.89	288.21	0.0801	Main Channel
19.77	287.27	0.0801	Main Channel
39.55	284.83	0.0801	Main Channel
49.44	283.25	0.0801	Main Channel
79.10	278.04	0.0801	Main Channel
88.98	275.73	0.0801	Main Channel
98.87	274.00	0.0801	Main Channel
108.76	274.52	0.0801	Main Channel
138.42	275.01	0.0801	Main Channel
148.31	275.48	0.0801	Main Channel
197.74	279.51	0.0801	Main Channel
217.52	280.89	0.0801	Main Channel
227.40	281.28	0.0801	Main Channel
247.18	281.36	0.0801	Main Channel
257.07	281.57	0.0801	Main Channel
266.95	282.11	0.0801	Main Channel
276.84	283.04	0.0801	Main Channel
296.62	285.70	0.0801	/0.0600 Main Channel
316.38	289.18	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.73	274.73	.440E+04	2.4	0.32	30.53
1.46	275.46	.240E+05	24.3	0.60	16.45
2.19	276.19	.515E+05	76.1	0.87	11.29
2.93	276.92	.843E+05	155.4	1.09	9.05
3.66	277.65	.122E+06	263.5	1.27	7.74
4.39	278.38	.166E+06	401.5	1.43	6.88
5.12	279.12	.215E+06	571.7	1.57	6.25
5.85	279.85	.269E+06	775.8	1.70	5.78
6.58	280.58	.330E+06	1016.5	1.82	5.41
7.31	281.31	.398E+06	1246.3	1.85	5.32
8.04	282.04	.484E+06	1528.9	1.87	5.27
8.78	282.77	.577E+06	1972.4	2.02	4.87
9.51	283.50	.675E+06	2483.8	2.17	4.53
10.24	284.23	.777E+06	3055.8	2.32	4.24
10.97	284.97	.884E+06	3683.2	2.46	4.00
11.70	285.70	.995E+06	4359.2	2.58	3.81
12.72	286.72	.116E+07	5486.4	2.79	3.52
13.74	287.74	.133E+07	6793.9	3.01	3.26
14.76	288.75	.151E+07	8307.1	3.24	3.03

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3852)	3025.58	4.21	12.75	6.04	0.79	0.33

OUTFLOW: ID= 1 (3849)	3025.58	4.17	13.25	6.04	0.79	0.33

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN (3022)			
IN= 2---> OUT= 1	Routing time step (min)'=	5.00	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	283.22	0.0600	
14.37	283.89	0.0801	Main Channel
60.58	284.72	0.0801	Main Channel
94.44	284.28	0.0801	Main Channel
108.70	283.94	0.0801	Main Channel
124.46	283.31	0.0801	Main Channel
174.50	281.54	0.0801	Main Channel
224.54	280.07	0.0801	Main Channel
234.55	279.45	0.0801	Main Channel
264.57	276.23	0.0801	Main Channel
304.60	273.72	0.0801	Main Channel
334.63	271.81	0.0801	Main Channel
354.64	267.28	0.0801	Main Channel
374.66	266.18	0.0801	Main Channel
404.68	272.36	0.0801	Main Channel
434.71	279.70	0.0801	Main Channel
445.56	282.60	0.0801	Main Channel
484.75	294.26	0.0801	Main Channel
512.93	296.87	0.0801	/0.0600 Main Channel
539.22	298.37	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.88	267.06	.700E+04	3.7	0.41	31.78
1.77	267.95	.256E+05	23.8	0.72	17.95
2.65	268.83	.501E+05	62.2	0.97	13.41
3.53	269.71	.802E+05	120.2	1.17	11.12
4.41	270.59	.116E+06	199.9	1.34	9.67
5.30	271.48	.157E+06	303.3	1.50	8.65
6.18	272.36	.206E+06	414.6	1.57	8.27
7.06	273.24	.266E+06	556.4	1.63	7.96
7.95	274.13	.338E+06	742.8	1.71	7.58
8.83	275.01	.422E+06	978.2	1.80	7.19
9.71	275.89	.519E+06	1267.5	1.90	6.82
10.59	276.77	.626E+06	1635.2	2.03	6.38
11.48	277.66	.743E+06	2072.5	2.17	5.97
12.36	278.54	.867E+06	2568.2	2.31	5.63
13.24	279.42	.100E+07	3124.5	2.43	5.33
14.13	280.31	.114E+07	3645.0	2.48	5.22
15.01	281.19	.131E+07	4146.6	2.47	5.25
15.89	282.07	.149E+07	4800.5	2.51	5.18
16.77	282.95	.170E+07	5588.7	2.57	5.06

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3849)	3025.58	4.17	13.25	6.04	0.90	0.41
OUTFLOW: ID= 1 (3022)	3025.58	4.11	13.83	6.04	0.90	

0.41

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB					
NASHYD (0062)	Area (ha)=	192.25	Curve Number (CN)=	67.9
ID= 1 DT= 5.0 min	Ia (mm)=	43.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	2.15		

Unit Hyd Qpeak (cms)= 1.527

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (0061)	Area (ha)=	94.71		
ID= 1 DT= 5.0 min	Total Imp(%)=	18.40	Dir. Conn.(%)=	16.10

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.43	77.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.29	3.29
Length	(m)=	794.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.74
over (min)		10.00	35.00
Storage Coeff. (min)=		11.96 (ii)	31.03 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.81	0.80	1.475 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	8.96	13.96
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.21	0.33

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 67.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2029)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3022):	3025.58	4.111	13.83	6.04
+ ID2= 2 (0061):	94.71	1.475	5.25	13.96

ID = 3 (2029):	3120.29	4.114	13.83	6.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2029)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (2029):	3120.29	4.114	13.83	6.28
+ ID2= 2 (0062):	192.25	0.000	0.00	0.00
ID = 1 (2029):	3312.54	4.114	13.83	5.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3023)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	283.22	0.0600	
14.37	283.89	0.0801	Main Channel
60.58	284.72	0.0801	Main Channel
94.44	284.28	0.0801	Main Channel
108.70	283.94	0.0801	Main Channel
124.46	283.31	0.0801	Main Channel
174.50	281.54	0.0801	Main Channel
224.54	280.07	0.0801	Main Channel
234.55	279.45	0.0801	Main Channel
264.57	276.23	0.0801	Main Channel
304.60	273.72	0.0801	Main Channel
334.63	271.81	0.0801	Main Channel
354.64	267.28	0.0801	Main Channel
374.66	266.18	0.0801	Main Channel
404.68	272.36	0.0801	Main Channel
434.71	279.70	0.0801	Main Channel
445.56	282.60	0.0801	Main Channel
484.75	294.26	0.0801	Main Channel
512.93	296.87	0.0801 /0.0600	Main Channel
539.22	298.37	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.88	267.06	.425E+04	4.4	0.49	16.13
1.77	267.95	.156E+05	28.5	0.87	9.11
2.65	268.83	.304E+05	74.5	1.16	6.81
3.53	269.71	.487E+05	144.0	1.40	5.64
4.41	270.59	.705E+05	239.3	1.61	4.91
5.30	271.48	.956E+05	363.2	1.80	4.39
6.18	272.36	.125E+06	496.4	1.88	4.20
7.06	273.24	.162E+06	666.2	1.95	4.04
7.95	274.13	.205E+06	889.4	2.05	3.85
8.83	275.01	.257E+06	1171.2	2.16	3.65
9.71	275.89	.315E+06	1517.6	2.28	3.46
10.59	276.77	.381E+06	1957.9	2.43	3.24
11.48	277.66	.451E+06	2481.5	2.60	3.03
12.36	278.54	.527E+06	3074.9	2.76	2.86
13.24	279.42	.608E+06	3740.9	2.91	2.71

14.13	280.31	.694E+06	4364.2	2.97	2.65
15.01	281.19	.793E+06	4964.8	2.96	2.66
15.89	282.07	.906E+06	5747.7	3.00	2.63
16.77	282.95	.103E+07	6691.4	3.07	2.57

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2029)	3312.54	4.11	13.83	5.92	0.83	0.49
OUTFLOW: ID= 1 (3023)	3312.54	4.10	14.08	5.92	0.82	0.49

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3024)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	283.22	0.0600	
14.37	283.89	0.0801	Main Channel
60.58	284.72	0.0801	Main Channel
94.44	284.28	0.0801	Main Channel
108.70	283.94	0.0801	Main Channel
124.46	283.31	0.0801	Main Channel
174.50	281.54	0.0801	Main Channel
224.54	280.07	0.0801	Main Channel
234.55	279.45	0.0801	Main Channel
264.57	276.23	0.0801	Main Channel
304.60	273.72	0.0801	Main Channel
334.63	271.81	0.0801	Main Channel
354.64	267.28	0.0801	Main Channel
374.66	266.18	0.0801	Main Channel
404.68	272.36	0.0801	Main Channel
434.71	279.70	0.0801	Main Channel
445.56	282.60	0.0801	Main Channel
484.75	294.26	0.0801	Main Channel
512.93	296.87	0.0801 /0.0600	Main Channel
539.22	298.37	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.88	267.06	.439E+04	3.5	0.38	21.15
1.77	267.95	.161E+05	22.4	0.68	11.95
2.65	268.83	.314E+05	58.6	0.91	8.93
3.53	269.71	.503E+05	113.3	1.10	7.40
4.41	270.59	.727E+05	188.3	1.26	6.43
5.30	271.48	.986E+05	285.7	1.41	5.75
6.18	272.36	.129E+06	390.5	1.48	5.50
7.06	273.24	.167E+06	524.2	1.54	5.30
7.95	274.13	.212E+06	699.8	1.61	5.05
8.83	275.01	.265E+06	921.5	1.70	4.79
9.71	275.89	.325E+06	1194.0	1.79	4.54
10.59	276.77	.393E+06	1540.4	1.91	4.25
11.48	277.66	.466E+06	1952.4	2.05	3.97
12.36	278.54	.544E+06	2419.3	2.17	3.74
13.24	279.42	.627E+06	2943.3	2.29	3.55
14.13	280.31	.716E+06	3433.7	2.34	3.48

15.01	281.19	.818E+06	3906.2	2.33	3.49
15.89	282.07	.935E+06	4522.1	2.36	3.44
16.77	282.95	.106E+07	5264.7	2.42	3.37

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3023)	3312.54	4.10	14.08	5.92	0.91	0.39
OUTFLOW: ID= 1 (3024)	3312.54	4.08	14.42	5.92	0.91	0.39

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB					
NASHYD (0060)	Area (ha)=	35.34	Curve Number (CN)=	57.4
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.13		

Unit Hyd Qpeak (cms)= 0.534

PEAK FLOW (cms)= 0.068 (i)
TIME TO PEAK (hrs)= 7.417
RUNOFF VOLUME (mm)= 4.634
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.110

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7511)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3024):	3312.54	4.076	14.42	5.92
+ ID2= 2 (0060):	35.34	0.068	7.42	4.63
ID = 3 (7511):	3347.88	4.090	14.42	5.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0059)	Area (ha)=	395.37	Curve Number (CN)=	61.2
ID= 1 DT= 5.0 min	Ia (mm)=	43.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	3.81		

Unit Hyd Qpeak (cms)= 1.772

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0909)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0059):    395.37      0.000        0.00        0.00
     + ID2= 2 (  7511):   3347.88      4.090       14.42        5.91
       ============================================================
       ID = 3 (  0909):   3743.25      4.090       14.42        5.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2485)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         284.43        0.0600
                131.46         281.37        0.0801      Main Channel
                173.69         277.13        0.0801      Main Channel
                205.36         269.97        0.0801      Main Channel
                272.08         264.61        0.0801      Main Channel
                285.33         260.69        0.0801      Main Channel
                342.60         260.62        0.0801      Main Channel
                374.27         263.20        0.0801      Main Channel
                418.00         264.03        0.0801      Main Channel
                433.18         266.77        0.0801      Main Channel
                478.71         268.05        0.0801      Main Channel
                605.48         269.23        0.0801      Main Channel
                627.33         274.66        0.0801      Main Channel
                676.04         276.23        0.0801      Main Channel
                729.16         276.88        0.0801      Main Channel
                736.54         275.04        0.0801      Main Channel
                774.70         269.66        0.0801      Main Channel
                797.47         270.99        0.0801      Main Channel
                856.67         286.88    0.0801 /0.0600  Main Channel
                880.03         290.31        0.0600

          <--------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
            (m)       (m)     (cu.m.)         (cms)         (m/s)      (min)
           1.18    261.80    .500E+05          30.2          0.40      27.63
           2.36    262.98    .116E+06         105.3          0.60      18.30
           3.54    264.16    .208E+06         208.9          0.66      16.56
           4.72    265.34    .326E+06         410.6          0.83      13.22
           5.90    266.52    .460E+06         671.6          0.96      11.40
           7.08    267.70    .618E+06         941.0          1.00      10.95
           8.26    268.88    .836E+06        1190.0          0.93      11.71
           9.43    270.05    .114E+07        1776.9          1.02      10.69
          10.61    271.23    .147E+07        2584.2          1.15       9.51
          11.79    272.41    .183E+07        3585.0          1.29       8.51
          12.97    273.59    .220E+07        4733.5          1.41       7.76
          14.15    274.77    .260E+07        6007.1          1.52       7.20
          15.33    275.95    .302E+07        7250.8          1.58       6.94
          16.51    277.13    .349E+07        8516.8          1.60       6.84
          17.97    278.59    .412E+07       11134.6          1.77       6.17
          19.43    280.05    .477E+07       14045.1          1.93       5.66
          20.89    281.51    .544E+07       17247.8          2.08       5.26
          22.35    282.97    .616E+07       20774.1          2.22       4.94
          23.81    284.43    .694E+07       24667.4          2.34       4.69
```



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                                    <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0909)    3743.25     4.09   14.42   5.28      0.16
0.40
   OUTFLOW: ID= 1 (  2485)    3743.25     4.04   14.92   5.28      0.16
0.40

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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-------------------
| ROUTE CHN(  2486)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         284.43        0.0600
                131.46         281.37        0.0801      Main Channel
                173.69         277.13        0.0801      Main Channel
                205.36         269.97        0.0801      Main Channel
                272.08         264.61        0.0801      Main Channel
                285.33         260.69        0.0801      Main Channel
                342.60         260.62        0.0801      Main Channel
                374.27         263.20        0.0801      Main Channel
                418.00         264.03        0.0801      Main Channel
                433.18         266.77        0.0801      Main Channel
                478.71         268.05        0.0801      Main Channel
                605.48         269.23        0.0801      Main Channel
                627.33         274.66        0.0801      Main Channel
                676.04         276.23        0.0801      Main Channel
                729.16         276.88        0.0801      Main Channel
                736.54         275.04        0.0801      Main Channel
                774.70         269.66        0.0801      Main Channel
                797.47         270.99        0.0801      Main Channel
                856.67         286.88    0.0801 /0.0600  Main Channel
                880.03         290.31        0.0600

          <--------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
            (m)       (m)     (cu.m.)         (cms)         (m/s)      (min)
           1.18    261.80    .262E+05          87.4          1.15       4.99
           2.36    262.98    .606E+05         305.2          1.73       3.31
           3.54    264.16    .109E+06         605.2          1.92       2.99
           4.72    265.34    .170E+06        1189.6          2.40       2.39
           5.90    266.52    .241E+06        1945.7          2.78       2.06
           7.08    267.70    .324E+06        2726.3          2.90       1.98
           8.26    268.88    .438E+06        3447.5          2.71       2.12
           9.43    270.05    .596E+06        5147.8          2.97       1.93
          10.61    271.23    .772E+06        7486.6          3.34       1.72
          11.79    272.41    .958E+06       10386.0          3.73       1.54
          12.97    273.59    .115E+07       13713.3          4.09       1.40
          14.15    274.77    .136E+07       17403.0          4.40       1.30
          15.33    275.95    .158E+07       21006.1          4.57       1.25
          16.51    277.13    .183E+07       24673.8          4.64       1.24
          17.97    278.59    .216E+07       32257.7          5.14       1.12
          19.43    280.05    .250E+07       40689.6          5.60       1.02
          20.89    281.51    .285E+07       49968.0          6.03       0.95
          22.35    282.97    .322E+07       60184.0          6.42       0.89
          23.81    284.43    .363E+07       71463.1          6.77       0.85
```



```
                                    <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2485)    3743.25     4.04   14.92   5.28      0.05
1.15
   OUTFLOW: ID= 1 (  2486)    3743.25     4.04   15.00   5.28      0.05
1.15

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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-------------------
| CALIB            |
| NASHYD   (  0058)|   Area    (ha)=     72.54   Curve Number   (CN)= 58.3
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.46

     Unit Hyd Qpeak  (cms)=     0.848

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7515)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2486):   3743.25      4.044       15.00        5.28
     + ID2= 2 (  0058):     72.54      0.000        0.00        0.00
       ============================================================
       ID = 3 (  7515):   3815.79      4.044       15.00        5.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1832)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7514):  10755.50      3.828       22.08        2.93
     + ID2= 2 (  7515):   3815.79      4.044       15.00        5.18
       ============================================================
       ID = 3 (  1832):  14571.29      6.379       18.25        3.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3698)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
```



```
               Distance      Elevation       Manning
                  0.00         260.80        0.0600
                  7.21         260.80        0.0801      Main Channel
                 22.04         260.37        0.0801      Main Channel
                 29.74         259.62        0.0801      Main Channel
                 36.81         259.65        0.0801      Main Channel
                 44.05         258.97        0.0801      Main Channel
                 51.12         256.81        0.0801      Main Channel
                 65.40         254.72        0.0801      Main Channel
                 79.72         255.30        0.0801      Main Channel
                 97.63         256.04        0.0801      Main Channel
                101.24         256.43        0.0801      Main Channel
                110.47         256.75        0.0801      Main Channel
                116.80         258.27        0.0801      Main Channel
                131.14         259.97        0.0801      Main Channel
                141.59         260.24        0.0801      Main Channel
                172.50         260.89        0.0801      Main Channel
                182.95         261.29        0.0801      Main Channel
                203.64         261.59        0.0801      Main Channel
                213.86         261.35    0.0801 /0.0600  Main Channel
                229.41         261.44        0.0600

          <--------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
            (m)       (m)     (cu.m.)         (cms)         (m/s)      (min)
           0.35    255.07    .554E+03           0.4          0.22      21.40
           0.71    255.43    .222E+04           2.7          0.35      13.46
           1.06    255.78    .497E+04           8.1          0.46      10.26
           1.41    256.13    .880E+04          17.7          0.57       8.31
           1.77    256.49    .134E+05          32.1          0.68       6.94
           2.12    256.84    .189E+05          50.3          0.75       6.25
           2.47    257.19    .250E+05          77.9          0.88       5.34
           2.82    257.54    .313E+05         110.4          0.99       4.73
           3.18    257.90    .379E+05         147.9          1.10       4.27
           3.53    258.25    .448E+05         190.2          1.20       3.93
           3.88    258.60    .520E+05         234.8          1.27       3.69
           4.24    258.96    .596E+05         284.3          1.35       3.50
           4.59    259.31    .678E+05         333.5          1.39       3.39
           4.94    259.66    .767E+05         369.8          1.36       3.45
           5.30    260.02    .869E+05         432.8          1.41       3.35
           5.65    260.37    .984E+05         479.8          1.37       3.42
           6.00    260.72    .112E+06         546.4          1.37       3.43
           6.41    261.13    .132E+06         656.2          1.40       3.35
           6.82    261.54    .154E+06         746.9          1.36       3.44

                                    <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1832)   14571.29     6.38   18.25   3.52      0.95
0.42
   OUTFLOW: ID= 1 (  3698)   14571.29     6.38   18.58   3.52      0.95
0.42


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| ROUTE CHN(  3699)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         260.80        0.0600
```

7.21	260.80	0.0400		Main Channel
22.04	260.37	0.0400		Main Channel
29.74	259.62	0.0400		Main Channel
36.81	259.65	0.0400		Main Channel
44.05	258.97	0.0400		Main Channel
51.12	256.81	0.0400		Main Channel
65.40	254.72	0.0400		Main Channel
79.72	255.30	0.0400		Main Channel
97.63	256.04	0.0400		Main Channel
101.24	256.43	0.0400		Main Channel
110.47	256.75	0.0400		Main Channel
116.80	258.27	0.0400		Main Channel
131.14	259.97	0.0400		Main Channel
141.59	260.24	0.0400		Main Channel
172.50	260.89	0.0400		Main Channel
182.95	261.29	0.0400		Main Channel
203.64	261.59	0.0400		Main Channel
213.86	261.35	0.0400 /0.0600		Main Channel
229.41	261.44	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	255.07	.932E+03	0.5	0.25	31.82
0.71	255.43	.373E+04	3.1	0.39	20.02
1.06	255.78	.836E+04	9.1	0.52	15.26
1.41	256.13	.148E+05	20.0	0.64	12.35
1.77	256.49	.224E+05	36.2	0.77	10.32
2.12	256.84	.317E+05	56.9	0.85	9.29
2.47	257.19	.420E+05	88.0	0.99	7.95
2.82	257.54	.526E+05	124.8	1.12	7.03
3.18	257.90	.638E+05	167.2	1.24	6.36
3.53	258.25	.753E+05	215.0	1.35	5.84
3.88	258.60	.874E+05	265.4	1.44	5.49
4.24	258.96	.100E+06	321.4	1.52	5.20
4.59	259.31	.114E+06	376.9	1.57	5.04
4.94	259.66	.129E+06	418.1	1.54	5.14
5.30	260.02	.146E+06	489.2	1.59	4.97
5.65	260.37	.165E+06	542.4	1.55	5.08
6.00	260.72	.189E+06	617.6	1.55	5.10
6.41	261.13	.222E+06	741.2	1.58	4.99
6.82	261.54	.259E+06	841.6	1.54	5.14

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3698)	14571.29	6.38	18.58	3.52	0.90	0.45
OUTFLOW: ID= 1 (3699)	14571.29	6.37	18.75	3.52	0.90	0.45

ROUTE CHN(3696)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	284.56	0.0600	
16.38	282.28	0.0400	Main Channel
27.47	279.20	0.0400	Main Channel

55.84	270.27	0.0400		Main Channel
66.65	265.04	0.0400		Main Channel
82.91	257.31	0.0400		Main Channel
94.00	253.68	0.0400		Main Channel
134.12	255.13	0.0400		Main Channel
190.86	256.27	0.0400		Main Channel
201.06	258.16	0.0400		Main Channel
221.48	259.53	0.0400		Main Channel
292.93	259.75	0.0400		Main Channel
333.75	263.61	0.0400		Main Channel
384.79	265.93	0.0400		Main Channel
405.20	267.11	0.0400		Main Channel
427.74	268.83	0.0400		Main Channel
486.86	269.84	0.0400		Main Channel
548.10	272.04	0.0400		Main Channel
563.32	273.49	0.0400 /0.0600		Main Channel
641.86	285.97	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.52	255.20	.252E+05	26.6	0.75	15.81
3.05	256.72	.117E+06	200.9	1.21	9.74
4.57	258.25	.241E+06	618.0	1.81	6.50
6.09	259.77	.392E+06	950.2	1.71	6.88
7.62	261.30	.635E+06	2000.4	2.23	5.29
9.14	262.82	.899E+06	3381.8	2.66	4.43
10.67	264.34	.119E+07	5004.7	2.99	3.95
12.19	265.87	.151E+07	6895.9	3.23	3.65
13.71	267.39	.187E+07	9293.3	3.52	3.35
15.24	268.91	.225E+07	12095.6	3.80	3.11
16.76	270.44	.270E+07	14522.1	3.80	3.10
18.28	271.96	.321E+07	18109.0	3.99	2.96
19.81	273.49	.376E+07	22849.5	4.30	2.74
21.65	275.33	.445E+07	29914.6	4.76	2.48
23.50	277.18	.516E+07	37766.6	5.18	2.28
25.34	279.02	.589E+07	46393.8	5.57	2.12
27.19	280.87	.665E+07	56124.6	5.98	1.97
29.03	282.71	.743E+07	66697.1	6.35	1.86
30.88	284.56	.824E+07	78087.4	6.71	1.76

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3699)	14571.29	6.37	18.75	3.52	0.37	0.75
OUTFLOW: ID= 1 (3696)	14571.29	6.37	19.00	3.52	0.36	0.75

CALIB			
NASHYD (0081)	Area (ha)=	259.20	Curve Number (CN)= 62.7
ID= 1 DT= 5.0 min	Ia (mm)=	32.70	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	2.30	

Unit Hyd Qpeak (cms)= 1.928

PEAK FLOW	(cms)=	0.034 (i)
TIME TO PEAK	(hrs)=	12.250
RUNOFF VOLUME	(mm)=	0.540

TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.013

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1825)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3696):	14571.29	6.369	19.00	3.52
+ ID2= 2 (0081):	259.20	0.034	12.25	0.54
ID = 3 (1825):	14830.49	6.384	19.00	3.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3688)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	271.19	0.0600	
34.11	269.07	0.0400	Main Channel
52.55	267.09	0.0400	Main Channel
70.08	265.53	0.0400	Main Channel
93.67	264.30	0.0400	Main Channel
104.11	263.62	0.0400	Main Channel
124.51	261.81	0.0400	Main Channel
134.95	259.87	0.0400	Main Channel
155.37	254.00	0.0400	Main Channel
165.82	252.90	0.0400	Main Channel
176.06	252.43	0.0400	Main Channel
196.74	254.66	0.0400	Main Channel
237.84	259.22	0.0400	Main Channel
258.53	260.53	0.0400	Main Channel
269.69	262.94	0.0400	Main Channel
289.56	266.93	0.0400	Main Channel
295.96	268.35	0.0400	Main Channel
320.05	271.73	0.0400	Main Channel
322.25	271.77	0.0400 /0.0600	Main Channel
367.01	275.64	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.98	253.41	.103E+05	7.5	0.56	23.02
1.95	254.38	.353E+05	41.2	0.91	14.26
2.93	255.36	.705E+05	109.2	1.21	10.75
3.91	256.34	.115E+06	214.6	1.45	8.93
4.89	257.32	.169E+06	362.2	1.67	7.76
5.86	258.29	.232E+06	557.0	1.87	6.94
6.84	259.27	.304E+06	802.0	2.05	6.32
7.82	260.25	.389E+06	1073.6	2.15	6.03
8.80	261.23	.487E+06	1458.8	2.33	5.56
9.77	262.20	.593E+06	1912.4	2.51	5.16
10.75	263.18	.710E+06	2413.8	2.65	4.90
11.73	264.16	.839E+06	2975.1	2.76	4.70
12.71	265.14	.984E+06	3584.1	2.83	4.58
13.68	266.11	.115E+07	4354.9	2.95	4.39
14.66	267.09	.132E+07	5269.6	3.10	4.18

15.64	268.07	.151E+07	6458.4	3.33	3.89
16.66	269.09	.171E+07	7789.9	3.54	3.67
17.69	270.12	.194E+07	9242.8	3.71	3.49
18.71	271.14	.218E+07	10833.9	3.87	3.35

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1825)	14830.49	6.38	19.00	3.47	0.84	0.56
OUTFLOW: ID= 1 (3688)	14830.49	6.37	19.00	3.47	0.83	0.56

ROUTE CHN(3684)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	271.25	0.0600	
14.21	271.27	0.0400	Main Channel
32.47	270.74	0.0400	Main Channel
44.67	269.79	0.0400	Main Channel
64.95	266.49	0.0400	Main Channel
85.22	261.65	0.0400	Main Channel
95.29	259.70	0.0400	Main Channel
115.59	257.75	0.0400	Main Channel
156.26	256.74	0.0400	Main Channel
186.86	253.66	0.0400	Main Channel
217.34	251.34	0.0400	Main Channel
227.42	253.55	0.0400	Main Channel
236.63	257.15	0.0400	Main Channel
247.71	261.72	0.0400	Main Channel
259.90	264.73	0.0400	Main Channel
278.17	268.74	0.0400	Main Channel
298.50	270.35	0.0400	Main Channel
318.79	271.29	0.0400	Main Channel
339.08	273.75	0.0400 /0.0600	Main Channel
352.28	274.45	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.02	252.36	.240E+04	10.8	1.17	3.71
2.04	253.38	.960E+04	68.4	1.85	2.34
3.06	254.40	.212E+05	205.3	2.52	1.72
4.08	255.42	.362E+05	430.5	3.09	1.40
5.11	256.45	.546E+05	754.5	3.60	1.21
6.13	257.47	.784E+05	1074.9	3.56	1.22
7.15	258.49	.111E+06	1713.3	4.00	1.08
8.17	259.51	.148E+06	2586.3	4.54	0.96
9.19	260.53	.188E+06	3694.2	5.11	0.85
10.21	261.55	.230E+06	4994.6	5.65	0.77
11.23	262.57	.274E+06	6465.4	6.14	0.71
12.25	263.59	.320E+06	8114.6	6.59	0.66
13.27	264.61	.369E+06	9948.5	7.02	0.62
14.29	265.63	.419E+06	11954.9	7.42	0.58
15.32	266.66	.472E+06	14138.1	7.78	0.56
16.34	267.68	.528E+06	16450.7	8.10	0.54
17.36	268.70	.587E+06	18974.9	8.41	0.52

18.38	269.72	.650E+06	21315.5	8.54	0.51
19.40	270.74	.718E+06	23415.7	8.48	0.51

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3688)	14830.49	6.37	19.00	3.47	0.60	1.17
OUTFLOW: ID= 1 (3684)	14830.49	6.37	19.00	3.47	0.60	1.17

ROUTE CHN(3683)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	271.25	0.0600	
14.21	271.27	0.0400	Main Channel
32.47	270.74	0.0400	Main Channel
44.67	269.79	0.0400	Main Channel
64.95	266.49	0.0400	Main Channel
85.22	261.65	0.0400	Main Channel
95.29	259.70	0.0400	Main Channel
115.59	257.75	0.0400	Main Channel
156.26	256.74	0.0400	Main Channel
186.86	253.66	0.0400	Main Channel
217.34	251.34	0.0400	Main Channel
227.42	253.55	0.0400	Main Channel
236.63	257.15	0.0400	Main Channel
247.71	261.72	0.0400	Main Channel
259.90	264.73	0.0400	Main Channel
278.17	268.74	0.0400	Main Channel
298.50	270.35	0.0400	Main Channel
318.79	271.29	0.0400	Main Channel
339.08	273.75	0.0400 /0.0600	Main Channel
352.28	274.45	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.02	252.36	.272E+04	5.9	0.64	7.66
2.04	253.38	.109E+05	37.6	1.02	4.83
3.06	254.40	.240E+05	112.7	1.38	3.55
4.08	255.42	.410E+05	236.4	1.70	2.89
5.11	256.45	.618E+05	414.3	1.97	2.49
6.13	257.47	.889E+05	590.3	1.96	2.51
7.15	258.49	.126E+06	940.8	2.20	2.24
8.17	259.51	.168E+06	1420.3	2.49	1.97
9.19	260.53	.213E+06	2028.7	2.81	1.75
10.21	261.55	.260E+06	2742.8	3.10	1.58
11.23	262.57	.310E+06	3550.4	3.37	1.46
12.25	263.59	.363E+06	4456.1	3.62	1.36
13.27	264.61	.418E+06	5463.1	3.86	1.27
14.29	265.63	.475E+06	6564.9	4.07	1.21
15.32	266.66	.535E+06	7763.8	4.27	1.15
16.34	267.68	.598E+06	9033.7	4.45	1.10
17.36	268.70	.665E+06	10419.9	4.62	1.06
18.38	269.72	.736E+06	11705.2	4.69	1.05
19.40	270.74	.814E+06	12858.5	4.66	1.05

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3684)	14830.49	6.37	19.00	3.47	1.04	0.64
OUTFLOW: ID= 1 (3683)	14830.49	6.36	19.08	3.47	1.03	0.64

ROUTE CHN(3676)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	269.97	0.0600	
13.94	270.17	0.0400	Main Channel
46.75	269.72	0.0400	Main Channel
64.31	267.40	0.0400	Main Channel
79.56	267.73	0.0400	Main Channel
90.34	269.19	0.0400	Main Channel
112.42	268.77	0.0400	Main Channel
123.19	267.01	0.0400	Main Channel
171.56	251.74	0.0400	Main Channel
187.03	249.67	0.0400	Main Channel
194.86	250.89	0.0400	Main Channel
232.94	251.63	0.0400	Main Channel
265.59	251.84	0.0400	Main Channel
296.29	255.34	0.0400	Main Channel
321.58	259.08	0.0400	Main Channel
334.59	262.06	0.0400	Main Channel
357.60	268.58	0.0400	Main Channel
375.99	273.40	0.0400	Main Channel
403.41	278.45	0.0400 /0.0600	Main Channel
418.66	280.22	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.06	250.73	.431E+04	4.0	0.51	18.11
2.11	251.78	.278E+05	27.7	0.55	16.75
3.17	252.84	.864E+05	157.5	1.01	9.15
4.22	253.89	.153E+06	376.4	1.37	6.76
5.28	254.95	.226E+06	677.6	1.67	5.56
6.33	256.00	.307E+06	1066.0	1.94	4.80
7.39	257.06	.394E+06	1540.2	2.18	4.26
8.44	258.11	.487E+06	2097.9	2.40	3.87
9.50	259.17	.586E+06	2743.1	2.61	3.56
10.55	260.22	.691E+06	3497.9	2.82	3.29
11.61	261.28	.800E+06	4339.2	3.02	3.07
12.66	262.33	.914E+06	5271.5	3.21	2.89
13.72	263.39	.103E+07	6302.3	3.40	2.73
14.77	264.44	.115E+07	7421.3	3.58	2.59
15.83	265.50	.128E+07	8629.3	3.75	2.47
16.88	266.55	.141E+07	9927.3	3.92	2.37
17.94	267.61	.155E+07	10931.8	3.94	2.36
18.99	268.66	.170E+07	11853.3	3.88	2.39
20.05	269.72	.188E+07	12825.2	3.80	2.44

<---- hydrograph ----> <-pipe /

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3683)	14830.49	6.36	19.08	3.47	1.16	0.52
OUTFLOW: ID= 1 (3676)	14830.49	6.36	19.83	3.47	1.16	0.52

ROUTE CHN(3669)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	262.68	0.0600	
16.62	262.69	0.0400	Main Channel
39.07	261.37	0.0400	Main Channel
47.13	259.96	0.0400	Main Channel
72.74	253.54	0.0400	Main Channel
83.96	252.68	0.0400	Main Channel
106.40	252.20	0.0400	Main Channel
136.91	252.17	0.0400	Main Channel
151.29	251.02	0.0400	Main Channel
159.36	250.51	0.0400	Main Channel
196.15	249.78	0.0400	Main Channel
218.55	249.57	0.0400	Main Channel
240.96	250.25	0.0400	Main Channel
252.18	252.36	0.0400	Main Channel
254.42	253.84	0.0400	Main Channel
263.36	258.50	0.0400	Main Channel
272.30	261.86	0.0400	Main Channel
285.72	264.88	0.0400	Main Channel
308.08	271.59	0.0400 /0.0600	Main Channel
341.62	274.46	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.66	250.23	.129E+05	17.9	0.73	12.03
1.31	250.88	.413E+05	100.6	1.29	6.83
1.97	251.54	.749E+05	250.0	1.76	5.00
2.62	252.19	.113E+06	408.6	1.92	4.60
3.28	252.85	.168E+06	686.2	2.16	4.09
3.93	253.50	.229E+06	1107.3	2.55	3.45
4.59	254.16	.293E+06	1637.3	2.96	2.98
5.24	254.81	.357E+06	2251.1	3.33	2.65
5.90	255.47	.424E+06	2944.2	3.68	2.40
6.56	256.13	.491E+06	3713.8	4.00	2.20
7.21	256.78	.560E+06	4557.7	4.31	2.05
7.87	257.44	.630E+06	5474.4	4.60	1.92
8.52	258.09	.701E+06	6462.4	4.87	1.81
9.18	258.75	.774E+06	7517.2	5.14	1.72
9.83	259.40	.848E+06	8635.7	5.38	1.64
10.49	260.06	.924E+06	9819.0	5.62	1.57
11.14	260.71	.100E+07	11045.0	5.83	1.51
11.80	261.37	.108E+07	12341.3	6.04	1.46
13.11	262.68	.125E+07	15372.8	6.50	1.36

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3676)	14830.49	6.36	19.83	3.47	0.23	0.73
OUTFLOW: ID= 1 (3669)	14830.49	6.35	20.00	3.47	0.23	0.73

ROUTE CHN(3654)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	256.71	0.0600	
7.62	256.82	0.0400	Main Channel
30.69	256.22	0.0400	Main Channel
38.94	253.57	0.0400	Main Channel
45.64	250.19	0.0400	Main Channel
48.88	249.47	0.0400	Main Channel
61.89	247.84	0.0400	Main Channel
69.51	247.43	0.0400	Main Channel
77.13	248.77	0.0400	Main Channel
109.17	248.82	0.0400	Main Channel
172.43	248.65	0.0400	Main Channel
212.87	249.29	0.0400	Main Channel
233.16	251.33	0.0400	Main Channel
246.23	252.09	0.0400	Main Channel
273.48	253.34	0.0400	Main Channel
280.55	255.36	0.0400	Main Channel
293.77	258.21	0.0400	Main Channel
313.88	258.10	0.0400	Main Channel
324.10	259.68	0.0400 /0.0600	Main Channel
328.10	260.08	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	247.92	.175E+04	1.0	0.34	29.80
0.98	248.41	.603E+04	5.6	0.57	17.92
1.46	248.89	.216E+05	12.2	0.35	29.49
1.95	249.38	.667E+05	70.1	0.64	15.87
2.44	249.87	.117E+06	173.1	0.90	11.25
2.93	250.36	.169E+06	312.3	1.13	9.02
3.42	250.85	.223E+06	485.0	1.33	7.67
3.91	251.34	.279E+06	688.6	1.51	6.75
4.39	251.82	.337E+06	913.6	1.66	6.15
4.88	252.31	.398E+06	1164.7	1.79	5.69
5.37	252.80	.462E+06	1441.8	1.91	5.34
5.86	253.29	.530E+06	1750.0	2.02	5.05
6.35	253.78	.600E+06	2128.8	2.17	4.70
6.84	254.27	.671E+06	2541.6	2.31	4.40
7.32	254.75	.743E+06	2984.9	2.45	4.15
7.81	255.24	.816E+06	3457.8	2.59	3.93
8.30	255.73	.890E+06	3956.2	2.71	3.75
8.79	256.22	.965E+06	4482.1	2.84	3.59
9.28	256.71	.104E+07	5057.0	2.96	3.44

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

```
(m/s)
   INFLOW : ID= 2 (  3669)   14830.49     6.35   20.00   3.47      1.03
0.53
   OUTFLOW: ID= 1 (  3654)   14830.49     6.35   20.33   3.47      1.03
0.53

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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-
--------------------
| CALIB            |
| STANDHYD (  0079)|   Area    (ha)=     31.82
|ID= 1 DT= 5.0 min |   Total Imp(%)=     38.50   Dir. Conn.(%)=  28.20
--------------------
                           IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       12.25          19.57
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        4.79           4.79
     Length            (m)=      460.58          40.00
     Mannings n            =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.32           4.76
               over (min)         10.00          30.00
     Storage Coeff.   (min)=        7.71 (ii)     26.07 (ii)
     Unit Hyd. Tpeak (min)=       10.00          30.00
     Unit Hyd. peak  (cms)=        0.13           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.48           0.18       0.641 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.50       5.25
     RUNOFF VOLUME    (mm)=       40.00           6.62      16.03
     TOTAL RAINFALL   (mm)=       42.00          42.00      42.00
     RUNOFF COEFFICIENT   =        0.95           0.16       0.38


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  55.1     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4032)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |    (cms)          (ha.m.)
                             0.0000        0.0000   |      1.8100
0.3020
                             0.2500        0.1107   |     18.1000
0.3356
                             1.1000        0.2232   |      0.0000
0.0000

                                AREA        QPEAK        TPEAK       R.V.
                                 (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0079)       31.820       0.641         5.25      16.03
   OUTFLOW: ID= 1 (  4032)       31.820       0.501         5.42      16.03

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 78.19
                  TIME SHIFT OF PEAK FLOW          (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1445

--------------------------------------------------------------------------------
```



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-
--------------------
| ROUTE CHN(  2206)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         265.01        0.0600
                   9.89         264.94        0.0400      Main Channel
                  19.78         264.54        0.0400      Main Channel
                  29.67         263.43        0.0400      Main Channel
                  39.56         261.56        0.0400      Main Channel
                  49.45         259.91        0.0400      Main Channel
                  98.90         257.61        0.0400      Main Channel
                 128.57         257.06        0.0400      Main Channel
                 138.46         256.14        0.0400      Main Channel
                 148.35         255.63        0.0400      Main Channel
                 168.13         256.15        0.0400      Main Channel
                 178.02         256.68        0.0400      Main Channel
                 187.91         257.67        0.0400      Main Channel
                 197.80         259.46        0.0400      Main Channel
                 207.69         261.62        0.0400      Main Channel
                 217.58         263.38        0.0400      Main Channel
                 227.47         264.44        0.0400      Main Channel
                 237.36         264.84        0.0400      Main Channel
                 257.14         264.88    0.0400 /0.0600  Main Channel
                 286.81         265.30        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
        0.47   256.10    .604E+04          6.9          1.09       14.67
        0.94   256.57    .218E+05         43.3          1.91        8.40
        1.41   257.04    .434E+05        116.7          2.58        6.20
        1.88   257.50    .735E+05        209.9          2.74        5.84
        2.35   257.97    .115E+06        390.1          3.26        4.91
        2.81   258.44    .162E+06        639.3          3.79        4.23
        3.28   258.91    .215E+06        953.0          4.26        3.76
        3.75   259.38    .274E+06       1334.9          4.69        3.42
        4.22   259.85    .338E+06       1791.1          5.09        3.15
        4.69   260.32    .407E+06       2373.2          5.61        2.86
        5.16   260.79    .478E+06       3036.1          6.11        2.62
        5.63   261.26    .551E+06       3770.7          6.58        2.43
        6.10   261.73    .626E+06       4576.6          7.03        2.28
        6.57   262.20    .704E+06       5450.7          7.44        2.15
        7.04   262.67    .784E+06       6395.6          7.84        2.04
        7.51   263.13    .866E+06       7411.6          8.23        1.95
        7.98   263.60    .950E+06       8458.8          8.55        1.87
        8.44   264.07    .104E+07       9525.1          8.81        1.82
        8.91   264.54    .113E+07      10619.3          9.02        1.77

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  4032)      31.82     0.50    5.42  16.03      0.03
1.09
   OUTFLOW: ID= 1 (  2206)      31.82     0.45    5.67  16.03      0.03
1.09


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-
```



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--------------------
| ADD HYD  (  1332)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2206):     31.82      0.449        5.67       16.03
     + ID2= 2 (  3654):  14830.49      6.346       20.33        3.47
       ==========================================================
       ID = 3 (  1332):  14862.31      6.346       20.33        3.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-
--------------------
| ROUTE CHN(  3647)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         264.62        0.0600
                  18.04         264.85        0.0400      Main Channel
                  32.48         263.57        0.0400      Main Channel
                  54.96         260.04        0.0400      Main Channel
                  80.26         257.53        0.0400      Main Channel
                 104.31         253.47        0.0400      Main Channel
                 116.52         249.05        0.0400      Main Channel
                 140.39         247.36        0.0400      Main Channel
                 152.05         247.81        0.0400      Main Channel
                 201.38         247.87        0.0400      Main Channel
                 245.56         247.87        0.0400      Main Channel
                 329.58         247.74        0.0400      Main Channel
                 352.59         248.27        0.0400      Main Channel
                 398.50         248.27        0.0400      Main Channel
                 424.75         248.44        0.0400      Main Channel
                 453.41         248.70        0.0400      Main Channel
                 487.00         250.72        0.0400      Main Channel
                 499.21         252.20        0.0400      Main Channel
                 522.39         256.99    0.0400 /0.0600  Main Channel
                 565.84         257.22        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
        0.88   248.24    .643E+05         42.2          0.47       25.39
        1.75   249.11    .262E+06        328.9          0.90       13.28
        2.63   249.99    .482E+06        879.4          1.30        9.14
        3.50   250.86    .713E+06       1639.0          1.64        7.25
        4.38   251.74    .951E+06       2605.1          1.95        6.08
        5.25   252.61    .119E+07       3757.5          2.24        5.30
        6.13   253.49    .144E+07       5088.3          2.51        4.73
        7.00   254.36    .170E+07       6559.5          2.76        4.31
        7.88   255.24    .196E+07       8187.8          2.99        3.98
        8.75   256.11    .222E+07       9970.0          3.20        3.71
        9.63   256.99    .249E+07      11903.8          3.41        3.49
       10.61   257.97    .283E+07      14324.4          3.61        3.29
       11.60   258.95    .318E+07      16917.6          3.80        3.13
       12.58   259.94    .353E+07      19717.7          3.98        2.98
       13.56   260.92    .389E+07      22812.6          4.18        2.84
       14.54   261.90    .425E+07      26118.5          4.38        2.71
       15.53   262.89    .462E+07      29621.1          4.57        2.60
       16.51   263.87    .500E+07      33400.3          4.77        2.49
       17.49   264.85    .538E+07      37573.4          4.98        2.39

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
```



```
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1332)   14862.31     6.35   20.33   3.50      0.13
0.47
   OUTFLOW: ID= 1 (  3647)   14862.31     6.33   20.92   3.50      0.13
0.47


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-
--------------------
| CALIB            |
| NASHYD   (  0077)|   Area    (ha)=    160.87   Curve Number   (CN)= 56.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.09

     Unit Hyd Qpeak  (cms)=     1.317

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-
--------------------
| CALIB            |
| NASHYD   (  0078)|   Area    (ha)=    239.80   Curve Number   (CN)= 68.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.15

     Unit Hyd Qpeak  (cms)=     1.300

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1782)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3647):  14862.31      6.334       20.92        3.50
     + ID2= 2 (  0077):    160.87      0.000        0.00        0.00
       ==========================================================
       ID = 3 (  1782):  15023.18      6.334       20.92        3.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1782)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
```

```
  ID1= 3 (  1782):  15023.18      6.334       20.92        3.46
+ ID2= 2 (  0078):    239.80      0.000        0.00        0.00
  ==========================================================
  ID = 1 (  1782):  15262.98      6.334       20.92        3.40

 NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-
--------------------
| ROUTE CHN(  3639)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
            <------ DATA FOR SECTION (   1.1) ------>
           Distance      Elevation       Manning
              0.00         254.46        0.0600
             30.04         253.30        0.0400      Main Channel
             55.06         252.06        0.0400      Main Channel
            105.12         246.23        0.0400      Main Channel
            117.33         246.12        0.0400      Main Channel
            146.76         246.26        0.0400      Main Channel
            181.61         246.66        0.0400      Main Channel
            197.97         246.77        0.0400      Main Channel
            202.09         246.51        0.0400      Main Channel
            222.60         245.59        0.0400      Main Channel
            232.82         247.63        0.0400      Main Channel
            235.82         248.59        0.0400      Main Channel
            243.10         250.26        0.0400      Main Channel
            253.30         251.66        0.0400      Main Channel
            284.03         253.26        0.0400      Main Channel
            311.59         252.67        0.0400      Main Channel
            337.00         254.40        0.0400      Main Channel
            362.59         256.68        0.0400      Main Channel
            409.57         258.47    0.0400 /0.0600  Main Channel
            420.77         258.65        0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.46   246.05    .152E+04          1.3           0.43       19.99
       0.92   246.51    .148E+05         15.1           0.53       16.34
       1.39   246.98    .430E+05         70.4           0.85       10.20
       1.85   247.44    .752E+05        172.9           1.19        7.25
       2.31   247.90    .109E+06        311.4           1.49        5.83
       2.77   248.36    .144E+06        483.1           1.75        4.96
       3.23   248.82    .180E+06        685.2           1.98        4.38
       3.70   249.29    .218E+06        916.8           2.19        3.96
       4.16   249.75    .257E+06       1178.0           2.38        3.64
       4.62   250.21    .298E+06       1468.7           2.57        3.38
       5.08   250.67    .340E+06       1782.1           2.73        3.18
       5.55   251.14    .384E+06       2124.5           2.88        3.01
       6.01   251.60    .429E+06       2497.3           3.02        2.87
       6.47   252.06    .477E+06       2861.4           3.12        2.78
       6.93   252.52    .529E+06       3291.3           3.23        2.68
       7.41   253.00    .589E+06       3584.0           3.16        2.74
       7.89   253.48    .660E+06       4027.0           3.17        2.73
       8.37   253.96    .737E+06       4693.8           3.31        2.62
       8.85   254.44    .818E+06       5418.7           3.44        2.52

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1782)   15262.98     6.33   20.92   3.40      0.63
```



```
0.46
  OUTFLOW: ID= 1 (  3639)   15262.98     6.33   21.17   3.40      0.63
0.46

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-
--------------------
| ROUTE CHN(  3634)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
            <------ DATA FOR SECTION (   1.1) ------>
           Distance      Elevation       Manning
              0.00         252.89        0.0600
             14.51         252.27        0.0400      Main Channel
             30.85         249.76        0.0400      Main Channel
             45.29         248.37        0.0400      Main Channel
             74.96         247.09        0.0400      Main Channel
             83.79         247.87        0.0400      Main Channel
            113.99         247.77        0.0400      Main Channel
            131.60         246.23        0.0400      Main Channel
            144.60         244.35        0.0400      Main Channel
            159.48         243.88        0.0400      Main Channel
            167.10         245.09        0.0400      Main Channel
            220.27         246.37        0.0400      Main Channel
            255.18         245.74        0.0400      Main Channel
            287.27         246.71        0.0400      Main Channel
            302.73         248.27        0.0400      Main Channel
            319.58         249.24        0.0400      Main Channel
            331.36         249.58        0.0400      Main Channel
            358.61         251.64        0.0400      Main Channel
            404.69         253.04    0.0400 /0.0600  Main Channel
            420.97         253.27        0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.45   244.33    .200E+04          1.5           0.38       22.73
       0.90   244.78    .679E+04          9.1           0.69       12.44
       1.36   245.24    .132E+05         21.2           0.83       10.36
       1.81   245.69    .238E+05         41.1           0.89        9.67
       2.26   246.14    .432E+05         69.6           0.83       10.35
       2.71   246.59    .759E+05        144.6           0.98        8.76
       3.17   247.05    .114E+06        270.2           1.22        7.03
       3.62   247.50    .156E+06        416.6           1.38        6.23
       4.07   247.95    .205E+06        562.2           1.41        6.09
       4.52   248.40    .264E+06        820.6           1.60        5.36
       4.98   248.86    .326E+06       1130.4           1.78        4.81
       5.43   249.31    .391E+06       1480.9           1.95        4.40
       5.88   249.76    .460E+06       1869.5           2.09        4.10
       6.40   250.28    .543E+06       2423.2           2.30        3.73
       6.92   250.80    .628E+06       3038.7           2.49        3.45
       7.45   251.33    .717E+06       3715.5           2.67        3.21
       7.97   251.85    .808E+06       4419.6           2.82        3.05
       8.49   252.37    .904E+06       5136.6           2.93        2.93
       9.01   252.89    .101E+07       5924.5           3.03        2.83

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3639)   15262.98     6.33   21.17   3.40      0.74
0.53
   OUTFLOW: ID= 1 (  3634)   15262.98     6.33   21.33   3.40      0.74
```



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0.53

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--------------------
| CALIB            |
| NASHYD  (  0075) |   Area    (ha)=    345.35   Curve Number   (CN)= 56.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.32

     Unit Hyd Qpeak  (cms)=     1.779

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| CALIB            |
| NASHYD  (  0076) |   Area    (ha)=     87.33   Curve Number   (CN)= 52.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.68

     Unit Hyd Qpeak  (cms)=     0.887

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-

--------------------
| ADD HYD  (  1771)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3634):  15262.98      6.326       21.33        3.40
     + ID2= 2 (  0075):    345.35      0.000        0.00        0.00
       ==========================================================
       ID = 3 (  1771):  15608.33      6.326       21.33        3.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-

--------------------
| ADD HYD  (  1771)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1771):  15608.33      6.326       21.33        3.33
     + ID2= 2 (  0076):     87.33      0.000        0.00        0.00
       ==========================================================
       ID = 1 (  1771):  15695.66      6.326       21.33        3.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



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-
--------------------
| ROUTE CHN(  3625)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
            <------ DATA FOR SECTION (   1.1) ------>
           Distance      Elevation       Manning
              0.00         256.88        0.0600
             14.18         256.60        0.0400      Main Channel
             67.90         252.21        0.0400      Main Channel
             95.51         249.12        0.0400      Main Channel
            115.90         248.31        0.0400      Main Channel
            187.17         246.98        0.0400      Main Channel
            268.43         245.97        0.0400      Main Channel
            298.96         246.52        0.0400      Main Channel
            309.06         246.43        0.0400      Main Channel
            334.45         245.16        0.0400      Main Channel
            349.66         242.84        0.0400      Main Channel
            401.18         247.69        0.0400      Main Channel
            415.41         248.69        0.0400      Main Channel
            451.87         250.83        0.0400      Main Channel
            472.16         250.52        0.0400      Main Channel
            512.71         254.36        0.0400      Main Channel
            549.26         256.75        0.0400      Main Channel
            575.74         256.27        0.0400      Main Channel
            624.41         256.39    0.0400 /0.0600  Main Channel
            653.83         255.87        0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.67   243.51    .235E+04          1.8           0.46       22.03
       1.34   244.18    .939E+04         11.3           0.73       13.88
       2.01   244.85    .211E+05         33.2           0.96       10.59
       2.68   245.52    .381E+05         68.6           1.10        9.25
       3.35   246.19    .649E+05        106.0           1.00       10.21
       4.02   246.86    .128E+06        212.0           1.01       10.08
       4.69   247.53    .218E+06        445.4           1.25        8.15
       5.35   248.19    .325E+06        776.6           1.46        6.99
       6.02   248.86    .449E+06       1241.8           1.69        6.03
       6.69   249.53    .583E+06       1837.2           1.92        5.29
       7.36   250.20    .725E+06       2552.1           2.15        4.73
       8.03   250.87    .876E+06       3257.5           2.27        4.48
       8.70   251.54    .104E+07       4245.4           2.49        4.08
       9.37   252.21    .121E+07       5347.5           2.70        3.77
      10.10   252.94    .140E+07       6740.1           2.93        3.47
      10.83   253.67    .160E+07       8273.5           3.15        3.23
      11.57   254.41    .181E+07       9945.9           3.35        3.03
      12.30   255.14    .202E+07      11713.8           3.53        2.88
      13.03   255.87    .225E+07      13627.0           3.70        2.75

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1771)   15695.66     6.33   21.33   3.31      0.99
0.56
   OUTFLOW: ID= 1 (  3625)   15695.66     6.32   21.58   3.31      0.99
0.56

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```

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-
--------------------
| ROUTE CHN(  3618)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         256.28        0.0600
                   18.29         256.19        0.0400      Main Channel
                   73.32         255.61        0.0400      Main Channel
                  103.97         255.41        0.0400      Main Channel
                  114.03         255.05        0.0400      Main Channel
                  149.83         251.12        0.0400      Main Channel
                  165.15         247.97        0.0400      Main Channel
                  195.67         243.72        0.0400      Main Channel
                  216.08         242.09        0.0400      Main Channel
                  256.91         248.25        0.0400      Main Channel
                  287.62         251.16        0.0400      Main Channel
                  307.95         253.24        0.0400      Main Channel
                  328.37         255.08        0.0400      Main Channel
                  348.81         256.54        0.0400      Main Channel
                  358.88         258.05        0.0400      Main Channel
                  380.33         264.02        0.0400      Main Channel
                  399.76         268.84        0.0400      Main Channel
                  409.96         270.04        0.0400      Main Channel
                  420.03         270.10    0.0400 /0.0600  Main Channel
                  445.63         270.87        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
        0.71   242.80    .312E+04           2.7         0.55       19.61
        1.42   243.51    .125E+05          16.9         0.87       12.35
        2.13   244.22    .277E+05          50.6         1.18        9.11
        2.85   244.94    .474E+05         106.6         1.45        7.41
        3.56   245.65    .717E+05         187.4         1.68        6.37
        4.27   246.36    .100E+06         296.1         1.90        5.65
        4.98   247.07    .134E+06         435.7         2.10        5.11
        5.69   247.78    .171E+06         609.1         2.29        4.69
        6.40   248.49    .214E+06         819.5         2.47        4.34
        7.12   249.21    .260E+06        1062.2         2.63        4.09
        7.83   249.92    .312E+06        1348.2         2.78        3.86
        8.54   250.63    .369E+06        1680.4         2.93        3.66
        9.25   251.34    .431E+06        2054.5         3.07        3.50
        9.96   252.05    .499E+06        2468.4         3.18        3.37
       10.67   252.76    .573E+06        2941.5         3.30        3.25
       11.39   253.48    .654E+06        3473.4         3.42        3.14
       12.10   254.19    .741E+06        4064.9         3.53        3.04
       12.81   254.90    .834E+06        4727.4         3.65        2.94
       13.52   255.61    .938E+06        4973.1         3.42        3.14

                                        <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3625)   15695.66     6.32   21.58   3.31      0.90
0.61
  OUTFLOW: ID= 1 (  3618)   15695.66     6.32   21.83   3.31      0.89
0.60


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| ROUTE CHN(  3611)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         259.66        0.0600
                   29.70         255.87        0.0400      Main Channel
                   43.98         254.53        0.0400      Main Channel
                   70.30         249.22        0.0400      Main Channel
                   98.58         247.32        0.0400      Main Channel
                  126.86         246.89        0.0400      Main Channel
                  158.16         245.73        0.0400      Main Channel
                  197.08         245.18        0.0400      Main Channel
                  229.61         242.84        0.0400      Main Channel
                  243.82         240.61        0.0400      Main Channel
                  253.04         240.37        0.0400      Main Channel
                  309.69         248.74        0.0400      Main Channel
                  337.30         250.29        0.0400      Main Channel
                  365.73         250.40        0.0400      Main Channel
                  401.08         251.66        0.0400      Main Channel
                  415.22         253.20        0.0400      Main Channel
                  435.77         254.06        0.0400      Main Channel
                  464.20         253.36        0.0400      Main Channel
                  472.68         253.86    0.0400 /0.0600  Main Channel
                  495.31         255.90        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
        0.79   241.16    .577E+04           7.8         0.84       12.35
        1.59   241.96    .172E+05          35.6         1.28        8.07
        2.38   242.75    .338E+05          88.9         1.63        6.34
        3.17   243.54    .567E+05         167.8         1.83        5.63
        3.97   244.34    .876E+05         291.1         2.06        5.02
        4.76   245.13    .127E+06         468.2         2.29        4.51
        5.55   245.92    .183E+06         639.7         2.17        4.76
        6.35   246.72    .257E+06        1003.0         2.42        4.27
        7.14   247.51    .349E+06        1436.1         2.55        4.05
        7.94   248.31    .454E+06        2113.3         2.88        3.58
        8.73   249.10    .568E+06        2891.5         3.15        3.27
        9.52   249.89    .693E+06        3827.7         3.42        3.02
       10.32   250.69    .833E+06        4655.0         3.46        2.98
       11.11   251.48    .992E+06        5903.2         3.69        2.80
       11.90   252.27    .116E+07        7466.7         3.98        2.59
       12.70   253.07    .134E+07        9243.3         4.28        2.41
       13.49   253.86    .152E+07       10560.3         4.29        2.41
       14.28   254.65    .174E+07       12753.3         4.55        2.27
       15.30   255.67    .202E+07       16262.3         4.99        2.07

                                        <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3618)   15695.66     6.32   21.83   3.31      0.64
0.84
  OUTFLOW: ID= 1 (  3611)   15695.66     6.31   22.08   3.31      0.64
0.84


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| ROUTE CHN(  3609)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         263.20        0.0600
                   31.45         259.32        0.0400      Main Channel
                   61.50         260.14        0.0400      Main Channel
                  101.57         258.24        0.0400      Main Channel
                  151.64         250.98        0.0400      Main Channel
                  184.65         249.86        0.0400      Main Channel
                  205.88         251.49        0.0400      Main Channel
                  227.11         249.13        0.0400      Main Channel
                  290.79         246.73        0.0400      Main Channel
                  361.98         246.16        0.0400      Main Channel
                  386.32         247.83        0.0400      Main Channel
                  462.14         248.96        0.0400      Main Channel
                  512.22         246.30        0.0400      Main Channel
                  572.31         245.16        0.0400      Main Channel
                  612.38         243.12        0.0400      Main Channel
                  692.96         242.39        0.0400      Main Channel
                  754.76         238.25        0.0400      Main Channel
                  793.84         246.79        0.0400      Main Channel
                  814.01         254.50    0.0400 /0.0600  Main Channel
                  847.00         264.79        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
        1.25   239.50    .829E+04          15.0         0.99        9.20
        2.50   240.75    .331E+05          95.3         1.56        5.80
        3.75   242.00    .746E+05         281.0         2.05        4.42
        5.00   243.25    .151E+06         526.5         1.89        4.79
        6.25   244.50    .276E+06        1281.1         2.53        3.59
        7.50   245.75    .424E+06        2260.1         2.90        3.13
        8.75   247.00    .637E+06        3315.8         2.83        3.20
       10.00   248.25    .928E+06        5326.4         3.12        2.90
       11.25   249.50    .130E+07        8330.0         3.49        2.60
       12.50   250.75    .171E+07       12370.8         3.94        2.30
       13.75   252.00    .215E+07       17552.5         4.44        2.04
       15.00   253.25    .260E+07       23877.4         4.99        1.82
       16.25   254.50    .307E+07       30990.2         5.50        1.65
       17.50   255.75    .354E+07       38973.8         5.99        1.51
       18.95   257.20    .410E+07       49184.5         6.53        1.39
       20.40   258.65    .467E+07       60074.2         7.00        1.29
       21.85   260.10    .527E+07       71161.0         7.35        1.23
       23.30   261.55    .591E+07       85245.1         7.85        1.16
       24.75   263.00    .657E+07      100510.0         8.33        1.09

                                        <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3611)   15695.66     6.31   22.08   3.31      0.53
0.99
  OUTFLOW: ID= 1 (  3609)   15695.66     6.31   22.25   3.31      0.53
0.99


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| CALIB              |
| NASHYD   (  0073)|   Area    (ha)=    346.79   Curve Number   (CN)= 66.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      4.30
```



```
     Unit Hyd Qpeak  (cms)=     1.375

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0074)|   Area    (ha)=    253.74   Curve Number   (CN)= 65.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.41

     Unit Hyd Qpeak  (cms)=     1.794

     PEAK FLOW       (cms)=     0.377 (i)
     TIME TO PEAK    (hrs)=     9.250
     RUNOFF VOLUME    (mm)=     6.242
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.149

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1754)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3609):  15695.66      6.311       22.25        3.31
     + ID2= 2 (  0073):    346.79      0.000        0.00        0.00
       ========================================================
       ID = 3 (  1754):  16042.45      6.311       22.25        3.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1754)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1754):  16042.45      6.311       22.25        3.24
     + ID2= 2 (  0074):    253.74      0.377        9.25        6.24
       ========================================================
       ID = 1 (  1754):  16296.19      6.382       22.17        3.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3606)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         257.36        0.0600
```

13.46	256.99	0.0400		Main Channel
40.37	258.99	0.0400		Main Channel
80.74	262.35	0.0400		Main Channel
94.20	260.30	0.0400		Main Channel
107.67	257.07	0.0400		Main Channel
121.14	252.14	0.0400		Main Channel
134.60	247.93	0.0400		Main Channel
148.06	245.43	0.0400		Main Channel
161.52	245.02	0.0400		Main Channel
188.43	242.16	0.0400		Main Channel
201.88	240.45	0.0400		Main Channel
242.27	236.65	0.0400		Main Channel
269.20	239.01	0.0400		Main Channel
294.70	237.24	0.0400		Main Channel
323.02	238.71	0.0400		Main Channel
384.68	239.51	0.0400		Main Channel
417.25	241.74	0.0400		Main Channel
444.17	248.95	0.0400 /0.0600		Main Channel
481.72	253.99	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.23	237.88	.149E+05	17.8	0.76	13.93
2.46	239.11	.821E+05	153.4	1.18	8.92
3.69	240.34	.217E+06	619.0	1.80	5.85
4.92	241.57	.379E+06	1427.7	2.38	4.42
6.15	242.80	.558E+06	2590.2	2.93	3.59
7.38	244.03	.750E+06	4054.5	3.41	3.08
8.61	245.26	.954E+06	5738.3	3.80	2.77
9.84	246.49	.118E+07	7838.0	4.20	2.50
11.07	247.72	.141E+07	10306.7	4.62	2.28
12.30	248.95	.165E+07	13125.5	5.03	2.09
13.79	250.44	.195E+07	17114.5	5.54	1.90
15.28	251.93	.227E+07	21555.2	6.01	1.75
16.77	253.42	.260E+07	26474.1	6.44	1.63
18.26	254.91	.294E+07	31867.4	6.84	1.54
19.74	256.39	.329E+07	37714.1	7.24	1.45
21.23	257.88	.365E+07	43910.9	7.60	1.38
22.72	259.37	.404E+07	50111.4	7.83	1.34
24.21	260.86	.445E+07	55580.4	7.88	1.34
25.70	262.35	.489E+07	61516.7	7.93	1.33

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1754)	16296.19	6.38	22.17	3.29	0.44	0.76
OUTFLOW: ID= 1 (3606)	16296.19	6.38	22.33	3.29	0.44	0.76

ROUTE CHN(3596) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	260.34	0.0600	
18.08	258.21	0.0400	Main Channel
38.83	256.78	0.0400	Main Channel

49.43	254.81	0.0400		Main Channel
90.77	252.59	0.0400		Main Channel
168.69	250.66	0.0400		Main Channel
190.50	248.92	0.0400		Main Channel
214.76	245.75	0.0400		Main Channel
233.62	243.74	0.0400		Main Channel
268.88	240.91	0.0400		Main Channel
331.57	237.57	0.0400		Main Channel
394.27	236.05	0.0400		Main Channel
409.95	235.21	0.0400		Main Channel
425.62	235.19	0.0400		Main Channel
454.39	239.28	0.0400		Main Channel
493.34	244.44	0.0400		Main Channel
532.30	249.46	0.0400		Main Channel
566.69	258.51	0.0400		Main Channel
571.26	259.56	0.0400 /0.0600		Main Channel
585.00	260.82	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.27	236.46	.194E+05	49.5	1.18	6.53
2.54	237.73	.709E+05	269.8	1.76	4.38
3.81	239.00	.148E+06	778.1	2.43	3.17
5.08	240.27	.244E+06	1568.2	2.97	2.60
6.35	241.54	.360E+06	2703.1	3.47	2.22
7.62	242.81	.491E+06	4202.4	3.96	1.95
8.89	244.08	.637E+06	6070.9	4.41	1.75
10.16	245.35	.796E+06	8345.1	4.85	1.59
11.43	246.62	.968E+06	11030.1	5.27	1.46
12.70	247.89	.115E+07	14119.6	5.67	1.36
13.97	249.16	.135E+07	17572.3	6.04	1.28
15.24	250.43	.155E+07	21418.1	6.38	1.21
16.51	251.70	.178E+07	24688.9	6.41	1.20
17.78	252.97	.204E+07	28785.2	6.53	1.18
19.05	254.24	.232E+07	34263.3	6.83	1.13
20.32	255.51	.261E+07	40763.0	7.21	1.07
21.59	256.78	.292E+07	48183.9	7.64	1.01
23.37	258.56	.336E+07	60162.3	8.28	0.93
25.15	260.34	.382E+07	73570.4	8.90	0.87

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3606)	16296.19	6.38	22.33	3.29	0.16	1.18
OUTFLOW: ID= 1 (3596)	16296.19	6.38	22.42	3.29	0.16	1.18

ROUTE CHN(3581) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	266.53	0.0600	
24.40	265.24	0.0400	Main Channel
73.05	257.43	0.0400	Main Channel
96.82	256.85	0.0400	Main Channel
120.59	250.99	0.0400	Main Channel

153.90	248.32	0.0400		Main Channel
251.34	244.23	0.0400		Main Channel
310.77	237.80	0.0400		Main Channel
370.20	235.64	0.0400		Main Channel
500.94	235.93	0.0400		Main Channel
536.60	245.60	0.0400		Main Channel
572.26	243.12	0.0400		Main Channel
614.29	244.56	0.0400		Main Channel
641.38	247.95	0.0400		Main Channel
684.44	247.81	0.0400		Main Channel
721.47	240.42	0.0400		Main Channel
757.87	247.93	0.0400		Main Channel
789.67	254.36	0.0400		Main Channel
830.68	258.62	0.0400 /0.0600		Main Channel
863.00	257.13	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.09	236.73	.735E+05	162.1	1.15	7.55
2.18	237.82	.176E+06	614.4	1.82	4.78
3.27	238.91	.292E+06	1363.6	2.43	3.57
4.36	240.00	.416E+06	2355.0	2.95	2.95
5.45	241.09	.550E+06	3526.1	3.35	2.60
6.54	242.18	.696E+06	4904.1	3.67	2.37
7.63	243.27	.858E+06	6446.8	3.92	2.22
8.72	244.36	.105E+07	7804.2	3.88	2.24
9.81	245.45	.128E+07	9754.6	3.96	2.19
10.89	246.53	.155E+07	12486.3	4.19	2.07
11.98	247.62	.185E+07	15715.2	4.44	1.96
13.07	248.71	.218E+07	19068.5	4.56	1.91
14.16	249.80	.253E+07	23999.2	4.94	1.76
15.25	250.89	.290E+07	29431.7	5.29	1.64
16.34	251.98	.327E+07	35614.8	5.68	1.53
17.43	253.07	.365E+07	42318.4	6.05	1.44
18.52	254.16	.403E+07	49507.1	6.40	1.36
19.61	255.25	.442E+07	56968.9	6.71	1.29
20.70	256.34	.482E+07	64855.7	7.01	1.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3596)	16296.19	6.38	22.42	3.29	0.04	1.15
OUTFLOW: ID= 1 (3581)	16296.19	6.38	22.50	3.29	0.04	1.15

ROUTE CHN(3569) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	246.10	0.0600	
57.01	249.24	0.0400	Main Channel
77.28	251.27	0.0400	Main Channel
99.70	251.58	0.0400	Main Channel
117.96	250.79	0.0400	Main Channel
128.17	248.47	0.0400	Main Channel
158.48	240.04	0.0400	Main Channel

168.78	239.99	0.0400		Main Channel
178.98	235.40	0.0400		Main Channel
189.07	233.37	0.0400		Main Channel
219.57	231.26	0.0400		Main Channel
229.87	231.31	0.0400		Main Channel
250.17	236.04	0.0400		Main Channel
281.76	238.60	0.0400		Main Channel
290.98	239.15	0.0400		Main Channel
321.48	238.87	0.0400		Main Channel
364.25	240.47	0.0400		Main Channel
407.78	241.91	0.0400		Main Channel
429.02	243.82	0.0400 /0.0600		Main Channel
448.20	242.42	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.05	232.31	.527E+04	13.3	0.65	6.62
2.09	233.35	.159E+05	59.4	0.96	4.46
3.14	234.40	.304E+05	155.4	1.31	3.27
4.19	235.45	.476E+05	296.0	1.59	2.68
5.23	236.49	.672E+05	477.2	1.82	2.35
6.28	237.54	.905E+05	696.6	1.97	2.16
7.33	238.59	.118E+06	979.2	2.13	2.01
8.37	239.63	.156E+06	1162.9	1.91	2.24
9.42	240.68	.208E+06	1625.1	2.00	2.14
10.47	241.73	.271E+06	2270.2	2.15	1.99
11.51	242.77	.341E+06	3171.6	2.38	1.79
12.56	243.82	.418E+06	4248.5	2.60	1.64
13.67	244.93	.505E+06	5691.2	2.89	1.48
14.78	246.04	.593E+06	7310.7	3.16	1.35
15.89	247.15	.684E+06	9102.5	3.41	1.25
16.99	248.25	.783E+06	11074.5	3.63	1.18
18.10	249.36	.888E+06	13217.7	3.81	1.12
19.21	250.47	.999E+06	15563.6	3.99	1.07
20.32	251.58	.112E+07	16938.1	3.89	1.10

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3581)	16296.19	6.38	22.50	3.29	0.50	0.65
OUTFLOW: ID= 1 (3569)	16296.19	6.38	22.58	3.29	0.50	0.65

CALIB NASHYD (0096) ID= 1 DT= 5.0 min	Area (ha)= 146.76 Ia (mm)= 10.00 U.H. Tp(hrs)= 2.62	Curve Number (CN)= 68.1 # of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.955

PEAK FLOW (cms)= 0.222 (i)
TIME TO PEAK (hrs)= 9.333
RUNOFF VOLUME (mm)= 6.780
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.161

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7517)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3569):  16296.19      6.378       22.58        3.29
     + ID2= 2 (  0096):    146.76      0.222        9.33        6.78
       ========================================================
       ID = 3 (  7517):  16442.95      6.427       22.50        3.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| NASHYD   (  0097)|   Area    (ha)=    162.52   Curve Number   (CN)= 63.5
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.92

     Unit Hyd Qpeak  (cms)=     1.445

     PEAK FLOW       (cms)=     0.266 (i)
     TIME TO PEAK    (hrs)=     8.500
     RUNOFF VOLUME    (mm)=     5.751
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.137

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB            |
| NASHYD   (  0098)|   Area    (ha)=    398.53   Curve Number   (CN)= 63.5
|ID= 1 DT= 5.0 min |   Ia      (mm)=     43.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      3.00

     Unit Hyd Qpeak  (cms)=     2.268

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN(  2232)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00        263.07        0.0600
                 9.67        262.93        0.0400      Main Channel
                19.35        262.68        0.0400      Main Channel
                29.02        262.19        0.0400      Main Channel
                38.70        261.82        0.0400      Main Channel
                48.37        261.32        0.0400      Main Channel
                58.05        261.54        0.0400      Main Channel
```



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                67.72        261.15        0.0400      Main Channel
                77.39        260.77        0.0400      Main Channel
                87.07        260.23        0.0400      Main Channel
                96.74        260.35        0.0400      Main Channel
               106.42        260.58        0.0400      Main Channel
               116.09        260.73        0.0400      Main Channel
               125.76        260.86        0.0400      Main Channel
               135.44        261.02        0.0400      Main Channel
               145.11        261.20        0.0400      Main Channel
               154.79        261.45        0.0400      Main Channel
               164.46        261.83        0.0400      Main Channel
               174.14        262.44    0.0400 /0.0600  Main Channel
               183.80        262.87        0.0600

          <-------------------- TRAVEL TIME TABLE --------------------->
           DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
            (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
           0.14   260.37    .899E+03          0.5          0.51       31.18
           0.28   260.50    .315E+04          2.8          0.85       18.76
           0.41   260.64    .654E+04          7.4          1.07       14.83
           0.55   260.78    .114E+05         14.9          1.25       12.70
           0.69   260.92    .179E+05         26.6          1.42       11.19
           0.83   261.06    .260E+05         43.6          1.60        9.91
           0.97   261.19    .355E+05         66.6          1.79        8.89
           1.11   261.33    .464E+05         96.0          1.97        8.06
           1.24   261.47    .591E+05        127.6          2.06        7.73
           1.38   261.61    .739E+05        173.0          2.23        7.12
           1.52   261.75    .896E+05        230.4          2.45        6.48
           1.66   261.89    .106E+06        295.9          2.66        5.98
           1.80   262.02    .124E+06        369.7          2.86        5.57
           1.94   262.16    .142E+06        451.4          3.04        5.23
           2.07   262.30    .160E+06        542.9          3.23        4.93
           2.21   262.44    .180E+06        642.7          3.41        4.67
           2.36   262.58    .201E+06        762.6          3.62        4.39
           2.50   262.73    .223E+06        895.4          3.83        4.15
           2.65   262.87    .246E+06       1045.0          4.05        3.93


     **** WARNING:  INFLOW HYDROGRAPH IS DRY!!

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-------------------
| ROUTE CHN(  2231)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00        252.99        0.0600
                 9.76        252.87        0.0400      Main Channel
                19.52        252.69        0.0400      Main Channel
                29.28        252.32        0.0400      Main Channel
                39.04        251.74        0.0400      Main Channel
                48.80        251.18        0.0400      Main Channel
                58.56        250.60        0.0400      Main Channel
                68.32        248.81        0.0400      Main Channel
                78.08        248.45        0.0400      Main Channel
                87.84        249.66        0.0400      Main Channel
                97.60        251.09        0.0400      Main Channel
               107.36        251.64        0.0400      Main Channel
               117.12        251.54        0.0400      Main Channel
               126.88        251.57        0.0400      Main Channel
               136.64        251.66        0.0400      Main Channel
               146.40        251.66    0.0400 /0.0600  Main Channel
               156.16        252.17        0.0600
```



```
          <-------------------- TRAVEL TIME TABLE --------------------->
           DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
            (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
           0.19   248.64    .492E+03          0.5          0.76       17.19
           0.38   248.82    .197E+04          3.1          1.23       10.63
           0.57   249.01    .406E+04          9.2          1.77        7.39
           0.76   249.20    .654E+04         18.3          2.20        5.96
           0.94   249.39    .939E+04         30.6          2.56        5.12
           1.13   249.58    .126E+05         46.3          2.88        4.54
           1.32   249.77    .162E+05         65.8          3.18        4.11
           1.51   249.96    .202E+05         89.2          3.47        3.77
           1.70   250.15    .245E+05        116.6          3.74        3.50
           1.89   250.33    .291E+05        148.2          4.00        3.27
           2.08   250.52    .341E+05        184.1          4.24        3.09
           2.27   250.71    .394E+05        220.1          4.38        2.99
           2.45   250.90    .455E+05        259.1          4.47        2.92
           2.64   251.09    .521E+05        304.6          4.59        2.85
           2.83   251.28    .596E+05        349.5          4.60        2.84
           3.02   251.47    .681E+05        403.8          4.65        2.81
           3.21   251.66    .792E+05        382.1          3.79        3.45
           3.47   251.91    .102E+06        523.7          4.05        3.23
           3.72   252.17    .126E+06        717.9          4.48        2.92


     **** WARNING:  INFLOW HYDROGRAPH IS DRY!!

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-------------------
| ADD HYD  (  7516)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
*** W A R N I N G :  HYDROGRAPH   2231 <ID= 1> IS DRY.
*** W A R N I N G :  HYDROGRAPH   7516 = HYDROGRAPH 0097
       ID1= 1 (  2231):      0.00      0.000        0.00        0.00
     + ID2= 2 (  0097):    162.52      0.266        8.50        5.75
       ========================================================
       ID = 3 (  7516):    162.52      0.266        8.50        5.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  0915)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7516):    162.52      0.266        8.50        5.75
     + ID2= 2 (  7517):  16442.95      6.427       22.50        3.32
       ========================================================
       ID = 3 (  0915):  16605.47      6.451       22.42        3.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN(  3566)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00        245.87        0.0600
                25.01        246.47        0.0400      Main Channel
```



```
                37.82        245.58        0.0400      Main Channel
                64.91        242.85        0.0400      Main Channel
                76.31        242.15        0.0400      Main Channel
                81.31        242.14        0.0400      Main Channel
                97.74        240.82        0.0400      Main Channel
               101.35        240.30        0.0400      Main Channel
               126.96        232.79        0.0400      Main Channel
               139.17        232.11        0.0400      Main Channel
               152.07        230.76        0.0400      Main Channel
               179.16        235.69        0.0400      Main Channel
               202.77        237.41        0.0400      Main Channel
               228.40        238.43        0.0400      Main Channel
               254.03        240.18        0.0400      Main Channel
               276.90        242.10        0.0400      Main Channel
               293.35        243.17        0.0400      Main Channel
               342.60        245.68        0.0400      Main Channel
               359.01        246.69    0.0400 /0.0600  Main Channel
               371.84        247.59        0.0600

          <-------------------- TRAVEL TIME TABLE --------------------->
           DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
            (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
           0.78   231.54    .240E+04          2.5          0.55       15.94
           1.56   232.32    .968E+04         15.4          0.83       10.46
           2.34   233.10    .234E+05         50.0          1.12        7.78
           3.12   233.88    .407E+05        113.1          1.45        6.00
           3.90   234.66    .609E+05        201.1          1.73        5.04
           4.68   235.44    .839E+05        315.9          1.97        4.43
           5.46   236.22    .110E+06        444.5          2.11        4.14
           6.24   237.00    .142E+06        604.5          2.23        3.92
           7.02   237.78    .180E+06        788.9          2.30        3.80
           7.80   238.56    .226E+06       1020.8          2.36        3.69
           8.58   239.34    .279E+06       1350.2          2.53        3.44
           9.36   240.12    .338E+06       1740.2          2.70        3.24
          10.14   240.90    .402E+06       2190.1          2.85        3.06
          10.92   241.68    .474E+06       2677.8          2.96        2.95
          11.70   242.46    .554E+06       3183.3          3.00        2.90
          12.48   243.24    .645E+06       3834.8          3.11        2.80
          13.26   244.02    .745E+06       4581.7          3.22        2.71
          14.04   244.80    .855E+06       5438.3          3.33        2.62
          14.82   245.58    .974E+06       6410.8          3.44        2.53

                                          <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0915)   16605.47     6.45   22.42   3.34      1.02
0.61
   OUTFLOW: ID= 1 (  3566)   16605.47     6.45   22.67   3.34      1.02
0.61


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-------------------
| ROUTE CHN(  3561)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00        250.24        0.0600
                12.26        249.77        0.0400      Main Channel
                34.40        244.62        0.0400      Main Channel
                55.07        241.97        0.0400      Main Channel
```

77.19	240.07	0.0400		Main Channel
134.96	234.48	0.0400		Main Channel
144.35	233.84	0.0400		Main Channel
185.51	233.16	0.0400		Main Channel
207.17	231.83	0.0400		Main Channel
243.27	230.13	0.0400		Main Channel
250.50	230.01	0.0400		Main Channel
293.82	245.19	0.0400		Main Channel
326.46	245.85	0.0400		Main Channel
344.67	245.98	0.0400		Main Channel
401.81	246.68	0.0400		Main Channel
430.12	247.29	0.0400		Main Channel
444.28	246.72	0.0400		Main Channel
491.01	248.78	0.0400		Main Channel
522.12	250.71	0.0400 /0.0600		Main Channel
553.00	255.79	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.04	231.05	.126E+05	14.4	0.81	14.69
2.09	232.10	.440E+05	77.6	1.25	9.46
3.13	233.14	.913E+05	211.7	1.65	7.19
4.17	234.18	.168E+06	416.0	1.76	6.73
5.22	235.23	.266E+06	825.0	2.21	5.37
6.26	236.27	.373E+06	1365.7	2.61	4.56
7.31	237.31	.491E+06	2036.5	2.95	4.02
8.35	238.36	.620E+06	2841.1	3.27	3.64
9.39	239.40	.758E+06	3784.1	3.56	3.34
10.44	240.44	.907E+06	4863.4	3.82	3.11
11.48	241.49	.107E+07	6080.8	4.06	2.92
12.52	242.53	.124E+07	7496.7	4.32	2.75
13.57	243.58	.142E+07	9105.1	4.58	2.59
14.61	244.62	.160E+07	10873.3	4.83	2.46
15.73	245.74	.182E+07	12470.0	4.88	2.43
16.86	246.87	.209E+07	12977.8	4.42	2.69
17.98	247.99	.244E+07	15243.0	4.45	2.67
19.11	249.11	.281E+07	18604.0	4.71	2.52
20.23	250.24	.321E+07	22469.6	4.99	2.38

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3566)	16605.47	6.45	22.67	3.34	0.47	0.81
OUTFLOW: ID= 1 (3561)	16605.47	6.44	22.92	3.34	0.47	0.81

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB NASHYD (0095) ID= 1 DT= 5.0 min	Area (ha)=	327.28	Curve Number (CN)=	68.9
	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	3.69		

Unit Hyd Qpeak (cms)= 1.514

PEAK FLOW (cms)= 0.381 (i)
TIME TO PEAK (hrs)= 10.667
RUNOFF VOLUME (mm)= 6.972

TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1682)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3561):	16605.47	6.443	22.92	3.34
	+ ID2= 2 (0095):	327.28	0.381	10.67	6.97
	ID = 3 (1682):	16932.75	6.598	22.75	3.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3509)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	247.83	0.0600	
16.18	246.21	0.0400	Main Channel
31.81	243.36	0.0400	Main Channel
46.18	242.49	0.0400	Main Channel
103.67	241.62	0.0400	Main Channel
125.74	240.28	0.0400	Main Channel
167.50	240.41	0.0400	Main Channel
217.54	239.63	0.0400	Main Channel
257.57	238.76	0.0400	Main Channel
277.59	236.99	0.0400	Main Channel
307.62	232.40	0.0400	Main Channel
337.64	231.36	0.0400	Main Channel
397.69	230.16	0.0400	Main Channel
417.71	228.04	0.0400	Main Channel
427.72	228.80	0.0400	Main Channel
439.08	231.95	0.0400	Main Channel
497.77	247.03	0.0400	Main Channel
523.15	247.78	0.0400	Main Channel
548.23	249.83	0.0400 /0.0600	Main Channel
581.00	257.83	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.02	229.06	.518E+04	9.2	0.81	9.36
2.04	230.08	.178E+05	51.5	1.31	5.75
3.06	231.10	.447E+05	129.5	1.31	5.75
4.08	232.12	.941E+05	349.7	1.68	4.49
5.11	233.15	.156E+06	748.9	2.17	3.48
6.13	234.17	.224E+06	1297.5	2.62	2.88
7.15	235.19	.297E+06	1978.1	3.02	2.50
8.17	236.21	.374E+06	2790.0	3.38	2.23
9.19	237.23	.457E+06	3719.8	3.69	2.05
10.21	238.25	.546E+06	4742.5	3.93	1.92
11.23	239.27	.644E+06	5644.0	3.97	1.90
12.25	240.29	.765E+06	6347.2	3.75	2.01
13.28	241.32	.929E+06	7705.6	3.75	2.01
14.30	242.34	.111E+07	9420.1	3.84	1.96
15.32	243.36	.131E+07	11942.6	4.12	1.83

16.44	244.48	.154E+07	15527.4	4.55	1.66
17.56	245.60	.178E+07	19499.2	4.96	1.52
18.67	246.71	.202E+07	23855.4	5.34	1.41
19.79	247.83	.228E+07	27801.2	5.53	1.37

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1682)	16932.75	6.60	22.75	3.41	0.73	0.81
OUTFLOW: ID= 1 (3509)	16932.75	6.60	22.83	3.41	0.73	0.81

ROUTE CHN(3448)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	240.64	0.0600	
30.06	240.72	0.0400	Main Channel
50.06	238.15	0.0400	Main Channel
89.11	233.23	0.0400	Main Channel
110.17	230.66	0.0400	Main Channel
120.17	230.06	0.0400	Main Channel
150.24	229.48	0.0400	Main Channel
180.33	229.25	0.0400	Main Channel
190.33	229.14	0.0400	Main Channel
200.33	228.66	0.0400	Main Channel
210.33	226.88	0.0400	Main Channel
215.43	227.54	0.0400	Main Channel
220.43	227.42	0.0400	Main Channel
225.43	227.67	0.0400	Main Channel
230.43	228.59	0.0400	Main Channel
250.43	229.01	0.0400	Main Channel
254.55	230.73	0.0400	Main Channel
264.55	233.67	0.0400	Main Channel
270.55	236.12	0.0400 /0.0600	Main Channel
274.55	235.89	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.71	227.59	.254E+04	1.3	0.30	33.01
1.42	228.30	.122E+05	13.3	0.66	15.31
2.13	229.01	.281E+05	31.9	0.68	14.66
2.84	229.72	.647E+05	81.0	0.76	13.30
3.55	230.43	.120E+06	200.0	1.00	10.04
4.26	231.14	.183E+06	382.5	1.26	7.96
4.98	231.86	.249E+06	616.3	1.49	6.72
5.69	232.57	.318E+06	897.8	1.70	5.91
6.40	233.28	.391E+06	1226.1	1.89	5.32
7.11	233.99	.468E+06	1603.1	2.07	4.86
7.82	234.70	.547E+06	2028.3	2.23	4.50
8.53	235.41	.630E+06	2499.7	2.39	4.20
9.24	236.12	.716E+06	3017.6	2.54	3.96
10.01	236.89	.814E+06	3650.1	2.70	3.72
10.77	237.65	.914E+06	4338.6	2.86	3.51
11.54	238.42	.102E+07	5114.3	3.03	3.32
12.31	239.19	.112E+07	6006.9	3.22	3.12

13.07	239.95	.123E+07	6961.3	3.40	2.95
13.84	240.72	.134E+07	7978.1	3.57	2.81

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3509)	16932.75	6.60	22.83	3.41	1.03	0.40
OUTFLOW: ID= 1 (3448)	16932.75	6.59	23.08	3.41	1.02	0.40

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3438)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	248.78	0.0600	
14.12	248.86	0.0400	Main Channel
24.42	247.56	0.0400	Main Channel
33.85	246.78	0.0400	Main Channel
47.76	245.05	0.0400	Main Channel
59.42	243.17	0.0400	Main Channel
96.70	232.47	0.0400	Main Channel
105.65	230.03	0.0400	Main Channel
117.33	227.88	0.0400	Main Channel
140.68	227.26	0.0400	Main Channel
164.01	226.99	0.0400	Main Channel
175.67	226.21	0.0400	Main Channel
180.15	227.68	0.0400	Main Channel
187.36	228.44	0.0400	Main Channel
191.83	229.61	0.0400	Main Channel
261.09	235.06	0.0400	Main Channel
275.03	235.68	0.0400	Main Channel
297.07	237.22	0.0400	Main Channel
319.02	239.21	0.0400 /0.0600	Main Channel
329.79	238.63	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.18	227.39	.953E+04	9.6	0.54	16.52
2.36	228.57	.493E+05	104.1	1.12	7.89
3.55	229.76	.995E+05	302.9	1.62	5.48
4.73	230.94	.160E+06	584.1	1.94	4.57
5.91	232.12	.233E+06	976.3	2.23	3.98
7.09	233.30	.318E+06	1491.1	2.49	3.56
8.27	234.48	.416E+06	2139.5	2.74	3.24
9.45	235.66	.526E+06	2880.1	2.92	3.04
10.64	236.85	.651E+06	3835.1	3.13	2.83
11.82	238.03	.790E+06	4998.1	3.37	2.63
13.00	239.21	.941E+06	6355.0	3.60	2.47
14.21	240.42	.111E+07	8167.0	3.93	2.26
15.41	241.62	.128E+07	10173.1	4.25	2.09
16.62	242.83	.145E+07	12366.2	4.55	1.95
17.83	244.04	.162E+07	14665.6	4.81	1.84
19.03	245.24	.180E+07	17100.9	5.05	1.76
20.24	246.45	.199E+07	19643.7	5.26	1.69
21.44	247.65	.218E+07	22267.1	5.44	1.63

22.65 248.86 .238E+07 25689.5 5.75 1.54

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3448)	16932.75	6.59	23.08	3.41	0.81	0.54
OUTFLOW: ID= 1 (3438)	16932.75	6.58	23.33	3.41	0.81	0.54

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(3382)| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	259.97	0.0600	
43.13	259.11	0.0400	Main Channel
96.39	256.40	0.0400	Main Channel
126.49	254.95	0.0400	Main Channel
146.58	245.04	0.0400	Main Channel
168.81	235.32	0.0400	Main Channel
186.81	228.07	0.0400	Main Channel
196.87	224.96	0.0400	Main Channel
226.93	224.96	0.0400	Main Channel
266.99	226.63	0.0400	Main Channel
297.28	228.75	0.0400	Main Channel
347.37	230.14	0.0400	Main Channel
400.73	232.41	0.0400	Main Channel
468.86	234.31	0.0400	Main Channel
511.09	234.31	0.0400	Main Channel
526.33	234.96	0.0400	Main Channel
584.43	238.73	0.0400	Main Channel
631.31	239.49	0.0400	Main Channel
665.53	240.44	0.0400 /0.0600	Main Channel
700.30	242.94	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.91	225.87	.268E+05	29.9	0.77	14.93
1.82	226.78	.691E+05	114.6	1.15	10.05
2.73	227.69	.123E+06	266.1	1.49	7.74
3.64	228.60	.188E+06	483.1	1.78	6.48
4.55	229.51	.266E+06	728.9	1.90	6.09
5.46	230.42	.366E+06	1084.8	2.05	5.63
6.37	231.33	.483E+06	1578.7	2.27	5.10
7.28	232.24	.615E+06	2186.7	2.47	4.68
8.20	233.16	.763E+06	2861.6	2.60	4.45
9.11	234.07	.934E+06	3676.3	2.73	4.24
10.02	234.98	.114E+07	4474.1	2.71	4.26
10.93	235.89	.138E+07	5894.8	2.97	3.89
11.84	236.80	.162E+07	7495.6	3.22	3.59
12.75	237.71	.187E+07	9276.5	3.44	3.35
13.66	238.62	.213E+07	11238.6	3.66	3.15
14.57	239.53	.241E+07	12792.3	3.68	3.14
15.48	240.44	.272E+07	14927.1	3.81	3.03
16.39	241.35	.304E+07	17933.0	4.08	2.83
17.64	242.60	.351E+07	22431.0	4.43	2.60

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3438)	16932.75	6.58	23.33	3.41	0.20	0.77
OUTFLOW: ID= 1 (3382)	16932.75	6.57	23.58	3.41	0.20	0.77

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(3327)| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	254.36	0.0600	
7.30	253.57	0.0400	Main Channel
37.97	243.64	0.0400	Main Channel
54.82	239.33	0.0400	Main Channel
84.92	236.26	0.0400	Main Channel
107.11	233.23	0.0400	Main Channel
138.30	229.71	0.0400	Main Channel
179.95	228.26	0.0400	Main Channel
201.83	227.63	0.0400	Main Channel
217.25	227.63	0.0400	Main Channel
228.09	224.98	0.0400	Main Channel
245.64	223.54	0.0400	Main Channel
258.51	224.88	0.0400	Main Channel
327.71	225.92	0.0400	Main Channel
416.93	226.28	0.0400	Main Channel
436.49	228.38	0.0400	Main Channel
450.82	232.21	0.0400	Main Channel
473.28	237.01	0.0400	Main Channel
508.15	241.18	0.0400 /0.0600	Main Channel
547.31	242.67	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.98	224.52	.638E+04	6.2	0.60	17.05
1.96	225.50	.315E+05	39.1	0.76	13.42
2.94	226.48	.111E+06	165.2	0.91	11.16
3.92	227.46	.232E+06	543.8	1.43	7.12
4.90	228.44	.375E+06	1044.3	1.70	5.99
5.88	229.42	.541E+06	1781.0	2.01	5.06
6.86	230.40	.723E+06	2774.3	2.34	4.34
7.84	231.38	.913E+06	3986.5	2.66	3.82
8.82	232.36	.111E+07	5384.5	2.96	3.44
9.80	233.34	.132E+07	6960.8	3.22	3.15
10.78	234.32	.153E+07	8736.6	3.48	2.92
11.76	235.30	.175E+07	10693.7	3.73	2.72
12.74	236.28	.197E+07	12830.4	3.96	2.56
13.72	237.26	.221E+07	15074.7	4.16	2.44
14.70	238.24	.245E+07	17442.5	4.33	2.34
15.68	239.22	.271E+07	20004.2	4.50	2.26
16.66	240.20	.297E+07	22917.4	4.70	2.16
17.64	241.18	.324E+07	26043.9	4.89	2.08
19.13	242.67	.368E+07	31658.8	5.24	1.94

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3382)	16932.75	6.57	23.58	3.41	0.99	0.60
OUTFLOW: ID= 1 (3327)	16932.75	6.57	23.92	3.41	0.99	0.60

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(3302)| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	240.17	0.0600	
7.24	240.71	0.0400	Main Channel
14.49	237.80	0.0400	Main Channel
26.70	231.65	0.0400	Main Channel
36.01	226.44	0.0400	Main Channel
51.12	223.74	0.0400	Main Channel
58.42	222.60	0.0400	Main Channel
65.63	222.45	0.0400	Main Channel
72.87	223.71	0.0400	Main Channel
94.52	224.08	0.0400	Main Channel
101.82	225.07	0.0400	Main Channel
108.90	225.48	0.0400	Main Channel
124.01	225.65	0.0400	Main Channel
169.00	226.82	0.0400	Main Channel
189.20	227.88	0.0400	Main Channel
196.44	228.84	0.0400	Main Channel
232.61	232.78	0.0400	Main Channel
241.01	232.84	0.0400	Main Channel
253.24	233.73	0.0400 /0.0600	Main Channel
280.17	237.51	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.94	223.39	.870E+04	7.2	0.66	20.24
1.88	224.33	.332E+05	34.1	0.83	16.22
2.82	225.27	.749E+05	111.4	1.20	11.20
3.76	226.21	.140E+06	219.1	1.27	10.62
4.70	227.15	.236E+06	440.9	1.51	8.92
5.64	228.09	.350E+06	786.6	1.82	7.41
6.58	229.03	.473E+06	1251.2	2.14	6.30
7.52	229.97	.603E+06	1803.2	2.41	5.58
8.46	230.91	.742E+06	2447.7	2.66	5.05
9.40	231.85	.888E+06	3185.2	2.90	4.65
10.34	232.79	.104E+07	3999.2	3.10	4.34
11.28	233.73	.121E+07	4821.9	3.21	4.19
12.28	234.73	.140E+07	6084.7	3.51	3.84
13.27	235.72	.160E+07	7470.0	3.78	3.56
14.27	236.72	.180E+07	8977.5	4.02	3.34
15.27	237.72	.201E+07	10608.4	4.26	3.16
16.27	238.72	.223E+07	12428.8	4.51	2.99
17.26	239.71	.244E+07	14378.4	4.75	2.83
18.26	240.71	.266E+07	16450.2	4.99	2.70

<---- hydrograph ----> <-pipe /

channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3327)	16932.75	6.57	23.92	3.41	0.86	0.66
OUTFLOW: ID= 1 (3302)	16932.75	6.55	24.33	3.41	0.86	0.66

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(3246)| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	240.02	0.0600	
12.11	240.09	0.0400	Main Channel
18.43	239.69	0.0400	Main Channel
58.67	233.71	0.0400	Main Channel
72.63	232.78	0.0400	Main Channel
97.73	231.93	0.0400	Main Channel
131.50	226.57	0.0400	Main Channel
143.80	224.80	0.0400	Main Channel
170.55	221.03	0.0400	Main Channel
198.02	221.87	0.0400	Main Channel
225.80	222.60	0.0400	Main Channel
239.87	223.02	0.0400	Main Channel
245.25	223.55	0.0400	Main Channel
284.19	234.91	0.0400	Main Channel
307.14	241.89	0.0400	Main Channel
330.21	250.28	0.0400	Main Channel
334.33	252.71	0.0400	Main Channel
345.22	255.54	0.0400	Main Channel
353.96	255.69	0.0400 /0.0600	Main Channel
393.26	256.50	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.98	222.01	.843E+04	9.4	0.49	14.96
1.96	222.99	.359E+05	61.9	0.78	9.41
2.95	223.98	.740E+05	193.7	1.15	6.37
3.93	224.96	.118E+06	393.6	1.46	5.00
4.91	225.94	.166E+06	656.2	1.73	4.23
5.89	226.92	.219E+06	982.9	1.96	3.72
6.87	227.90	.276E+06	1375.3	2.18	3.35
7.86	228.89	.337E+06	1833.1	2.38	3.07
8.84	229.87	.402E+06	2358.1	2.57	2.84
9.82	230.85	.472E+06	2952.2	2.74	2.66
10.80	231.83	.545E+06	3617.5	2.91	2.51
11.79	232.82	.626E+06	4114.6	2.88	2.54
12.77	233.80	.718E+06	4897.8	2.99	2.44
13.75	234.78	.816E+06	5882.1	3.16	2.31
14.73	235.76	.918E+06	6960.7	3.32	2.20
15.71	236.74	.102E+07	8133.6	3.48	2.10
16.70	237.73	.114E+07	9402.3	3.63	2.01
17.68	238.71	.125E+07	10768.8	3.77	1.93
18.66	239.69	.137E+07	12234.8	3.92	1.86

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3302)	16932.75	6.55	24.33	3.41	0.69	0.49
OUTFLOW: ID= 1 (3246)	16932.75	6.54	24.58	3.41	0.68	0.49

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3243)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	258.93	0.0600	
36.53	259.31	0.0400	Main Channel
48.39	257.79	0.0400	Main Channel
75.13	252.13	0.0400	Main Channel
88.17	247.43	0.0400	Main Channel
102.66	242.93	0.0400	Main Channel
117.14	239.76	0.0400	Main Channel
144.84	234.46	0.0400	Main Channel
160.70	229.62	0.0400	Main Channel
189.83	225.16	0.0400	Main Channel
264.43	223.46	0.0400	Main Channel
315.66	223.82	0.0400	Main Channel
374.04	223.25	0.0400	Main Channel
410.58	220.68	0.0400	Main Channel
417.79	221.69	0.0400	Main Channel
439.68	222.27	0.0400	Main Channel
468.99	234.81	0.0400	Main Channel
497.86	236.38	0.0400	Main Channel
532.05	237.43	0.0400 /0.0600	Main Channel
563.38	240.70	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.86	222.54	.302E+05	34.4	0.74	14.66
3.72	224.40	.181E+06	271.7	0.97	11.10
5.58	226.26	.485E+06	1240.6	1.66	6.51
7.44	228.12	.815E+06	2832.5	2.25	4.80
9.31	229.99	.117E+07	4956.6	2.75	3.92
11.17	231.85	.153E+07	7620.3	3.22	3.35
13.03	233.71	.191E+07	10752.0	3.64	2.96
14.89	235.57	.230E+07	13981.4	3.93	2.75
16.75	237.43	.275E+07	16910.5	3.98	2.71
18.94	239.62	.334E+07	22824.9	4.42	2.44
21.13	241.81	.398E+07	29598.2	4.82	2.24
23.31	243.99	.463E+07	37247.1	5.21	2.07
25.50	246.18	.529E+07	45737.6	5.59	1.93
27.69	248.37	.596E+07	55001.2	5.97	1.81
29.88	250.56	.664E+07	65029.4	6.33	1.70
32.07	252.75	.733E+07	75647.2	6.68	1.61
34.25	254.93	.803E+07	86657.9	6.98	1.54
36.44	257.12	.875E+07	98361.8	7.27	1.48
38.63	259.31	.949E+07	111771.3	7.62	1.41

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3246)	16932.75	6.54	24.58	3.41	0.35	0.74
OUTFLOW: ID= 1 (3243)	16932.75	6.54	24.75	3.41	0.35	0.74

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB			
NASHYD (0093)	Area (ha)=	283.46	Curve Number (CN)= 70.4
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	4.03	

Unit Hyd Qpeak (cms)= 1.199

PEAK FLOW	(cms)=	0.323 (i)
TIME TO PEAK	(hrs)=	11.167
RUNOFF VOLUME	(mm)=	7.374
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0094)	Area (ha)=	161.42	Curve Number (CN)= 66.6
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	3.57	

Unit Hyd Qpeak (cms)= 0.772

PEAK FLOW	(cms)=	0.178 (i)
TIME TO PEAK	(hrs)=	10.500
RUNOFF VOLUME	(mm)=	6.416
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.153

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1471)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3243):	16932.75	6.536	24.75	3.41
+ ID2= 2 (0093):	283.46	0.323	11.17	7.37
ID = 3 (1471):	17216.21	6.661	24.67	3.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1471)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1471):	17216.21	6.661	24.67	3.48
+ ID2= 2 (0094):	161.42	0.178	10.50	6.42
ID = 1 (1471):	17377.63	6.717	24.67	3.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3215)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	247.91	0.0600	
22.54	242.18	0.0400	Main Channel
44.93	235.38	0.0400	Main Channel
67.32	228.24	0.0400	Main Channel
89.71	222.88	0.0400	Main Channel
112.11	221.10	0.0400	Main Channel
156.89	220.76	0.0400	Main Channel
179.28	219.29	0.0400	Main Channel
201.68	220.85	0.0400	Main Channel
212.87	225.53	0.0400	Main Channel
224.07	226.64	0.0400	Main Channel
246.46	229.42	0.0400	Main Channel
268.85	228.79	0.0400	Main Channel
291.25	227.27	0.0400	Main Channel
302.44	225.75	0.0400	Main Channel
336.03	225.75	0.0400	Main Channel
358.42	228.74	0.0400	Main Channel
380.81	232.79	0.0400	Main Channel
389.40	234.61	0.0400 /0.0600	Main Channel
416.30	238.33	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.96	220.24	.846E+04	8.1	0.60	17.50
1.92	221.20	.400E+05	49.1	0.77	13.60
2.87	222.16	.993E+05	202.0	1.27	8.19
3.83	223.12	.167E+06	445.7	1.67	6.24
4.79	224.07	.240E+06	786.1	2.05	5.08
5.75	225.03	.316E+06	1205.8	2.39	4.37
6.70	225.99	.402E+06	1469.6	2.29	4.56
7.66	226.95	.517E+06	2030.5	2.46	4.25
8.62	227.90	.649E+06	2700.3	2.60	4.01
9.58	228.86	.800E+06	3502.5	2.74	3.81
10.53	229.82	.974E+06	4506.7	2.89	3.60
11.49	230.78	.116E+07	5898.4	3.19	3.27
12.45	231.73	.135E+07	7448.9	3.46	3.01
13.41	232.69	.154E+07	9155.3	3.72	2.80
14.36	233.65	.174E+07	11028.7	3.97	2.63
15.32	234.61	.194E+07	13055.7	4.21	2.48
16.56	235.85	.221E+07	16103.6	4.56	2.29
17.80	237.09	.249E+07	19499.7	4.90	2.13
19.04	238.33	.278E+07	23176.0	5.21	2.00

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1471)	17377.63	6.72	24.67	3.50	0.80	0.60
OUTFLOW: ID= 1 (3215)	17377.63	6.71	24.92	3.50	0.80	0.60

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3201)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.82	0.0600	
27.10	234.42	0.0400	Main Channel
82.13	233.13	0.0400	Main Channel
101.09	231.60	0.0400	Main Channel
122.23	231.51	0.0400	Main Channel
164.36	229.43	0.0400	Main Channel
185.20	229.18	0.0400	Main Channel
195.62	228.03	0.0400	Main Channel
237.29	222.11	0.0400	Main Channel
268.54	219.31	0.0400	Main Channel
344.71	219.34	0.0400	Main Channel
388.93	217.85	0.0400	Main Channel
411.04	220.41	0.0400	Main Channel
433.15	227.74	0.0400	Main Channel
455.26	235.90	0.0400	Main Channel
477.36	243.16	0.0400	Main Channel
499.47	249.79	0.0400	Main Channel
510.53	247.58	0.0400	Main Channel
521.58	249.53	0.0400 /0.0600	Main Channel
539.00	249.43	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.53	219.38	.416E+05	29.7	0.60	23.34
3.05	220.91	.234E+06	467.0	1.69	8.36
4.58	222.44	.457E+06	1314.2	2.43	5.80
6.11	223.96	.702E+06	2545.1	3.07	4.60
7.64	225.49	.967E+06	4125.3	3.61	3.91
9.16	227.02	.125E+07	6050.9	4.09	3.45
10.69	228.54	.156E+07	8307.6	4.51	3.12
12.22	230.07	.190E+07	10358.5	4.62	3.06
13.75	231.60	.229E+07	12658.8	4.67	3.02
15.27	233.13	.275E+07	16404.8	5.04	2.80
17.13	234.98	.339E+07	22398.7	5.60	2.52
18.98	236.83	.408E+07	29363.8	6.10	2.31
20.83	238.68	.479E+07	37244.3	6.57	2.15
22.68	240.53	.552E+07	46012.1	7.05	2.00
24.53	242.38	.626E+07	55615.2	7.51	1.88
26.38	244.24	.701E+07	65994.9	7.96	1.77
28.23	246.09	.777E+07	77136.0	8.40	1.68
30.09	247.94	.854E+07	88544.6	8.77	1.61
31.94	249.79	.934E+07	98925.2	8.96	1.57

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3215)	17377.63	6.71	24.92	3.50	0.34	

```
0.60
   OUTFLOW: ID= 1 (  3201)   17377.63     6.69   25.33   3.50      0.34
0.60

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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--------------------
| CALIB              |
| STANDHYD (  0090)|   Area    (ha)=    173.44
|ID= 1 DT= 5.0 min |   Total Imp(%)=     59.90   Dir. Conn.(%)=  56.00
--------------------
                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       103.89           69.55
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.46            2.46
     Length            (m)=      1075.30           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            6.91
                over (min)         15.00           35.00
     Storage Coeff.  (min)=        15.65 (ii)      34.97 (ii)
     Unit Hyd. Tpeak (min)=        15.00           35.00
     Unit Hyd. peak  (cms)=         0.07            0.03
                                                                 *TOTALS*
     PEAK FLOW       (cms)=         5.11            0.84           5.794 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58            5.25
     RUNOFF VOLUME    (mm)=        40.00           10.13           26.86
     TOTAL RAINFALL   (mm)=        42.00           42.00           42.00
     RUNOFF COEFFICIENT   =         0.95            0.24            0.64


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4035)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      2.3700
6.8547
                             1.0100        3.1114   |      3.1100
8.7507
                             1.5200        4.5698   |     31.1000
9.7230

                                    AREA        QPEAK        TPEAK       R.V.
                                    (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0090)      173.440        5.794         5.25      26.86
   OUTFLOW: ID= 1 (  4035)      173.440        1.018         7.42      26.85

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.56
                   TIME SHIFT OF PEAK FLOW         (min)=130.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  3.1339

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| CALIB              |
| STANDHYD (  0091)|   Area    (ha)=     11.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=     66.50   Dir. Conn.(%)=  59.40
--------------------
                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         7.59            3.82
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         3.25            3.25
     Length            (m)=       275.80           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            8.32
                over (min)          5.00           25.00
     Storage Coeff.  (min)=         6.36 (ii)      22.86 (ii)
     Unit Hyd. Tpeak (min)=         5.00           25.00
     Unit Hyd. peak  (cms)=         0.18            0.05
                                                                 *TOTALS*
     PEAK FLOW       (cms)=         0.36            0.07           0.426 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.42            5.25
     RUNOFF VOLUME    (mm)=        40.00           11.10           28.26
     TOTAL RAINFALL   (mm)=        42.00           42.00           42.00
     RUNOFF COEFFICIENT   =         0.95            0.26            0.67


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD (  0092)|   Area    (ha)=     85.84
|ID= 1 DT= 5.0 min |   Total Imp(%)=     84.10   Dir. Conn.(%)=  76.40
--------------------
                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        72.19           13.65
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         3.88            3.88
     Length            (m)=       756.48           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           11.98
                over (min)         10.00           25.00
     Storage Coeff.  (min)=        11.06 (ii)      24.58 (ii)
     Unit Hyd. Tpeak (min)=        10.00           25.00
     Unit Hyd. peak  (cms)=         0.10            0.05
                                                                 *TOTALS*
     PEAK FLOW       (cms)=         3.51            0.33           3.820 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.42            5.25
     RUNOFF VOLUME    (mm)=        40.00           12.87           33.60
     TOTAL RAINFALL   (mm)=        42.00           42.00           42.00
     RUNOFF COEFFICIENT   =         0.95            0.31            0.80


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  68.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  2048)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  3201):  17377.63      6.695       25.33        3.50
      + ID2= 2 (  4035):    173.44      1.018        7.42       26.85
        ===========================================================
        ID = 3 (  2048):  17551.07      6.852       25.25        3.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  2048)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
        ID1= 3 (  2048):  17551.07      6.852       25.25        3.73
      + ID2= 2 (  0091):     11.41      0.426        5.25       28.26
        ===========================================================
        ID = 1 (  2048):  17562.48      6.852       25.25        3.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  2048)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  2048):  17562.48      6.852       25.25        3.75
      + ID2= 2 (  0092):     85.84      3.820        5.25       33.60
        ===========================================================
        ID = 3 (  2048):  17648.32      6.852       25.25        3.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3198)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         251.33        0.0600
                 83.08         255.50        0.0400      Main Channel
                 96.63         254.53        0.0400      Main Channel
                150.85         255.20        0.0400      Main Channel
                177.96         242.77        0.0400      Main Channel
                232.18         221.47        0.0400      Main Channel
                240.71         218.81        0.0400      Main Channel
                270.34         216.36        0.0400      Main Channel
                299.97         219.66        0.0400      Main Channel
                340.61         219.61        0.0400      Main Channel
                400.13         220.47        0.0400      Main Channel
                420.13         222.12        0.0400      Main Channel
                454.88         223.30        0.0400      Main Channel
                480.13         225.86        0.0400      Main Channel
                504.34         228.29        0.0400      Main Channel
                553.79         230.51        0.0400      Main Channel
                610.14         234.47        0.0400      Main Channel
                623.02         235.70        0.0400      Main Channel
                650.14         236.79    0.0400 /0.0600  Main Channel
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                705.00         241.88        0.0600

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)      (cu.m.)        (cms)        (m/s)      (min)
        2.04   218.41    .208E+05         41.3         0.94       8.38
        4.09   220.45    .103E+06        246.1         1.12       6.98
        6.13   222.49    .277E+06       1107.9         1.89       4.16
        8.17   224.54    .495E+06       2578.0         2.45       3.20
       10.21   226.58    .741E+06       4718.3         3.00       2.62
       12.26   228.62    .101E+07       7388.7         3.44       2.28
       14.30   230.66    .132E+07      10421.9         3.71       2.11
       16.34   232.71    .167E+07      14481.7         4.08       1.93
       18.39   234.75    .206E+07      19316.9         4.42       1.77
       20.43   236.79    .247E+07      24608.7         4.69       1.67
       22.51   238.87    .293E+07      32270.7         5.18       1.51
       24.59   240.95    .342E+07      40823.0         5.62       1.40
       26.67   243.03    .393E+07      50302.3         6.02       1.30
       28.74   245.11    .445E+07      60718.6         6.42       1.22
       30.82   247.19    .498E+07      71974.6         6.81       1.15
       32.90   249.27    .550E+07      84041.9         7.19       1.09
       34.98   251.35    .604E+07      96897.8         7.56       1.04
       37.06   253.42    .659E+07     110551.0         7.90       0.99
       39.14   255.50    .721E+07     117705.0         7.68       1.02

                                      <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2048)   17648.32     6.85   25.25   3.90      0.34
0.94
   OUTFLOW: ID= 1 (  3198)   17648.32     6.85   25.33   3.90      0.34
0.94


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--------------------
| CALIB              |
| STANDHYD (  0089)|   Area    (ha)=    118.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=     48.10   Dir. Conn.(%)=  47.10
--------------------
                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        56.85           61.35
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         3.71            3.71
     Length            (m)=       887.69           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            6.00
                over (min)         10.00           35.00
     Storage Coeff.  (min)=        12.33 (ii)      30.40 (ii)
     Unit Hyd. Tpeak (min)=        10.00           35.00
     Unit Hyd. peak  (cms)=         0.10            0.04
                                                                 *TOTALS*
     PEAK FLOW       (cms)=         2.97            0.67           3.525 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58            5.25
     RUNOFF VOLUME    (mm)=        40.00            9.44           23.83
     TOTAL RAINFALL   (mm)=        42.00           42.00           42.00
     RUNOFF COEFFICIENT   =         0.95            0.22            0.57


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.6    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1454)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3198):		17648.32	6.852	25.33	3.90
+ ID2= 2 (0089):		118.20	3.525	5.25	23.83
ID = 3 (1454):		17766.52	8.257	5.25	4.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3188)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	256.28	0.0600	
15.39	256.75	0.0400	Main Channel
43.67	254.45	0.0400	Main Channel
72.29	237.63	0.0400	Main Channel
108.06	218.14	0.0400	Main Channel
122.37	215.05	0.0400	Main Channel
139.36	216.14	0.0400	Main Channel
234.75	216.17	0.0400	Main Channel
314.88	217.37	0.0400	Main Channel
406.13	219.16	0.0400	Main Channel
435.78	219.19	0.0400	Main Channel
526.24	221.78	0.0400	Main Channel
586.55	221.67	0.0400	Main Channel
652.51	223.68	0.0400	Main Channel
670.76	225.66	0.0400	Main Channel
687.07	228.94	0.0400	Main Channel
717.22	229.52	0.0400	Main Channel
737.32	230.88	0.0400	Main Channel
780.25	241.07	0.0400 /0.0600	Main Channel
789.00	238.58	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.17	217.22	.457E+05	256.6	1.45	2.97
4.34	219.38	.190E+06	1893.1	2.59	1.67
6.51	221.55	.401E+06	5722.2	3.69	1.17
8.67	223.72	.690E+06	11647.5	4.38	0.99
10.84	225.89	.101E+07	21332.1	5.48	0.79
13.01	228.06	.134E+07	33555.7	6.50	0.66
15.18	230.23	.168E+07	46634.6	7.18	0.60
17.35	232.39	.205E+07	63471.0	8.02	0.54
19.52	234.56	.243E+07	82863.3	8.85	0.49
21.68	236.73	.281E+07	104377.4	9.63	0.45
23.85	238.90	.320E+07	127969.7	10.37	0.42
26.02	241.07	.360E+07	153600.6	11.06	0.39
28.26	243.31	.402E+07	183610.0	11.84	0.36
30.50	245.55	.444E+07	215770.9	12.59	0.34
32.74	247.79	.487E+07	250015.8	13.31	0.32
34.98	250.03	.530E+07	286287.7	14.01	0.31

37.22	252.27	.573E+07	324536.5	14.69	0.29
39.46	254.51	.616E+07	364755.5	15.36	0.28
41.70	256.75	.660E+07	408366.7	16.04	0.27

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1454)	17766.52	8.26	5.25	4.03	0.07	1.45
OUTFLOW: ID= 1 (3188)	17766.52	8.15	5.25	4.03	0.07	1.45

ROUTE CHN(3189)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	256.28	0.0600	
15.39	256.75	0.0400	Main Channel
43.67	254.45	0.0400	Main Channel
72.29	237.63	0.0400	Main Channel
108.06	218.14	0.0400	Main Channel
122.37	215.05	0.0400	Main Channel
139.36	216.14	0.0400	Main Channel
234.75	216.17	0.0400	Main Channel
314.88	217.37	0.0400	Main Channel
406.13	219.16	0.0400	Main Channel
435.78	219.19	0.0400	Main Channel
526.24	221.78	0.0400	Main Channel
586.55	221.67	0.0400	Main Channel
652.51	223.68	0.0400	Main Channel
670.76	225.66	0.0400	Main Channel
687.07	228.94	0.0400	Main Channel
717.22	229.52	0.0400	Main Channel
737.32	230.88	0.0400	Main Channel
780.25	241.07	0.0400 /0.0600	Main Channel
789.00	238.58	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.17	217.22	.474E+05	162.9	0.92	4.85
4.34	219.38	.197E+06	1202.0	1.64	2.73
6.51	221.55	.416E+06	3633.3	2.35	1.91
8.67	223.72	.715E+06	7395.5	2.78	1.61
10.84	225.89	.105E+07	13544.7	3.48	1.29
13.01	228.06	.139E+07	21306.0	4.13	1.09
15.18	230.23	.174E+07	29610.3	4.56	0.98
17.35	232.39	.213E+07	40300.5	5.09	0.88
19.52	234.56	.252E+07	52613.6	5.62	0.80
21.68	236.73	.291E+07	66273.8	6.12	0.73
23.85	238.90	.332E+07	81253.6	6.58	0.68
26.02	241.07	.373E+07	97527.8	7.02	0.64
28.26	243.31	.417E+07	116582.1	7.52	0.60
30.50	245.55	.461E+07	137002.4	7.99	0.56
32.74	247.79	.505E+07	158746.0	8.45	0.53
34.98	250.03	.549E+07	181776.6	8.90	0.50
37.22	252.27	.594E+07	206062.5	9.33	0.48
39.46	254.51	.638E+07	231599.3	9.75	0.46

41.70	256.75	.684E+07	259289.9	10.18	0.44

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3188)	17766.52	8.15	5.25	4.03	0.11	0.92
OUTFLOW: ID= 1 (3189)	17766.52	8.06	5.33	4.03	0.11	0.92

ROUTE CHN(3190)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	256.28	0.0600	
15.39	256.75	0.0400	Main Channel
43.67	254.45	0.0400	Main Channel
72.29	237.63	0.0400	Main Channel
108.06	218.14	0.0400	Main Channel
122.37	215.05	0.0400	Main Channel
139.36	216.14	0.0400	Main Channel
234.75	216.17	0.0400	Main Channel
314.88	217.37	0.0400	Main Channel
406.13	219.16	0.0400	Main Channel
435.78	219.19	0.0400	Main Channel
526.24	221.78	0.0400	Main Channel
586.55	221.67	0.0400	Main Channel
652.51	223.68	0.0400	Main Channel
670.76	225.66	0.0400	Main Channel
687.07	228.94	0.0400	Main Channel
717.22	229.52	0.0400	Main Channel
737.32	230.88	0.0400	Main Channel
780.25	241.07	0.0400 /0.0600	Main Channel
789.00	238.58	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.17	217.22	.452E+05	201.3	1.14	3.74
4.34	219.38	.188E+06	1485.2	2.03	2.11
6.51	221.55	.397E+06	4489.3	2.90	1.47
8.67	223.72	.682E+06	9138.0	3.43	1.24
10.84	225.89	.997E+06	16735.9	4.30	0.99
13.01	228.06	.132E+07	26325.9	5.10	0.84
15.18	230.23	.166E+07	36586.8	5.64	0.76
17.35	232.39	.203E+07	49795.6	6.29	0.68
19.52	234.56	.240E+07	65009.7	6.95	0.61
21.68	236.73	.278E+07	81888.4	7.56	0.57
23.85	238.90	.316E+07	100397.6	8.13	0.52
26.02	241.07	.356E+07	120506.1	8.68	0.49
28.26	243.31	.397E+07	144049.8	9.29	0.46
30.50	245.55	.439E+07	169281.3	9.87	0.43
32.74	247.79	.481E+07	196147.9	10.44	0.41
34.98	250.03	.523E+07	224604.7	10.99	0.39
37.22	252.27	.566E+07	254612.5	11.53	0.37
39.46	254.51	.609E+07	286166.0	12.05	0.35
41.70	256.75	.652E+07	320380.8	12.58	0.34

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3189)	17766.52	8.06	5.33	4.03	0.09	1.14
OUTFLOW: ID= 1 (3190)	17766.52	7.96	5.42	4.03	0.09	1.14

ROUTE CHN(3175)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	259.42	0.0600	
109.50	256.73	0.0400	Main Channel
130.38	256.96	0.0400	Main Channel
254.42	251.52	0.0400	Main Channel
304.79	241.72	0.0400	Main Channel
339.04	234.58	0.0400	Main Channel
369.27	217.99	0.0400	Main Channel
383.59	215.00	0.0400	Main Channel
433.53	212.77	0.0400	Main Channel
455.09	215.66	0.0400	Main Channel
655.39	213.83	0.0400	Main Channel
684.16	212.80	0.0400	Main Channel
716.45	213.82	0.0400	Main Channel
776.40	213.53	0.0400	Main Channel
797.05	215.41	0.0400	Main Channel
859.23	215.29	0.0400	Main Channel
873.80	221.45	0.0400	Main Channel
948.38	251.30	0.0400	Main Channel
973.20	253.80	0.0400 /0.0600	Main Channel
1044.56	252.08	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.05	214.82	.725E+05	563.4	1.97	2.15
4.10	216.87	.303E+06	4457.9	3.72	1.13
6.15	218.92	.560E+06	12196.9	5.51	0.77
8.21	220.98	.822E+06	22831.1	7.03	0.60
10.26	223.03	.109E+07	35999.2	8.37	0.50
12.31	225.08	.136E+07	51505.4	9.59	0.44
14.36	227.13	.163E+07	69213.9	10.71	0.39
16.41	229.18	.191E+07	89023.1	11.76	0.36
18.46	231.23	.220E+07	110855.1	12.75	0.33
20.52	233.29	.249E+07	134648.6	13.69	0.31
22.57	235.34	.278E+07	159982.6	14.54	0.29
24.62	237.39	.308E+07	186566.4	15.30	0.28
26.67	239.44	.339E+07	215035.0	16.03	0.26
28.72	241.49	.371E+07	245391.1	16.73	0.25
30.77	243.54	.404E+07	277481.4	17.40	0.24
32.82	245.59	.437E+07	311460.0	18.04	0.23
34.88	247.65	.471E+07	347360.8	18.66	0.23
36.93	249.70	.506E+07	385198.7	19.27	0.22
38.98	251.75	.542E+07	422144.8	19.72	0.21

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3190)	17766.52	7.96	5.42	4.03	0.03	1.97
OUTFLOW: ID= 1 (3175)	17766.52	7.97	5.42	4.03	0.03	1.97

CALIB / STANDHYD (0088)	Area (ha)= 154.34	
ID= 1 DT= 5.0 min	Total Imp(%)= 55.10	Dir. Conn.(%)= 50.20

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	85.04	69.30
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.81	2.81
Length	(m)=	1014.36	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.69
over (min)		15.00	35.00
Storage Coeff. (min)=		14.52 (ii)	33.33 (ii)
Unit Hyd. Tpeak (min)=		15.00	35.00
Unit Hyd. peak (cms)=		0.08	0.03

		TOTALS
PEAK FLOW	(cms)=	4.09 0.82 4.771 (iii)
TIME TO PEAK	(hrs)=	5.25 5.58 5.25
RUNOFF VOLUME	(mm)=	40.00 9.71 24.92
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.23 0.59

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 68.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2043)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3175):	17766.52	7.966	5.42	4.03
+ ID2= 2 (0088):	154.34	4.771	5.25	24.92
ID = 3 (2043):	17920.86	12.506	5.33	4.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3176)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	259.42	0.0600	
112.43	233.63	0.0400	Main Channel
157.43	223.53	0.0400	Main Channel
215.82	216.46	0.0400	Main Channel
252.54	213.74	0.0400	Main Channel
289.49	213.56	0.0400	Main Channel
375.75	209.45	0.0400	Main Channel
408.32	212.44	0.0400	Main Channel
440.95	218.67	0.0400	Main Channel
484.25	222.28	0.0400	Main Channel
500.15	220.03	0.0400	Main Channel
508.41	222.17	0.0400	Main Channel
526.33	222.56	0.0400	Main Channel
556.90	221.60	0.0400	Main Channel
613.67	227.52	0.0400	Main Channel
638.60	227.45	0.0400	Main Channel
662.76	231.89	0.0400 /0.0600	Main Channel
692.45	232.14	0.0600	

109.50	256.73	0.0400	Main Channel
130.38	256.96	0.0400	Main Channel
254.42	251.52	0.0400	Main Channel
304.79	241.72	0.0400	Main Channel
339.04	234.58	0.0400	Main Channel
369.27	217.99	0.0400	Main Channel
383.59	215.00	0.0400	Main Channel
433.53	212.77	0.0400	Main Channel
455.09	215.66	0.0400	Main Channel
655.39	213.83	0.0400	Main Channel
684.16	212.80	0.0400	Main Channel
716.45	213.82	0.0400	Main Channel
776.40	213.53	0.0400	Main Channel
797.05	215.41	0.0400	Main Channel
859.23	215.29	0.0400	Main Channel
873.80	221.45	0.0400	Main Channel
948.38	251.30	0.0400	Main Channel
973.20	253.80	0.0400 /0.0600	Main Channel
1044.56	252.08	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.05	214.82	.113E+06	443.0	1.55	4.27
4.10	216.87	.474E+06	3504.9	2.93	2.25
6.15	218.92	.876E+06	9589.5	4.33	1.52
8.21	220.98	.129E+07	17950.4	5.53	1.19
10.26	223.03	.170E+07	28303.6	6.58	1.00
12.31	225.08	.213E+07	40495.0	7.54	0.88
14.36	227.13	.256E+07	54417.9	8.42	0.78
16.41	229.18	.300E+07	69992.5	9.25	0.71
18.46	231.23	.344E+07	87157.4	10.02	0.66
20.52	233.29	.389E+07	105864.5	10.76	0.61
22.57	235.34	.435E+07	125782.8	11.43	0.58
24.62	237.39	.483E+07	146683.8	12.03	0.55
26.67	239.44	.531E+07	169066.6	12.60	0.52
28.72	241.49	.580E+07	192933.4	13.15	0.50
30.77	243.54	.631E+07	218163.7	13.68	0.48
32.82	245.59	.683E+07	244878.6	14.18	0.47
34.88	247.65	.737E+07	273104.8	14.67	0.45
36.93	249.70	.791E+07	302854.1	15.15	0.44
38.98	251.75	.847E+07	331902.2	15.50	0.43

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2043)	17920.86	12.51	5.33	4.21	0.06	1.55
OUTFLOW: ID= 1 (3176)	17920.86	12.38	5.33	4.21	0.06	1.55

ROUTE CHN(3146)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	250.33	0.0600	
61.60	248.30	0.0400	Main Channel
88.50	243.69	0.0400	Main Channel

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.18	210.63	.136E+05	17.5	0.79	12.96
2.36	211.81	.544E+05	111.0	1.25	8.16
3.54	212.99	.122E+06	330.9	1.66	6.13
4.72	214.17	.222E+06	673.1	1.85	5.51
5.91	215.36	.354E+06	1343.5	2.32	4.39
7.09	216.54	.501E+06	2234.0	2.73	3.74
8.27	217.72	.661E+06	3384.9	3.13	3.26
9.45	218.90	.834E+06	4740.1	3.47	2.93
10.63	220.08	.102E+07	6244.1	3.74	2.73
11.81	221.26	.123E+07	7832.6	3.89	2.62
12.99	222.44	.148E+07	9105.2	3.77	2.70
14.17	223.62	.177E+07	11737.5	4.05	2.52
15.35	224.80	.208E+07	14943.4	4.39	2.32
16.53	225.98	.240E+07	18504.3	4.71	2.16
17.72	227.17	.273E+07	22420.9	5.01	2.03
18.90	228.35	.309E+07	26100.4	5.16	1.97
20.08	229.53	.346E+07	31038.5	5.48	1.86
21.26	230.71	.384E+07	36354.4	5.78	1.76
22.44	231.89	.423E+07	42045.8	6.08	1.68

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3176)	17920.86	12.38	5.33	4.21	0.84	0.79
OUTFLOW: ID= 1 (3146)	17920.86	11.60	5.50	4.21	0.78	0.79

CALIB / STANDHYD (0087)	Area (ha)= 59.73	
ID= 1 DT= 5.0 min	Total Imp(%)= 51.80	Dir. Conn.(%)= 46.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.94	28.79
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.00	4.00
Length	(m)=	631.03	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		19.32	6.74
over (min)		10.00	30.00
Storage Coeff. (min)=		9.83 (ii)	26.68 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	1.48 0.38 1.816 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	40.00 9.75 23.76
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.23 0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 68.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4036)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.3900	1.1373
	0.5600	0.5648	4.8300	1.3739
	1.6100	0.8396	48.3000	1.5266

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0087)	59.730	1.816	5.25	23.76
OUTFLOW: ID= 1 (4036)	59.730	0.841	5.75	23.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.28
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.6387

ADD HYD (1399)	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3146):	17920.86	11.600	5.50	4.21
+ ID2= 2 (4036):	59.73	0.841	5.75	23.75
ID = 3 (1399):	17980.59	12.401	5.50	4.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3118)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning

0.00	245.79	0.0600		
18.22	246.67	0.0400	Main Channel	
34.30	247.76	0.0400	Main Channel	
112.63	231.93	0.0400	Main Channel	
125.91	226.27	0.0400	Main Channel	
159.20	224.67	0.0400	Main Channel	
177.41	222.45	0.0400	Main Channel	
214.04	210.77	0.0400	Main Channel	
247.90	207.94	0.0400	Main Channel	
273.00	210.43	0.0400	Main Channel	
297.17	210.06	0.0400	Main Channel	
405.24	209.81	0.0400	Main Channel	
419.46	210.97	0.0400	Main Channel	
480.63	214.90	0.0400	Main Channel	
583.90	217.80	0.0400	Main Channel	
604.94	217.75	0.0400	Main Channel	
656.88	222.21	0.0400	Main Channel	
703.87	237.63	0.0400	Main Channel	
728.67	240.95	0.0400 /0.0600	Main Channel	
739.39	238.93	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.06	210.00	.163E+05	25.3	0.46	10.73
4.13	212.07	.140E+06	634.7	1.34	3.68
6.19	214.13	.290E+06	1919.0	1.96	2.52
8.25	216.19	.468E+06	3688.4	2.33	2.12
10.32	218.26	.696E+06	6070.4	2.58	1.91
12.38	220.32	.962E+06	9923.2	3.05	1.62
14.44	222.38	.125E+07	14647.5	3.47	1.42
16.50	224.44	.155E+07	20323.1	3.89	1.27
18.57	226.51	.186E+07	26350.2	4.18	1.18
20.63	228.57	.220E+07	34222.3	4.60	1.07
22.69	230.63	.254E+07	42941.4	4.99	0.99
24.76	232.70	.289E+07	52377.0	5.35	0.92
26.82	234.76	.325E+07	62440.9	5.68	0.87
28.88	236.82	.362E+07	73312.2	5.99	0.82
30.95	238.89	.400E+07	84546.6	6.25	0.79
33.01	240.95	.440E+07	96344.9	6.48	0.76
35.07	243.01	.481E+07	110517.1	6.79	0.73
37.34	245.28	.527E+07	127100.7	7.13	0.69
39.61	247.55	.575E+07	144726.8	7.44	0.66

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1399)	17980.59	12.40	5.50	4.27	1.01	0.46
OUTFLOW: ID= 1 (3118)	17980.59	11.66	5.58	4.27	0.94	0.46

ROUTE CHN(3120)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	245.79	0.0600	
18.22	246.67	0.0400	Main Channel

34.30	247.76	0.0400	Main Channel	
112.63	231.93	0.0400	Main Channel	
125.91	226.27	0.0400	Main Channel	
159.20	224.67	0.0400	Main Channel	
177.41	222.45	0.0400	Main Channel	
214.04	210.77	0.0400	Main Channel	
247.90	207.94	0.0400	Main Channel	
273.00	210.43	0.0400	Main Channel	
297.17	210.06	0.0400	Main Channel	
405.24	209.81	0.0400	Main Channel	
419.46	210.97	0.0400	Main Channel	
480.63	214.90	0.0400	Main Channel	
583.90	217.80	0.0400	Main Channel	
604.94	217.75	0.0400	Main Channel	
656.88	222.21	0.0400	Main Channel	
703.87	237.63	0.0400	Main Channel	
728.67	240.95	0.0400 /0.0600	Main Channel	
739.39	238.93	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.06	210.00	.262E+05	32.6	0.59	13.41
4.13	212.07	.225E+06	815.1	1.72	4.60
6.19	214.13	.465E+06	2464.7	2.51	3.15
8.25	216.19	.752E+06	4737.3	2.99	2.64
10.32	218.26	.112E+07	7796.6	3.31	2.39
12.38	220.32	.154E+07	12745.0	3.92	2.02
14.44	222.38	.200E+07	18812.7	4.46	1.77
16.50	224.44	.248E+07	26102.1	4.99	1.58
18.57	226.51	.299E+07	33843.1	5.36	1.47
20.63	228.57	.353E+07	43953.8	5.90	1.34
22.69	230.63	.408E+07	55152.2	6.41	1.23
24.76	232.70	.464E+07	67270.9	6.87	1.15
26.82	234.76	.522E+07	80196.6	7.29	1.08
28.88	236.82	.581E+07	94159.3	7.69	1.03
30.95	238.89	.642E+07	108588.3	8.02	0.99
33.01	240.95	.706E+07	123741.5	8.32	0.95
35.07	243.01	.772E+07	141943.8	8.72	0.91
37.34	245.28	.846E+07	163243.0	9.15	0.86
39.61	247.55	.922E+07	185881.3	9.56	0.83

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3118)	17980.59	11.66	5.58	4.27	0.74	0.59
OUTFLOW: ID= 1 (3120)	17980.59	10.87	5.83	4.27	0.68	0.59

CALIB	
STANDHYD (0086)	Area (ha)= 144.60
ID= 1 DT= 5.0 min	Total Imp(%)= 49.90 Dir. Conn.(%)= 45.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.16	72.44
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.38	3.38
Length	(m)=	981.84	40.00

Mannings n	=	0.013 0.250
Max.Eff.Inten.(mm/hr)	=	19.32 6.47
over (min)		15.00 35.00
Storage Coeff. (min)	=	13.47 (ii) 31.51 (ii)
Unit Hyd. Tpeak (min)	=	15.00 35.00
Unit Hyd. peak (cms)	=	0.08 0.03

				TOTALS
PEAK FLOW	(cms)=	3.48	0.84	4.183 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	9.55	23.37
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.23	0.56

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 68.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7519)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3120):	17980.59	10.870	5.83	4.27
+ ID2= 2 (0086):	144.60	4.183	5.25	23.37
ID = 3 (7519):	18125.19	13.218	5.58	4.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0099)	Area (ha)= 17.90 Curve Number (CN)= 70.4
ID= 1 DT= 5.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.03

Unit Hyd Qpeak	(cms)=	0.295
PEAK FLOW	(cms)=	0.058 (i)
TIME TO PEAK	(hrs)=	7.250
RUNOFF VOLUME	(mm)=	7.363
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.175

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0100)	Area (ha)= 51.68 Curve Number (CN)= 63.2
ID= 1 DT= 5.0 min	Ia (mm)= 12.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.94

Unit Hyd Qpeak	(cms)=	0.455
PEAK FLOW	(cms)=	0.074 (i)
TIME TO PEAK	(hrs)=	8.667
RUNOFF VOLUME	(mm)=	5.055

TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.120

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0102)	Area (ha)= 150.31 Curve Number (CN)= 71.2
ID= 1 DT= 5.0 min	Ia (mm)= 12.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 4.20

Unit Hyd Qpeak	(cms)=	0.611
PEAK FLOW	(cms)=	0.152 (i)
TIME TO PEAK	(hrs)=	11.583
RUNOFF VOLUME	(mm)=	6.776
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.161

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0101)	Area (ha)= 113.28
ID= 1 DT= 5.0 min	Total Imp(%)= 59.70 Dir. Conn.(%)= 53.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	67.63	45.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.48	3.48
Length	(m)=	869.02	40.00
Mannings n	=	0.013	0.250

				TOTALS
Max.Eff.Inten.(mm/hr)	=	19.32	7.49	
over (min)		10.00	30.00	
Storage Coeff. (min)	=	12.41 (ii)	29.26 (ii)	
Unit Hyd. Tpeak (min)	=	10.00	30.00	
Unit Hyd. peak (cms)	=	0.10	0.04	
PEAK FLOW	(cms)=	3.25	0.65	3.822 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.54	26.39
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.25	0.63

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2128)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0101):	113.28	3.822	5.25	26.39
+ ID2= 2 (0102):	150.31	0.152	11.58	6.78

ID = 3 (2128): 263.59 3.850 5.25 15.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(4034)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	18.1900	1.7551
	5.1300	0.7904	24.0800	2.0921
	10.4300	1.2437	250.0000	2.3246

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2128)	263.590	3.850	5.25	15.21
OUTFLOW: ID= 1 (4034)	263.590	3.271	5.33	15.21

PEAK FLOW REDUCTION [Qout/Qin](%)= 84.96
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.5084

ROUTE CHN(2224)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	254.05	0.0600	
9.77	253.76	0.0823	Main Channel
29.31	253.44	0.0823	Main Channel
39.08	253.00	0.0823	Main Channel
58.62	252.66	0.0823	Main Channel
68.39	252.19	0.0823	Main Channel
78.15	251.16	0.0823	Main Channel
97.69	246.85	0.0823	Main Channel
107.46	245.44	0.0823	Main Channel
117.23	244.61	0.0823	Main Channel
127.00	244.52	0.0823	Main Channel
136.77	245.38	0.0823	Main Channel
146.54	247.80	0.0823	Main Channel
156.31	250.85	0.0823	Main Channel
166.08	252.51	0.0823	Main Channel
175.85	252.81	0.0823	Main Channel
195.39	252.93	0.0823	Main Channel
205.16	252.79	0.0823	Main Channel
214.93	252.56	0.0823 /0.0600	Main Channel
224.69	252.48	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	244.92	.387E+04	3.4	0.69	19.05
0.80	245.32	.110E+05	14.6	1.05	12.54
1.21	245.72	.206E+05	36.7	1.40	9.34
1.61	246.13	.316E+05	68.9	1.72	7.65
2.01	246.53	.441E+05	111.0	1.98	6.62
2.41	246.93	.579E+05	163.8	2.23	5.89

2.82	247.33	.729E+05	229.0	2.47	5.30
3.22	247.74	.890E+05	305.1	2.70	4.86
3.62	248.14	.106E+06	393.3	2.92	4.50
4.02	248.54	.124E+06	493.1	3.12	4.20
4.43	248.94	.143E+06	604.4	3.32	3.96
4.83	249.34	.164E+06	727.6	3.50	3.75
5.23	249.75	.185E+06	862.9	3.68	3.57
5.63	250.15	.207E+06	1010.7	3.85	3.41
6.04	250.55	.230E+06	1171.2	4.01	3.27
6.44	250.95	.254E+06	1341.9	4.16	3.15
6.84	251.36	.279E+06	1507.4	4.25	3.09
7.24	251.76	.307E+06	1678.7	4.31	3.04
7.64	252.16	.336E+06	1868.9	4.38	2.99

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4034)	263.59	3.27	5.33	15.21	0.39	0.69
OUTFLOW: ID= 1 (2224)	263.59	2.96	5.58	15.21	0.35	0.69

ROUTE CHN(2202)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	246.17	0.0600	
9.77	244.11	0.0823	Main Channel
39.07	235.84	0.0823	Main Channel
78.15	227.74	0.0823	Main Channel
87.92	225.96	0.0823	Main Channel
107.45	222.82	0.0823	Main Channel
117.22	220.26	0.0823	Main Channel
126.99	217.44	0.0823	Main Channel
136.76	215.93	0.0823	Main Channel
146.53	215.51	0.0823	Main Channel
175.83	214.64	0.0823	Main Channel
185.60	214.68	0.0823	Main Channel
195.37	216.07	0.0823	Main Channel
205.14	218.93	0.0823	Main Channel
214.91	224.93	0.0823	Main Channel
224.68	231.85	0.0823	Main Channel
244.21	237.09	0.0823	Main Channel
253.98	239.23	0.0823	Main Channel
273.52	243.14	0.0823 /0.0600	Main Channel
293.05	248.05	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.63	216.27	.888E+05	91.5	1.40	16.16
3.26	217.90	.243E+06	422.6	2.37	9.57
4.89	219.53	.424E+06	981.2	3.15	7.20
6.52	221.16	.625E+06	1752.3	3.82	5.94
8.15	222.79	.846E+06	2724.5	4.38	5.17
9.78	224.42	.109E+07	3845.4	4.80	4.72
11.42	226.05	.136E+07	5205.2	5.20	4.36
13.05	227.68	.166E+07	6841.6	5.60	4.05

14.68	229.31	.198E+07	8762.1	6.01	3.77
16.31	230.95	.233E+07	10944.5	6.39	3.55
17.94	232.58	.270E+07	13327.0	6.72	3.37
19.57	234.21	.310E+07	15925.5	7.00	3.24
21.20	235.84	.353E+07	18851.9	7.27	3.12
22.92	237.56	.401E+07	22789.3	7.73	2.93
24.64	239.28	.453E+07	27033.2	8.13	2.79
26.37	241.00	.508E+07	31625.8	8.48	2.68
28.09	242.73	.566E+07	36642.9	8.81	2.58
29.81	244.45	.628E+07	42812.6	9.28	2.44
31.53	246.17	.693E+07	49756.4	9.77	2.32

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2224)	263.59	2.96	5.58	15.21	0.05	1.40
OUTFLOW: ID= 1 (2202)	263.59	2.79	5.92	15.21	0.05	1.40

ADD HYD (7520)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0100):	51.68	0.074	8.67	5.06
+ ID2= 2 (2202):	263.59	2.791	5.92	15.21
ID = 3 (7520):	315.27	2.832	5.92	13.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0103)	Area (ha)=	119.72	Curve Number (CN)=	68.0
ID= 1 DT= 5.0 min	Ia (mm)=	12.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	3.02		

Unit Hyd Qpeak (cms)= 0.677

PEAK FLOW (cms)= 0.142 (i)
TIME TO PEAK (hrs)= 9.917
RUNOFF VOLUME (mm)= 6.017
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.143

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0105)	Area (ha)=	124.35	Curve Number (CN)=	70.4
ID= 1 DT= 5.0 min	Ia (mm)=	12.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	2.86		

Unit Hyd Qpeak (cms)= 0.742

PEAK FLOW (cms)= 0.169 (i)
TIME TO PEAK (hrs)= 9.667
RUNOFF VOLUME (mm)= 6.576
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.157

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0122)	Area (ha)=	250.47	Curve Number (CN)=	71.2
ID= 1 DT= 5.0 min	Ia (mm)=	12.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	5.56		

Unit Hyd Qpeak (cms)= 0.769

PEAK FLOW (cms)= 0.198 (i)
TIME TO PEAK (hrs)= 12.667
RUNOFF VOLUME (mm)= 6.758
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.161

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0123)	Area (ha)=	324.82	Curve Number (CN)=	70.4
ID= 1 DT= 5.0 min	Ia (mm)=	12.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	4.50		

Unit Hyd Qpeak (cms)= 1.232

PEAK FLOW (cms)= 0.301 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 6.573
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.157

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0124)	Area (ha)=	189.66	Curve Number (CN)=	68.0
ID= 1 DT= 5.0 min	Ia (mm)=	12.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	3.86		

Unit Hyd Qpeak (cms)= 0.839

PEAK FLOW (cms)= 0.183 (i)
TIME TO PEAK (hrs)= 11.083
RUNOFF VOLUME (mm)= 6.016
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.143

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD  (  0739)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0123):    324.82      0.301       12.08        6.57
     + ID2= 2 (  0124):    189.66      0.183       11.08        6.02
       ========================================================
       ID = 3 (  0739):    514.48      0.483       11.67        6.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
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-------------------
| ROUTE CHN(  2204)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         246.33        0.0720
                  19.99         246.80        0.0988      Main Channel
                  49.98         242.78        0.0988      Main Channel
                  69.97         240.68        0.0988      Main Channel
                  79.97         238.40        0.0988      Main Channel
                  89.96         235.09        0.0988      Main Channel
                  99.96         232.92        0.0988      Main Channel
                 129.95         231.13        0.0988      Main Channel
                 169.93         230.61        0.0988      Main Channel
                 189.92         231.02        0.0988      Main Channel
                 209.91         229.85        0.0988      Main Channel
                 239.90         229.26        0.0988      Main Channel
                 269.89         227.76        0.0988      Main Channel
                 279.88         230.35        0.0988      Main Channel
                 339.86         236.09        0.0988      Main Channel
                 369.85         238.06        0.0988      Main Channel
                 409.83         243.99        0.0988      Main Channel
                 429.82         244.57        0.0988      Main Channel
                 469.81         246.24    0.0988 /0.0720  Main Channel
                 479.80         247.08        0.0720

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.94   228.70    .782E+04           6.6         0.62      19.85
        1.88   229.64    .330E+05          39.0         0.88      14.08
        2.82   230.58    .837E+05         141.0         1.25       9.89
        3.75   231.52    .181E+06         322.0         1.32       9.35
        4.69   232.46    .307E+06         708.5         1.71       7.22
        5.63   233.40    .450E+06        1255.7         2.07       5.97
        6.57   234.34    .603E+06        1963.3         2.41       5.12
        7.51   235.27    .767E+06        2813.9         2.72       4.54
        8.45   236.21    .939E+06        3807.7         3.00       4.11
        9.39   237.15    .112E+07        4906.8         3.24       3.81
       10.32   238.09    .132E+07        6156.9         3.46       3.57
       11.26   239.03    .152E+07        7650.9         3.72       3.32
       12.20   239.97    .173E+07        9286.8         3.97       3.11
       13.14   240.91    .195E+07       11045.9         4.19       2.95
       14.08   241.84    .218E+07       12879.3         4.37       2.82
       15.02   242.78    .242E+07       14871.8         4.55       2.71
       15.96   243.72    .267E+07       17277.2         4.79       2.57
       17.14   244.90    .300E+07       19866.2         4.90       2.52
       18.32   246.09    .337E+07       22856.0         5.01       2.46

                                       <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
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                                  (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0739)     514.48     0.48   11.67   6.37      0.07
0.62
   OUTFLOW: ID= 1 (  2204)     514.48     0.48   12.00   6.37      0.07
0.62


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| ADD HYD  (  7527)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0122):    250.47      0.198       12.67        6.76
     + ID2= 2 (  2204):    514.48      0.482       12.00        6.37
       ========================================================
       ID = 3 (  7527):    764.95      0.680       12.33        6.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0125)|   Area    (ha)=    194.01   Curve Number   (CN)= 67.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     12.00   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      3.48

     Unit Hyd Qpeak  (cms)=     0.952

     PEAK FLOW       (cms)=     0.198 (i)
     TIME TO PEAK    (hrs)=    10.500
     RUNOFF VOLUME    (mm)=     5.843
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0126)|   Area    (ha)=     78.78   Curve Number   (CN)= 70.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     36.24   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      2.24

     Unit Hyd Qpeak  (cms)=     0.600

     PEAK FLOW       (cms)=     0.006 (i)
     TIME TO PEAK    (hrs)=    12.500
     RUNOFF VOLUME    (mm)=     0.294
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.007

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0127)|   Area    (ha)=     51.52   Curve Number   (CN)= 68.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     22.68   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.96
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     Unit Hyd Qpeak  (cms)=     0.449

     PEAK FLOW       (cms)=     0.039 (i)
     TIME TO PEAK    (hrs)=     9.417
     RUNOFF VOLUME    (mm)=     2.773
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.066

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0131)|   Area    (ha)=    409.92   Curve Number   (CN)= 70.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      7.10

     Unit Hyd Qpeak  (cms)=     0.986

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0132)|   Area    (ha)=    375.83   Curve Number   (CN)= 70.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      4.30

     Unit Hyd Qpeak  (cms)=     1.492

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0865)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0131):    409.92      0.000        0.00        0.00
     + ID2= 2 (  0132):    375.83      0.000        0.00        0.00
       ========================================================
       ID = 3 (  0865):    785.75      0.000        0.00        0.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2420)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  70.33         265.17        0.0720
                  81.21         264.90        0.0988      Main Channel
                  91.11         264.04        0.0988      Main Channel
                  93.39         263.69        0.0988      Main Channel
                 113.85         260.35        0.0988      Main Channel
                 118.78         259.68        0.0988      Main Channel
                 124.73         258.99        0.0988      Main Channel
                 135.61         258.13        0.0988      Main Channel
                 146.49         258.31        0.0988      Main Channel
                 157.37         257.83        0.0988      Main Channel
                 179.13         258.34        0.0988      Main Channel
                 186.31         258.70        0.0988      Main Channel
                 190.00         258.93        0.0988      Main Channel
                 200.88         259.71        0.0988      Main Channel
                 205.35         259.90        0.0988      Main Channel
                 211.76         260.30        0.0988      Main Channel
                 220.32         260.95        0.0988      Main Channel
                 224.39         261.47        0.0988      Main Channel
                 233.52         262.68    0.0988 /0.0720  Main Channel
                 245.71         264.99        0.0720

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.37   258.20    .356E+04           1.2         0.25      50.59
        0.75   258.58    .164E+05          10.1         0.46      27.14
        1.12   258.95    .332E+05          28.7         0.65      19.28
        1.49   259.32    .526E+05          56.9         0.81      15.40
        1.87   259.70    .744E+05          94.4         0.95      13.13
        2.24   260.07    .989E+05         140.4         1.07      11.74
        2.61   260.44    .126E+06         198.3         1.18      10.58
        2.98   260.81    .155E+06         267.8         1.30       9.65
        3.36   261.19    .186E+06         350.2         1.41       8.86
        3.73   261.56    .219E+06         444.5         1.53       8.20
        4.10   261.93    .253E+06         549.7         1.63       7.66
        4.48   262.31    .288E+06         665.7         1.74       7.21
        4.85   262.68    .325E+06         792.6         1.83       6.83
        5.24   263.07    .364E+06         946.8         1.95       6.41
        5.62   263.45    .405E+06        1113.3         2.07       6.06
        6.01   263.84    .447E+06        1292.1         2.17       5.76
        6.39   264.22    .490E+06        1490.8         2.29       5.48
        6.78   264.61    .535E+06        1712.2         2.40       5.21
        7.16   264.99    .582E+06        1948.7         2.51       4.98

     **** WARNING:  INFLOW HYDROGRAPH IS DRY!!

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| ROUTE CHN(  3702)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <----- DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  66.36         266.82        0.0720
                  76.94         264.87        0.0988      Main Channel
                 108.68         259.29        0.0988      Main Channel
                 119.26         257.26        0.0988      Main Channel
                 129.84         255.46        0.0988      Main Channel
                 140.42         254.37        0.0988      Main Channel
                 147.75         253.80        0.0988      Main Channel
                 151.00         253.48        0.0988      Main Channel
                 157.16         253.50        0.0988      Main Channel
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161.58	253.58	0.0988		Main Channel
172.16	255.26	0.0988		Main Channel
187.79	257.81	0.0988		Main Channel
193.32	258.42	0.0988		Main Channel
203.90	259.27	0.0988		Main Channel
225.06	260.37	0.0988		Main Channel
235.64	261.59	0.0988		Main Channel
256.80	263.71	0.0988		Main Channel
267.38	265.39	0.0988		Main Channel
288.54	267.60	0.0988 /0.0720		Main Channel
301.64	266.98	0.0720		

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.73	254.21	.870E+04	6.2	0.54	23.39
1.45	254.93	.248E+05	26.7	0.82	15.46
2.18	255.66	.473E+05	65.5	1.05	12.03
2.91	256.39	.749E+05	125.6	1.27	9.94
3.63	257.11	.107E+06	207.1	1.46	8.64
4.36	257.84	.145E+06	312.7	1.64	7.70
5.08	258.56	.187E+06	436.8	1.77	7.13
5.81	259.29	.236E+06	584.4	1.88	6.73
6.57	260.05	.296E+06	772.0	1.98	6.39
7.32	260.80	.366E+06	1026.3	2.12	5.94
8.08	261.56	.443E+06	1341.5	2.29	5.50
8.83	262.31	.526E+06	1696.1	2.44	5.17
9.59	263.07	.616E+06	2099.1	2.58	4.89
10.34	263.82	.713E+06	2557.6	2.72	4.64
11.10	264.58	.815E+06	3093.8	2.87	4.39
11.85	265.33	.923E+06	3691.9	3.03	4.17
12.61	266.09	.104E+07	4318.8	3.16	4.00
13.36	266.84	.116E+07	5004.1	3.28	3.85
14.12	267.60	.128E+07	5757.8	3.40	3.72

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (7529) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0126):	78.78	0.006	12.50	0.29
+ ID2= 2 (0127):	51.52	0.039	9.42	2.77
ID = 3 (7529):	130.30	0.043	9.75	1.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7529) | 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 3702 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0001 = HYDROGRAPH 0003				
ID1= 3 (7529):	130.30	0.043	9.75	1.27
+ ID2= 2 (3702):	0.00	0.000	0.00	0.00
ID = 1 (7529):	130.30	0.043	9.75	1.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | NASHYD (0128) | ID= 1 DT= 5.0 min	Area (ha)= 344.73	Curve Number (CN)= 70.4
	Ia (mm)= 49.68	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 5.60	

Unit Hyd Qpeak (cms)= 1.051

PEAK FLOW	(cms)=	0.000 (i)
TIME TO PEAK	(hrs)=	0.000
RUNOFF VOLUME	(mm)=	0.000
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0129) | ID= 1 DT= 5.0 min	Area (ha)= 268.47	Curve Number (CN)= 68.8
	Ia (mm)= 52.08	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 4.62	

Unit Hyd Qpeak (cms)= 0.992

PEAK FLOW	(cms)=	0.000 (i)
TIME TO PEAK	(hrs)=	0.000
RUNOFF VOLUME	(mm)=	0.000
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (0130) | ID= 1 DT= 5.0 min	Area (ha)= 303.38	Curve Number (CN)= 71.2
	Ia (mm)= 52.08	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 6.06	

Unit Hyd Qpeak (cms)= 0.855

PEAK FLOW	(cms)=	0.000 (i)
TIME TO PEAK	(hrs)=	0.000
RUNOFF VOLUME	(mm)=	0.000
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1386) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0129):	268.47	0.000	0.00	0.00
+ ID2= 2 (0130):	303.38	0.000	0.00	0.00

ID = 3 (1386):	571.85	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3099) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
48.07	278.72	0.0720	
52.97	277.75	0.0988	Main Channel
57.80	276.58	0.0988	Main Channel
63.47	276.08	0.0988	Main Channel
66.12	275.69	0.0988	Main Channel
71.99	274.30	0.0988	Main Channel
86.18	272.41	0.0988	Main Channel
100.36	271.38	0.0988	Main Channel
114.55	271.46	0.0988	Main Channel
128.73	271.09	0.0988	Main Channel
140.48	270.56	0.0988	Main Channel
145.00	270.56	0.0988	Main Channel
150.01	270.36	0.0988	Main Channel
178.39	271.74	0.0988	Main Channel
186.69	272.69	0.0988	Main Channel
192.57	274.35	0.0988	Main Channel
199.67	274.96	0.0988	Main Channel
206.76	277.12	0.0988	Main Channel
210.75	277.67	0.0988 /0.0720	Main Channel
213.85	278.67	0.0720	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	270.77	.532E+04	1.4	0.30	61.74
0.83	271.19	.199E+05	8.6	0.48	38.59
1.24	271.60	.475E+05	24.3	0.56	32.62
1.66	272.02	.861E+05	59.9	0.77	23.96
2.07	272.43	.129E+06	110.0	0.94	19.53
2.49	272.85	.175E+06	176.7	1.11	16.55
2.90	273.26	.224E+06	258.2	1.27	14.47
3.32	273.68	.275E+06	353.0	1.41	12.98
3.73	274.09	.328E+06	460.8	1.55	11.86
4.15	274.51	.383E+06	579.8	1.67	11.01
4.56	274.92	.441E+06	707.9	1.77	10.38
4.98	275.34	.501E+06	860.7	1.89	9.70
5.39	275.75	.563E+06	1027.1	2.01	9.13
5.81	276.17	.626E+06	1200.1	2.11	8.69
6.22	276.58	.692E+06	1378.4	2.20	8.37
6.63	276.99	.760E+06	1599.9	2.32	7.92
7.16	277.52	.848E+06	1887.3	2.45	7.49
7.68	278.04	.939E+06	2217.1	2.60	7.06
8.20	278.56	.103E+07	2581.4	2.76	6.67

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(2981) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	277.14	0.0720	
4.44	276.49	0.0988	Main Channel
33.10	273.30	0.0988	Main Channel
49.53	270.84	0.0988	Main Channel
60.96	269.33	0.0988	Main Channel
72.07	267.49	0.0988	Main Channel
94.62	264.71	0.0988	Main Channel
102.14	264.27	0.0988	Main Channel
117.17	263.84	0.0988	Main Channel
139.71	263.71	0.0988	Main Channel
147.23	263.72	0.0988	Main Channel
162.26	264.61	0.0988	Main Channel
169.77	265.71	0.0988	Main Channel
184.80	268.08	0.0988	Main Channel
192.32	271.08	0.0988	Main Channel
198.87	274.06	0.0988	Main Channel
207.35	276.25	0.0988	Main Channel
209.93	277.43	0.0988	Main Channel
214.87	278.56	0.0988 /0.0720	Main Channel
220.98	279.54	0.0720	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.69	264.39	.226E+05	13.9	0.49	27.04
1.37	265.08	.597E+05	60.3	0.81	16.49
2.06	265.77	.103E+06	137.2	1.07	12.51
2.74	266.45	.152E+06	243.1	1.28	10.41
3.43	267.14	.206E+06	378.2	1.47	9.08
4.11	267.82	.266E+06	545.4	1.64	8.12
4.80	268.51	.330E+06	751.2	1.82	7.31
5.48	269.19	.397E+06	991.2	2.00	6.67
6.17	269.88	.468E+06	1257.7	2.15	6.20
6.85	270.56	.542E+06	1554.7	2.29	5.81
7.54	271.25	.621E+06	1887.0	2.43	5.48
8.22	271.93	.702E+06	2255.0	2.57	5.19
8.91	272.62	.787E+06	2655.9	2.70	4.94
9.59	273.30	.875E+06	3090.5	2.83	4.72
10.36	274.07	.979E+06	3683.4	3.01	4.43
11.13	274.84	.109E+07	4305.6	3.17	4.21
11.89	275.60	.120E+07	4977.0	3.31	4.03
12.66	276.37	.132E+07	5703.7	3.45	3.87
13.43	277.14	.145E+07	6512.3	3.59	3.71

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(2680) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	278.46	0.0720	
7.54	278.37	0.0988	Main Channel
12.55	278.84	0.0988	Main Channel
29.49	278.06	0.0988	Main Channel
44.13	277.52	0.0988	Main Channel
66.08	275.67	0.0988	Main Channel
73.39	274.47	0.0988	Main Channel
88.03	269.23	0.0988	Main Channel
116.59	263.75	0.0988	Main Channel
131.93	261.57	0.0988	Main Channel

146.56	258.36	0.0988		Main Channel
175.83	258.64	0.0988		Main Channel
190.46	260.43	0.0988		Main Channel
205.09	266.94	0.0988		Main Channel
212.41	267.58	0.0988		Main Channel
227.04	269.58	0.0988		Main Channel
243.75	272.54	0.0988		Main Channel
258.03	276.99	0.0988		Main Channel
278.43	283.99	0.0988 /0.0720		Main Channel
299.62	283.79	0.0720		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.28	259.64	.281E+05	30.9	0.75	15.16
2.56	260.92	.726E+05	125.1	1.18	9.67
3.84	262.20	.126E+06	280.8	1.52	7.49
5.12	263.48	.190E+06	496.6	1.79	6.37
6.40	264.76	.263E+06	789.2	2.05	5.56
7.68	266.04	.345E+06	1155.7	2.29	4.98
8.96	267.32	.436E+06	1568.3	2.46	4.63
10.24	268.60	.541E+06	2046.4	2.58	4.41
11.52	269.88	.660E+06	2660.8	2.75	4.13
12.80	271.16	.789E+06	3412.7	2.95	3.86
14.08	272.44	.928E+06	4269.5	3.14	3.62
15.36	273.72	.108E+07	5281.3	3.35	3.39
16.64	275.00	.123E+07	6367.6	3.54	3.22
17.92	276.28	.139E+07	7437.4	3.64	3.12
19.20	277.56	.157E+07	8554.2	3.71	3.07
20.48	278.84	.178E+07	9528.3	3.65	3.12
21.76	280.12	.201E+07	11487.5	3.89	2.92
23.48	281.84	.233E+07	14377.0	4.21	2.70
25.19	283.55	.265E+07	17553.9	4.52	2.52

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(2483)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning		
0.00	266.84	0.0720		
14.29	264.57	0.0988		Main Channel
36.23	262.59	0.0988		Main Channel
76.36	261.35	0.0988		Main Channel
80.11	260.98	0.0988		Main Channel
116.68	256.44	0.0988		Main Channel
138.62	255.22	0.0988		Main Channel
153.25	254.78	0.0988		Main Channel
180.49	254.71	0.0988		Main Channel
197.13	255.12	0.0988		Main Channel
238.35	254.71	0.0988		Main Channel
273.06	255.67	0.0988		Main Channel
292.21	257.01	0.0988		Main Channel
321.46	260.48	0.0988		Main Channel
342.48	264.83	0.0988		Main Channel
350.71	265.77	0.0988		Main Channel
358.03	266.08	0.0988		Main Channel
372.65	268.10	0.0988		Main Channel
387.28	268.87	0.0988 /0.0720		Main Channel
401.86	268.48	0.0720		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.72	255.43	.516E+05	29.0	0.45	29.64
1.43	256.14	.135E+06	126.9	0.75	17.78
2.15	256.86	.232E+06	289.4	1.00	13.38
2.87	257.58	.338E+06	516.4	1.23	10.92
3.58	258.29	.451E+06	800.7	1.43	9.38
4.30	259.01	.570E+06	1140.4	1.61	8.34
5.01	259.72	.697E+06	1535.1	1.77	7.56
5.73	260.44	.830E+06	1985.2	1.93	6.97
6.45	261.16	.969E+06	2502.3	2.08	6.45
7.16	261.87	.112E+07	2991.1	2.16	6.22
7.88	262.59	.128E+07	3523.0	2.22	6.05
8.60	263.31	.145E+07	4311.0	2.39	5.62
9.38	264.09	.165E+07	5254.2	2.56	5.24
10.17	264.88	.186E+07	6281.2	2.72	4.93
10.95	265.66	.207E+07	7357.9	2.86	4.69
11.74	266.45	.229E+07	8463.0	2.97	4.51
12.52	267.23	.252E+07	9745.6	3.11	4.31
13.31	268.02	.275E+07	11118.8	3.25	4.13
14.09	268.80	.299E+07	12403.7	3.33	4.02

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(3626)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning		
0.00	263.95	0.0720		
47.61	259.97	0.0988		Main Channel
58.41	259.21	0.0988		Main Channel
87.58	258.04	0.0988		Main Channel
118.28	254.12	0.0988		Main Channel
141.31	251.43	0.0988		Main Channel
148.99	250.96	0.0988		Main Channel
172.01	250.77	0.0988		Main Channel
187.93	250.80	0.0988		Main Channel
202.71	251.25	0.0988		Main Channel
218.07	251.17	0.0988		Main Channel
233.42	251.85	0.0988		Main Channel
263.49	254.02	0.0988		Main Channel
274.28	255.22	0.0988		Main Channel
285.08	256.78	0.0988		Main Channel
287.15	257.56	0.0988		Main Channel
302.50	260.54	0.0988		Main Channel
310.17	260.88	0.0988		Main Channel
325.52	262.47	0.0988 /0.0720		Main Channel
358.09	267.39	0.0720		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.65	251.42	.194E+05	11.5	0.33	28.09
1.30	252.07	.531E+05	53.9	0.57	16.41
1.95	252.72	.926E+05	124.5	0.76	12.40
2.60	253.37	.137E+06	222.1	0.91	10.32
3.25	254.02	.188E+06	347.5	1.04	9.00
3.90	254.67	.243E+06	507.2	1.18	7.97
4.54	255.31	.301E+06	696.8	1.30	7.21
5.19	255.96	.364E+06	918.9	1.42	6.60

5.84	256.61	.430E+06	1171.0	1.54	6.12
6.49	257.26	.499E+06	1462.2	1.65	5.69
7.14	257.91	.571E+06	1782.1	1.76	5.34
7.79	258.56	.647E+06	2077.7	1.81	5.19
8.44	259.21	.731E+06	2400.7	1.85	5.07
9.23	260.00	.840E+06	2979.6	2.00	4.70
10.02	260.79	.956E+06	3578.2	2.11	4.45
10.81	261.58	.108E+07	4242.2	2.21	4.25
11.60	262.37	.121E+07	4984.5	2.32	4.06
12.39	263.16	.135E+07	5882.5	2.45	3.83
13.18	263.95	.150E+07	6871.7	2.59	3.64

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (7528)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 3626 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (0128):		344.73	0.000	0.00	0.00
+ ID2= 2 (3626):		0.00	0.000	0.00	0.00
ID = 3 (7528):		344.73	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1795)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7528):		344.73	0.000	0.00	0.00
+ ID2= 2 (7529):		130.30	0.043	9.75	1.27
ID = 3 (1795):		475.03	0.043	9.75	0.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3506)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning		
0.00	279.15	0.0720		
32.94	278.53	0.0988		Main Channel
76.56	276.99	0.0988		Main Channel
108.59	273.31	0.0988		Main Channel
151.10	272.02	0.0988		Main Channel
172.33	268.99	0.0988		Main Channel
204.08	267.09	0.0988		Main Channel
257.35	260.65	0.0988		Main Channel
299.67	259.55	0.0988		Main Channel
331.66	253.39	0.0988		Main Channel
384.81	247.07	0.0988		Main Channel
416.85	245.94	0.0988		Main Channel
448.63	247.10	0.0988		Main Channel

502.04	250.52	0.0988		Main Channel
544.47	254.46	0.0988		Main Channel
576.31	256.33	0.0988		Main Channel
629.58	261.49	0.0988		Main Channel
682.48	267.65	0.0988		Main Channel
746.20	264.10	0.0988 /0.0720		Main Channel
772.84	263.95	0.0720		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.91	246.85	.486E+05	10.5	0.46	76.80
1.82	247.76	.179E+06	68.4	0.81	43.63
2.72	248.66	.353E+06	180.6	1.08	32.60
3.63	249.57	.569E+06	351.4	1.30	27.00
4.54	250.48	.827E+06	587.6	1.50	23.46
5.45	251.39	.112E+07	906.2	1.71	20.66
6.36	252.30	.145E+07	1299.8	1.89	18.62
7.26	253.20	.182E+07	1772.2	2.06	17.07
8.17	254.11	.221E+07	2341.2	2.24	15.73
9.08	255.02	.263E+07	2972.0	2.39	14.77
9.99	255.93	.310E+07	3679.6	2.51	14.03
10.90	256.84	.360E+07	4520.7	2.66	13.26
11.80	257.74	.412E+07	5487.3	2.81	12.52
12.71	258.65	.468E+07	6553.9	2.96	11.90
13.62	259.56	.526E+07	7717.7	3.10	11.36
14.53	260.47	.590E+07	8548.4	3.06	11.50
15.44	261.38	.660E+07	9909.8	3.17	11.11
16.34	262.28	.734E+07	11511.3	3.31	10.63
17.25	263.19	.811E+07	13244.6	3.45	10.21

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1795)	475.03	0.04	9.75	0.35	0.00	0.46
OUTFLOW: ID= 1 (3506)	475.03	0.04	11.50	0.35	0.00	0.46

ROUTE CHN(3064)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning		
0.00	267.06	0.0720		
60.25	265.34	0.0988		Main Channel
86.70	259.23	0.0988		Main Channel
105.06	255.18	0.0988		Main Channel
152.30	247.73	0.0988		Main Channel
221.42	240.68	0.0988		Main Channel
233.11	238.61	0.0988		Main Channel
269.03	235.70	0.0988		Main Channel
279.33	236.42	0.0988		Main Channel
314.02	241.47	0.0988		Main Channel
336.88	242.24	0.0988		Main Channel
360.22	243.29	0.0988		Main Channel
417.78	247.30	0.0988		Main Channel
451.45	251.08	0.0988		Main Channel
472.22	251.52	0.0988		Main Channel

521.56	251.95	0.0988	Main Channel	
544.89	255.21	0.0988	Main Channel	
579.48	257.30	0.0988	Main Channel	
593.39	259.80	0.0988 /0.0720	Main Channel	
613.99	263.10	0.0720		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.38	237.08	.354E+05	15.6	0.65	37.92
2.77	238.47	.128E+06	88.8	1.03	24.09
4.15	239.85	.268E+06	252.7	1.40	17.69
5.54	241.24	.445E+06	504.0	1.68	14.70
6.92	242.62	.688E+06	803.4	1.73	14.27
8.30	244.00	.102E+07	1329.2	1.93	12.84
9.69	245.39	.143E+07	2075.6	2.15	11.49
11.07	246.77	.191E+07	3042.0	2.37	10.45
12.46	248.16	.245E+07	4303.0	2.61	9.48
13.84	249.54	.304E+07	5863.2	2.86	8.63
15.23	250.93	.367E+07	7672.0	3.10	7.97
16.61	252.31	.441E+07	8930.5	3.01	8.22
17.99	253.69	.525E+07	11593.6	3.28	7.54
19.38	255.08	.613E+07	14581.4	3.53	7.00
20.76	256.46	.706E+07	17692.0	3.72	6.65
22.15	257.85	.804E+07	21293.6	3.93	6.29
23.53	259.23	.906E+07	25490.6	4.17	5.92
25.47	261.17	.105E+08	32534.5	4.58	5.40
27.40	263.10	.121E+08	40452.6	4.97	4.97

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3506)	475.03	0.04	11.50	0.35	0.00	0.65
OUTFLOW: ID= 1 (3064)	475.03	0.04	12.25	0.35	0.00	0.65

ADD HYD (7526)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0125):	194.01	0.198	10.50	5.84
	+ ID2= 2 (3064):	475.03	0.040	12.25	0.35
	ID = 3 (7526):	669.04	0.237	11.08	1.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1841)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7526):	669.04	0.237	11.08	1.94
	+ ID2= 2 (7527):	764.95	0.680	12.33	6.50
	ID = 3 (1841):	1433.99	0.914	12.00	4.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3065)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	267.06	0.0720	
60.25	265.34	0.0988	Main Channel
86.70	259.23	0.0988	Main Channel
105.06	255.18	0.0988	Main Channel
152.30	247.73	0.0988	Main Channel
221.42	240.68	0.0988	Main Channel
233.11	238.61	0.0988	Main Channel
269.03	235.70	0.0988	Main Channel
279.33	236.42	0.0988	Main Channel
314.02	241.47	0.0988	Main Channel
336.88	242.24	0.0988	Main Channel
360.22	243.29	0.0988	Main Channel
417.78	247.30	0.0988	Main Channel
451.45	251.08	0.0988	Main Channel
472.22	251.52	0.0988	Main Channel
521.56	251.95	0.0988	Main Channel
544.89	255.21	0.0988	Main Channel
579.48	257.30	0.0988	Main Channel
593.39	259.80	0.0988 /0.0720	Main Channel
613.99	263.10	0.0720	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.38	237.08	.661E+04	18.1	0.76	6.10
2.77	238.47	.239E+05	103.0	1.19	3.87
4.15	239.85	.500E+05	293.3	1.62	2.84
5.54	241.24	.829E+05	585.0	1.95	2.36
6.92	242.62	.128E+06	932.5	2.01	2.29
8.30	244.00	.191E+06	1542.8	2.24	2.06
9.69	245.39	.267E+06	2409.1	2.50	1.85
11.07	246.77	.356E+06	3530.8	2.75	1.68
12.46	248.16	.457E+06	4994.4	3.03	1.52
13.84	249.54	.566E+06	6805.2	3.32	1.39
15.23	250.93	.684E+06	8904.7	3.60	1.28
16.61	252.31	.822E+06	10365.4	3.49	1.32
17.99	253.69	.979E+06	13456.4	3.80	1.21
19.38	255.08	.114E+07	16924.3	4.10	1.13
20.76	256.46	.132E+07	20534.6	4.32	1.07
22.15	257.85	.150E+07	24715.0	4.56	1.01
23.53	259.23	.169E+07	29586.3	4.84	0.95
25.47	261.17	.197E+07	37762.0	5.32	0.87
27.40	263.10	.225E+07	46952.4	5.77	0.80

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1841)	1433.99	0.91	12.00	4.38	0.07	0.76
OUTFLOW: ID= 1 (3065)	1433.99	0.91	12.08	4.38	0.07	0.76

ROUTE CHN(2556)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	259.97	0.0720	
25.31	257.45	0.0988	Main Channel
67.76	248.49	0.0988	Main Channel
94.42	244.85	0.0988	Main Channel
151.76	230.87	0.0988	Main Channel
174.74	227.88	0.0988	Main Channel
235.08	223.56	0.0988	Main Channel
247.72	224.76	0.0988	Main Channel
346.19	224.91	0.0988	Main Channel
471.97	228.94	0.0988	Main Channel
495.06	231.10	0.0988	Main Channel
523.94	232.58	0.0988	Main Channel
540.86	232.96	0.0988	Main Channel
569.35	235.66	0.0988	Main Channel
578.84	238.94	0.0988	Main Channel
598.23	242.49	0.0988	Main Channel
636.24	246.13	0.0988	Main Channel
667.41	260.57	0.0988	Main Channel
690.45	260.16	0.0988 /0.0720	Main Channel
740.43	257.71	0.0720	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.92	225.48	.180E+06	57.4	0.52	52.21
3.84	227.40	.800E+06	514.3	1.05	25.93
5.75	229.31	.168E+07	1491.4	1.45	18.75
7.67	231.23	.271E+07	3080.3	1.85	14.64
9.59	233.15	.387E+07	5073.8	2.13	12.70
11.51	235.07	.516E+07	7839.9	2.47	10.96
13.42	236.98	.653E+07	11286.3	2.81	9.64
15.34	238.90	.794E+07	15329.5	3.14	8.63
17.26	240.82	.940E+07	19789.5	3.42	7.92
19.18	242.74	.109E+08	24723.4	3.68	7.36
21.09	244.65	.125E+08	29917.7	3.89	6.97
23.01	246.57	.142E+08	35605.8	4.08	6.65
24.93	248.49	.160E+08	42317.4	4.31	6.29
26.94	250.50	.179E+08	50693.0	4.61	5.87
28.96	252.52	.198E+08	59701.4	4.90	5.53
30.97	254.53	.218E+08	69342.6	5.17	5.24
32.98	256.54	.238E+08	79616.1	5.43	4.99
35.00	258.56	.259E+08	90555.6	5.68	4.77
37.01	260.57	.282E+08	99846.6	5.75	4.71

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3065)	1433.99	0.91	12.08	4.38	0.03	0.52
OUTFLOW: ID= 1 (2556)	1433.99	0.91	12.92	4.38	0.03	0.52

ADD HYD (7523)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0105):	124.35	0.169	9.67	6.58
	+ ID2= 2 (2556):	1433.99	0.906	12.92	4.38
	ID = 3 (7523):	1558.34	1.057	12.42	4.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)=	169.08	Curve Number (CN)=	68.8
NASHYD (0106)	ID= 1 DT= 5.0 min	Ia (mm)=	12.00	# of Linear Res.(N)=	1.50
		U.H. Tp(hrs)=	3.70		

Unit Hyd Qpeak (cms)= 0.780

PEAK FLOW (cms)= 0.174 (i)
TIME TO PEAK (hrs)= 10.833
RUNOFF VOLUME (mm)= 6.196
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.148

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)=	83.84	Curve Number (CN)=	63.2
NASHYD (0107)	ID= 1 DT= 5.0 min	Ia (mm)=	12.00	# of Linear Res.(N)=	1.50
		U.H. Tp(hrs)=	3.58		

Unit Hyd Qpeak (cms)= 0.400

PEAK FLOW (cms)= 0.072 (i)
TIME TO PEAK (hrs)= 10.667
RUNOFF VOLUME (mm)= 5.057
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.120

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)=	57.05	Curve Number (CN)=	70.4
NASHYD (0108)	ID= 1 DT= 5.0 min	Ia (mm)=	12.00	# of Linear Res.(N)=	1.50
		U.H. Tp(hrs)=	1.78		

Unit Hyd Qpeak (cms)= 0.547

PEAK FLOW (cms)= 0.113 (i)
TIME TO PEAK (hrs)= 8.417
RUNOFF VOLUME (mm)= 6.573
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.157

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0110)|   Area    (ha)=     89.10   Curve Number   (CN)= 70.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     12.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.40

     Unit Hyd Qpeak  (cms)=     0.634

     PEAK FLOW       (cms)=     0.140 (i)
     TIME TO PEAK    (hrs)=     9.250
     RUNOFF VOLUME    (mm)=     6.576
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.157

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0111)|   Area    (ha)=    116.21   Curve Number   (CN)= 71.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     12.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.52

     Unit Hyd Qpeak  (cms)=     0.787

     PEAK FLOW       (cms)=     0.181 (i)
     TIME TO PEAK    (hrs)=     9.333
     RUNOFF VOLUME    (mm)=     6.777
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.161

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN(  2403)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        259.02          0.0720
                  8.38        259.21          0.0988      Main Channel
                 12.74        259.14          0.0988      Main Channel
                 36.41        258.07          0.0988      Main Channel
                 43.16        257.62          0.0988      Main Channel
                 50.77        257.19          0.0988      Main Channel
                 65.98        254.42          0.0988      Main Channel
                 69.10        253.97          0.0988      Main Channel
                 73.58        253.79          0.0988      Main Channel
                 79.99        252.24          0.0988      Main Channel
                 81.19        252.19          0.0988      Main Channel
                 96.40        252.48          0.0988      Main Channel
                101.78        253.18          0.0988      Main Channel
                104.01        254.24          0.0988      Main Channel
                109.16        255.89          0.0988      Main Channel
                112.68        257.06          0.0988      Main Channel
                119.22        257.46          0.0988      Main Channel
                126.82        257.85          0.0988      Main Channel
                142.04        258.55      0.0988 /0.0720  Main Channel
                156.72        258.78          0.0720
```



```
      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)      (cu.m.)        (cms)        (m/s)      (min)
       0.35   252.54    .392E+04          1.6          0.44      39.61
       0.71   252.90    .113E+05          8.4          0.77      22.41
       1.06   253.25    .203E+05         20.0          1.02      16.90
       1.41   253.60    .303E+05         36.9          1.26      13.70
       1.77   253.96    .414E+05         54.9          1.38      12.57
       2.12   254.31    .545E+05         81.3          1.55      11.18
       2.47   254.66    .689E+05        113.6          1.71      10.11
       2.83   255.02    .844E+05        151.8          1.87       9.27
       3.18   255.37    .101E+06        195.7          2.01       8.61
       3.53   255.72    .119E+06        245.5          2.15       8.06
       3.89   256.08    .138E+06        301.6          2.28       7.60
       4.24   256.43    .158E+06        364.2          2.40       7.21
       4.59   256.78    .179E+06        433.3          2.52       6.87
       4.95   257.14    .201E+06        504.0          2.61       6.64
       5.30   257.49    .226E+06        549.2          2.53       6.86
       5.65   257.84    .256E+06        608.8          2.48       7.00
       6.01   258.20    .290E+06        681.4          2.44       7.09
       6.36   258.55    .330E+06        768.5          2.42       7.15
       7.02   259.21    .424E+06       1058.0          2.59       6.67

                                       <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0111)     116.21     0.18    9.33   6.78      0.04
0.44
   OUTFLOW: ID= 1 (  2403)     116.21     0.18   10.08   6.78      0.04
0.44


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| ADD HYD  (  1328)|
|   1 +  2 =  3    |          AREA       QPEAK        TPEAK         R.V.
--------------------          (ha)       (cms)        (hrs)         (mm)
        ID1= 1 (  0110):     89.10      0.140         9.25         6.58
      + ID2= 2 (  2403):    116.21      0.178        10.08         6.78
        ==========================================================
        ID = 3 (  1328):    205.31      0.317         9.75         6.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3013)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        258.02          0.0720
                 13.50        257.45          0.0988      Main Channel
                 20.56        255.02          0.0988      Main Channel
                 23.64        254.27          0.0988      Main Channel
                 39.31        248.61          0.0988      Main Channel
                 64.17        242.57          0.0988      Main Channel
                 69.05        241.20          0.0988      Main Channel
                 84.44        237.66          0.0988      Main Channel
                 94.57        236.45          0.0988      Main Channel
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                114.84        236.21          0.0988      Main Channel
                117.53        236.64          0.0988      Main Channel
                124.97        236.94          0.0988      Main Channel
                141.77        239.87          0.0988      Main Channel
                145.24        240.77          0.0988      Main Channel
                155.37        242.48          0.0988      Main Channel
                175.64        244.50          0.0988      Main Channel
                195.91        247.75          0.0988      Main Channel
                206.04        249.66          0.0988      Main Channel
                236.44        255.63      0.0988 /0.0720  Main Channel
                240.32        255.59          0.0720

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)      (cu.m.)        (cms)        (m/s)      (min)
       0.99   237.20    .148E+05         20.0          0.79      12.31
       1.98   238.19    .405E+05         89.6          1.29       7.53
       2.97   239.18    .722E+05        207.9          1.68       5.79
       3.96   240.17    .110E+06        377.9          2.01       4.84
       4.95   241.16    .152E+06        601.0          2.30       4.22
       5.94   242.15    .200E+06        878.7          2.56       3.80
       6.93   243.14    .254E+06       1197.2          2.75       3.54
       7.92   244.13    .316E+06       1577.7          2.91       3.34
       8.91   245.12    .385E+06       2059.6          3.12       3.12
       9.90   246.11    .461E+06       2634.0          3.33       2.92
      10.89   247.10    .542E+06       3290.8          3.54       2.75
      11.88   248.09    .630E+06       4039.1          3.74       2.60
      12.87   249.08    .723E+06       4896.6          3.95       2.46
      13.86   250.07    .820E+06       5857.4          4.16       2.33
      14.85   251.06    .922E+06       6911.7          4.37       2.22
      15.84   252.05    .103E+07       8058.9          4.57       2.13
      16.83   253.04    .114E+07       9301.1          4.76       2.04
      17.82   254.03    .126E+07      10640.4          4.94       1.97
      18.81   255.02    .138E+07      12046.5          5.11       1.90

                                       <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1328)     205.31     0.32    9.75   6.69      0.02
0.79
   OUTFLOW: ID= 1 (  3013)     205.31     0.32    9.92   6.69      0.02
0.79


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| CALIB              |
| NASHYD   (  0112)|   Area    (ha)=    175.60   Curve Number   (CN)= 67.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     12.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.18

     Unit Hyd Qpeak  (cms)=     0.943

     PEAK FLOW       (cms)=     0.194 (i)
     TIME TO PEAK    (hrs)=    10.083
     RUNOFF VOLUME    (mm)=     5.843
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0113)|   Area    (ha)=    267.62   Curve Number   (CN)= 66.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      4.16

     Unit Hyd Qpeak  (cms)=     1.098

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0116)|   Area    (ha)=     66.56   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.06

     Unit Hyd Qpeak  (cms)=     0.371

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0117)|   Area    (ha)=    127.50   Curve Number   (CN)= 67.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.82

     Unit Hyd Qpeak  (cms)=     0.772

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0118)|   Area    (ha)=    145.99   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.46

     Unit Hyd Qpeak  (cms)=     1.013

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
```

TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0119)	Area	(ha)=	414.29	Curve Number	(CN)= 66.4
ID= 1 DT= 5.0 min	Ia	(mm)=	52.08	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		3.46		

Unit Hyd Qpeak (cms)= 2.044

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(3115)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
158.44	277.41	0.0720	
178.48	276.86	0.0988	Main Channel
188.49	276.13	0.0988	Main Channel
238.58	271.64	0.0988	Main Channel
248.60	268.70	0.0988	Main Channel
278.19	267.98	0.0988	Main Channel
288.67	268.07	0.0988	Main Channel
297.10	270.90	0.0988	Main Channel
306.55	271.72	0.0988	Main Channel
308.71	272.22	0.0988	Main Channel
318.73	272.98	0.0988	Main Channel
338.76	272.66	0.0988	Main Channel
348.78	273.01	0.0988	Main Channel
353.82	272.84	0.0988	Main Channel
358.80	273.02	0.0988	Main Channel
363.27	272.87	0.0988	Main Channel
378.83	273.11	0.0988	Main Channel
388.85	273.50	0.0988	Main Channel
418.90	275.84	0.0988 /0.0720	Main Channel
428.92	277.09	0.0720	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.46	268.44	.860E+04	1.4	0.16	99.76
0.92	268.90	.259E+05	7.2	0.26	60.31
1.39	269.37	.457E+05	17.6	0.37	43.24
1.85	269.83	.668E+05	31.8	0.46	35.04
2.31	270.29	.893E+05	49.5	0.53	30.08
2.77	270.75	.113E+06	70.5	0.60	26.70
3.24	271.22	.138E+06	92.7	0.64	24.90
3.70	271.68	.167E+06	117.5	0.67	23.68
4.16	272.14	.199E+06	146.6	0.71	22.59
4.62	272.60	.234E+06	176.9	0.72	22.08
5.09	273.07	.285E+06	167.1	0.56	28.42

5.55	273.53	.357E+06	226.0	0.61	26.34
6.01	273.99	.436E+06	302.0	0.66	24.05
6.47	274.45	.519E+06	388.8	0.72	22.26
6.94	274.92	.608E+06	486.9	0.77	20.80
7.40	275.38	.701E+06	596.4	0.82	19.58
7.86	275.84	.799E+06	717.8	0.86	18.55
8.49	276.47	.939E+06	927.0	0.95	16.88
9.11	277.09	.109E+07	1169.0	1.03	15.50

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(3116)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
158.44	277.41	0.0720	
178.48	276.86	0.0988	Main Channel
188.49	276.13	0.0988	Main Channel
238.58	271.64	0.0988	Main Channel
248.60	268.70	0.0988	Main Channel
278.19	267.98	0.0988	Main Channel
288.67	268.07	0.0988	Main Channel
297.10	270.90	0.0988	Main Channel
306.55	271.72	0.0988	Main Channel
308.71	272.22	0.0988	Main Channel
318.73	272.98	0.0988	Main Channel
338.76	272.66	0.0988	Main Channel
348.78	273.01	0.0988	Main Channel
353.82	272.84	0.0988	Main Channel
358.80	273.02	0.0988	Main Channel
363.27	272.87	0.0988	Main Channel
378.83	273.11	0.0988	Main Channel
388.85	273.50	0.0988	Main Channel
418.90	275.84	0.0988 /0.0720	Main Channel
428.92	277.09	0.0720	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.46	268.44	.121E+05	3.5	0.39	57.98
0.92	268.90	.364E+05	17.3	0.64	35.05
1.39	269.37	.643E+05	42.6	0.89	25.13
1.85	269.83	.940E+05	76.9	1.10	20.36
2.31	270.29	.126E+06	119.7	1.28	17.48
2.77	270.75	.159E+06	170.6	1.45	15.52
3.24	271.22	.195E+06	224.2	1.55	14.47
3.70	271.68	.235E+06	284.1	1.63	13.76
4.16	272.14	.279E+06	354.6	1.71	13.13
4.62	272.60	.329E+06	427.9	1.75	12.83
5.09	273.07	.400E+06	404.1	1.36	16.51
5.55	273.53	.502E+06	546.8	1.47	15.31
6.01	273.99	.613E+06	730.4	1.61	13.98
6.47	274.45	.730E+06	940.5	1.74	12.93
6.94	274.92	.854E+06	1177.7	1.86	12.09
7.40	275.38	.985E+06	1442.7	1.97	11.38
7.86	275.84	.112E+07	1736.3	2.08	10.78
8.49	276.47	.132E+07	2242.3	2.29	9.81
9.11	277.09	.153E+07	2827.7	2.49	9.01

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (2056)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0117):		127.50	0.000	0.00	0.00
+ ID2= 2 (0118):		145.99	0.000	0.00	0.00
ID = 3 (2056):		273.49	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2056)
3 + 2 = 1

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 3116 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0001 = HYDROGRAPH 0003					
ID1= 3 (2056):		273.49	0.000	0.00	0.00
+ ID2= 2 (3116):		0.00	0.000	0.00	0.00
ID = 1 (2056):		273.49	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3117)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
158.44	277.41	0.0720	
178.48	276.86	0.0988	Main Channel
188.49	276.13	0.0988	Main Channel
238.58	271.64	0.0988	Main Channel
248.60	268.70	0.0988	Main Channel
278.19	267.98	0.0988	Main Channel
288.67	268.07	0.0988	Main Channel
297.10	270.90	0.0988	Main Channel
306.55	271.72	0.0988	Main Channel
308.71	272.22	0.0988	Main Channel
318.73	272.98	0.0988	Main Channel
338.76	272.66	0.0988	Main Channel
348.78	273.01	0.0988	Main Channel
353.82	272.84	0.0988	Main Channel
358.80	273.02	0.0988	Main Channel
363.27	272.87	0.0988	Main Channel
378.83	273.11	0.0988	Main Channel
388.85	273.50	0.0988	Main Channel
418.90	275.84	0.0988 /0.0720	Main Channel
428.92	277.09	0.0720	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.46	268.44	.620E+04	3.2	0.36	31.92
0.92	268.90	.187E+05	16.1	0.60	19.30
1.39	269.37	.330E+05	39.7	0.83	13.84

1.85	269.83	.482E+05	71.6	1.03	11.21
2.31	270.29	.643E+05	111.4	1.20	9.63
2.77	270.75	.815E+05	158.9	1.35	8.54
3.24	271.22	.998E+05	208.8	1.44	7.97
3.70	271.68	.120E+06	264.5	1.52	7.58
4.16	272.14	.143E+06	330.1	1.59	7.23
4.62	272.60	.169E+06	398.4	1.63	7.06
5.09	273.07	.205E+06	376.2	1.27	9.09
5.55	273.53	.257E+06	509.1	1.37	8.43
6.01	273.99	.314E+06	680.0	1.50	7.70
6.47	274.45	.374E+06	875.7	1.62	7.12
6.94	274.92	.438E+06	1096.5	1.73	6.65
7.40	275.38	.505E+06	1343.3	1.84	6.27
7.86	275.84	.576E+06	1616.6	1.94	5.94
8.49	276.47	.677E+06	2087.8	2.13	5.40
9.11	277.09	.783E+06	2632.8	2.32	4.96

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(2610)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	267.73	0.0720	
18.47	267.71	0.0988	Main Channel
58.48	266.93	0.0988	Main Channel
68.49	266.55	0.0988	Main Channel
97.87	264.93	0.0988	Main Channel
117.41	262.49	0.0988	Main Channel
136.95	258.28	0.0988	Main Channel
148.51	255.68	0.0988	Main Channel
158.51	254.20	0.0988	Main Channel
176.03	253.08	0.0988	Main Channel
185.80	253.24	0.0988	Main Channel
188.52	252.97	0.0988	Main Channel
208.53	253.78	0.0988	Main Channel
218.53	258.18	0.0988	Main Channel
224.88	260.61	0.0988	Main Channel
228.53	262.26	0.0988	Main Channel
234.65	263.06	0.0988	Main Channel
258.54	264.11	0.0988	Main Channel
278.55	264.98	0.0988 /0.0720	Main Channel
290.37	265.19	0.0720	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.63	253.60	.154E+05	4.4	0.34	58.26
1.26	254.23	.499E+05	24.9	0.60	33.49
1.90	254.87	.912E+05	63.1	0.83	24.09
2.53	255.50	.137E+06	116.2	1.02	19.62
3.16	256.13	.187E+06	185.4	1.20	16.77
3.79	256.76	.239E+06	269.5	1.36	14.81
4.42	257.39	.296E+06	368.1	1.50	13.39
5.06	258.03	.355E+06	481.2	1.63	12.30
5.69	258.66	.418E+06	608.1	1.75	11.45
6.32	259.29	.484E+06	749.6	1.87	10.76
6.95	259.92	.554E+06	906.6	1.97	10.18
7.59	260.56	.627E+06	1079.4	2.08	9.68
8.22	261.19	.704E+06	1270.0	2.18	9.24
8.85	261.82	.784E+06	1477.2	2.27	8.84

9.48	262.45	.867E+06	1691.6	2.35	8.54
10.11	263.08	.956E+06	1882.4	2.37	8.47
10.75	263.72	.106E+07	2020.1	2.30	8.72
11.38	264.35	.117E+07	2207.1	2.27	8.86
12.01	264.98	.130E+07	2436.3	2.25	8.92

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(3034)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
87.85	252.66	0.0720	
91.06	251.71	0.0988	Main Channel
95.45	250.61	0.0988	Main Channel
105.51	248.45	0.0988	Main Channel
110.64	247.77	0.0988	Main Channel
118.24	246.98	0.0988	Main Channel
134.69	246.56	0.0988	Main Channel
145.60	246.48	0.0988	Main Channel
156.51	246.56	0.0988	Main Channel
163.82	246.51	0.0988	Main Channel
167.42	247.05	0.0988	Main Channel
178.33	249.12	0.0988	Main Channel
186.61	250.89	0.0988	Main Channel
189.24	251.26	0.0988	Main Channel
194.21	251.67	0.0988	Main Channel
211.05	252.02	0.0988	Main Channel
217.00	251.91	0.0988	Main Channel
221.96	251.74	0.0988	Main Channel
224.60	251.77	0.0988 /0.0720	Main Channel
232.20	252.66	0.0720	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	246.80	.319E+04	2.5	0.27	21.13
0.64	247.12	.826E+04	10.5	0.43	13.08
0.95	247.43	.140E+05	24.0	0.58	9.76
1.27	247.75	.203E+05	42.0	0.71	8.06
1.59	248.07	.271E+05	64.9	0.82	6.95
1.91	248.39	.343E+05	92.2	0.92	6.19
2.22	248.70	.419E+05	124.7	1.02	5.60
2.54	249.02	.498E+05	161.9	1.11	5.13
2.86	249.34	.581E+05	203.7	1.20	4.76
3.18	249.66	.667E+05	250.1	1.28	4.45
3.49	249.97	.757E+05	300.9	1.36	4.19
3.81	250.29	.849E+05	356.2	1.43	3.97
4.13	250.61	.945E+05	416.1	1.50	3.79
4.47	250.95	.105E+06	490.2	1.59	3.58
4.81	251.29	.116E+06	566.8	1.66	3.42
5.16	251.64	.128E+06	643.1	1.72	3.31
5.50	251.98	.141E+06	645.9	1.56	3.64
5.84	252.32	.157E+06	750.2	1.63	3.49
6.18	252.66	.174E+06	878.9	1.72	3.30

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (1758)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 3034 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (0116):	66.56	0.000	0.00	0.00
+ ID2= 2 (3034):	0.00	0.000	0.00	0.00
ID = 3 (1758):	66.56	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2353)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	260.32	0.0720	
58.45	257.58	0.0988	Main Channel
111.02	257.49	0.0988	Main Channel
149.16	255.77	0.0988	Main Channel
169.22	256.93	0.0988	Main Channel
209.51	256.86	0.0988	Main Channel
317.28	254.24	0.0988	Main Channel
347.75	249.18	0.0988	Main Channel
377.86	246.50	0.0988	Main Channel
394.02	246.17	0.0988	Main Channel
413.14	248.64	0.0988	Main Channel
432.26	245.66	0.0988	Main Channel
460.42	245.15	0.0988	Main Channel
528.92	246.19	0.0988	Main Channel
555.00	247.33	0.0988	Main Channel
583.25	251.32	0.0988	Main Channel
619.63	254.25	0.0988	Main Channel
649.74	253.92	0.0988	Main Channel
695.96	253.78	0.0988 /0.0720	Main Channel
757.34	255.68	0.0720	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	245.69	.942E+04	5.1	0.29	30.49
1.08	246.23	.335E+05	30.7	0.49	18.17
1.62	246.77	.697E+05	85.3	0.66	13.61
2.16	247.31	.114E+06	173.2	0.81	10.97
2.70	247.85	.165E+06	298.9	0.97	9.19
3.24	248.39	.221E+06	457.5	1.11	8.04
3.78	248.93	.281E+06	656.5	1.25	7.14
4.32	249.47	.345E+06	898.7	1.39	6.40
4.85	250.00	.411E+06	1177.0	1.53	5.81
5.39	250.54	.478E+06	1487.8	1.66	5.36
5.93	251.08	.548E+06	1830.5	1.79	4.99
6.47	251.62	.620E+06	2196.6	1.90	4.70
7.01	252.16	.695E+06	2588.1	1.99	4.47
7.55	252.70	.772E+06	3012.3	2.09	4.27
8.09	253.24	.853E+06	3469.8	2.18	4.10
8.63	253.78	.936E+06	3960.8	2.26	3.94
9.26	254.41	.106E+07	4049.4	2.04	4.37
9.90	255.05	.121E+07	4753.1	2.11	4.23
10.53	255.68	.137E+07	5550.6	2.17	4.11

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (7524)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 2353 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001				
ID1= 1 (0113):	267.62	0.000	0.00	0.00
+ ID2= 2 (2353):	0.00	0.000	0.00	0.00
ID = 3 (7524):	267.62	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0114)	Area (ha)=	239.55	Curve Number (CN)=	71.2
ID= 1 DT= 5.0 min	Ia (mm)=	52.08	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	2.80		

Unit Hyd Qpeak (cms)= 1.461

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0115)	Area (ha)=	200.90	Curve Number (CN)=	66.4
ID= 1 DT= 5.0 min	Ia (mm)=	44.88	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	3.54		

Unit Hyd Qpeak (cms)= 0.969

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0120)	Area (ha)=	285.95	Curve Number (CN)=	59.2
ID= 1 DT= 5.0 min	Ia (mm)=	52.08	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	4.42		

Unit Hyd Qpeak (cms)= 1.105

PEAK FLOW (cms)= 0.000 (i)

TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0121)	Area (ha)=	422.02	Curve Number (CN)=	64.0
ID= 1 DT= 5.0 min	Ia (mm)=	52.08	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	5.20		

Unit Hyd Qpeak (cms)= 1.386

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2071)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0120):	285.95	0.000	0.00	0.00
+ ID2= 2 (0121):	422.02	0.000	0.00	0.00
ID = 3 (2071):	707.97	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2995)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	264.39	0.0720	
37.01	264.28	0.0988	Main Channel
44.67	264.14	0.0988	Main Channel
67.64	263.45	0.0988	Main Channel
70.90	263.32	0.0988	Main Channel
98.27	261.77	0.0988	Main Channel
125.00	259.81	0.0988	Main Channel
128.89	259.50	0.0988	Main Channel
144.21	259.69	0.0988	Main Channel
168.27	259.97	0.0988	Main Channel
174.84	259.63	0.0988	Main Channel
189.91	258.85	0.0988	Main Channel
200.73	258.61	0.0988	Main Channel
205.46	258.17	0.0988	Main Channel
211.55	258.12	0.0988	Main Channel
213.12	258.30	0.0988	Main Channel
254.83	260.09	0.0988	Main Channel
269.31	261.90	0.0988	Main Channel
282.03	263.42	0.0988 /0.0720	Main Channel

287.29 264.45 0.0720

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	258.43	.113E+04	0.4	0.15	46.96
0.62	258.74	.374E+04	1.8	0.20	34.84
0.94	259.06	.870E+04	5.4	0.26	26.66
1.25	259.37	.155E+05	11.9	0.33	21.59
1.56	259.68	.246E+05	19.6	0.34	20.90
1.87	259.99	.391E+05	32.7	0.35	19.91
2.18	260.30	.568E+05	58.6	0.44	16.17
2.49	260.61	.755E+05	91.0	0.51	13.82
2.81	260.93	.950E+05	129.6	0.58	12.22
3.12	261.24	.115E+06	174.2	0.64	11.05
3.43	261.55	.137E+06	224.7	0.69	10.14
3.74	261.86	.159E+06	280.7	0.75	9.44
4.05	262.17	.182E+06	341.7	0.79	8.89
4.36	262.48	.206E+06	408.8	0.84	8.42
4.68	262.80	.232E+06	482.1	0.88	8.02
4.99	263.11	.258E+06	561.8	0.92	7.66
5.30	263.42	.286E+06	646.5	0.96	7.37
5.61	263.73	.315E+06	735.6	0.99	7.13
6.10	264.22	.363E+06	894.4	1.04	6.76

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(2748) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	264.22	0.0720	
10.76	264.58	0.0988	Main Channel
30.76	265.40	0.0988	Main Channel
58.56	265.58	0.0988	Main Channel
100.78	266.10	0.0988	Main Channel
110.78	266.07	0.0988	Main Channel
130.78	265.33	0.0988	Main Channel
150.79	262.28	0.0988	Main Channel
160.79	257.73	0.0988	Main Channel
170.79	255.71	0.0988	Main Channel
193.67	255.84	0.0988	Main Channel
200.80	256.53	0.0988	Main Channel
220.81	261.02	0.0988	Main Channel
224.33	261.48	0.0988	Main Channel
230.81	262.89	0.0988	Main Channel
234.55	263.22	0.0988	Main Channel
260.81	263.74	0.0988	Main Channel
290.82	263.61	0.0988	Main Channel
310.83	263.83	0.0988 /0.0720	Main Channel
324.92	263.19	0.0720	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	256.25	.134E+05	5.5	0.44	40.54
1.08	256.79	.329E+05	21.5	0.70	25.56
1.62	257.33	.556E+05	47.1	0.91	19.68
2.17	257.88	.812E+05	82.4	1.09	16.44
2.71	258.42	.109E+06	128.0	1.26	14.21
3.25	258.96	.139E+06	183.0	1.41	12.68

3.79	259.50	.171E+06	247.3	1.55	11.55
4.33	260.04	.206E+06	321.2	1.68	10.67
4.87	260.58	.242E+06	404.9	1.80	9.96
5.41	261.12	.280E+06	497.1	1.90	9.40
5.95	261.66	.321E+06	596.8	1.99	8.98
6.50	262.21	.365E+06	713.0	2.10	8.53
7.04	262.75	.411E+06	828.9	2.16	8.26
7.58	263.29	.461E+06	922.8	2.15	8.33
8.12	263.83	.537E+06	793.7	1.59	11.27
8.69	264.40	.651E+06	1065.2	1.76	10.18
9.25	264.96	.774E+06	1378.1	1.91	9.36
9.82	265.53	.910E+06	1607.6	1.89	9.44
10.39	266.10	.108E+07	1755.2	1.74	10.29

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(2382) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	261.85	0.0720	
12.46	262.10	0.0988	Main Channel
29.89	262.40	0.0988	Main Channel
49.50	262.40	0.0988	Main Channel
62.54	261.83	0.0988	Main Channel
87.58	260.20	0.0988	Main Channel
112.62	257.52	0.0988	Main Channel
121.32	257.25	0.0988	Main Channel
141.84	250.58	0.0988	Main Channel
146.00	250.16	0.0988	Main Channel
172.61	249.72	0.0988	Main Channel
196.08	251.21	0.0988	Main Channel
213.65	251.94	0.0988	Main Channel
234.17	253.83	0.0988	Main Channel
244.43	257.09	0.0988	Main Channel
262.85	259.60	0.0988	Main Channel
275.21	259.80	0.0988	Main Channel
295.72	259.10	0.0988	Main Channel
312.93	258.54	0.0988 /0.0720	Main Channel
340.36	260.31	0.0720	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.63	250.35	.158E+05	5.9	0.41	44.61
1.26	250.98	.477E+05	30.5	0.71	26.09
1.89	251.61	.888E+05	72.3	0.90	20.47
2.52	252.24	.141E+06	138.6	1.09	16.96
3.15	252.87	.200E+06	231.7	1.28	14.40
3.78	253.50	.265E+06	348.1	1.46	12.71
4.41	254.13	.336E+06	494.8	1.63	11.33
5.04	254.76	.411E+06	672.4	1.82	10.18
5.67	255.39	.488E+06	873.4	1.99	9.31
6.30	256.02	.567E+06	1097.7	2.15	8.62
6.93	256.65	.650E+06	1344.9	2.30	8.05
7.56	257.28	.735E+06	1601.6	2.42	7.65
8.19	257.91	.830E+06	1809.9	2.42	7.64
8.82	258.54	.932E+06	2096.1	2.50	7.41
9.59	259.31	.108E+07	2321.0	2.38	7.78
10.36	260.08	.128E+07	2686.6	2.33	7.93
11.14	260.86	.150E+07	3348.3	2.48	7.46

11.91	261.63	.173E+07	4091.5	2.63	7.04
12.68	262.40	.198E+07	4877.5	2.74	6.76

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (7525) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0114):	239.55	0.000	0.00	0.00
+ ID2= 2 (0115):	200.90	0.000	0.00	0.00
ID = 3 (7525):	440.45	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7525) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

*** W A R N I N G : HYDROGRAPH 2382 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0001 = HYDROGRAPH 0003

ID1= 3 (7525):	440.45	0.000	0.00	0.00
+ ID2= 2 (2382):	0.00	0.000	0.00	0.00
ID = 1 (7525):	440.45	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1762) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7524):	267.62	0.000	0.00	0.00
+ ID2= 2 (7525):	440.45	0.000	0.00	0.00
ID = 3 (1762):	708.07	0.000	0.00	0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2354) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	260.32	0.0720	
58.45	257.58	0.0988	Main Channel
111.02	257.49	0.0988	Main Channel
149.16	255.77	0.0988	Main Channel
169.22	256.93	0.0988	Main Channel
209.51	256.86	0.0988	Main Channel
317.28	254.24	0.0988	Main Channel
347.75	249.18	0.0988	Main Channel

377.86	246.50	0.0988		Main Channel
394.02	246.17	0.0988		Main Channel
413.14	248.64	0.0988		Main Channel
432.26	245.66	0.0988		Main Channel
460.42	245.15	0.0988		Main Channel
528.92	246.19	0.0988		Main Channel
555.00	247.33	0.0988		Main Channel
583.25	251.32	0.0988		Main Channel
619.63	254.25	0.0988		Main Channel
649.74	253.92	0.0988		Main Channel
695.96	253.78	0.0988 /0.0720		Main Channel
757.34	255.68	0.0720		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	245.69	.224E+05	4.7	0.27	79.90
1.08	246.23	.797E+05	27.9	0.45	47.61
1.62	246.77	.166E+06	77.4	0.59	35.67
2.16	247.31	.271E+06	157.3	0.74	28.76
2.70	247.85	.392E+06	271.4	0.88	24.09
3.24	248.39	.525E+06	415.3	1.01	21.07
3.78	248.93	.669E+06	596.0	1.13	18.71
4.32	249.47	.820E+06	815.8	1.27	16.76
4.85	250.00	.977E+06	1068.5	1.39	15.24
5.39	250.54	.114E+07	1350.6	1.51	14.04
5.93	251.08	.130E+07	1661.8	1.62	13.08
6.47	251.62	.148E+07	1994.1	1.72	12.33
7.01	252.16	.165E+07	2349.5	1.81	11.73
7.55	252.70	.184E+07	2734.6	1.89	11.20
8.09	253.24	.203E+07	3149.9	1.98	10.74
8.63	253.78	.223E+07	3595.7	2.06	10.32
9.26	254.41	.252E+07	3676.0	1.85	11.44
9.90	255.05	.287E+07	4314.9	1.91	11.08
10.53	255.68	.325E+07	5038.9	1.97	10.76

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(3917) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	267.30	0.0720	
61.29	263.65	0.0988	Main Channel
105.77	263.05	0.0988	Main Channel
162.83	261.03	0.0988	Main Channel
251.15	261.56	0.0988	Main Channel
354.12	258.21	0.0988	Main Channel
392.50	256.72	0.0988	Main Channel
438.27	251.75	0.0988	Main Channel
518.31	246.58	0.0988	Main Channel
564.05	241.94	0.0988	Main Channel
610.79	237.60	0.0988	Main Channel
633.79	240.34	0.0988	Main Channel
689.82	256.10	0.0988	Main Channel
715.05	261.18	0.0988	Main Channel
747.00	264.22	0.0988	Main Channel
826.96	262.34	0.0988	Main Channel
872.86	256.42	0.0988	Main Channel
918.71	258.42	0.0988	Main Channel
975.63	258.14	0.0988 /0.0720	Main Channel

1005.23 259.24 0.0720

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.08	238.68	.191E+05	4.9	0.44	64.44
2.16	239.76	.765E+05	31.4	0.70	40.59
3.24	240.84	.171E+06	94.1	0.94	30.30
4.32	241.92	.296E+06	200.6	1.16	24.56
5.41	243.01	.448E+06	356.1	1.36	20.96
6.49	244.09	.627E+06	564.1	1.54	18.52
7.57	245.17	.833E+06	829.8	1.70	16.72
8.65	246.25	.107E+07	1158.2	1.86	15.33
9.73	247.33	.133E+07	1530.8	1.97	14.45
10.81	248.41	.163E+07	1974.6	2.07	13.73
11.89	249.49	.196E+07	2508.1	2.18	13.05
12.97	250.57	.234E+07	3138.1	2.29	12.43
14.05	251.65	.275E+07	3871.3	2.40	11.85
15.13	252.73	.320E+07	4778.0	2.55	11.16
16.22	253.82	.367E+07	5795.6	2.70	10.56
17.30	254.90	.417E+07	6920.6	2.84	10.04
18.38	255.98	.469E+07	8156.2	2.97	9.59
19.46	257.06	.525E+07	9032.7	2.94	9.69
20.54	258.14	.592E+07	9776.6	2.82	10.10

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ADD HYD (1785)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0112):	175.60	0.194	10.08	5.84
+ ID2= 2 (3013):	205.31	0.316	9.92	6.69
ID = 3 (1785):	380.91	0.510	10.00	6.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1785)	3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 3917 <ID= 2> IS DRY.				
*** W A R N I N G : HYDROGRAPH 0001 = HYDROGRAPH 0003				
ID1= 3 (1785):	380.91	0.510	10.00	6.30
+ ID2= 2 (3917):	0.00	0.000	0.00	0.00
ID = 1 (1785):	380.91	0.510	10.00	6.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3918)	IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	267.30	0.0720	
61.29	263.65	0.0988	Main Channel
105.77	263.05	0.0988	Main Channel
162.83	261.03	0.0988	Main Channel
251.15	261.56	0.0988	Main Channel
354.12	258.21	0.0988	Main Channel
392.50	256.72	0.0988	Main Channel
438.27	251.75	0.0988	Main Channel
518.31	246.58	0.0988	Main Channel
564.05	241.94	0.0988	Main Channel
610.79	237.60	0.0988	Main Channel
633.79	240.34	0.0988	Main Channel
689.82	256.10	0.0988	Main Channel
715.05	261.18	0.0988	Main Channel
747.00	264.22	0.0988	Main Channel
826.96	262.34	0.0988	Main Channel
872.86	256.42	0.0988	Main Channel
918.71	258.42	0.0988	Main Channel
975.63	258.14	0.0988 /0.0720	Main Channel
1005.23	259.24	0.0720	

0.00	267.30	0.0720	
61.29	263.65	0.0988	Main Channel
105.77	263.05	0.0988	Main Channel
162.83	261.03	0.0988	Main Channel
251.15	261.56	0.0988	Main Channel
354.12	258.21	0.0988	Main Channel
392.50	256.72	0.0988	Main Channel
438.27	251.75	0.0988	Main Channel
518.31	246.58	0.0988	Main Channel
564.05	241.94	0.0988	Main Channel
610.79	237.60	0.0988	Main Channel
633.79	240.34	0.0988	Main Channel
689.82	256.10	0.0988	Main Channel
715.05	261.18	0.0988	Main Channel
747.00	264.22	0.0988	Main Channel
826.96	262.34	0.0988	Main Channel
872.86	256.42	0.0988	Main Channel
918.71	258.42	0.0988	Main Channel
975.63	258.14	0.0988 /0.0720	Main Channel
1005.23	259.24	0.0720	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.08	238.68	.892E+04	4.2	0.37	35.57
2.16	239.76	.357E+05	26.5	0.59	22.41
3.24	240.84	.798E+05	79.5	0.79	16.73
4.32	241.92	.138E+06	169.5	0.98	13.56
5.41	243.01	.209E+06	300.9	1.15	11.57
6.49	244.09	.292E+06	476.7	1.30	10.22
7.57	245.17	.388E+06	701.2	1.44	9.23
8.65	246.25	.497E+06	978.6	1.57	8.46
9.73	247.33	.619E+06	1293.5	1.66	7.98
10.81	248.41	.759E+06	1668.4	1.75	7.58
11.89	249.49	.916E+06	2119.2	1.84	7.21
12.97	250.57	.109E+07	2651.6	1.94	6.86
14.05	251.65	.128E+07	3271.1	2.03	6.54
15.13	252.73	.149E+07	4037.2	2.15	6.16
16.22	253.82	.171E+07	4897.1	2.28	5.83
17.30	254.90	.194E+07	5847.7	2.40	5.54
18.38	255.98	.219E+07	6891.7	2.51	5.29
19.46	257.06	.245E+07	7632.2	2.48	5.35
20.54	258.14	.276E+07	8260.8	2.38	5.57

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1785)	380.91	0.51	10.00	6.30	0.13	0.37
OUTFLOW: ID= 1 (3918)	380.91	0.50	10.67	6.30	0.13	0.37

ADD HYD (0894)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0108):	57.05	0.113	8.42	6.57
+ ID2= 2 (3918):	380.91	0.505	10.67	6.30

ID = 3 (0894):	437.96	0.603	10.25	6.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3919)	IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	267.30	0.0720	
61.29	263.65	0.0988	Main Channel
105.77	263.05	0.0988	Main Channel
162.83	261.03	0.0988	Main Channel
251.15	261.56	0.0988	Main Channel
354.12	258.21	0.0988	Main Channel
392.50	256.72	0.0988	Main Channel
438.27	251.75	0.0988	Main Channel
518.31	246.58	0.0988	Main Channel
564.05	241.94	0.0988	Main Channel
610.79	237.60	0.0988	Main Channel
633.79	240.34	0.0988	Main Channel
689.82	256.10	0.0988	Main Channel
715.05	261.18	0.0988	Main Channel
747.00	264.22	0.0988	Main Channel
826.96	262.34	0.0988	Main Channel
872.86	256.42	0.0988	Main Channel
918.71	258.42	0.0988	Main Channel
975.63	258.14	0.0988 /0.0720	Main Channel
1005.23	259.24	0.0720	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.08	238.68	.100E+05	4.2	0.37	39.96
2.16	239.76	.400E+05	26.5	0.59	25.17
3.24	240.84	.895E+05	79.4	0.79	18.79
4.32	241.92	.155E+06	169.3	0.98	15.23
5.41	243.01	.234E+06	300.6	1.15	13.00
6.49	244.09	.328E+06	476.2	1.30	11.48
7.57	245.17	.436E+06	700.5	1.44	10.37
8.65	246.25	.558E+06	977.7	1.57	9.50
9.73	247.33	.695E+06	1292.2	1.66	8.96
10.81	248.41	.851E+06	1666.8	1.75	8.51
11.89	249.49	.103E+07	2117.2	1.84	8.09
12.97	250.57	.122E+07	2649.0	1.93	7.70
14.05	251.65	.144E+07	3268.0	2.03	7.35
15.13	252.73	.167E+07	4033.3	2.15	6.92
16.22	253.82	.192E+07	4892.4	2.28	6.55
17.30	254.90	.218E+07	5842.0	2.39	6.22
18.38	255.98	.246E+07	6885.0	2.51	5.94
19.46	257.06	.275E+07	7624.9	2.48	6.01
20.54	258.14	.310E+07	8252.8	2.38	6.26

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0894)	437.96	0.60	10.25	6.33	0.16	0.37
OUTFLOW: ID= 1 (3919)	437.96	0.59	11.08	6.33	0.15	0.37

CALIB	NASHYD (0109)	ID= 1 DT= 5.0 min

Area	(ha)=	85.27	Curve Number (CN)= 70.4
Ia	(mm)=	12.00	# of Linear Res.(N)= 1.50
U.H. Tp(hrs)=		2.62	

Unit Hyd Qpeak (cms)= 0.556

PEAK FLOW	(cms)=	0.125 (i)
TIME TO PEAK	(hrs)=	9.417
RUNOFF VOLUME	(mm)=	6.576
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.157

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0789)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0109):	85.27	0.125	9.42	6.58
+ ID2= 2 (3919):	437.96	0.595	11.08	6.33
ID = 3 (0789):	523.23	0.714	10.83	6.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3921)	IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	267.30	0.0720	
61.29	263.65	0.0988	Main Channel
105.77	263.05	0.0988	Main Channel
162.83	261.03	0.0988	Main Channel
251.15	261.56	0.0988	Main Channel
354.12	258.21	0.0988	Main Channel
392.50	256.72	0.0988	Main Channel
438.27	251.75	0.0988	Main Channel
518.31	246.58	0.0988	Main Channel
564.05	241.94	0.0988	Main Channel
610.79	237.60	0.0988	Main Channel
633.79	240.34	0.0988	Main Channel
689.82	256.10	0.0988	Main Channel
715.05	261.18	0.0988	Main Channel
747.00	264.22	0.0988	Main Channel
826.96	262.34	0.0988	Main Channel
872.86	256.42	0.0988	Main Channel
918.71	258.42	0.0988	Main Channel
975.63	258.14	0.0988 /0.0720	Main Channel
1005.23	259.24	0.0720	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

1.08	238.68	.104E+05	4.1	0.37	41.78
2.16	239.76	.415E+05	26.3	0.59	26.32
3.24	240.84	.928E+05	78.7	0.79	19.65
4.32	241.92	.160E+06	167.7	0.97	15.93
5.41	243.01	.243E+06	297.8	1.14	13.59
6.49	244.09	.340E+06	471.8	1.29	12.01
7.57	245.17	.452E+06	694.0	1.42	10.84
8.65	246.25	.578E+06	968.7	1.55	9.94
9.73	247.33	.720E+06	1280.3	1.65	9.37
10.81	248.41	.882E+06	1651.5	1.73	8.90
11.89	249.49	.107E+07	2097.7	1.82	8.46
12.97	250.57	.127E+07	2624.6	1.92	8.06
14.05	251.65	.149E+07	3237.8	2.01	7.69
15.13	252.73	.174E+07	3996.1	2.13	7.24
16.22	253.82	.199E+07	4847.2	2.25	6.85
17.30	254.90	.226E+07	5788.1	2.37	6.51
18.38	255.98	.254E+07	6821.5	2.48	6.22
19.46	257.06	.285E+07	7554.5	2.46	6.28
20.54	258.14	.321E+07	8176.7	2.36	6.55

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0789)	523.23	0.71	10.83	6.37	0.19	0.37
OUTFLOW: ID= 1 (3921)	523.23	0.70	11.67	6.37	0.18	0.37

ROUTE CHN(3920)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	267.30	0.0720	
61.29	263.65	0.0988	Main Channel
105.77	263.05	0.0988	Main Channel
162.83	261.03	0.0988	Main Channel
251.15	261.56	0.0988	Main Channel
354.12	258.21	0.0988	Main Channel
392.50	256.72	0.0988	Main Channel
438.27	251.75	0.0988	Main Channel
518.31	246.58	0.0988	Main Channel
564.05	241.94	0.0988	Main Channel
610.79	237.60	0.0988	Main Channel
633.79	240.34	0.0988	Main Channel
689.82	256.10	0.0988	Main Channel
715.05	261.18	0.0988	Main Channel
747.00	264.22	0.0988	Main Channel
826.96	262.34	0.0988	Main Channel
872.86	256.42	0.0988	Main Channel
918.71	258.42	0.0988	Main Channel
975.63	258.14	0.0988 /0.0720	Main Channel
1005.23	259.24	0.0720	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.08	238.68	.403E+04	2.4	0.21	28.34
2.16	239.76	.161E+05	15.0	0.34	17.85

3.24	240.84	.360E+05	45.1	0.45	13.33
4.32	241.92	.623E+05	96.1	0.56	10.80
5.41	243.01	.944E+05	170.6	0.65	9.22
6.49	244.09	.132E+06	270.3	0.74	8.14
7.57	245.17	.175E+06	397.6	0.82	7.35
8.65	246.25	.224E+06	554.9	0.89	6.74
9.73	247.33	.280E+06	733.5	0.94	6.35
10.81	248.41	.343E+06	946.1	0.99	6.04
11.89	249.49	.414E+06	1201.7	1.04	5.74
12.97	250.57	.493E+06	1503.6	1.10	5.46
14.05	251.65	.580E+06	1854.9	1.15	5.21
15.13	252.73	.674E+06	2289.3	1.22	4.91
16.22	253.82	.774E+06	2776.9	1.29	4.64
17.30	254.90	.878E+06	3315.9	1.36	4.41
18.38	255.98	.988E+06	3907.9	1.42	4.22
19.46	257.06	.111E+07	4327.8	1.41	4.26
20.54	258.14	.125E+07	4684.3	1.35	4.44

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3921)	523.23	0.70	11.67	6.37	0.32	0.21
OUTFLOW: ID= 1 (3920)	523.23	0.70	12.17	6.37	0.32	0.21

ADD HYD (1347)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0107):	83.84	0.072	10.67	5.06
	+ ID2= 2 (3920):	523.23	0.698	12.17	6.37
	ID = 3 (1347):	607.07	0.769	12.17	6.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3033)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	259.24	0.0720	
39.61	253.85	0.0988	Main Channel
54.08	248.72	0.0988	Main Channel
98.51	235.50	0.0988	Main Channel
112.42	231.85	0.0988	Main Channel
166.33	223.16	0.0988	Main Channel
191.94	221.30	0.0988	Main Channel
223.92	220.84	0.0988	Main Channel
263.73	221.97	0.0988	Main Channel
282.61	223.94	0.0988	Main Channel
344.62	223.70	0.0988	Main Channel
407.83	224.28	0.0988	Main Channel
429.79	224.08	0.0988	Main Channel
474.22	226.76	0.0988	Main Channel

496.58	225.50	0.0988	Main Channel		
541.05	225.75	0.0988	Main Channel		
607.46	230.85	0.0988	Main Channel		
663.00	236.06	0.0988	Main Channel		
685.11	237.28	0.0988 /0.0720	Main Channel		
727.39	244.84	0.0720			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.17	222.01	.355E+05	35.6	0.61	16.59
2.35	223.19	.104E+06	177.5	1.04	9.79
3.52	224.36	.227E+06	349.9	0.94	10.81
4.70	225.54	.435E+06	956.6	1.35	7.57
5.87	226.71	.703E+06	1773.6	1.54	6.60
7.05	227.89	.100E+07	3097.4	1.89	5.41
8.22	229.06	.132E+07	4736.3	2.19	4.66
9.39	230.23	.166E+07	6676.5	2.46	4.14
10.57	231.41	.201E+07	8927.9	2.72	3.75
11.74	232.58	.237E+07	11512.1	2.97	3.44
12.92	233.76	.275E+07	14402.5	3.20	3.18
14.09	234.93	.314E+07	17583.4	3.43	2.98
15.27	236.11	.354E+07	21051.4	3.64	2.80
16.44	237.28	.396E+07	24613.0	3.81	2.68
17.95	238.79	.451E+07	30405.9	4.12	2.47
19.46	240.30	.508E+07	36713.8	4.42	2.31
20.98	241.82	.566E+07	43536.6	4.71	2.17
22.49	243.33	.625E+07	50874.1	4.98	2.05
24.00	244.84	.686E+07	58726.2	5.24	1.95

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1347)	607.07	0.77	12.17	6.19	0.03	0.61
OUTFLOW: ID= 1 (3033)	607.07	0.77	12.42	6.19	0.03	0.61

ADD HYD (7522)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0106):	169.08	0.174	10.83	6.20
	+ ID2= 2 (3033):	607.07	0.767	12.42	6.19
	ID = 3 (7522):	776.15	0.938	12.33	6.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0767)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7522):	776.15	0.938	12.33	6.19
	+ ID2= 2 (7523):	1558.34	1.057	12.42	4.55

ID = 3 (0767):	2334.49	1.994	12.33	5.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0104)	ID= 1 DT= 5.0 min	Area (ha)= 24.32	Total Imp(%)= 60.80	Dir. Conn.(%)= 54.10

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.79	9.53
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.33	3.33
Length	(m)=	402.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.47
over (min)		10.00	25.00
Storage Coeff. (min)=		7.93 (ii)	24.19 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.13	0.05
			TOTALS
PEAK FLOW	(cms)=	0.71	0.17	0.862 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	11.66	26.99
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.28	0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4033)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.1820	1.0966
			0.0590	0.5558	0.2610	1.3520
			0.1030	0.7736	5.2000	1.5022

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0104)	24.320	0.862	5.25	26.99
OUTFLOW: ID= 1 (4033)	24.320	0.058	8.58	26.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.69
TIME SHIFT OF PEAK FLOW (min)=200.00
MAXIMUM STORAGE USED (ha.m.)= 0.5432

ROUTE CHN(2251)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

```
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         253.75        0.0720
                   9.37         253.59        0.0988      Main Channel
                  18.73         253.36        0.0988      Main Channel
                  28.10         252.79        0.0988      Main Channel
                  37.47         252.08        0.0988      Main Channel
                  46.83         250.72        0.0988      Main Channel
                  56.20         248.66        0.0988      Main Channel
                  65.57         246.30        0.0988      Main Channel
                  74.93         244.48        0.0988      Main Channel
                  84.30         244.06        0.0988      Main Channel
                  93.67         244.75        0.0988      Main Channel
                 103.03         246.22        0.0988      Main Channel
                 112.40         247.96        0.0988      Main Channel
                 121.77         249.62        0.0988      Main Channel
                 131.13         251.08    0.0988 /0.0720  Main Channel
                 140.50         252.68        0.0720

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.44   244.50    .305E+04          2.7          0.77      19.15
       0.88   244.94    .105E+05         16.3          1.37      10.76
       1.32   245.38    .201E+05         41.8          1.84       8.01
       1.75   245.82    .316E+05         79.5          2.22       6.63
       2.19   246.25    .451E+05        130.5          2.55       5.76
       2.63   246.69    .604E+05        197.6          2.88       5.10
       3.07   247.13    .773E+05        279.5          3.19       4.61
       3.51   247.57    .957E+05        376.9          3.47       4.23
       3.95   248.01    .116E+06        490.4          3.74       3.94
       4.39   248.45    .137E+06        620.3          3.98       3.69
       4.83   248.89    .161E+06        767.1          4.21       3.49
       5.26   249.33    .186E+06        932.0          4.42       3.32
       5.70   249.76    .213E+06       1115.7          4.63       3.18
       6.14   250.20    .241E+06       1318.5          4.82       3.05
       6.58   250.64    .272E+06       1543.5          5.01       2.93
       7.02   251.08    .304E+06       1781.5          5.17       2.84
       7.46   251.52    .339E+06       2080.4          5.42       2.71
       7.99   252.05    .384E+06       2478.1          5.70       2.58
       8.52   252.58    .433E+06       2864.4          5.84       2.52

                                       <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  4033)      24.32     0.06    8.58  26.89      0.01
0.77
   OUTFLOW: ID= 1 (  2251)      24.32     0.06    9.00  26.89      0.01
0.77


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--------------------
| ADD HYD  (  1975)|
|  1 +  2 =  3     |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2251):     24.32      0.058       9.00        26.89
     + ID2= 2 (  0767):   2334.49      1.994      12.33         5.10
       ==========================================================
       ID = 3 (  1975):   2358.81      2.049      12.33         5.32
```



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    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  2869)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         245.37        0.0720
                  28.73         244.31        0.0988      Main Channel
                  41.64         242.42        0.0988      Main Channel
                  73.98         234.62        0.0988      Main Channel
                  88.28         232.39        0.0988      Main Channel
                 152.98         228.29        0.0988      Main Channel
                 196.32         225.11        0.0988      Main Channel
                 230.05         223.11        0.0988      Main Channel
                 297.49         220.44        0.0988      Main Channel
                 348.07         217.93        0.0988      Main Channel
                 398.26         216.77        0.0988      Main Channel
                 411.34         214.94        0.0988      Main Channel
                 425.28         216.55        0.0988      Main Channel
                 497.31         217.33        0.0988      Main Channel
                 518.85         218.15        0.0988      Main Channel
                 525.17         220.68        0.0988      Main Channel
                 536.00         223.26        0.0988      Main Channel
                 604.93         232.87        0.0988      Main Channel
                 626.49         234.20    0.0988 /0.0720  Main Channel
                 646.79         237.09        0.0720

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)        (m/s)      (min)
       1.13   216.07    .438E+04          3.6          0.35      20.54
       2.27   217.21    .268E+05         22.2          0.36      20.08
       3.40   218.34    .101E+06        143.2          0.61      11.74
       4.53   219.47    .195E+06        392.6          0.87       8.28
       5.66   220.60    .302E+06        748.9          1.07       6.72
       6.80   221.74    .423E+06       1203.4          1.23       5.86
       7.93   222.87    .561E+06       1778.4          1.37       5.26
       9.06   224.00    .714E+06       2503.6          1.51       4.75
      10.20   225.14    .881E+06       3365.3          1.65       4.36
      11.33   226.27    .106E+07       4386.4          1.79       4.03
      12.46   227.40    .125E+07       5547.9          1.92       3.75
      13.60   228.54    .145E+07       6848.6          2.04       3.53
      14.73   229.67    .167E+07       8280.2          2.15       3.35
      15.86   230.80    .189E+07       9868.6          2.25       3.20
      16.99   231.93    .213E+07      11619.3          2.35       3.06
      18.13   233.07    .238E+07      13607.6          2.47       2.92
      19.26   234.20    .265E+07      15691.0          2.56       2.81
      20.71   235.65    .300E+07      19093.1          2.75       2.61
      22.15   237.09    .335E+07      22806.0          2.94       2.45

                                       <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1975)    2358.81     2.05   12.33   5.32      0.65
0.35
   OUTFLOW: ID= 1 (  2869)    2358.81     2.04   12.67   5.32      0.65
0.35
```



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--------------------
| ROUTE CHN(  2426)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         242.67        0.0720
                  79.77         241.41        0.0988      Main Channel
                  98.00         241.95        0.0988      Main Channel
                 124.46         238.84        0.0988      Main Channel
                 184.93         240.35        0.0988      Main Channel
                 205.21         232.97        0.0988      Main Channel
                 216.51         229.80        0.0988      Main Channel
                 261.88         220.95        0.0988      Main Channel
                 289.26         219.85        0.0988      Main Channel
                 306.50         218.12        0.0988      Main Channel
                 327.09         214.70        0.0988      Main Channel
                 353.31         213.37        0.0988      Main Channel
                 444.75         213.12        0.0988      Main Channel
                 482.06         214.91        0.0988      Main Channel
                 520.25         219.59        0.0988      Main Channel
                 570.56         228.44        0.0988      Main Channel
                 651.23         231.64        0.0988      Main Channel
                 712.75         235.69        0.0988      Main Channel
                 750.87         237.43    0.0988 /0.0720  Main Channel
                 822.55         243.23        0.0720

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)        (m/s)      (min)
       1.52   214.64    .132E+06        132.6          0.79      16.60
       3.04   216.16    .327E+06        539.9          1.30      10.10
       4.56   217.68    .548E+06       1181.0          1.70       7.74
       6.08   219.20    .797E+06       2028.1          2.01       6.55
       7.60   220.72    .108E+07       3037.7          2.21       5.94
       9.12   222.24    .141E+07       4466.1          2.50       5.25
      10.64   223.76    .175E+07       6195.0          2.79       4.71
      12.15   225.27    .212E+07       8187.7          3.05       4.31
      13.67   226.79    .250E+07      10447.1          3.29       3.99
      15.19   228.31    .291E+07      12976.9          3.52       3.73
      16.71   229.83    .335E+07      15159.1          3.57       3.68
      18.23   231.35    .384E+07      17754.1          3.65       3.60
      19.75   232.87    .438E+07      21091.8          3.80       3.46
      21.27   234.39    .495E+07      24916.2          3.97       3.31
      22.79   235.91    .555E+07      29074.1          4.13       3.18
      24.31   237.43    .620E+07      33340.9          4.24       3.10
      25.83   238.95    .688E+07      39129.3          4.48       2.93
      27.58   240.70    .776E+07      43759.8          4.44       2.96
      29.32   242.44    .877E+07      52168.3          4.69       2.80

                                       <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2869)    2358.81     2.04   12.67   5.32      0.02
0.79
   OUTFLOW: ID= 1 (  2426)    2358.81     2.04   12.92   5.32      0.02
0.79


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--------------------
| ADD HYD  (  7521)|
|  1 +  2 =  3     |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0103):     119.72      0.142        9.92        6.02
     + ID2= 2 (  2426):    2358.81      2.039       12.92        5.32
       ==========================================================
       ID = 3 (  7521):    2478.53      2.167       12.83        5.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1850)|
|  1 +  2 =  3     |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7520):     315.27      2.832        5.92       13.54
     + ID2= 2 (  7521):    2478.53      2.167       12.83        5.36
       ==========================================================
       ID = 3 (  1850):    2793.80      3.059        6.00        6.28

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3833)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         237.84        0.0600
                  22.99         234.22        0.0400      Main Channel
                  44.95         233.52        0.0400      Main Channel
                  66.98         235.39        0.0400      Main Channel
                  96.63         229.38        0.0400      Main Channel
                 154.98         213.04        0.0400      Main Channel
                 165.76         211.55        0.0400      Main Channel
                 220.84         211.14        0.0400      Main Channel
                 231.62         212.96        0.0400      Main Channel
                 242.41         210.51        0.0400      Main Channel
                 296.18         209.36        0.0400      Main Channel
                 327.44         212.40        0.0400      Main Channel
                 361.52         216.08        0.0400      Main Channel
                 400.84         225.67        0.0400      Main Channel
                 427.16         229.49        0.0400      Main Channel
                 452.02         234.14        0.0400      Main Channel
                 483.31         235.70        0.0400      Main Channel
                 531.61         238.03        0.0400      Main Channel
                 557.88         242.92    0.0400 /0.0600  Main Channel
                 612.75         245.67        0.0600

      <-------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)        (m/s)      (min)
       1.42   210.78    .171E+05         89.5          1.60       3.18
       2.84   212.20    .675E+05        515.7          2.32       2.18
       4.26   213.62    .143E+06       1598.6          3.41       1.49
       5.68   215.04    .227E+06       3255.1          4.36       1.16
       7.11   216.47    .319E+06       5452.9          5.20       0.98
       8.53   217.89    .417E+06       8232.7          6.01       0.84
       9.95   219.31    .519E+06      11504.4          6.74       0.75
```

11.37	220.73	.626E+06	15260.1	7.42	0.68
12.79	222.15	.738E+06	19497.2	8.04	0.63
14.21	223.57	.855E+06	24216.0	8.62	0.59
15.63	224.99	.976E+06	29419.2	9.18	0.55
17.05	226.41	.110E+07	34965.4	9.66	0.53
18.48	227.84	.123E+07	40890.4	10.08	0.50
19.90	229.26	.137E+07	47346.1	10.49	0.48
21.32	230.68	.152E+07	54358.0	10.89	0.47
22.74	232.10	.167E+07	61948.4	11.29	0.45
24.16	233.52	.183E+07	70113.1	11.67	0.43
26.32	235.68	.211E+07	79092.4	11.42	0.44
28.48	237.84	.244E+07	93235.9	11.65	0.44

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (1850)	2793.80	3.06	6.00	6.28	0.05
1.60						
	OUTFLOW: ID= 1 (3833)	2793.80	3.06	6.00	6.28	0.05
1.60						

ROUTE CHN(3834)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.84	0.0600	
22.99	234.22	0.0400	Main Channel
44.95	233.52	0.0400	Main Channel
66.98	235.39	0.0400	Main Channel
96.63	229.38	0.0400	Main Channel
154.98	213.04	0.0400	Main Channel
165.76	211.55	0.0400	Main Channel
220.84	211.14	0.0400	Main Channel
231.62	212.96	0.0400	Main Channel
242.41	210.51	0.0400	Main Channel
296.18	209.36	0.0400	Main Channel
327.44	212.40	0.0400	Main Channel
361.52	216.08	0.0400	Main Channel
400.84	225.67	0.0400	Main Channel
427.16	229.49	0.0400	Main Channel
452.02	234.14	0.0400	Main Channel
483.31	235.70	0.0400	Main Channel
531.61	238.03	0.0400	Main Channel
557.88	242.92	0.0400 /0.0600	Main Channel
612.75	245.67	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.42	210.78	.147E+05	38.3	0.68	6.40
2.84	212.20	.583E+05	220.9	1.00	4.40
4.26	213.62	.123E+06	684.7	1.46	3.00
5.68	215.04	.196E+06	1394.1	1.87	2.34
7.11	216.47	.275E+06	2335.3	2.23	1.96
8.53	217.89	.360E+06	3525.9	2.57	1.70
9.95	219.31	.448E+06	4927.0	2.89	1.52
11.37	220.73	.540E+06	6535.5	3.18	1.38
12.79	222.15	.637E+06	8350.1	3.44	1.27

14.21	223.57	.737E+06	10371.1	3.69	1.18
15.63	224.99	.842E+06	12599.5	3.93	1.11
17.05	226.41	.951E+06	14974.8	4.14	1.06
18.48	227.84	.107E+07	17512.3	4.32	1.01
19.90	229.26	.118E+07	20277.1	4.49	0.97
21.32	230.68	.131E+07	23280.1	4.67	0.94
22.74	232.10	.144E+07	26530.9	4.83	0.91
24.16	233.52	.158E+07	30027.7	5.00	0.88
26.32	235.68	.182E+07	33873.2	4.89	0.89
28.48	237.84	.210E+07	39930.5	4.99	0.88

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (3833)	2793.80	3.06	6.00	6.28	0.11
0.68						
	OUTFLOW: ID= 1 (3834)	2793.80	3.03	6.17	6.28	0.11
0.68						

ADD HYD (7518)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3834):	2793.80	3.030	6.17	6.28
+ ID2= 2 (0099):	17.90	0.058	7.25	7.36
ID = 3 (7518):	2811.70	3.080	6.17	6.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1794)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7518):	2811.70	3.080	6.17	6.29
+ ID2= 2 (7519):	18125.19	13.218	5.58	4.43
ID = 3 (1794):	20936.89	15.878	5.75	4.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3102)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	235.63	0.0600	
22.65	231.88	0.0400	Main Channel
45.35	226.64	0.0400	Main Channel
64.04	224.01	0.0400	Main Channel
105.15	221.17	0.0400	Main Channel
125.84	220.50	0.0400	Main Channel
136.06	219.39	0.0400	Main Channel

166.93	218.57	0.0400	Main Channel		
238.92	214.07	0.0400	Main Channel		
259.61	208.28	0.0400	Main Channel		
270.09	206.98	0.0400	Main Channel		
321.40	208.58	0.0400	Main Channel		
444.95	208.50	0.0400	Main Channel		
455.44	208.75	0.0400	Main Channel		
486.35	210.85	0.0400	Main Channel		
537.83	215.43	0.0400	Main Channel		
548.04	217.29	0.0400	Main Channel		
589.19	228.75	0.0400	Main Channel		
624.21	239.36	0.0400 /0.0600	Main Channel		
649.06	243.52	0.0600			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.40	208.38	.387E+05	27.3	0.69	23.61
2.81	209.79	.298E+06	332.2	1.09	14.94
4.21	211.19	.613E+06	1029.6	1.64	9.92
5.62	212.60	.959E+06	2052.0	2.10	7.79
7.02	214.00	.133E+07	3376.2	2.48	6.58
8.43	215.41	.175E+07	4877.0	2.73	5.97
9.83	216.81	.221E+07	6783.0	3.01	5.42
11.23	218.21	.271E+07	9056.7	3.27	4.99
12.64	219.62	.326E+07	11461.4	3.44	4.74
14.04	221.02	.386E+07	14497.8	3.68	4.43
15.45	222.43	.450E+07	18004.6	3.92	4.16
16.85	223.83	.517E+07	21971.2	4.16	3.93
18.26	225.24	.588E+07	26615.3	4.43	3.68
19.66	226.64	.661E+07	31707.7	4.70	3.47
21.46	228.44	.756E+07	39342.3	5.09	3.20
23.26	230.24	.855E+07	47690.6	5.46	2.99
25.05	232.03	.955E+07	56734.9	5.82	2.81
26.85	233.83	.106E+08	66487.5	6.15	2.65
28.65	235.63	.116E+08	76927.2	6.47	2.52

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (1794)	20936.89	15.88	5.75	4.68	0.82
0.69						
	OUTFLOW: ID= 1 (3102)	20936.89	14.59	6.08	4.68	0.74
0.69						

CALIB			
NASHYD (0137)	Area (ha)=	214.33	Curve Number (CN)= 68.9
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	2.84	

Unit Hyd Qpeak (cms)= 1.291

PEAK FLOW (cms)= 0.312 (i)
TIME TO PEAK (hrs)= 9.583
RUNOFF VOLUME (mm)= 6.972
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1379)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0137):	214.33	0.312	9.58	6.97
+ ID2= 2 (3102):	20936.89	14.587	6.08	4.68
ID = 3 (1379):	21151.22	14.755	6.08	4.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3086)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	242.96	0.0600	
17.29	239.72	0.0400	Main Channel
45.47	228.86	0.0400	Main Channel
55.54	225.33	0.0400	Main Channel
65.64	223.40	0.0400	Main Channel
75.72	220.95	0.0400	Main Channel
106.06	216.89	0.0400	Main Channel
162.55	211.73	0.0400	Main Channel
194.85	209.64	0.0400	Main Channel
227.12	207.38	0.0400	Main Channel
237.32	207.63	0.0400	Main Channel
338.11	205.98	0.0400	Main Channel
363.74	206.44	0.0400	Main Channel
385.95	205.26	0.0400	Main Channel
418.80	206.21	0.0400	Main Channel
485.30	208.77	0.0400	Main Channel
502.53	209.44	0.0400	Main Channel
535.36	212.23	0.0400	Main Channel
585.45	231.73	0.0400 /0.0600	Main Channel
619.10	237.64	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.69	206.95	.565E+05	136.7	1.15	6.88
3.37	208.63	.239E+06	1058.0	2.11	3.77
5.06	210.32	.483E+06	3010.2	2.97	2.67
6.74	212.00	.765E+06	5954.3	3.71	2.14
8.43	213.69	.108E+07	10057.1	4.46	1.78
10.11	215.37	.140E+07	15109.6	5.13	1.55
11.80	217.06	.175E+07	21088.8	5.74	1.38
13.49	218.75	.211E+07	28130.6	6.34	1.25
15.17	220.43	.249E+07	36062.8	6.90	1.15
16.86	222.12	.288E+07	45083.2	7.46	1.06
18.54	223.80	.328E+07	55037.2	8.00	0.99
20.23	225.49	.369E+07	65783.5	8.51	0.93
21.91	227.17	.410E+07	77676.1	9.02	0.88
23.60	228.86	.453E+07	90410.5	9.52	0.83
25.36	230.62	.498E+07	105171.3	10.07	0.79
27.11	232.37	.543E+07	121114.2	10.62	0.75
28.87	234.13	.590E+07	138462.8	11.18	0.71
30.62	235.88	.638E+07	156806.2	11.71	0.68
32.38	237.64	.688E+07	176149.9	12.21	0.65

<---- hydrograph ----> <-pipe /
channel->
AREA QPEAK TPEAK R.V. MAX DEPTH MAX
VEL
(ha) (cms) (hrs) (mm) (m)
(m/s)
INFLOW : ID= 2 (1379) 21151.22 14.75 6.08 4.70 0.18
1.15
OUTFLOW: ID= 1 (3086) 21151.22 14.66 6.17 4.70 0.18
1.15

| ROUTE CHN(3080)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.15	0.0600	
59.97	222.07	0.0400	Main Channel
100.74	220.28	0.0400	Main Channel
168.62	219.35	0.0400	Main Channel
211.41	211.74	0.0400	Main Channel
232.70	210.87	0.0400	Main Channel
275.50	210.70	0.0400	Main Channel
297.06	205.45	0.0400	Main Channel
339.49	203.13	0.0400	Main Channel
361.10	204.93	0.0400	Main Channel
446.67	205.37	0.0400	Main Channel
512.28	207.04	0.0400	Main Channel
531.40	209.91	0.0400	Main Channel
552.02	211.42	0.0400	Main Channel
561.92	213.82	0.0400	Main Channel
605.24	231.50	0.0400	Main Channel
623.12	236.21	0.0400	Main Channel
668.49	235.67	0.0400	Main Channel
699.10	235.90	0.0400 /0.0600	Main Channel
709.73	234.68	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.72	204.85	.287E+05	55.2	1.24	8.68
3.43	206.56	.195E+06	543.8	1.80	5.97
5.15	208.28	.442E+06	1919.0	2.80	3.84
6.86	209.99	.712E+06	4031.3	3.65	2.94
8.58	211.71	.104E+07	6223.1	3.86	2.78
10.29	213.42	.143E+07	10197.3	4.61	2.33
12.01	215.14	.183E+07	15045.8	5.30	2.03
13.72	216.85	.225E+07	20702.4	5.93	1.81
15.44	218.57	.269E+07	27133.9	6.51	1.65
17.15	220.28	.315E+07	31590.7	6.46	1.66
18.92	222.05	.372E+07	41013.0	7.10	1.51
20.69	223.82	.433E+07	51608.9	7.68	1.40
22.46	225.59	.497E+07	63335.9	8.22	1.31
24.23	227.36	.562E+07	76173.9	8.73	1.23
26.00	229.13	.630E+07	90149.0	9.22	1.17
27.77	230.90	.699E+07	105224.9	9.71	1.11
29.54	232.67	.768E+07	121122.8	10.17	1.06
31.31	234.44	.838E+07	137912.7	10.61	1.01
33.08	236.21	.911E+07	143495.5	10.15	1.06

<---- hydrograph ----> <-pipe /

channel->
AREA QPEAK TPEAK R.V. MAX DEPTH MAX
VEL
(ha) (cms) (hrs) (mm) (m)
(m/s)
INFLOW : ID= 2 (3086) 21151.22 14.66 6.17 4.70 0.46
1.24
OUTFLOW: ID= 1 (3080) 21151.22 14.53 6.33 4.70 0.45
1.24

| ROUTE CHN(3073)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	231.37	0.0600	
31.57	227.67	0.0400	Main Channel
59.06	218.88	0.0400	Main Channel
84.27	216.33	0.0400	Main Channel
134.68	212.47	0.0400	Main Channel
192.19	210.59	0.0400	Main Channel
232.35	208.13	0.0400	Main Channel
272.51	202.77	0.0400	Main Channel
362.86	203.55	0.0400	Main Channel
372.90	200.59	0.0400	Main Channel
403.02	203.31	0.0400	Main Channel
433.14	204.32	0.0400	Main Channel
497.76	205.03	0.0400	Main Channel
573.24	205.59	0.0400	Main Channel
593.89	206.63	0.0400	Main Channel
686.47	209.16	0.0400	Main Channel
742.22	212.47	0.0400	Main Channel
761.95	216.17	0.0400	Main Channel
812.27	229.02	0.0400 /0.0600	Main Channel
847.00	234.02	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.52	202.11	.113E+05	12.0	0.72	15.58
3.05	203.64	.765E+05	83.4	0.73	15.29
4.57	205.16	.270E+06	466.3	1.16	9.66
6.10	206.68	.602E+06	1447.3	1.61	6.93
7.62	208.21	.997E+06	2984.7	2.01	5.57
9.15	209.73	.147E+07	5129.4	2.35	4.76
10.67	211.26	.200E+07	7937.8	2.67	4.19
12.20	212.78	.259E+07	11433.6	2.96	3.78
13.72	214.31	.324E+07	16038.3	3.33	3.36
15.25	215.83	.391E+07	21330.0	3.66	3.05
16.77	217.36	.460E+07	27414.8	3.99	2.80
18.30	218.88	.532E+07	34222.0	4.31	2.59
20.08	220.67	.619E+07	43616.3	4.73	2.36
21.87	222.45	.706E+07	53939.8	5.12	2.18
23.65	224.24	.795E+07	65171.8	5.50	2.03
25.44	226.02	.886E+07	77295.2	5.85	1.91
27.22	227.81	.978E+07	90298.5	6.19	1.81
29.00	229.59	.107E+08	104409.5	6.53	1.71
30.79	231.37	.117E+08	119866.7	6.87	1.63

<---- hydrograph ----> <-pipe /
channel->
AREA QPEAK TPEAK R.V. MAX DEPTH MAX

VEL
(ha) (cms) (hrs) (mm) (m)
(m/s)
INFLOW : ID= 2 (3080) 21151.22 14.53 6.33 4.70 1.58
0.72
OUTFLOW: ID= 1 (3073) 21151.22 14.04 6.67 4.70 1.56
0.72

| ROUTE CHN(3056)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	239.96	0.0600	
42.91	236.03	0.0400	Main Channel
66.25	231.46	0.0400	Main Channel
104.16	223.16	0.0400	Main Channel
129.44	213.90	0.0400	Main Channel
154.72	208.23	0.0400	Main Channel
206.42	200.19	0.0400	Main Channel
230.56	199.67	0.0400	Main Channel
243.20	201.44	0.0400	Main Channel
370.14	201.99	0.0400	Main Channel
463.45	204.38	0.0400	Main Channel
503.44	205.92	0.0400	Main Channel
623.41	205.55	0.0400	Main Channel
650.08	205.09	0.0400	Main Channel
737.95	206.56	0.0400	Main Channel
758.58	208.59	0.0400	Main Channel
779.21	211.95	0.0400	Main Channel
841.23	213.11	0.0400	Main Channel
873.39	216.30	0.0400 /0.0600	Main Channel
920.00	225.54	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.28	200.95	.230E+05	23.3	0.72	16.48
2.56	202.23	.112E+06	112.7	0.72	16.52
3.84	203.51	.308E+06	508.5	1.17	10.08
5.12	204.79	.555E+06	1195.7	1.53	7.74
6.40	206.07	.907E+06	1820.9	1.43	8.31
7.68	207.35	.143E+07	3663.4	1.83	6.49
8.95	208.63	.197E+07	6124.4	2.21	5.35
10.23	209.91	.252E+07	9139.7	2.57	4.60
11.51	211.19	.309E+07	12639.4	2.90	4.08
12.79	212.47	.368E+07	16231.8	3.13	3.78
14.07	213.74	.432E+07	20255.8	3.33	3.55
15.35	215.02	.498E+07	25279.0	3.61	3.28
16.63	216.30	.565E+07	30782.5	3.87	3.06
17.91	217.58	.634E+07	37116.3	4.16	2.85
19.45	219.12	.718E+07	45374.5	4.49	2.64
20.99	220.66	.803E+07	54308.5	4.81	2.46
22.53	222.20	.889E+07	63903.5	5.11	2.32
24.07	223.74	.977E+07	74084.3	5.39	2.20
25.61	225.28	.107E+08	84796.0	5.65	2.10

<---- hydrograph ----> <-pipe /
channel->
AREA QPEAK TPEAK R.V. MAX DEPTH MAX
VEL
(ha) (cms) (hrs) (mm) (m)

(m/s)
INFLOW : ID= 2 (3073) 21151.22 14.04 6.67 4.70 0.77
0.72
OUTFLOW: ID= 1 (3056) 21151.22 13.53 6.92 4.70 0.74
0.72

| CALIB |
| NASHYD (0134)| Area (ha)= 81.39 Curve Number (CN)= 71.9
|ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.93

Unit Hyd Qpeak (cms)= 0.718

PEAK FLOW (cms)= 0.180 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 7.804
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| NASHYD (0136)| Area (ha)= 153.02 Curve Number (CN)= 62.7
|ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.74

Unit Hyd Qpeak (cms)= 0.952

PEAK FLOW (cms)= 0.184 (i)
TIME TO PEAK (hrs)= 9.500
RUNOFF VOLUME (mm)= 5.599
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.133

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB |
| STANDHYD (0135)| Area (ha)= 88.21
|ID= 1 DT= 5.0 min | Total Imp(%)= 66.00 Dir. Conn.(%)= 60.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	58.22	29.99
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.52	2.52
Length	(m)=	766.86	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.11
over (min)		15.00	35.00
Storage Coeff. (min)=		12.69 (ii)	30.68 (ii)
Unit Hyd. Tpeak (min)=		15.00	35.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	3.215 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	28.64

```
     TOTAL RAINFALL   (mm)=        42.00          42.00          42.00
     RUNOFF COEFFICIENT   =         0.95           0.27           0.68


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  71.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4037)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |     5.8500
1.8395
                             1.6700        1.0111   |     7.8000
2.1928
                             3.3400        1.4009   |    78.0000
2.4364

                                  AREA        QPEAK        TPEAK        R.V.
                                  (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  0135)       88.210       3.215         5.25       28.64
   OUTFLOW: ID= 1 (  4037)       88.210       1.628         5.75       28.64

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 50.63
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.9868

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| ROUTE CHN(  2544)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 51.34         244.17        0.0600
                 61.34         243.00        0.0400      Main Channel
                 62.99         242.75        0.0400      Main Channel
                 71.34         241.79        0.0400      Main Channel
                 72.99         241.36        0.0400      Main Channel
                 91.34         236.80        0.0400      Main Channel
                 92.99         236.65        0.0400      Main Channel
                101.34         235.31        0.0400      Main Channel
                131.34         235.31        0.0400      Main Channel
                132.99         235.49        0.0400      Main Channel
                141.34         235.49        0.0400      Main Channel
                142.99         235.77        0.0400      Main Channel
                151.34         236.81        0.0400      Main Channel
                152.99         237.06        0.0400      Main Channel
                161.34         238.57        0.0400      Main Channel
                162.99         238.79        0.0400      Main Channel
                171.34         240.21        0.0400      Main Channel
                181.34         241.50        0.0400      Main Channel
                192.99         241.86    0.0400 /0.0600  Main Channel
                200.44         242.28        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
```



```
       0.36   235.67    .722E+04         24.6          1.83        4.90
       0.73   236.04    .162E+05         87.6          2.91        3.08
       1.09   236.40    .261E+05        182.1          3.75        2.39
       1.46   236.77    .372E+05        305.5          4.42        2.03
       1.82   237.13    .492E+05        466.2          5.10        1.76
       2.18   237.49    .619E+05        660.0          5.73        1.56
       2.55   237.86    .754E+05        884.4          6.31        1.42
       2.91   238.22    .895E+05       1139.4          6.85        1.31
       3.28   238.59    .104E+06       1424.8          7.35        1.22
       3.64   238.95    .120E+06       1736.7          7.80        1.15
       4.00   239.31    .136E+06       2085.1          8.25        1.09
       4.37   239.68    .153E+06       2466.0          8.67        1.03
       4.73   240.04    .171E+06       2880.0          9.08        0.99
       5.09   240.40    .189E+06       3320.0          9.45        0.95
       5.46   240.77    .208E+06       3788.8          9.79        0.92
       5.82   241.13    .228E+06       4294.0         10.12        0.89
       6.19   241.50    .249E+06       4837.4         10.44        0.86
       6.55   241.86    .272E+06       5175.8         10.24        0.88
       6.97   242.28    .301E+06       5979.2         10.70        0.84

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  4037)      88.21     1.63    5.75  28.64      0.02
1.83
   OUTFLOW: ID= 1 (  2544)      88.21     1.62    5.83  28.64      0.02
1.83


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--------------------
| ROUTE CHN(  3859)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         227.91        0.0600
                 4.13         228.01        0.0400      Main Channel
                14.15         227.14        0.0400      Main Channel
                20.18         226.78        0.0400      Main Channel
                24.17         226.08        0.0400      Main Channel
                30.78         224.64        0.0400      Main Channel
                34.18         224.20        0.0400      Main Channel
                54.21         219.73        0.0400      Main Channel
                62.60         218.27        0.0400      Main Channel
                64.23         217.92        0.0400      Main Channel
                74.24         217.21        0.0400      Main Channel
                94.41         216.14        0.0400      Main Channel
               114.30         216.92        0.0400      Main Channel
               115.62         217.15        0.0400      Main Channel
               124.32         219.85        0.0400      Main Channel
               136.83         222.60        0.0400      Main Channel
               144.35         224.00        0.0400      Main Channel
               154.37         224.84        0.0400      Main Channel
               164.38         226.20    0.0400 /0.0600  Main Channel
               174.40         227.61        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.59   216.73    .541E+04         12.8          1.65        7.02
       1.18   217.32    .205E+05         84.1          2.86        4.06
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       1.78   217.92    .405E+05        227.8          3.92        2.96
       2.37   218.51    .637E+05        455.8          4.98        2.33
       2.96   219.10    .890E+05        750.6          5.87        1.98
       3.55   219.69    .117E+06       1113.9          6.66        1.74
       4.14   220.28    .146E+06       1547.7          7.38        1.57
       4.73   220.87    .178E+06       2051.2          8.03        1.45
       5.33   221.47    .212E+06       2628.3          8.63        1.34
       5.92   222.06    .248E+06       3281.5          9.21        1.26
       6.51   222.65    .287E+06       4012.2          9.75        1.19
       7.10   223.24    .327E+06       4812.9         10.24        1.13
       7.69   223.83    .371E+06       5699.0         10.71        1.08
       8.28   224.42    .417E+06       6554.7         10.96        1.06
       8.88   225.02    .467E+06       7523.0         11.22        1.03
       9.47   225.61    .521E+06       8696.4         11.63        1.00
      10.06   226.20    .577E+06       9972.0         12.03        0.96
      10.97   227.11    .670E+06      12229.0         12.71        0.91
      11.87   228.01    .774E+06      15246.2         13.73        0.85

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2544)      88.21     1.62    5.83  28.64      0.07
1.65
   OUTFLOW: ID= 1 (  3859)      88.21     1.61    5.92  28.64      0.07
1.65


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--------------------
| ADD HYD  (  1668)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0134):     81.39      0.180        8.50        7.80
     + ID2= 2 (  0136):    153.02      0.184        9.50        5.60
       ==========================================================
       ID = 3 (  1668):    234.41      0.361        9.00        6.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1668)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1668):    234.41      0.361        9.00        6.36
     + ID2= 2 (  3056):  21151.22     13.527        6.92        4.70
       ==========================================================
       ID = 1 (  1668):  21385.63     13.820        6.92        4.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1668)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1668):  21385.63     13.820        6.92        4.72
```



```
     + ID2= 2 (  3859):     88.21      1.613        5.92       28.64
       ==========================================================
       ID = 3 (  1668):  21473.84     15.205        6.92        4.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3047)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         228.32        0.0600
                14.07         228.92        0.0400      Main Channel
                24.15         228.06        0.0400      Main Channel
                54.43         217.45        0.0400      Main Channel
                66.51         214.12        0.0400      Main Channel
                84.92         209.64        0.0400      Main Channel
                94.98         208.10        0.0400      Main Channel
               145.46         201.64        0.0400      Main Channel
               175.74         198.93        0.0400      Main Channel
               185.81         199.02        0.0400      Main Channel
               226.03         200.04        0.0400      Main Channel
               286.96         200.07        0.0400      Main Channel
               307.40         199.71        0.0400      Main Channel
               327.69         199.37        0.0400      Main Channel
               358.03         209.82        0.0400      Main Channel
               368.25         210.34        0.0400      Main Channel
               388.51         209.41        0.0400      Main Channel
               454.52         213.59        0.0400      Main Channel
               465.15         214.50    0.0400 /0.0600  Main Channel
               525.40         221.08        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       1.56   200.49    .993E+05        136.0          1.07       12.18
       3.11   202.04    .323E+06        899.2          2.18        5.99
       4.67   203.60    .569E+06       2182.6          3.01        4.34
       6.23   205.16    .835E+06       3929.1          3.69        3.54
       7.79   206.72    .112E+07       6122.5          4.28        3.05
       9.34   208.27    .143E+07       8764.9          4.81        2.72
      10.90   209.83    .176E+07      11495.9          5.13        2.55
      12.46   211.39    .215E+07      14429.8          5.26        2.48
      14.01   212.94    .259E+07      18526.1          5.61        2.33
      15.57   214.50    .306E+07      23383.6          5.99        2.18
      17.17   216.10    .357E+07      29887.8          6.55        1.99
      18.77   217.70    .411E+07      37089.2          7.06        1.85
      20.38   219.31    .468E+07      45040.2          7.54        1.73
      21.98   220.91    .527E+07      53685.9          7.98        1.64
      23.58   222.51    .588E+07      63080.5          8.41        1.55
      25.18   224.11    .649E+07      73156.6          8.83        1.48
      26.79   225.72    .711E+07      83887.8          9.25        1.41
      28.39   227.32    .773E+07      95258.5          9.65        1.35
      29.99   228.92    .837E+07     107647.3         10.08        1.30

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1668)   21473.84    15.20    6.92   4.82      0.17
1.07
```

OUTFLOW: ID= 1 (3047) 21473.84 15.02 7.08 4.82 0.17
1.07

| ROUTE CHN(3026)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	235.66	0.0600	
29.03	234.63	0.0400	Main Channel
43.17	231.76	0.0400	Main Channel
84.31	221.27	0.0400	Main Channel
123.90	215.83	0.0400	Main Channel
177.78	211.47	0.0400	Main Channel
211.47	210.04	0.0400	Main Channel
262.32	205.03	0.0400	Main Channel
314.19	202.02	0.0400	Main Channel
361.21	199.49	0.0400	Main Channel
446.77	198.41	0.0400	Main Channel
457.01	196.07	0.0400	Main Channel
467.09	196.22	0.0400	Main Channel
483.46	205.60	0.0400	Main Channel
500.84	205.82	0.0400	Main Channel
534.80	205.96	0.0400	Main Channel
596.64	209.71	0.0400	Main Channel
662.00	210.30	0.0400	Main Channel
747.46	219.52	0.0400 /0.0600	Main Channel
847.00	234.00	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.95	198.02	.149E+05	38.7	1.28	6.43
3.91	199.98	.838E+05	221.2	1.31	6.31
5.86	201.93	.221E+06	919.2	2.06	4.00
7.82	203.89	.395E+06	2109.4	2.65	3.12
9.77	205.84	.604E+06	3665.1	3.00	2.75
11.73	207.80	.898E+06	5924.9	3.26	2.53
13.68	209.75	.124E+07	9187.7	3.66	2.26
15.63	211.70	.169E+07	12933.4	3.79	2.18
17.59	213.66	.220E+07	18928.9	4.27	1.93
19.54	215.61	.274E+07	26059.0	4.71	1.75
21.50	217.57	.332E+07	34615.1	5.16	1.60
23.45	219.52	.394E+07	44374.1	5.58	1.48
25.52	221.59	.462E+07	56932.2	6.10	1.35
27.59	223.66	.532E+07	71168.0	6.62	1.25
29.66	225.73	.605E+07	86758.6	7.10	1.16
31.72	227.79	.680E+07	103691.0	7.54	1.09
33.79	229.86	.758E+07	121955.6	7.96	1.04
35.86	231.93	.838E+07	141636.7	8.37	0.99
37.93	234.00	.920E+07	163688.0	8.81	0.94

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3047)	21473.84	15.02	7.08	4.82	0.76	1.28
OUTFLOW: ID= 1 (3026)	21473.84	14.94	7.17	4.82	0.76	1.28

| ROUTE CHN(3019)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	235.82	0.0600	
21.19	235.11	0.0400	Main Channel
32.85	233.32	0.0400	Main Channel
91.24	206.98	0.0400	Main Channel
99.30	205.27	0.0400	Main Channel
149.63	197.18	0.0400	Main Channel
172.98	195.39	0.0400	Main Channel
184.65	197.10	0.0400	Main Channel
260.62	197.93	0.0400	Main Channel
295.51	199.81	0.0400	Main Channel
316.79	197.30	0.0400	Main Channel
359.96	197.67	0.0400	Main Channel
412.73	198.12	0.0400	Main Channel
442.89	202.32	0.0400	Main Channel
503.34	203.78	0.0400	Main Channel
574.07	204.97	0.0400	Main Channel
634.44	208.73	0.0400	Main Channel
728.11	224.82	0.0400	Main Channel
775.43	231.81	0.0400 /0.0600	Main Channel
797.55	233.43	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.92	197.31	.200E+05	23.6	0.62	14.13
3.83	199.22	.223E+06	460.8	1.08	8.07
5.75	201.14	.518E+06	1701.7	1.72	5.07
7.67	203.06	.845E+06	3480.3	2.15	4.05
9.58	204.97	.126E+07	5638.1	2.34	3.72
11.50	206.89	.175E+07	9270.1	2.76	3.15
13.42	208.81	.228E+07	13800.2	3.16	2.76
15.33	210.72	.284E+07	19468.2	3.58	2.43
17.25	212.64	.341E+07	25940.5	3.97	2.19
19.17	214.56	.400E+07	33192.7	4.34	2.01
21.09	216.48	.460E+07	41207.6	4.68	1.86
23.00	218.39	.522E+07	49973.0	5.00	1.74
24.92	220.31	.585E+07	59480.5	5.31	1.64
26.84	222.23	.650E+07	69724.5	5.60	1.55
28.75	224.14	.716E+07	80701.6	5.88	1.48
30.67	226.06	.784E+07	92314.5	6.15	1.42
32.59	227.98	.854E+07	104609.8	6.40	1.36
34.50	229.89	.926E+07	117643.5	6.64	1.31
36.42	231.81	.999E+07	131420.5	6.87	1.27

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3026)	21473.84	14.94	7.17	4.82	1.21	0.62
OUTFLOW: ID= 1 (3019)	21473.84	14.48	7.33	4.82	1.18	0.62

| ROUTE CHN(3015)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	227.04	0.0600	
4.00	227.04	0.0400	Main Channel
30.30	220.19	0.0400	Main Channel
53.55	215.19	0.0400	Main Channel
105.13	207.08	0.0400	Main Channel
135.35	205.49	0.0400	Main Channel
149.53	204.12	0.0400	Main Channel
175.73	196.75	0.0400	Main Channel
185.80	196.41	0.0400	Main Channel
226.35	197.04	0.0400	Main Channel
246.45	194.02	0.0400	Main Channel
266.57	195.97	0.0400	Main Channel
307.16	196.32	0.0400	Main Channel
344.41	196.83	0.0400	Main Channel
460.41	196.24	0.0400	Main Channel
475.45	197.87	0.0400	Main Channel
509.08	205.82	0.0400	Main Channel
534.97	209.63	0.0400	Main Channel
576.61	213.53	0.0400 /0.0600	Main Channel
668.91	229.60	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.63	195.65	.886E+04	19.1	0.85	7.72
3.25	197.27	.108E+06	253.2	0.93	7.08
4.88	198.90	.303E+06	1374.9	1.79	3.68
6.50	200.52	.508E+06	3155.0	2.45	2.68
8.13	202.15	.720E+06	5502.7	3.02	2.18
9.76	203.78	.940E+06	8375.1	3.52	1.87
11.38	205.40	.117E+07	11602.6	3.91	1.68
13.01	207.03	.142E+07	14971.4	4.16	1.58
14.63	208.65	.169E+07	19340.2	4.51	1.46
16.26	210.28	.198E+07	24188.1	4.83	1.36
17.88	211.90	.228E+07	29479.0	5.10	1.29
19.51	213.53	.260E+07	35359.1	5.37	1.23
21.44	215.46	.300E+07	44089.6	5.80	1.13
23.37	217.39	.342E+07	53824.6	6.22	1.06
25.30	219.32	.385E+07	64415.7	6.61	1.00
27.23	221.25	.429E+07	76294.0	7.02	0.94
29.16	223.18	.475E+07	89429.8	7.43	0.89
31.09	225.11	.523E+07	103488.7	7.82	0.84
33.02	227.04	.572E+07	118475.5	8.18	0.80

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3019)	21473.84	14.48	7.33	4.82	1.23	0.85
OUTFLOW: ID= 1 (3015)	21473.84	14.37	7.58	4.82	1.22	0.85

| ROUTE CHN(3004)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
19.74	230.13	0.0400	Main Channel
30.96	225.98	0.0400	Main Channel
97.31	195.73	0.0400	Main Channel
164.25	194.77	0.0400	Main Channel
208.23	196.00	0.0400	Main Channel
385.90	198.10	0.0400	Main Channel
532.16	199.30	0.0400	Main Channel
629.41	201.30	0.0400	Main Channel
663.00	200.81	0.0400	Main Channel
685.11	196.10	0.0400	Main Channel
819.12	195.35	0.0400	Main Channel
841.68	193.06	0.0400	Main Channel
864.24	195.58	0.0400	Main Channel
886.79	196.84	0.0400	Main Channel
924.60	197.75	0.0400	Main Channel
985.58	224.03	0.0400	Main Channel
1007.54	232.73	0.0400	Main Channel
1018.37	233.46	0.0400 /0.0600	Main Channel
1070.01	233.20	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.06	195.12	.234E+05	27.7	0.60	14.06
4.11	197.17	.314E+06	655.8	1.06	7.98
6.17	199.23	.899E+06	2770.9	1.56	5.41
8.23	201.29	.169E+07	6933.9	2.08	4.06
10.29	203.35	.258E+07	13887.5	2.73	3.09
12.34	205.40	.347E+07	22667.3	3.30	2.55
14.40	207.46	.438E+07	33104.2	3.82	2.21
16.46	209.52	.530E+07	45085.9	4.31	1.96
18.52	211.58	.622E+07	58529.0	4.76	1.77
20.57	213.63	.716E+07	73368.6	5.19	1.63
22.63	215.69	.810E+07	89552.5	5.59	1.51
24.69	217.75	.906E+07	107037.7	5.98	1.41
26.75	219.81	.100E+08	125788.3	6.35	1.33
28.80	221.86	.110E+08	145773.5	6.71	1.26
30.86	223.92	.120E+08	166967.2	7.05	1.20
32.92	225.98	.130E+08	189303.7	7.38	1.14
35.41	228.47	.142E+08	218739.5	7.80	1.08
37.91	230.97	.154E+08	249959.3	8.19	1.03
40.40	233.46	.167E+08	281354.6	8.51	0.99

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3015)	21473.84	14.37	7.58	4.82	1.07	0.60
OUTFLOW: ID= 1 (3004)	21473.84	13.93	7.83	4.82	1.04	0.60

| ROUTE CHN(2996)|

| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<-------- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	227.20	0.0600	
24.46	224.17	0.0400	Main Channel
38.28	218.75	0.0400	Main Channel
81.36	203.25	0.0400	Main Channel
122.23	198.59	0.0400	Main Channel
226.06	197.86	0.0400	Main Channel
260.50	198.04	0.0400	Main Channel
345.52	196.34	0.0400	Main Channel
383.38	194.65	0.0400	Main Channel
408.40	192.03	0.0400	Main Channel
420.61	194.44	0.0400	Main Channel
454.85	194.13	0.0400	Main Channel
471.59	194.43	0.0400	Main Channel
504.77	199.16	0.0400	Main Channel
526.72	204.81	0.0400	Main Channel
549.08	211.12	0.0400	Main Channel
571.04	221.27	0.0400	Main Channel
593.15	228.53	0.0400	Main Channel
615.10	229.29	0.0400 /0.0600	Main Channel
663.93	230.01	0.0600	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.78	193.81	.860E+04	16.9	0.73	8.51
3.56	195.59	.618E+05	165.8	1.00	6.21
5.34	197.37	.162E+06	584.2	1.34	4.63
7.13	199.16	.367E+06	1459.9	1.48	4.19
8.91	200.94	.631E+06	3462.1	2.04	3.04
10.69	202.72	.909E+06	6142.4	2.51	2.47
12.47	204.50	.120E+07	9539.4	2.95	2.10
14.25	206.28	.150E+07	13589.1	3.36	1.84
16.03	208.06	.181E+07	18224.0	3.74	1.65
17.81	209.84	.212E+07	23421.9	4.10	1.51
19.59	211.62	.244E+07	29192.1	4.43	1.40
21.38	213.41	.277E+07	35560.2	4.76	1.30
23.16	215.19	.311E+07	42453.0	5.07	1.22
24.94	216.97	.345E+07	49860.7	5.37	1.15
26.72	218.75	.379E+07	57775.3	5.65	1.09
28.50	220.53	.414E+07	66580.0	5.96	1.04
30.61	222.64	.457E+07	77594.1	6.30	0.98
32.73	224.76	.500E+07	89282.5	6.62	0.93
34.84	226.87	.545E+07	101714.8	6.92	0.89

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3004)	21473.84	13.93	7.83	4.82	1.47	0.73
OUTFLOW: ID= 1 (2996)	21473.84	13.81	8.00	4.82	1.46	0.73

ROUTE CHN(2987)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	227.83	0.0600	
36.95	227.33	0.0400	Main Channel
58.20	218.27	0.0400	Main Channel
100.70	196.02	0.0400	Main Channel
107.79	193.39	0.0400	Main Channel
159.37	193.28	0.0400	Main Channel
178.62	191.01	0.0400	Main Channel
192.79	193.24	0.0400	Main Channel
245.52	192.95	0.0400	Main Channel
298.93	194.00	0.0400	Main Channel
336.66	194.03	0.0400	Main Channel
462.43	196.67	0.0400	Main Channel
563.05	197.17	0.0400	Main Channel
641.05	199.77	0.0400	Main Channel
751.70	202.58	0.0400	Main Channel
814.32	204.38	0.0400	Main Channel
868.88	211.48	0.0400	Main Channel
934.35	226.46	0.0400	Main Channel
967.09	229.79	0.0400 /0.0600	Main Channel
1015.46	231.58	0.0600	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.82	192.82	.609E+04	22.5	0.92	4.51
3.64	194.64	.822E+05	379.3	1.15	3.61
5.45	196.46	.221E+06	1618.4	1.82	2.28
7.27	198.28	.424E+06	3799.0	2.23	1.86
9.09	200.10	.664E+06	7414.1	2.78	1.49
10.91	201.91	.935E+06	12057.5	3.21	1.29
12.72	203.73	.124E+07	17984.5	3.62	1.15
14.54	205.55	.157E+07	25799.0	4.10	1.01
16.36	207.37	.191E+07	35187.6	4.59	0.90
18.18	209.18	.226E+07	45774.4	5.05	0.82
20.00	211.00	.261E+07	57523.4	5.49	0.76
21.81	212.82	.297E+07	70631.9	5.92	0.70
23.63	214.64	.334E+07	84937.3	6.33	0.66
25.45	216.46	.371E+07	100334.5	6.73	0.62
27.27	218.27	.409E+07	116801.5	7.11	0.58
29.08	220.09	.447E+07	134693.3	7.50	0.55
31.47	222.48	.499E+07	159827.4	7.98	0.52
33.86	224.87	.551E+07	186784.3	8.45	0.49
36.25	227.26	.604E+07	214880.1	8.86	0.47

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2996)	21473.84	13.81	8.00	4.82	1.12	0.92
OUTFLOW: ID= 1 (2987)	21473.84	13.74	8.00	4.82	1.12	0.92

CALIB					
NASHYD (0133)	Area (ha)=	283.72	Curve Number (CN)=	56.6	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	6.28			

Unit Hyd Qpeak (cms)= 0.771

PEAK FLOW (cms)= 0.134 (i)
TIME TO PEAK (hrs)= 13.167
RUNOFF VOLUME (mm)= 4.489
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.107

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7530)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0133):	283.72	0.134	13.17	4.49
	+ ID2= 2 (2987):	21473.84	13.740	8.00	4.82
	ID = 3 (7530):	21757.56	13.835	8.00	4.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0138)	Area (ha)=	352.43	Curve Number (CN)=	68.9	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	4.98			

Unit Hyd Qpeak (cms)= 1.208

PEAK FLOW (cms)= 0.317 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 6.963
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0139)	Area (ha)=	191.69	Curve Number (CN)=	71.2	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	2.60			

Unit Hyd Qpeak (cms)= 1.261

PEAK FLOW (cms)= 0.327 (i)
TIME TO PEAK (hrs)= 9.333
RUNOFF VOLUME (mm)= 7.586
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.181

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0140)	Area (ha)=	317.88	Curve Number (CN)=	71.2	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	

U.H. Tp(hrs)= 2.76

Unit Hyd Qpeak (cms)= 1.966

PEAK FLOW (cms)= 0.516 (i)
TIME TO PEAK (hrs)= 9.417
RUNOFF VOLUME (mm)= 7.587
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.181

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1720)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0139):	191.69	0.327	9.33	7.59
	+ ID2= 2 (0140):	317.88	0.516	9.42	7.59
	ID = 3 (1720):	509.57	0.843	9.42	7.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3550)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<-------- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	240.78	0.0600	
6.85	240.78	0.0400	Main Channel
46.92	239.89	0.0400	Main Channel
56.94	237.67	0.0400	Main Channel
87.00	228.97	0.0400	Main Channel
97.02	227.02	0.0400	Main Channel
99.41	227.04	0.0400	Main Channel
107.04	227.35	0.0400	Main Channel
110.10	227.38	0.0400	Main Channel
117.06	227.13	0.0400	Main Channel
127.08	227.04	0.0400	Main Channel
137.10	225.24	0.0400	Main Channel
147.12	224.69	0.0400	Main Channel
157.14	227.91	0.0400	Main Channel
163.53	231.62	0.0400	Main Channel
177.18	237.84	0.0400	Main Channel
184.91	240.10	0.0400	Main Channel
187.20	241.02	0.0400	Main Channel
207.24	241.08	0.0400 /0.0600	Main Channel
221.60	241.54	0.0600	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.84	225.53	.117E+05	8.2	1.16	23.84
1.69	226.38	.368E+05	41.8	1.88	14.68
2.53	227.22	.761E+05	82.2	1.79	15.44
3.38	228.07	.162E+06	235.9	2.41	11.44
4.22	228.91	.258E+06	483.7	3.11	8.89
5.07	229.76	.361E+06	812.4	3.72	7.41
5.91	230.60	.471E+06	1213.8	4.27	6.46
6.76	231.45	.586E+06	1686.1	4.76	5.80

7.60	232.29	.708E+06	2225.1	5.21	5.30
8.44	233.13	.837E+06	2834.7	5.61	4.92
9.29	233.98	.972E+06	3516.9	6.00	4.61
10.13	234.82	.111E+07	4273.0	6.36	4.34
10.98	235.67	.126E+07	5104.6	6.70	4.12
11.82	236.51	.142E+07	6013.1	7.03	3.93
12.67	237.36	.158E+07	7000.3	7.34	3.76
13.51	238.20	.175E+07	8030.5	7.61	3.63
14.36	239.05	.193E+07	9114.6	7.84	3.52
15.20	239.89	.211E+07	10292.0	8.07	3.42
16.09	240.78	.235E+07	11879.7	8.38	3.29

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1720)	509.57	0.84	9.42	7.59	0.09	1.16
OUTFLOW: ID= 1 (3550)	509.57	0.84	9.83	7.59	0.09	1.16

ROUTE CHN(3043)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
33.31	231.13	0.0600	
43.43	230.41	0.0400	Main Channel
45.68	229.80	0.0400	Main Channel
53.55	228.76	0.0400	Main Channel
63.67	224.08	0.0400	Main Channel
83.90	216.87	0.0400	Main Channel
114.25	216.61	0.0400	Main Channel
124.37	214.68	0.0400	Main Channel
129.38	213.52	0.0400	Main Channel
134.49	212.00	0.0400	Main Channel
144.61	213.31	0.0400	Main Channel
174.96	214.51	0.0400	Main Channel
195.20	215.41	0.0400	Main Channel
201.12	215.93	0.0400	Main Channel
205.31	216.86	0.0400	Main Channel
213.08	219.03	0.0400	Main Channel
245.78	225.43	0.0400	Main Channel
255.90	227.03	0.0400	Main Channel
266.02	228.19	0.0400 /0.0600	Main Channel
272.72	228.70	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.85	212.85	.394E+04	4.6	1.14	14.29
1.70	213.70	.171E+05	27.2	1.55	10.50
2.56	214.56	.494E+05	101.4	2.01	8.11
3.41	215.41	.102E+06	263.4	2.53	6.44
4.26	216.26	.170E+06	558.8	3.23	5.06
5.11	217.11	.256E+06	877.0	3.36	4.86
5.96	217.96	.361E+06	1509.4	4.10	3.98
6.82	218.82	.470E+06	2281.3	4.75	3.44
7.67	219.67	.585E+06	3175.4	5.32	3.07
8.52	220.52	.704E+06	4197.5	5.84	2.80

9.37	221.37	.830E+06	5351.2	6.32	2.59
10.23	222.23	.961E+06	6637.2	6.76	2.41
11.08	223.08	.110E+07	8056.9	7.19	2.27
11.93	223.93	.124E+07	9611.8	7.59	2.15
12.78	224.78	.139E+07	11319.0	7.99	2.04
13.63	225.63	.154E+07	13156.1	8.36	1.95
14.49	226.49	.170E+07	15099.3	8.70	1.88
15.34	227.34	.187E+07	17148.0	9.00	1.81
16.19	228.19	.204E+07	19280.9	9.27	1.76

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3550)	509.57	0.84	9.83	7.59	0.16	1.14
OUTFLOW: ID= 1 (3043)	509.57	0.84	10.08	7.59	0.16	1.14

ROUTE CHN(2741)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	226.86	0.0600	
12.65	227.19	0.0400	Main Channel
30.57	227.05	0.0400	Main Channel
38.54	226.63	0.0400	Main Channel
52.25	224.12	0.0400	Main Channel
73.93	219.39	0.0400	Main Channel
84.77	214.51	0.0400	Main Channel
95.61	208.79	0.0400	Main Channel
99.41	207.79	0.0400	Main Channel
106.46	205.31	0.0400	Main Channel
128.14	204.31	0.0400	Main Channel
138.98	204.82	0.0400	Main Channel
149.82	206.97	0.0400	Main Channel
160.66	210.69	0.0400	Main Channel
182.34	215.84	0.0400	Main Channel
204.02	222.23	0.0400	Main Channel
214.86	221.00	0.0400	Main Channel
225.70	223.17	0.0400	Main Channel
236.55	224.05	0.0400 /0.0600	Main Channel
241.64	223.77	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.16	205.47	.202E+05	43.9	1.74	7.65
2.32	206.63	.580E+05	219.2	3.02	4.41
3.48	207.79	.104E+06	520.5	4.00	3.32
4.64	208.95	.156E+06	940.6	4.80	2.77
5.81	210.12	.215E+06	1500.4	5.58	2.39
6.97	211.28	.279E+06	2171.6	6.22	2.14
8.13	212.44	.349E+06	2962.2	6.78	1.96
9.29	213.60	.426E+06	3892.3	7.30	1.82
10.45	214.76	.509E+06	4967.1	7.79	1.71
11.61	215.92	.599E+06	6191.5	8.25	1.61
12.77	217.08	.696E+06	7610.7	8.73	1.52
13.93	218.24	.798E+06	9195.6	9.19	1.45

15.10	219.41	.907E+06	10950.3	9.63	1.38
16.26	220.57	.102E+07	12744.4	9.94	1.34
17.42	221.73	.115E+07	14155.3	9.82	1.35
18.58	222.89	.130E+07	16115.3	9.90	1.34
19.74	224.05	.146E+07	18355.7	10.03	1.33
20.90	225.21	.164E+07	21659.6	10.55	1.26
22.47	226.78	.189E+07	26390.4	11.15	1.19

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3043)	509.57	0.84	10.08	7.59	0.02	1.74
OUTFLOW: ID= 1 (2741)	509.57	0.84	10.25	7.59	0.02	1.74

ROUTE CHN(2386)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	221.04	0.0600	
4.44	220.66	0.0400	Main Channel
14.54	218.04	0.0400	Main Channel
20.40	214.88	0.0400	Main Channel
24.63	213.09	0.0400	Main Channel
44.81	201.51	0.0400	Main Channel
54.90	197.91	0.0400	Main Channel
75.08	196.77	0.0400	Main Channel
78.74	197.20	0.0400	Main Channel
95.26	198.48	0.0400	Main Channel
102.07	199.99	0.0400	Main Channel
105.35	200.40	0.0400	Main Channel
115.44	203.51	0.0400	Main Channel
135.63	211.05	0.0400	Main Channel
137.08	211.38	0.0400	Main Channel
155.81	217.49	0.0400	Main Channel
160.41	218.60	0.0400	Main Channel
165.90	220.33	0.0400	Main Channel
175.99	221.18	0.0400 /0.0600	Main Channel
193.54	223.84	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.25	198.02	.141E+05	29.7	1.36	7.91
2.50	199.27	.483E+05	186.5	2.48	4.32
3.75	200.52	.908E+05	466.3	3.31	3.25
5.00	201.77	.141E+06	891.4	4.08	2.63
6.26	203.03	.196E+06	1451.8	4.77	2.25
7.51	204.28	.256E+06	2146.6	5.40	1.99
8.76	205.53	.321E+06	2974.5	5.97	1.80
10.01	206.78	.390E+06	3934.1	6.50	1.65
11.26	208.03	.464E+06	5028.2	6.99	1.54
12.51	209.28	.542E+06	6260.4	7.44	1.44
13.76	210.53	.624E+06	7634.4	7.88	1.36
15.01	211.78	.711E+06	9123.1	8.26	1.30
16.27	213.04	.803E+06	10779.5	8.64	1.24
17.52	214.29	.901E+06	12558.3	8.98	1.20

18.77	215.54	.100E+07	14525.2	9.32	1.15
20.02	216.79	.111E+07	16682.0	9.67	1.11
21.27	218.04	.122E+07	18969.8	9.98	1.08
22.77	219.54	.137E+07	22231.4	10.46	1.03
24.27	221.04	.152E+07	25241.2	10.66	1.01

<---- hydrograph ----> <-pipe /
channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2741)	509.57	0.84	10.25	7.59	0.04	1.36
OUTFLOW: ID= 1 (2386)	509.57	0.84	10.33	7.59	0.04	1.36

ADD HYD (7531)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0138):	352.43	0.317	12.25	6.96
	+ ID2= 2 (2386):	509.57	0.837	10.33	7.59
	ID = 3 (7531):	862.00	1.144	10.58	7.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1625)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7530):	21757.56	13.835	8.00	4.81
	+ ID2= 2 (7531):	862.00	1.144	10.58	7.34
	ID = 3 (1625):	22619.56	14.756	8.08	4.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2988)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	227.83	0.0600	
36.95	227.33	0.0400	Main Channel
58.20	218.27	0.0400	Main Channel
100.70	196.02	0.0400	Main Channel
107.79	193.39	0.0400	Main Channel
159.37	193.28	0.0400	Main Channel
178.62	191.01	0.0400	Main Channel
192.79	193.24	0.0400	Main Channel
245.52	192.95	0.0400	Main Channel
298.93	194.00	0.0400	Main Channel
336.66	194.03	0.0400	Main Channel
462.43	196.67	0.0400	Main Channel

563.05	197.17	0.0400		Main Channel
641.05	199.77	0.0400		Main Channel
751.70	202.58	0.0400		Main Channel
814.32	204.38	0.0400		Main Channel
868.88	211.48	0.0400		Main Channel
934.35	226.46	0.0400		Main Channel
967.09	229.79	0.0400 /0.0600		Main Channel
1015.46	231.58	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.82	192.82	.556E+04	18.0	0.74	5.13
3.64	194.64	.749E+05	304.2	0.92	4.10
5.45	196.46	.202E+06	1297.9	1.46	2.59
7.27	198.28	.387E+06	3046.5	1.79	2.12
9.09	200.10	.605E+06	5945.6	2.23	1.70
10.91	201.91	.852E+06	9669.3	2.58	1.47
12.72	203.73	.113E+07	14422.3	2.90	1.31
14.54	205.55	.143E+07	20689.0	3.28	1.15
16.36	207.37	.174E+07	28217.9	3.68	1.03
18.18	209.18	.206E+07	36707.7	4.05	0.93
20.00	211.00	.238E+07	46129.6	4.40	0.86
21.81	212.82	.271E+07	56641.6	4.75	0.80
23.63	214.64	.304E+07	68113.5	5.08	0.74
25.45	216.46	.338E+07	80461.0	5.40	0.70
27.27	218.27	.373E+07	93666.3	5.70	0.66
29.08	220.09	.408E+07	108014.2	6.01	0.63
31.47	222.48	.454E+07	128169.9	6.40	0.59
33.86	224.87	.502E+07	149787.4	6.77	0.56
36.25	227.26	.550E+07	172318.2	7.11	0.53

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1625)	22619.56	14.76	8.08	4.91	1.49	0.74
OUTFLOW: ID= 1 (2988)	22619.56	14.53	8.08	4.91	1.83	0.74

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2979) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	225.94	0.0600	
13.50	225.32	0.0400	Main Channel
36.05	217.34	0.0400	Main Channel
69.88	207.09	0.0400	Main Channel
103.71	199.92	0.0400	Main Channel
148.81	192.83	0.0400	Main Channel
171.36	192.46	0.0400	Main Channel
202.85	190.21	0.0400	Main Channel
224.49	192.54	0.0400	Main Channel
284.13	192.33	0.0400	Main Channel
317.95	194.26	0.0400	Main Channel
475.82	196.01	0.0400	Main Channel
614.00	199.27	0.0400	Main Channel

690.07	201.46	0.0400		Main Channel
733.13	202.09	0.0400		Main Channel
766.09	208.42	0.0400		Main Channel
788.06	209.52	0.0400		Main Channel
810.04	210.65	0.0400		Main Channel
832.01	214.49	0.0400 /0.0600		Main Channel
908.33	230.24	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.87	192.08	.178E+05	30.6	0.75	9.67
3.74	193.95	.124E+06	314.9	1.11	6.57
5.60	195.81	.320E+06	986.8	1.35	5.40
7.47	197.68	.632E+06	2571.8	1.78	4.10
9.34	199.55	.102E+07	5026.7	2.15	3.38
11.21	201.42	.147E+07	8483.7	2.52	2.89
13.08	203.29	.199E+07	13148.6	2.89	2.52
14.94	205.15	.253E+07	19238.8	3.32	2.19
16.81	207.02	.308E+07	26277.9	3.72	1.96
18.68	208.89	.365E+07	34086.3	4.08	1.79
20.55	210.76	.425E+07	42259.7	4.34	1.68
22.42	212.63	.487E+07	52252.7	4.69	1.55
24.28	214.49	.551E+07	63151.0	5.01	1.45
26.19	216.40	.617E+07	75807.4	5.37	1.36
28.10	218.31	.685E+07	89648.5	5.72	1.27
30.01	220.22	.753E+07	104689.5	6.07	1.20
31.91	222.12	.823E+07	120705.0	6.41	1.14
33.82	224.03	.894E+07	137687.0	6.73	1.08
35.73	225.94	.967E+07	155638.5	7.03	1.04

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2988)	22619.56	14.53	8.08	4.91	0.89	0.75
OUTFLOW: ID= 1 (2979)	22619.56	14.26	8.58	4.91	0.87	0.75

ROUTE CHN(2945) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	229.63	0.0600	
38.04	226.88	0.0400	Main Channel
87.54	214.10	0.0400	Main Channel
112.57	211.26	0.0400	Main Channel
144.99	210.52	0.0400	Main Channel
174.04	209.37	0.0400	Main Channel
214.10	194.65	0.0400	Main Channel
265.81	192.04	0.0400	Main Channel
287.40	189.79	0.0400	Main Channel
309.52	192.57	0.0400	Main Channel
395.92	194.41	0.0400	Main Channel
449.87	194.87	0.0400	Main Channel
558.38	194.74	0.0400	Main Channel
614.21	196.35	0.0400	Main Channel
624.50	194.92	0.0400	Main Channel

670.74	193.97	0.0400		Main Channel
768.27	198.06	0.0400		Main Channel
808.66	204.85	0.0400		Main Channel
828.97	211.61	0.0400 /0.0600		Main Channel
860.39	218.34	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.45	191.24	.986E+04	14.4	0.78	11.41
2.91	192.70	.408E+05	84.3	1.10	8.06
4.36	194.15	.128E+06	287.0	1.20	7.40
5.82	195.61	.393E+06	969.0	1.31	6.77
7.27	197.06	.787E+06	2805.5	1.89	4.68
8.73	198.52	.122E+07	5580.1	2.44	3.63
10.18	199.97	.166E+07	9227.1	2.95	3.00
11.64	201.43	.211E+07	13595.4	3.42	2.59
13.09	202.88	.257E+07	18643.1	3.85	2.30
14.55	204.34	.305E+07	24340.8	4.24	2.09
16.00	205.79	.353E+07	30744.0	4.63	1.91
17.46	207.25	.402E+07	37802.6	5.00	1.77
18.91	208.70	.451E+07	45457.1	5.35	1.65
20.37	210.16	.502E+07	52821.3	5.59	1.58
21.82	211.61	.555E+07	59729.2	5.71	1.55
23.27	213.06	.612E+07	69295.8	6.02	1.47
24.96	214.75	.679E+07	81544.5	6.38	1.39
26.64	216.43	.747E+07	95311.1	6.77	1.31
28.32	218.11	.817E+07	109976.0	7.15	1.24

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2979)	22619.56	14.26	8.58	4.91	1.44	0.78
OUTFLOW: ID= 1 (2945)	22619.56	14.10	8.67	4.91	1.43	0.78

ROUTE CHN(2933) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	226.30	0.0600	
8.06	226.25	0.0400	Main Channel
19.16	224.72	0.0400	Main Channel
35.52	220.49	0.0400	Main Channel
52.85	215.39	0.0400	Main Channel
59.92	214.61	0.0400	Main Channel
78.65	205.91	0.0400	Main Channel
139.77	191.50	0.0400	Main Channel
181.60	191.60	0.0400	Main Channel
201.32	191.26	0.0400	Main Channel
242.91	191.33	0.0400	Main Channel
266.08	189.05	0.0400	Main Channel
281.45	193.55	0.0400	Main Channel
289.07	194.20	0.0400	Main Channel
327.28	193.92	0.0400	Main Channel
381.61	195.65	0.0400	Main Channel
403.56	195.95	0.0400	Main Channel

436.29	199.62	0.0400		Main Channel
479.80	213.07	0.0400 /0.0600		Main Channel
525.54	223.38	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.72	190.77	.723E+04	14.1	0.71	8.53
3.43	192.48	.667E+05	172.6	0.94	6.44
5.15	194.20	.162E+06	589.4	1.32	4.58
6.86	195.91	.311E+06	1426.9	1.66	3.63
8.58	197.63	.493E+06	2908.8	2.14	2.82
10.29	199.34	.689E+06	4847.8	2.55	2.37
12.01	201.06	.897E+06	7309.2	2.95	2.05
13.73	202.78	.111E+07	10213.6	3.32	1.82
15.44	204.49	.134E+07	13532.7	3.66	1.65
17.16	206.21	.157E+07	17276.5	3.98	1.51
18.87	207.92	.181E+07	21503.8	4.30	1.40
20.59	209.64	.205E+07	26125.7	4.61	1.31
22.30	211.35	.230E+07	31136.8	4.89	1.23
24.02	213.07	.256E+07	36532.7	5.17	1.17
26.08	215.13	.288E+07	43706.0	5.50	1.10
28.14	217.19	.321E+07	51469.9	5.81	1.04
30.21	219.26	.355E+07	59917.7	6.11	0.99
32.27	221.32	.390E+07	68918.5	6.39	0.94
34.33	223.38	.427E+07	78458.8	6.65	0.91

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2945)	22619.56	14.10	8.67	4.91	1.71	0.71
OUTFLOW: ID= 1 (2933)	22619.56	14.00	8.67	4.91	1.68	0.71

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2900) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	219.86	0.0600	
8.00	219.62	0.0400	Main Channel
28.07	216.08	0.0400	Main Channel
68.07	207.10	0.0400	Main Channel
98.17	201.52	0.0400	Main Channel
138.27	199.66	0.0400	Main Channel
201.77	196.46	0.0400	Main Channel
243.48	194.30	0.0400	Main Channel
274.36	194.67	0.0400	Main Channel
357.39	193.99	0.0400	Main Channel
409.14	192.95	0.0400	Main Channel
419.42	191.28	0.0400	Main Channel
450.55	190.37	0.0400	Main Channel
499.16	190.42	0.0400	Main Channel
554.13	188.49	0.0400	Main Channel
574.83	190.38	0.0400	Main Channel
595.95	197.23	0.0400	Main Channel
639.84	220.11	0.0400	Main Channel

```
      675.27        223.48    0.0400 /0.0600  Main Channel
      746.81        224.28        0.0600
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.62	190.11	.253E+05	36.4	0.70	11.60
3.25	191.74	.132E+06	305.3	1.13	7.19
4.87	193.36	.268E+06	881.5	1.60	5.07
6.49	194.98	.481E+06	1556.5	1.58	5.15
8.11	196.60	.779E+06	3262.6	2.04	3.98
9.74	198.23	.111E+07	5520.4	2.43	3.34
11.36	199.85	.146E+07	8325.6	2.78	2.93
12.98	201.47	.185E+07	11658.9	3.08	2.64
14.61	203.10	.225E+07	15951.6	3.46	2.35
16.23	204.72	.267E+07	20810.7	3.81	2.14
17.85	206.34	.309E+07	26207.2	4.14	1.97
19.48	207.97	.352E+07	32156.3	4.45	1.83
21.10	209.59	.397E+07	38644.8	4.76	1.71
22.72	211.21	.442E+07	45639.1	5.04	1.61
24.34	212.83	.487E+07	53131.8	5.32	1.53
25.97	214.46	.534E+07	61117.1	5.59	1.46
27.59	216.08	.581E+07	69590.5	5.84	1.39
29.21	217.70	.630E+07	79122.9	6.13	1.33
31.10	219.59	.687E+07	90872.0	6.45	1.26

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
	INFLOW : ID= 2 (2933)	22619.56	14.00	8.67	4.91	0.62	0.70
	OUTFLOW: ID= 1 (2900)	22619.56	13.84	9.00	4.91	0.62	0.70

```
| CALIB                |
| NASHYD   (  0170)|   Area    (ha)=    217.41   Curve Number   (CN)= 68.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.08

     Unit Hyd Qpeak  (cms)=     1.207

     PEAK FLOW       (cms)=     0.296 (i)
     TIME TO PEAK    (hrs)=     9.833
     RUNOFF VOLUME    (mm)=     6.972
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| CALIB                |
| NASHYD   (  0171)|   Area    (ha)=    145.21   Curve Number   (CN)= 53.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      4.26

     Unit Hyd Qpeak  (cms)=     0.582
```



```
     PEAK FLOW       (cms)=     0.087 (i)
     TIME TO PEAK    (hrs)=    11.667
     RUNOFF VOLUME    (mm)=     4.058
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.097

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD  (  1235)|
|   1 +  2 =  3    |
-------------------
```

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0170):		217.41	0.296	9.83	6.97
+ ID2= 2 (0171):		145.21	0.087	11.67	4.06
ID = 3 (1235):		362.62	0.380	10.08	5.81

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ADD HYD  (  1235)|
|   3 +  2 =  1    |
-------------------
```

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1235):		362.62	0.380	10.08	5.81
+ ID2= 2 (2900):		22619.56	13.839	9.00	4.91
ID = 1 (1235):		22982.18	14.209	9.00	4.92

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| ROUTE CHN(  2877)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
```

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	227.26	0.0600	
13.98	226.94	0.0400	Main Channel
85.47	218.33	0.0400	Main Channel
146.74	205.55	0.0400	Main Channel
177.38	203.69	0.0400	Main Channel
220.67	204.08	0.0400	Main Channel
262.41	196.83	0.0400	Main Channel
273.47	195.91	0.0400	Main Channel
361.99	195.58	0.0400	Main Channel
434.24	194.98	0.0400	Main Channel
514.40	192.90	0.0400	Main Channel
564.49	192.39	0.0400	Main Channel
658.19	192.14	0.0400	Main Channel
735.85	189.93	0.0400	Main Channel
761.74	187.58	0.0400	Main Channel
774.68	191.05	0.0400	Main Channel
839.40	216.17	0.0400	Main Channel
852.34	220.34	0.0400	Main Channel
891.17	222.49	0.0400 /0.0600	Main Channel
940.51	222.21	0.0600	

<---------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.81	189.39	.146E+05	17.6	0.73	13.77
3.62	191.19	.699E+05	112.7	0.98	10.34
5.43	193.00	.244E+06	414.9	1.03	9.80
7.24	194.81	.580E+06	1493.3	1.56	6.47
9.04	196.62	.107E+07	3145.8	1.78	5.69
10.85	198.43	.166E+07	6355.4	2.32	4.35
12.66	200.24	.226E+07	10443.2	2.80	3.60
14.47	202.05	.288E+07	15338.6	3.23	3.12
16.28	203.86	.351E+07	20517.1	3.54	2.85
18.09	205.66	.422E+07	26225.4	3.77	2.68
19.90	207.47	.496E+07	33833.8	4.13	2.44
21.71	209.28	.571E+07	42243.7	4.48	2.25
23.51	211.09	.648E+07	51434.9	4.81	2.10
25.32	212.90	.726E+07	61391.5	5.13	1.97
27.13	214.71	.805E+07	72101.4	5.42	1.86
28.94	216.52	.887E+07	83542.5	5.71	1.77
30.75	218.33	.969E+07	95667.0	5.98	1.69
32.69	220.27	.106E+08	110294.2	6.31	1.60
34.63	222.21	.115E+08	123214.9	6.47	1.56

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
	INFLOW : ID= 2 (1235)	22982.18	14.21	9.00	4.92	1.46	0.73
	OUTFLOW: ID= 1 (2877)	22982.18	13.99	9.25	4.92	1.42	0.73

```
     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.
```

```
| ROUTE CHN(  2830)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
```

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	227.47	0.0600	
2.83	227.70	0.0400	Main Channel
39.69	222.97	0.0400	Main Channel
54.61	217.65	0.0400	Main Channel
84.44	203.52	0.0400	Main Channel
111.35	193.45	0.0400	Main Channel
129.05	188.94	0.0400	Main Channel
143.93	186.95	0.0400	Main Channel
172.96	189.33	0.0400	Main Channel
217.01	189.60	0.0400	Main Channel
239.22	190.70	0.0400	Main Channel
265.87	191.60	0.0400	Main Channel
314.75	191.23	0.0400	Main Channel
399.47	191.93	0.0400	Main Channel
460.30	191.36	0.0400	Main Channel
489.52	192.12	0.0400	Main Channel
522.71	194.26	0.0400	Main Channel
561.02	196.88	0.0400	Main Channel
601.21	201.86	0.0400 /0.0600	Main Channel
657.56	212.32	0.0600	

<---------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
2.13	189.08	.321E+05	43.6	0.98	12.25
4.26	191.21	.181E+06	357.6	1.42	8.45
6.39	193.34	.700E+06	1653.3	1.70	7.06
8.52	195.47	.134E+07	4571.1	2.46	4.87
10.65	197.60	.203E+07	8733.3	3.09	3.87
12.78	199.73	.276E+07	14126.2	3.68	3.26
14.91	201.86	.353E+07	20606.6	4.20	2.85
17.06	204.01	.434E+07	28731.2	4.77	2.51
19.22	206.17	.517E+07	37983.1	5.29	2.27
21.37	208.32	.602E+07	48303.2	5.76	2.08
23.52	210.47	.691E+07	59667.0	6.21	1.93
25.68	212.63	.781E+07	72066.6	6.63	1.81
27.83	214.78	.873E+07	85534.8	7.04	1.70
29.98	216.93	.966E+07	99974.9	7.44	1.61
32.14	219.09	.106E+08	115243.0	7.82	1.53
34.29	221.24	.115E+08	131372.8	8.18	1.46
36.44	223.39	.125E+08	148614.3	8.55	1.40
38.60	225.55	.135E+08	167659.5	8.95	1.34
40.75	227.70	.145E+08	187708.7	9.33	1.28

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
	INFLOW : ID= 2 (2877)	22982.18	13.99	9.25	4.92	0.68	0.98
	OUTFLOW: ID= 1 (2830)	22982.18	13.87	9.33	4.92	0.68	0.98

```
| ROUTE CHN(  2802)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
```

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	209.52	0.0600	
50.30	200.77	0.0400	Main Channel
69.42	199.93	0.0400	Main Channel
124.08	196.87	0.0400	Main Channel
137.53	194.30	0.0400	Main Channel
168.69	194.08	0.0400	Main Channel
242.38	190.89	0.0400	Main Channel
286.35	189.92	0.0400	Main Channel
355.33	188.78	0.0400	Main Channel
403.12	189.49	0.0400	Main Channel
518.84	189.70	0.0400	Main Channel
604.41	189.74	0.0400	Main Channel
684.96	187.24	0.0400	Main Channel
765.72	187.28	0.0400	Main Channel
856.34	187.29	0.0400	Main Channel
896.63	186.71	0.0400	Main Channel
949.15	204.77	0.0400	Main Channel
997.32	221.20	0.0400	Main Channel
1007.38	222.26	0.0400 /0.0600	Main Channel
1234.04	222.33	0.0600	

<---------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.10	187.81	.165E+06	91.8	0.70	30.02

2.20	188.91	.516E+06	529.3	1.29	16.24
3.30	190.01	.112E+07	1150.7	1.29	16.19
4.41	191.12	.202E+07	2924.7	1.82	11.48
5.51	192.22	.296E+07	5406.7	2.29	9.13
6.61	193.32	.395E+07	8500.3	2.70	7.75
7.71	194.42	.498E+07	11955.7	3.01	6.95
8.81	195.52	.607E+07	16474.9	3.40	6.14
9.91	196.62	.717E+07	21568.7	3.77	5.54
11.02	197.73	.829E+07	27005.3	4.08	5.11
12.12	198.83	.943E+07	32909.3	4.37	4.78
13.22	199.93	.106E+08	39334.0	4.64	4.50
14.32	201.03	.118E+08	46892.6	4.97	4.20
15.69	202.40	.134E+08	57070.7	5.35	3.90
17.06	203.77	.149E+08	68080.5	5.72	3.65
18.43	205.14	.165E+08	79898.6	6.07	3.44
19.80	206.51	.181E+08	92505.7	6.41	3.26
21.17	207.88	.197E+08	105887.8	6.73	3.10
22.54	209.25	.214E+08	120031.6	7.04	2.97

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2830)	22982.18	13.87	9.33	4.92	0.17	0.70
OUTFLOW: ID= 1 (2802)	22982.18	13.52	10.00	4.92	0.16	0.70

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2740)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	214.14	0.0600	
25.70	215.66	0.0400	Main Channel
86.85	188.07	0.0400	Main Channel
117.66	183.95	0.0400	Main Channel
133.62	186.05	0.0400	Main Channel
202.70	186.71	0.0400	Main Channel
226.53	189.90	0.0400	Main Channel
325.65	192.00	0.0400	Main Channel
397.71	190.88	0.0400	Main Channel
468.00	193.06	0.0400	Main Channel
508.00	191.82	0.0400	Main Channel
548.09	192.75	0.0400	Main Channel
598.19	191.77	0.0400	Main Channel
628.19	184.41	0.0400	Main Channel
678.29	185.21	0.0400	Main Channel
738.37	184.39	0.0400	Main Channel
800.60	183.04	0.0400	Main Channel
859.67	189.90	0.0400	Main Channel
948.72	220.57	0.0400 /0.0600	Main Channel
1117.02	222.00	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.26	184.30	.388E+05	27.7	0.63	23.32
2.52	185.55	.216E+06	233.3	0.95	15.46

3.77	186.81	.506E+06	752.3	1.30	11.21
5.03	188.07	.881E+06	1767.5	1.76	8.30
6.77	189.81	.145E+07	3819.6	2.31	6.35
8.51	191.55	.215E+07	5829.3	2.38	6.14
10.24	193.28	.322E+07	9010.2	2.46	5.96
11.98	195.02	.444E+07	15273.5	3.02	4.84
13.72	196.76	.567E+07	22813.8	3.53	4.14
15.46	198.50	.692E+07	31542.9	4.00	3.66
17.20	200.24	.818E+07	41396.9	4.44	3.29
18.93	201.97	.945E+07	52326.7	4.86	3.01
20.67	203.71	.107E+08	64293.0	5.26	2.78
22.41	205.45	.120E+08	77264.0	5.64	2.60
24.15	207.19	.134E+08	91212.9	6.00	2.44
25.89	208.93	.147E+08	106117.2	6.35	2.31
27.62	210.66	.160E+08	121957.8	6.68	2.19
29.36	212.40	.174E+08	138718.0	7.01	2.09
31.10	214.14	.187E+08	156383.4	7.33	2.00

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2802)	22982.18	13.52	10.00	4.92	0.61	0.63
OUTFLOW: ID= 1 (2740)	22982.18	13.27	10.42	4.92	0.60	0.63

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	
NASHYD (0169)|	Area (ha)= 177.99 Curve Number (CN)= 58.2
ID= 1 DT= 5.0 min |	Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 4.84

Unit Hyd Qpeak (cms)= 0.627

PEAK FLOW (cms)= 0.112 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 4.762
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.113

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0168)|	Area (ha)= 31.52
ID= 1 DT= 5.0 min |	Total Imp(%)= 39.80 Dir. Conn.(%)= 30.80

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	12.54	18.98
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.60	2.60
Length (m)=	458.40	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	4.13
over (min)	10.00	35.00
Storage Coeff. (min)=	9.23 (ii)	32.57 (ii)

Unit Hyd. Tpeak (min)=	10.00	35.00	
Unit Hyd. peak (cms)=	0.12	0.03	
			TOTALS
PEAK FLOW (cms)=	0.52	0.14	0.637 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	6.03	16.49
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.14	0.39

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 52.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1099)|				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0168):	31.52	0.637	5.25	16.49
+ ID2= 2 (0169):	177.99	0.112	12.25	4.76
ID = 3 (1099):	209.51	0.657	5.25	6.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1099)|				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1099):	209.51	0.657	5.25	6.53
+ ID2= 2 (2740):	22982.18	13.268	10.42	4.92
ID = 1 (1099):	23191.69	13.397	10.42	4.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2707)|	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	218.53	0.0600	
48.91	216.90	0.0400	Main Channel
93.52	208.55	0.0400	Main Channel
120.44	204.94	0.0400	Main Channel
148.04	203.82	0.0400	Main Channel
182.04	201.31	0.0400	Main Channel
243.03	196.96	0.0400	Main Channel
271.35	192.05	0.0400	Main Channel
296.85	181.97	0.0400	Main Channel
301.10	181.70	0.0400	Main Channel
324.46	183.85	0.0400	Main Channel
419.44	183.85	0.0400	Main Channel
457.88	184.04	0.0400	Main Channel
468.36	185.78	0.0400	Main Channel

477.85	188.98	0.0400	Main Channel	
500.13	192.42	0.0400	Main Channel	
552.39	206.44	0.0400	Main Channel	
585.28	207.43	0.0400	Main Channel	
615.69	208.74	0.0400 /0.0600	Main Channel	
670.22	209.71	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.41	183.11	.176E+05	12.1	0.67	24.29
2.83	184.53	.145E+06	106.1	0.72	22.81
4.24	185.94	.390E+06	526.4	1.33	12.35
5.65	187.35	.648E+06	1191.2	1.80	9.07
7.07	188.77	.917E+06	2064.6	2.21	7.40
8.48	190.18	.120E+07	3101.3	2.54	6.44
9.89	191.59	.150E+07	4321.5	2.83	5.78
11.31	193.01	.182E+07	5713.9	3.09	5.30
12.72	194.42	.215E+07	7313.6	3.33	4.91
14.13	195.83	.251E+07	9111.3	3.56	4.59
15.54	197.24	.289E+07	11052.4	3.76	4.35
16.96	198.66	.329E+07	12991.5	3.88	4.22
18.37	200.07	.373E+07	15190.6	4.00	4.09
19.78	201.48	.420E+07	17665.3	4.13	3.97
21.20	202.90	.471E+07	20443.2	4.26	3.84
22.61	204.31	.526E+07	23320.0	4.36	3.76
24.02	205.72	.585E+07	26696.3	4.48	3.65
25.44	207.14	.647E+07	29960.1	4.55	3.60
26.85	208.55	.716E+07	33331.2	4.57	3.58

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1099)	23191.69	13.40	10.42	4.94	1.43	0.67
OUTFLOW: ID= 1 (2707)	23191.69	13.12	10.92	4.94	1.43	0.67

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	
STANDHYD (0167)|	Area (ha)= 21.74
ID= 1 DT= 5.0 min |	Total Imp(%)= 46.00 Dir. Conn.(%)= 34.50

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.00	11.74
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	4.92	4.92
Length (m)=	380.70	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	9.00
over (min)	5.00	25.00
Storage Coeff. (min)=	6.82 (ii)	20.93 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.18	0.05
		TOTALS
PEAK FLOW (cms)=	0.40	0.22 0.612 (iii)
TIME TO PEAK (hrs)=	5.25	5.42 5.25
RUNOFF VOLUME (mm)=	40.00	11.69 21.46

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TOTAL RAINFALL   (mm)=       42.00          42.00          42.00
RUNOFF COEFFICIENT   =        0.95           0.28           0.51

  (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
      CN*  =  71.2    Ia = Dep. Storage  (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
      THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4064)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      1.5800
0.2174
                             0.5000        0.0869   |      2.0600
0.2608
                             0.9500        0.1420   |     20.6000
0.2898

                                 AREA        QPEAK        TPEAK        R.V.
                                 (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  0167)      21.740        0.612         5.25       21.46
   OUTFLOW: ID= 1 (  4064)      21.740        0.488         5.33       21.46

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 79.69
                TIME SHIFT OF PEAK FLOW         (min)=  5.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0850

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| ADD HYD  (  1045)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2707):  23191.69     13.125       10.92        4.94
     + ID2= 2 (  4064):     21.74      0.488        5.33       21.46
       ========================================================
       ID = 3 (  1045):  23213.43     13.144       10.92        4.95

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2645)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         218.07        0.0600
                28.86         214.38        0.0400      Main Channel
                66.69         204.53        0.0400      Main Channel
                96.91         197.26        0.0400      Main Channel
               134.77         193.31        0.0400      Main Channel
               195.60         191.31        0.0400      Main Channel
               225.65         182.59        0.0400      Main Channel
               265.70         182.72        0.0400      Main Channel
               275.75         180.31        0.0400      Main Channel
               295.75         182.32        0.0400      Main Channel
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               335.81         185.31        0.0400      Main Channel
               358.87         187.72        0.0400      Main Channel
               385.87         192.15        0.0400      Main Channel
               405.94         193.66        0.0400      Main Channel
               458.53         195.24        0.0400      Main Channel
               508.19         203.14        0.0400      Main Channel
               524.76         208.61        0.0400      Main Channel
               582.74         210.92        0.0400      Main Channel
               605.64         214.14    0.0400 /0.0600  Main Channel
               638.65         213.68        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
       1.73   182.04    .105E+05          15.0          0.71       11.63
       3.46   183.77    .661E+05         132.2          0.99        8.33
       5.19   185.50    .159E+06         478.6          1.50        5.54
       6.92   187.23    .274E+06        1055.4          1.92        4.32
       8.65   188.96    .406E+06        1882.5          2.30        3.60
      10.38   190.69    .553E+06        2951.2          2.65        3.12
      12.11   192.42    .723E+06        3933.2          2.70        3.06
      13.84   194.15    .949E+06        5205.1          2.73        3.04
      15.57   195.88    .123E+07        7158.5          2.89        2.87
      17.30   197.61    .155E+07        9980.7          3.21        2.58
      19.03   199.34    .188E+07       13383.0          3.54        2.34
      20.76   201.07    .223E+07       17241.3          3.85        2.15
      22.49   202.80    .259E+07       21556.8          4.13        2.00
      24.22   204.53    .297E+07       26481.6          4.43        1.87
      26.05   206.36    .338E+07       32542.6          4.78        1.73
      27.88   208.19    .380E+07       39132.5          5.11        1.62
      29.71   210.02    .425E+07       44512.4          5.21        1.59
      31.54   211.85    .474E+07       51110.6          5.36        1.54
      33.37   213.68    .525E+07       59303.8          5.62        1.47

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1045)   23213.43    13.14   10.92   4.95      1.51
0.71
   OUTFLOW: ID= 1 (  2645)   23213.43    12.98   11.25   4.95      1.51
0.71

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| CALIB            |
| STANDHYD (  0165)|   Area    (ha)=     24.38
|ID= 1 DT= 5.0 min |   Total Imp(%)=     40.00   Dir. Conn.(%)=  38.30
--------------------
                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         9.75           14.63
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         4.12            4.12
     Length            (m)=       403.15           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           6.45
               over (min)          5.00           25.00
     Storage Coeff.  (min)=         7.44 (ii)      24.45 (ii)
     Unit Hyd. Tpeak (min)=         5.00           25.00
     Unit Hyd. peak  (cms)=         0.17            0.05
                                                              *TOTALS*
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PEAK FLOW      (cms)=         0.50           0.19           0.679 (iii)
TIME TO PEAK   (hrs)=         5.25           5.42            5.25
RUNOFF VOLUME   (mm)=        40.00          10.05           21.52
TOTAL RAINFALL  (mm)=        42.00          42.00           42.00
RUNOFF COEFFICIENT   =        0.95           0.24            0.51

  (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
      CN*  =  71.2    Ia = Dep. Storage  (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
      THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1027)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0165):     24.38      0.679        5.25       21.52
     + ID2= 2 (  2645):  23213.43     12.978       11.25        4.95
       ========================================================
       ID = 3 (  1027):  23237.81     12.998       11.25        4.97

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2627)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         224.50        0.0600
                 8.54         224.84        0.0400      Main Channel
                17.09         223.81        0.0400      Main Channel
                62.10         220.66        0.0400      Main Channel
                83.33         218.04        0.0400      Main Channel
               115.34         204.97        0.0400      Main Channel
               126.13         204.66        0.0400      Main Channel
               165.79         190.72        0.0400      Main Channel
               190.18         182.64        0.0400      Main Channel
               211.75         180.01        0.0400      Main Channel
               233.14         182.20        0.0400      Main Channel
               275.95         183.02        0.0400      Main Channel
               297.53         184.14        0.0400      Main Channel
               318.92         186.66        0.0400      Main Channel
               404.55         188.48        0.0400      Main Channel
               436.76         189.94        0.0400      Main Channel
               468.75         193.34        0.0400      Main Channel
               513.05         200.83        0.0400      Main Channel
               528.87         204.20    0.0400 /0.0600  Main Channel
               548.26         207.01        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
       2.20   182.21    .458E+05          76.4          1.76        9.99
       4.40   184.41    .250E+06         638.3          2.69        6.52
       6.60   186.61    .546E+06        2051.9          3.96        4.43
       8.80   188.81    .992E+06        3888.6          4.13        4.25
      11.00   191.01    .161E+07        7790.3          5.11        3.43
      13.19   193.20    .229E+07       13239.2          6.09        2.88
      15.39   195.40    .303E+07       20232.0          7.04        2.50
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      17.59   197.60    .381E+07       28562.1          7.90        2.22
      19.79   199.80    .464E+07       38213.0          8.68        2.02
      21.99   202.00    .551E+07       49298.5          9.43        1.86
      24.19   204.20    .642E+07       61809.6         10.14        1.73
      26.77   206.78    .757E+07       78676.9         10.95        1.60
      29.35   209.36    .877E+07       98669.7         11.86        1.48
      31.93   211.94    .998E+07      120589.2         12.73        1.38
      34.51   214.52    .112E+08      144367.2         13.57        1.29
      37.09   217.10    .125E+08      169954.5         14.37        1.22
      39.67   219.68    .137E+08      194968.1         14.96        1.17
      42.25   222.26    .151E+08      217841.9         15.23        1.15
      44.83   224.84    .165E+08      245821.8         15.69        1.12

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1027)   23237.81    13.00   11.25   4.97      0.37
1.76
   OUTFLOW: ID= 1 (  2627)   23237.81    12.96   11.33   4.97      0.37
1.76

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| CALIB            |
| NASHYD   (  0166)|   Area    (ha)=     91.38   Curve Number   (CN)= 66.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.60

     Unit Hyd Qpeak  (cms)=     0.601

     PEAK FLOW       (cms)=     0.132 (i)
     TIME TO PEAK    (hrs)=     9.333
     RUNOFF VOLUME    (mm)=     6.416
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.153

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0164)|   Area    (ha)=     32.42
|ID= 1 DT= 5.0 min |   Total Imp(%)=     62.30   Dir. Conn.(%)=  55.00
--------------------
                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        20.20           12.22
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.94            2.94
     Length            (m)=       464.90           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           8.52
               over (min)          10.00           30.00
     Storage Coeff.  (min)=         8.97 (ii)      25.81 (ii)
     Unit Hyd. Tpeak (min)=        10.00           30.00
     Unit Hyd. peak  (cms)=         0.12            0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=         0.96            0.21           1.142 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.50            5.25
     RUNOFF VOLUME    (mm)=        40.00           11.53           27.19
```

```
     TOTAL RAINFALL   (mm)=        42.00          42.00          42.00
     RUNOFF COEFFICIENT   =         0.95           0.27           0.65

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  71.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| RESERVOIR(  4065)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      2.2000
0.6484
                             0.6400        0.3560   |      2.9300
0.7628
                             1.2700        0.4874   |     29.3000
0.8476

                                  AREA        QPEAK        TPEAK       R.V.
                                  (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0164)       32.420        1.142         5.25      27.19
   OUTFLOW: ID= 1 (  4065)       32.420        0.597         5.58      27.18

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.32
                  TIME SHIFT OF PEAK FLOW         (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3326

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--------------------
| ADD HYD  (  1004)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0166):     91.38      0.132        9.33        6.42
     + ID2= 2 (  2627):  23237.81     12.963       11.33        4.97
       ============================================================
       ID = 3 (  1004):  23329.19     13.085       11.33        4.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1004)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1004):  23329.19     13.085       11.33        4.97
     + ID2= 2 (  4065):     32.42      0.597        5.58       27.18
       ============================================================
       ID = 1 (  1004):  23361.61     13.157       11.33        5.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2598)|
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```
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         206.58        0.0600
                 17.56         205.82        0.0400      Main Channel
                 53.57         198.00        0.0400      Main Channel
                124.63         194.16        0.0400      Main Channel
                224.69         191.36        0.0400      Main Channel
                255.98         190.89        0.0400      Main Channel
                324.39         187.49        0.0400      Main Channel
                334.83         186.33        0.0400      Main Channel
                356.87         176.50        0.0400      Main Channel
                378.36         175.56        0.0400      Main Channel
                431.96         177.67        0.0400      Main Channel
                538.93         178.14        0.0400      Main Channel
                612.37         177.10        0.0400      Main Channel
                622.45         178.70        0.0400      Main Channel
                632.55         183.25        0.0400      Main Channel
                642.67         183.85        0.0400      Main Channel
                763.88         187.24        0.0400      Main Channel
                784.11         190.00        0.0400      Main Channel
                816.32         199.76   0.0400 /0.0600   Main Channel
                845.53         203.02        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)          (cms)         (m/s)       (min)
       1.40   176.96   .319E+05          65.8          1.45        8.09
       2.80   178.36   .181E+06         429.2          1.67        7.03
       4.21   179.77   .450E+06        1918.5          3.01        3.91
       5.61   181.17   .725E+06        4181.6          4.06        2.89
       7.01   182.57   .101E+07        7108.4          4.98        2.36
       8.41   183.97   .130E+07       10381.0          5.64        2.08
       9.82   185.38   .163E+07       13616.2          5.90        1.99
      11.22   186.78   .201E+07       17587.4          6.17        1.90
      12.62   188.18   .245E+07       22832.6          6.58        1.79
      14.02   189.58   .292E+07       29083.2          7.02        1.67
      15.43   190.99   .343E+07       36189.4          7.44        1.58
      16.83   192.39   .400E+07       43259.6          7.62        1.54
      18.23   193.79   .462E+07       52001.2          7.93        1.48
      19.63   195.19   .530E+07       62869.1          8.37        1.40
      21.04   196.60   .600E+07       75193.8          8.84        1.33
      22.44   198.00   .673E+07       88652.6          9.28        1.27
      24.11   199.67   .763E+07      108642.3         10.03        1.17
      25.79   201.35   .856E+07      130854.2         10.78        1.09
      27.46   203.02   .950E+07      154834.0         11.49        1.02

                                        <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1004)   23361.61    13.16   11.33   5.01      0.28
1.45
   OUTFLOW: ID= 1 (  2598)   23361.61    13.15   11.50   5.01      0.28
1.45


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--------------------
| CALIB            |
| STANDHYD (  0158)|   Area    (ha)=     23.75
|ID= 1 DT= 5.0 min |   Total Imp(%)=     64.00   Dir. Conn.(%)=  56.80
```



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                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       15.20            8.55
     Dep. Storage     (mm)=        2.00            5.00
     Average Slope     (%)=        2.58            2.58
     Length            (m)=      397.91           40.00
     Mannings n            =       0.013           0.250

     Max.Eff.Inten.(mm/hr)=       19.32            9.56
               over (min)         10.00           30.00
     Storage Coeff.  (min)=        8.50 (ii)      25.22 (ii)
     Unit Hyd. Tpeak (min)=       10.00           30.00
     Unit Hyd. peak  (cms)=        0.12            0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=        0.72            0.16         0.872 (iii)
     TIME TO PEAK    (hrs)=        5.25            5.50         5.25
     RUNOFF VOLUME    (mm)=       40.00           12.86        28.27
     TOTAL RAINFALL   (mm)=       42.00           42.00        42.00
     RUNOFF COEFFICIENT   =        0.95            0.31         0.67

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  74.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4067)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      1.6500
0.4745
                             0.5200        0.2388   |      2.1700
0.5582
                             0.9800        0.3442   |     21.7000
0.6202

                                  AREA        QPEAK        TPEAK       R.V.
                                  (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0158)       23.750        0.872         5.25      28.27
   OUTFLOW: ID= 1 (  4067)       23.750        0.505         5.50      28.27

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.88
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2319

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--------------------
| CALIB            |
| STANDHYD (  0163)|   Area    (ha)=     86.71
|ID= 1 DT= 5.0 min |   Total Imp(%)=     33.30   Dir. Conn.(%)=  29.90
--------------------
                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       28.87           57.84
     Dep. Storage     (mm)=        2.00            5.00
     Average Slope     (%)=        4.15            4.15
     Length            (m)=      760.31           40.00
     Mannings n            =       0.013           0.250

     Max.Eff.Inten.(mm/hr)=       19.32            6.91
```



```
               over (min)         10.00           30.00
     Storage Coeff.  (min)=       10.87 (ii)      27.38 (ii)
     Unit Hyd. Tpeak (min)=       10.00           30.00
     Unit Hyd. peak  (cms)=        0.11            0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=        1.39            0.77         2.070 (iii)
     TIME TO PEAK    (hrs)=        5.25            5.50         5.25
     RUNOFF VOLUME    (mm)=       40.00           10.54        19.35
     TOTAL RAINFALL   (mm)=       42.00           42.00        42.00
     RUNOFF COEFFICIENT   =        0.95            0.25         0.46

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  71.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0970)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0163):     86.71      2.070        5.25       19.35
     + ID2= 2 (  2598):  23361.61     13.147       11.50        5.01
       ============================================================
       ID = 3 (  0970):  23448.32     13.212       11.50        5.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0970)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  0970):  23448.32     13.212       11.50        5.06
     + ID2= 2 (  4067):     23.75      0.505        5.50       28.27
       ============================================================
       ID = 1 (  0970):  23472.07     13.252       11.50        5.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2550)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         211.17        0.0600
                 79.89         210.40        0.0400      Main Channel
                133.37         207.54        0.0400      Main Channel
                164.03         203.53        0.0400      Main Channel
                192.65         199.33        0.0400      Main Channel
                218.33         192.23        0.0400      Main Channel
                261.46         184.27        0.0400      Main Channel
                276.66         183.14        0.0400      Main Channel
                305.28         182.01        0.0400      Main Channel
                330.96         174.80        0.0400      Main Channel
                358.56         171.38        0.0400      Main Channel
                368.79         174.63        0.0400      Main Channel
```

409.66	176.69	0.0400		Main Channel	
440.26	178.55	0.0400		Main Channel	
500.51	179.18	0.0400		Main Channel	
522.51	183.51	0.0400		Main Channel	
560.51	198.31	0.0400		Main Channel	
570.51	201.65	0.0400		Main Channel	
600.51	201.76	0.0400	/0.0600	Main Channel	
631.51	203.33	0.0600			

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.60	172.98	.101E+05	15.1	1.05	11.18
3.20	174.58	.404E+05	95.7	1.67	7.04
4.80	176.18	.102E+06	278.9	1.93	6.10
6.40	177.78	.205E+06	691.0	2.38	4.93
7.99	179.37	.361E+06	1233.4	2.41	4.88
9.59	180.97	.580E+06	2584.7	3.14	3.74
11.19	182.57	.816E+06	4213.1	3.64	3.23
12.79	184.17	.109E+07	6248.2	4.03	2.92
14.39	185.77	.140E+07	9070.2	4.58	2.57
15.99	187.37	.171E+07	12367.4	5.09	2.31
17.59	188.97	.205E+07	16122.4	5.56	2.11
19.19	190.57	.239E+07	20334.1	5.99	1.96
20.79	192.17	.275E+07	25004.0	6.41	1.83
22.39	193.77	.313E+07	30269.9	6.83	1.72
23.98	195.36	.351E+07	35998.4	7.23	1.62
25.58	196.96	.391E+07	42183.4	7.62	1.54
27.18	198.56	.431E+07	48817.0	7.98	1.47
28.78	200.16	.473E+07	55628.5	8.29	1.42
30.38	201.76	.517E+07	59827.5	8.16	1.44

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0970)	23472.07	13.25	11.50	5.08	1.41	1.05
OUTFLOW: ID= 1 (2550)	23472.07	13.20	11.67	5.08	1.40	1.05

CALIB					
NASHYD (0160)	Area	(ha)=	30.56	Curve Number	(CN)= 68.9
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		0.90		

Unit Hyd Qpeak (cms)= 0.580

PEAK FLOW	(cms)=	0.102 (i)
TIME TO PEAK	(hrs)=	7.250
RUNOFF VOLUME	(mm)=	6.958
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

NASHYD (0161)	Area	(ha)=	24.34	Curve Number	(CN)= 59.7
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		0.96		

Unit Hyd Qpeak (cms)= 0.433

PEAK FLOW	(cms)=	0.056 (i)
TIME TO PEAK	(hrs)=	7.250
RUNOFF VOLUME	(mm)=	5.020
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.120

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0162)	Area	(ha)=	7.96		
ID= 1 DT= 5.0 min	Total Imp(%)=		54.90	Dir. Conn.(%)=	49.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.37	3.59
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.29	2.29
Length (m)=	230.36	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	4.21
over (min)	5.00	35.00
Storage Coeff. (min)=	6.34 (ii)	30.40 (ii)
Unit Hyd. Tpeak (min)=	5.00	35.00
Unit Hyd. peak (cms)=	0.19	0.04

			TOTALS
PEAK FLOW	(cms)=	0.21	0.03	0.233 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	6.24	22.78
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.15	0.54

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 54.3 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4066)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		0.3700	0.2110
	0.0400	0.1231		3.7000	0.2344
	0.2100	0.1746		0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0162)	7.960	0.233	5.25	22.78
OUTFLOW: ID= 1 (4066)	7.960	0.040	7.25	22.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.05
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 0.1221

ADD HYD (0749)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0161):	24.34	0.056	7.25	5.02
	+ ID2= 2 (4066):	7.96	0.040	7.25	22.68
	ID = 3 (0749):	32.30	0.096	7.25	9.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2199)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	206.71	0.0600	
9.77	206.76	0.0400	Main Channel
87.94	203.23	0.0400	Main Channel
127.02	201.88	0.0400	Main Channel
146.56	200.84	0.0400	Main Channel
156.34	200.51	0.0400	Main Channel
166.11	199.91	0.0400	Main Channel
175.88	198.61	0.0400	Main Channel
185.65	198.22	0.0400	Main Channel
195.42	198.96	0.0400	Main Channel
205.19	200.05	0.0400	Main Channel
214.96	200.78	0.0400	Main Channel
224.73	201.79	0.0400	Main Channel
244.27	204.09	0.0400	Main Channel
254.05	204.39	0.0400	Main Channel
263.82	203.89	0.0400	Main Channel
273.59	203.89	0.0400	Main Channel
312.67	205.40	0.0400	Main Channel
371.30	205.62	0.0400	/0.0600 Main Channel
400.61	205.32	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	198.64	.332E+04	3.5	1.05	15.84
0.83	199.06	.115E+05	20.9	1.80	9.19
1.25	199.47	.228E+05	54.9	2.39	6.91
1.67	199.89	.369E+05	107.1	2.88	5.74
2.08	200.31	.547E+05	172.8	3.14	5.27
2.50	200.72	.778E+05	259.8	3.31	4.99
2.92	201.14	.107E+06	392.1	3.62	4.57
3.33	201.56	.142E+06	567.9	3.97	4.17
3.75	201.98	.181E+06	783.1	4.28	3.86
4.17	202.39	.227E+06	1033.7	4.52	3.66
4.58	202.81	.279E+06	1341.1	4.77	3.47
5.00	203.23	.337E+06	1710.1	5.03	3.29
5.51	203.73	.416E+06	2355.9	5.62	2.94
6.01	204.24	.509E+06	2833.5	5.53	2.99
6.52	204.74	.623E+06	3618.8	5.77	2.87

7.02	205.25	.750E+06	4632.3	6.13	2.70
7.53	205.75	.910E+06	5264.9	5.74	2.88
8.03	206.26	.110E+07	6955.5	6.29	2.63
8.54	206.76	.129E+07	8866.7	6.82	2.43

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0749)	32.30	0.10	7.25	9.37	0.01	1.05
OUTFLOW: ID= 1 (2199)	32.30	0.10	7.50	9.37	0.01	1.05

ROUTE CHN(2200)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	198.74	0.0600	
19.88	198.58	0.0400	Main Channel
39.75	196.26	0.0400	Main Channel
69.57	195.33	0.0400	Main Channel
79.50	195.93	0.0400	Main Channel
89.44	195.30	0.0400	Main Channel
99.38	193.73	0.0400	Main Channel
129.19	185.11	0.0400	Main Channel
139.13	182.69	0.0400	Main Channel
159.01	180.85	0.0400	Main Channel
168.94	182.29	0.0400	Main Channel
188.82	188.74	0.0400	Main Channel
198.76	191.20	0.0400	Main Channel
218.63	194.35	0.0400	Main Channel
238.51	195.95	0.0400	Main Channel
258.39	196.14	0.0400	Main Channel
278.26	197.46	0.0400	Main Channel
318.01	200.64	0.0400	Main Channel
337.89	199.87	0.0400	/0.0600 Main Channel
347.83	200.47	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.03	181.88	.863E+04	22.3	2.39	6.44
2.05	182.91	.337E+05	146.4	4.01	3.84
3.08	183.93	.681E+05	411.2	5.57	2.76
4.11	184.96	.110E+06	808.6	6.81	2.26
5.14	185.99	.158E+06	1354.7	7.93	1.94
6.16	187.01	.212E+06	2052.5	8.92	1.72
7.19	188.04	.273E+06	2911.0	9.83	1.56
8.22	189.07	.341E+06	3930.7	10.65	1.44
9.25	190.10	.415E+06	5115.8	11.38	1.35
10.27	191.12	.497E+06	6501.2	12.08	1.27
11.30	192.15	.587E+06	8009.0	12.60	1.22
12.33	193.18	.686E+06	9758.9	13.13	1.17
13.35	194.21	.796E+06	11697.5	13.57	1.13
14.38	195.23	.919E+06	13564.9	13.62	1.13
15.41	196.26	.109E+07	13296.5	11.30	1.36
16.50	197.36	.132E+07	17506.7	12.22	1.26
17.60	198.45	.158E+07	22513.4	13.13	1.17

18.70	199.55	.188E+07	28308.2	13.90	1.11
19.79	200.65	.221E+07	33568.6	14.04	1.10

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2199)	32.30	0.10	7.50	9.37	0.00	2.39
OUTFLOW: ID= 1 (2200)	32.30	0.09	7.58	9.37	0.00	2.39

CALIB			
STANDHYD (0159)	Area (ha)=	116.34	
ID= 1 DT= 5.0 min	Total Imp(%)=	32.20	Dir. Conn.(%)= 26.70

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.46	78.88
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.96	3.96
Length	(m)=	880.68	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.72
over (min)		10.00	30.00
Storage Coeff. (min)=		12.04 (ii)	28.97 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.10	0.04

TOTALS			
PEAK FLOW	(cms)=	1.66	1.00	2.540 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	9.99	18.00
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.24	0.43

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0882)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0159):	116.34	2.540	5.25	18.00
+ ID2= 2 (0160):	30.56	0.102	7.25	6.96
ID = 3 (0882):	146.90	2.593	5.25	15.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0882)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0882):	146.90	2.593	5.25	15.71
+ ID2= 2 (2200):	32.30	0.095	7.58	9.37
ID = 1 (0882):	179.20	2.628	5.25	14.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0882)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0882):	146.90	2.593	5.25	15.71
+ ID2= 2 (2200):	32.30	0.095	7.58	9.37
ID = 1 (0882):	179.20	2.628	5.25	14.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0882)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0882):	179.20	2.628	5.25	14.56
+ ID2= 2 (2550):	23472.07	13.203	11.67	5.08
ID = 3 (0882):	23651.27	13.375	11.67	5.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (2518)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	204.44	0.0600	
44.66	202.19	0.0400	Main Channel
77.70	202.39	0.0400	Main Channel
142.77	178.62	0.0400	Main Channel
153.62	175.70	0.0400	Main Channel
207.84	169.38	0.0400	Main Channel
229.53	170.87	0.0400	Main Channel
272.91	172.60	0.0400	Main Channel
348.22	174.10	0.0400	Main Channel
397.94	176.23	0.0400	Main Channel
431.35	178.50	0.0400	Main Channel
441.75	176.40	0.0400	Main Channel
462.53	176.42	0.0400	Main Channel
472.92	178.84	0.0400	Main Channel
527.56	179.53	0.0400	Main Channel
587.24	180.87	0.0400	Main Channel
657.18	182.66	0.0400	Main Channel
746.29	192.96	0.0400	Main Channel
778.70	193.70	0.0400 /0.0600	Main Channel
801.00	197.51	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.43	170.81	.891E+04	29.2	1.24	5.09
2.86	172.24	.394E+05	191.9	1.84	3.42
4.29	173.67	.101E+06	597.8	2.22	2.82
5.72	175.10	.203E+06	1544.3	2.87	2.19
7.15	176.53	.339E+06	2939.0	3.36	1.87
8.58	177.96	.488E+06	5154.3	3.98	1.58
10.01	179.39	.669E+06	7717.5	4.35	1.45
11.44	180.82	.893E+06	11089.7	4.68	1.34
12.87	182.25	.115E+07	15574.8	5.10	1.23
14.31	183.68	.144E+07	21686.5	5.70	1.10

15.74	185.11	.173E+07	28994.3	6.32	0.99
17.17	186.54	.203E+07	37204.2	6.90	0.91
18.60	187.97	.234E+07	46299.6	7.45	0.84
20.03	189.40	.266E+07	56269.7	7.96	0.79
21.46	190.84	.299E+07	67107.5	8.45	0.74
22.89	192.27	.333E+07	78809.4	8.92	0.70
24.32	193.70	.368E+07	89185.2	9.13	0.69
26.23	195.61	.418E+07	109217.7	9.86	0.64
28.14	197.51	.468E+07	130920.1	10.55	0.60

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0882)	23651.27	13.38	11.67	5.15	0.66	1.24
OUTFLOW: ID= 1 (2518)	23651.27	13.36	11.75	5.15	0.65	1.24

ROUTE CHN (2519)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	204.44	0.0600	
44.66	202.19	0.0400	Main Channel
77.70	202.39	0.0400	Main Channel
142.77	178.62	0.0400	Main Channel
153.62	175.70	0.0400	Main Channel
207.84	169.38	0.0400	Main Channel
229.53	170.87	0.0400	Main Channel
272.91	172.60	0.0400	Main Channel
348.22	174.10	0.0400	Main Channel
397.94	176.23	0.0400	Main Channel
431.35	178.50	0.0400	Main Channel
441.75	176.40	0.0400	Main Channel
462.53	176.42	0.0400	Main Channel
472.92	178.84	0.0400	Main Channel
527.56	179.53	0.0400	Main Channel
587.24	180.87	0.0400	Main Channel
657.18	182.66	0.0400	Main Channel
746.29	192.96	0.0400	Main Channel
778.70	193.70	0.0400 /0.0600	Main Channel
801.00	197.51	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.43	170.81	.848E+04	24.3	1.03	5.81
2.86	172.24	.375E+05	160.0	1.53	3.91
4.29	173.67	.965E+05	498.5	1.86	3.23
5.72	175.10	.193E+06	1287.7	2.39	2.50
7.15	176.53	.314E+06	2450.8	2.80	2.14
8.58	177.96	.465E+06	4298.0	3.32	1.80
10.01	179.39	.637E+06	6435.4	3.62	1.65
11.44	180.82	.850E+06	9247.4	3.90	1.53
12.87	182.25	.110E+07	12987.3	4.25	1.41
14.31	183.68	.137E+07	18083.7	4.75	1.26
15.74	185.11	.165E+07	24177.4	5.27	1.14
17.17	186.54	.194E+07	31023.4	5.76	1.04

18.60	187.97	.223E+07	38607.8	6.21	0.96
20.03	189.40	.254E+07	46921.5	6.64	0.90
21.46	190.84	.285E+07	55958.8	7.05	0.85
22.89	192.27	.317E+07	65716.6	7.44	0.80
24.32	193.70	.351E+07	74368.6	7.62	0.79
26.23	195.61	.398E+07	91073.1	8.22	0.73
28.14	197.51	.446E+07	109170.0	8.79	0.68

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2518)	23651.27	13.36	11.75	5.15	0.79	1.03
OUTFLOW: ID= 1 (2519)	23651.27	13.35	11.83	5.15	0.78	1.03

ROUTE CHN (2487)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	199.70	0.0600	
62.52	193.16	0.0400	Main Channel
127.88	177.28	0.0400	Main Channel
200.37	173.77	0.0400	Main Channel
238.14	174.87	0.0400	Main Channel
326.66	173.52	0.0400	Main Channel
370.09	173.64	0.0400	Main Channel
457.44	174.85	0.0400	Main Channel
490.06	173.50	0.0400	Main Channel
500.84	174.97	0.0400	Main Channel
582.69	174.68	0.0400	Main Channel
606.87	170.74	0.0400	Main Channel
719.41	168.95	0.0400	Main Channel
806.05	168.30	0.0400	Main Channel
849.64	167.45	0.0400	Main Channel
877.08	183.42	0.0400	Main Channel
915.15	185.94	0.0400	Main Channel
958.47	199.40	0.0400	Main Channel
969.36	199.04	0.0400 /0.0600	Main Channel
1009.30	195.06	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.40	168.85	.378E+05	42.9	0.66	14.68
2.81	170.26	.178E+06	383.3	1.25	7.76
4.21	171.66	.379E+06	1208.5	1.86	5.23
5.62	173.07	.593E+06	2472.3	2.43	4.00
7.02	174.47	.887E+06	3130.6	2.06	4.72
8.43	175.88	.143E+07	5582.6	2.28	4.26
9.83	177.28	.202E+07	9666.5	2.79	3.48
11.31	178.76	.266E+07	15251.2	3.34	2.91
12.79	180.24	.331E+07	21825.8	3.84	2.53
14.28	181.73	.397E+07	29332.9	4.31	2.25
15.76	183.21	.463E+07	37729.5	4.75	2.05
17.24	184.69	.531E+07	46399.5	5.10	1.91
18.72	186.17	.601E+07	55915.6	5.42	1.79
20.20	187.65	.673E+07	66934.2	5.80	1.68

21.68	189.13	.745E+07	78781.4	6.16	1.58
23.17	190.62	.819E+07	91441.7	6.51	1.49
24.65	192.10	.894E+07	104902.0	6.84	1.42
26.13	193.58	.969E+07	119187.1	7.17	1.36
27.61	195.06	.105E+08	134349.6	7.49	1.30

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2519)	23651.27	13.35	11.83	5.15	0.44	0.66
OUTFLOW: ID= 1 (2487)	23651.27	13.27	12.00	5.15	0.43	0.66

CALIB NASHYD (0155) ID= 1 DT= 5.0 min			
Area (ha)=	33.66	Curve Number (CN)=	75.8
Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
U.H. Tp(hrs)=	1.49		

Unit Hyd Qpeak (cms)= 0.387

PEAK FLOW	(cms)=	0.105 (i)
TIME TO PEAK	(hrs)=	8.000
RUNOFF VOLUME	(mm)=	9.029
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.215

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0156) ID= 1 DT= 5.0 min			
Area (ha)=	51.02	Curve Number (CN)=	62.7
Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
U.H. Tp(hrs)=	1.50		

Unit Hyd Qpeak (cms)= 0.581

PEAK FLOW	(cms)=	0.097 (i)
TIME TO PEAK	(hrs)=	8.250
RUNOFF VOLUME	(mm)=	5.596
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.133

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0157) ID= 1 DT= 5.0 min			
Area (ha)=	32.11		
Total Imp(%)=	62.90	Dir. Conn.(%)=	55.60

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.20	11.91
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.70	2.70
Length	(m)=	462.67	40.00

Mannings n	=	0.013 0.250
Max.Eff.Inten.(mm/hr)=		19.32 10.04
over (min)		10.00 30.00
Storage Coeff. (min)=		9.18 (ii) 25.36 (ii)
Unit Hyd. Tpeak (min)=		10.00 30.00
Unit Hyd. peak (cms)=		0.12 0.04

			TOTALS
PEAK FLOW	(cms)=	0.96 0.24	1.176 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50	5.25
RUNOFF VOLUME	(mm)=	40.00 13.53	28.25
TOTAL RAINFALL	(mm)=	42.00 42.00	42.00
RUNOFF COEFFICIENT	=	0.95 0.32	0.67

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2198) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	196.41	0.0600	
9.95	197.65	0.0400	Main Channel
19.90	198.53	0.0400	Main Channel
29.85	199.06	0.0400	Main Channel
69.65	197.31	0.0400	Main Channel
79.60	194.14	0.0400	Main Channel
89.55	190.60	0.0400	Main Channel
99.50	189.28	0.0400	Main Channel
109.45	189.06	0.0400	Main Channel
119.40	186.60	0.0400	Main Channel
129.35	183.67	0.0400	Main Channel
139.30	184.28	0.0400	Main Channel
149.25	186.84	0.0400	Main Channel
169.15	193.98	0.0400	Main Channel
179.10	195.50	0.0400	Main Channel
189.05	196.28	0.0400	Main Channel
199.00	196.52	0.0400	Main Channel
208.95	196.94	0.0400	Main Channel
228.85	198.33	0.0400 /0.0600	Main Channel
248.75	199.18	0.0600	

<---------- TRAVEL TIME TABLE ----------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.67	184.33	.460E+04	8.9	2.05	8.63
1.33	185.00	.151E+05	51.5	3.62	4.89
2.00	185.67	.291E+05	129.5	4.74	3.74
2.67	186.33	.465E+05	247.5	5.66	3.13
3.33	187.00	.674E+05	410.3	6.48	2.74
4.00	187.67	.916E+05	625.8	7.26	2.44
4.67	188.33	.119E+06	894.8	7.99	2.22
5.33	189.00	.150E+06	1221.4	8.67	2.04
6.00	189.67	.189E+06	1491.3	8.40	2.11
6.67	190.33	.234E+06	1987.9	9.03	1.96
7.33	191.00	.284E+06	2612.1	9.78	1.81
8.00	191.67	.336E+06	3350.3	10.59	1.67
8.67	192.33	.392E+06	4177.2	11.34	1.56

9.33	193.00	.450E+06	5094.2	12.04	1.47
10.00	193.66	.510E+06	6102.8	12.72	1.39
10.66	194.33	.574E+06	7142.3	13.24	1.34
11.33	195.00	.641E+06	8228.5	13.64	1.30
12.00	195.66	.714E+06	9374.8	13.96	1.27
12.66	196.33	.793E+06	10417.5	13.96	1.27

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0157)	32.11	1.18	5.25	28.25	0.09	2.05
OUTFLOW: ID= 1 (2198)	32.11	1.13	5.25	28.25	0.09	2.05

ADD HYD (0893) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0155):	33.66	0.105	8.00	9.03
+ ID2= 2 (0156):	51.02	0.097	8.25	5.60
ID = 3 (0893):	84.68	0.202	8.08	6.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0893) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0893):	84.68	0.202	8.08	6.96
+ ID2= 2 (2198):	32.11	1.134	5.25	28.25
ID = 1 (0893):	116.79	1.216	5.33	12.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0893) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0893):	116.79	1.216	5.33	12.81
+ ID2= 2 (2487):	23651.27	13.268	12.00	5.15
ID = 3 (0893):	23768.06	13.422	12.00	5.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2466) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	197.86	0.0600	
39.28	197.89	0.0400	Main Channel
75.45	196.50	0.0400	Main Channel
126.16	183.35	0.0400	Main Channel
141.86	178.38	0.0400	Main Channel
162.91	167.38	0.0400	Main Channel
221.31	166.11	0.0400	Main Channel
263.88	167.79	0.0400	Main Channel
287.99	167.94	0.0400	Main Channel
300.22	165.87	0.0400	Main Channel
323.23	166.40	0.0400	Main Channel
362.41	166.25	0.0400	Main Channel
410.73	167.29	0.0400	Main Channel
439.78	166.29	0.0400	Main Channel
509.80	165.59	0.0400	Main Channel
570.64	166.06	0.0400	Main Channel
664.65	166.09	0.0400	Main Channel
686.17	167.33	0.0400	Main Channel
718.40	179.99	0.0400 /0.0600	Main Channel
729.08	185.56	0.0600	

<---------- TRAVEL TIME TABLE ----------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.60	167.19	.445E+06	792.0	1.87	9.37
3.20	168.79	.131E+07	4334.5	3.49	5.02
4.80	170.39	.220E+07	10266.6	4.90	3.58
6.40	171.99	.311E+07	18088.7	6.11	2.87
8.00	173.59	.403E+07	27605.7	7.20	2.44
9.60	175.19	.497E+07	38690.8	8.19	2.14
11.20	176.79	.591E+07	51253.2	9.12	1.92
12.80	178.39	.687E+07	65222.9	9.99	1.76
14.40	179.99	.784E+07	80407.3	10.79	1.63
16.19	181.78	.895E+07	99416.1	11.69	1.50
17.98	183.57	.101E+08	120045.8	12.54	1.40
19.77	185.36	.112E+08	142136.5	13.34	1.31
21.56	187.15	.124E+08	165806.6	14.11	1.24
23.35	188.94	.135E+08	191012.1	14.85	1.18
25.14	190.73	.147E+08	217722.0	15.57	1.13
26.93	192.52	.159E+08	245912.3	16.26	1.08
28.72	194.31	.171E+08	275562.2	16.93	1.04
30.51	196.10	.183E+08	306654.3	17.59	1.00
32.30	197.89	.196E+08	341012.2	18.31	0.96

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0893)	23768.06	13.42	12.00	5.19	0.03	1.87
OUTFLOW: ID= 1 (2466)	23768.06	13.40	12.17	5.19	0.03	1.87

ROUTE CHN(2396) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	195.60	0.0600	
56.02	195.23	0.0400	Main Channel
67.60	192.37	0.0400	Main Channel
90.75	180.69	0.0400	Main Channel
113.90	166.19	0.0400	Main Channel
125.48	160.68	0.0400	Main Channel
171.79	162.47	0.0400	Main Channel
242.23	164.23	0.0400	Main Channel
262.33	162.48	0.0400	Main Channel
360.93	165.04	0.0400	Main Channel
436.52	173.49	0.0400	Main Channel
458.12	167.37	0.0400	Main Channel
490.52	166.33	0.0400	Main Channel
580.31	165.78	0.0400	Main Channel
598.50	169.69	0.0400	Main Channel
620.10	172.74	0.0400	Main Channel
641.69	178.35	0.0400	Main Channel
652.49	177.07	0.0400	Main Channel
683.91	188.81	0.0400 /0.0600	Main Channel
744.00	191.65	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.56	162.24	.198E+05	22.7	0.67	14.52
3.13	163.80	.112E+06	163.8	0.85	11.41
4.69	165.37	.314E+06	715.0	1.32	7.32
6.25	166.93	.598E+06	1577.4	1.53	6.32
7.81	168.49	.965E+06	3265.5	1.97	4.92
9.38	170.06	.136E+07	5520.1	2.36	4.11
10.94	171.62	.178E+07	8272.1	2.69	3.59
12.50	173.18	.224E+07	11562.6	3.00	3.23
14.07	174.75	.271E+07	15674.5	3.36	2.88
15.63	176.31	.320E+07	20363.4	3.70	2.62
17.19	177.87	.369E+07	25296.9	3.98	2.43
18.76	179.43	.420E+07	30904.1	4.28	2.26
20.32	181.00	.472E+07	37180.4	4.58	2.11
21.88	182.56	.524E+07	43912.4	4.87	1.99
23.44	184.12	.577E+07	51107.0	5.15	1.88
25.01	185.69	.631E+07	58755.4	5.41	1.79
26.57	187.25	.685E+07	66850.1	5.67	1.71
28.13	188.81	.740E+07	75384.6	5.92	1.64
29.70	190.37	.797E+07	84732.6	6.18	1.57

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2466)	23768.06	13.40	12.17	5.19	0.92	0.67
OUTFLOW: ID= 1 (2396)	23768.06	13.31	12.33	5.19	0.91	0.67

CALIB			
NASHYD (0153)	Area (ha)=	175.92	Curve Number (CN)= 72.2
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	2.76	

Unit Hyd Qpeak (cms)= 2.435

PEAK FLOW (cms)= 0.584 (i)
TIME TO PEAK (hrs)= 8.750
RUNOFF VOLUME (mm)= 7.892
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.188

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0154)	Area (ha)=	47.27	
ID= 1 DT= 5.0 min	Total Imp(%)=	49.76	Dir. Conn.(%)= 44.56

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.52	23.75
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.98	3.98
Length	(m)=	561.37	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.08
over (min)		10.00	25.00
Storage Coeff. (min)=		9.17 (ii)	23.55 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05

		TOTALS
PEAK FLOW	(cms)=	1.593 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	25.76
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.61

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4068)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	2.8600	1.2764
	0.5500	0.7091	28.6000	1.4182
	1.7700	1.0424	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0154)	47.270	1.593	5.25	25.76
OUTFLOW: ID= 1 (4068)	47.270	0.492	6.42	25.76

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.91
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.6349

ADD HYD (0822)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0153):	175.92	0.584	8.75	7.89
	+ ID2= 2 (2396):	23768.06	13.312	12.33	5.19
	ID = 3 (0822):	23943.98	13.621	12.33	5.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0822)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0822):	23943.98	13.621	12.33	5.21
	+ ID2= 2 (4068):	47.27	0.492	6.42	25.76
	ID = 1 (0822):	23991.25	13.789	12.33	5.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2378)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	190.63	0.0600	
42.88	189.31	0.0500	Main Channel
73.51	184.85	0.0500	Main Channel
113.33	174.18	0.0500	Main Channel
202.28	165.95	0.0500	Main Channel
214.52	162.63	0.0500	Main Channel
226.77	161.02	0.0500	Main Channel
267.63	159.85	0.0500	Main Channel
308.38	160.25	0.0500	Main Channel
328.88	158.96	0.0500	Main Channel
349.33	159.85	0.0500	Main Channel
420.78	159.98	0.0500	Main Channel
431.03	162.29	0.0500	Main Channel
471.91	161.59	0.0500	Main Channel
512.80	173.87	0.0500	Main Channel
542.39	177.80	0.0500	Main Channel
584.25	188.81	0.0500	Main Channel
635.37	187.18	0.0500	Main Channel
686.49	192.43	0.0500 /0.0600	Main Channel
719.14	193.02	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.62	160.58	.865E+05	79.5	0.65	18.14
3.24	162.20	.324E+06	578.4	1.26	9.33
4.85	163.81	.624E+06	1640.0	1.85	6.34
6.47	165.43	.937E+06	3139.9	2.36	4.97
8.09	167.05	.127E+07	4959.3	2.76	4.25
9.71	168.67	.162E+07	7122.9	3.09	3.79

11.33	170.29	.200E+07	9668.7	3.40	3.45
12.94	171.90	.241E+07	12606.3	3.69	3.18
14.56	173.52	.284E+07	15946.4	3.95	2.97
16.18	175.14	.330E+07	19748.6	4.21	2.78
17.80	176.76	.378E+07	24061.6	4.48	2.62
19.42	178.38	.428E+07	28883.2	4.75	2.47
21.04	180.00	.480E+07	34281.6	5.03	2.33
22.65	181.61	.533E+07	40100.6	5.30	2.21
24.27	183.23	.587E+07	46340.0	5.56	2.11
25.89	184.85	.643E+07	53000.5	5.81	2.02
27.51	186.47	.700E+07	60532.5	6.09	1.93
29.43	188.39	.773E+07	66202.0	6.03	1.95
31.36	190.32	.857E+07	75075.7	6.17	1.90

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0822)	23991.25	13.79	12.33	5.25	0.28	0.65
OUTFLOW: ID= 1 (2378)	23991.25	13.67	12.58	5.25	0.28	0.65

ROUTE CHN(2337)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	192.29	0.0600	
35.54	192.80	0.0500	Main Channel
100.91	191.02	0.0500	Main Channel
127.18	190.44	0.0500	Main Channel
199.68	159.96	0.0500	Main Channel
230.95	157.57	0.0500	Main Channel
317.58	157.54	0.0500	Main Channel
338.10	156.33	0.0500	Main Channel
399.82	158.17	0.0500	Main Channel
490.47	158.85	0.0500	Main Channel
530.27	158.24	0.0500	Main Channel
641.90	159.32	0.0500	Main Channel
715.76	160.39	0.0500	Main Channel
742.68	162.68	0.0500	Main Channel
795.26	172.11	0.0500	Main Channel
808.72	170.80	0.0500	Main Channel
848.50	175.13	0.0500	Main Channel
874.78	183.21	0.0500	Main Channel
901.05	184.52	0.0500 /0.0600	Main Channel
953.06	182.95	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.88	158.21	.830E+05	112.9	0.78	12.25
3.76	160.09	.500E+06	1155.1	1.32	7.21
5.64	161.97	.106E+07	3850.7	2.07	4.61
7.52	163.85	.166E+07	7860.6	2.72	3.51
9.40	165.73	.227E+07	13011.0	3.29	2.90
11.28	167.61	.289E+07	19189.5	3.80	2.51
13.16	169.49	.353E+07	26340.7	4.27	2.24
15.03	171.36	.419E+07	34048.6	4.65	2.05

16.91	173.24	.489E+07	42518.1	4.98	1.92
18.79	175.12	.562E+07	52380.1	5.34	1.79
20.67	177.00	.636E+07	63732.2	5.74	1.66
22.55	178.88	.712E+07	76008.5	6.12	1.56
24.43	180.76	.788E+07	89187.4	6.48	1.47
26.31	182.64	.866E+07	103253.1	6.83	1.40
28.19	184.52	.948E+07	116133.9	7.02	1.36
30.26	186.59	.104E+08	134790.9	7.39	1.29
32.33	188.66	.114E+08	154681.5	7.76	1.23
34.40	190.73	.124E+08	173963.2	8.04	1.19
36.47	192.80	.134E+08	195426.0	8.33	1.15

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2378)	23991.25	13.67	12.58	5.25	0.23	0.78
OUTFLOW: ID= 1 (2337)	23991.25	13.62	12.75	5.25	0.23	0.78

ROUTE CHN(3981)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	187.68	0.0600	
8.61	188.07	0.0500	Main Channel
51.93	175.44	0.0500	Main Channel
88.58	170.55	0.0500	Main Channel
112.46	162.86	0.0500	Main Channel
133.33	161.11	0.0500	Main Channel
160.88	159.74	0.0500	Main Channel
269.80	158.05	0.0500	Main Channel
379.39	156.35	0.0500	Main Channel
451.59	156.76	0.0500	Main Channel
488.27	156.23	0.0500	Main Channel
615.24	155.37	0.0500	Main Channel
668.71	156.83	0.0500	Main Channel
694.10	169.84	0.0500	Main Channel
730.76	177.39	0.0500	Main Channel
766.92	186.10	0.0500	Main Channel
851.95	187.42	0.0500	Main Channel
875.85	186.14	0.0500	Main Channel
888.08	187.53	0.0500 /0.0600	Main Channel
911.10	186.64	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.67	157.04	.203E+06	232.9	0.83	14.54
3.34	158.71	.678E+06	1433.1	1.54	7.89
5.02	160.39	.128E+07	3695.9	2.10	5.78
6.69	162.06	.194E+07	7139.1	2.67	4.54
8.36	163.73	.263E+07	11621.9	3.21	3.78
10.03	165.40	.334E+07	17053.2	3.72	3.26
11.71	167.08	.405E+07	23304.5	4.19	2.90
13.38	168.75	.477E+07	30334.0	4.63	2.62
15.05	170.42	.551E+07	38046.9	5.03	2.41
16.72	172.09	.626E+07	46084.5	5.36	2.26

18.40	173.77	.704E+07	54815.0	5.67	2.14
20.07	175.44	.784E+07	64264.8	5.97	2.03
21.74	177.11	.866E+07	75248.1	6.33	1.92
23.55	178.92	.957E+07	88004.9	6.70	1.81
25.35	180.72	.105E+08	101634.7	7.05	1.72
27.16	182.53	.114E+08	116118.9	7.39	1.64
28.96	184.33	.124E+08	131453.9	7.72	1.57
30.76	186.13	.134E+08	147362.0	8.02	1.51
32.57	187.94	.145E+08	151346.8	7.61	1.60

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2337)	23991.25	13.62	12.75	5.25	0.10	0.83
OUTFLOW: ID= 1 (3981)	23991.25	13.56	13.08	5.25	0.10	0.83

ROUTE CHN(3894)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	190.26	0.0600	
10.78	190.67	0.0500	Main Channel
130.83	189.39	0.0500	Main Channel
207.35	187.76	0.0500	Main Channel
240.09	187.49	0.0500	Main Channel
305.31	185.53	0.0500	Main Channel
316.08	180.41	0.0500	Main Channel
347.89	156.97	0.0500	Main Channel
374.00	151.67	0.0500	Main Channel
446.67	153.72	0.0500	Main Channel
555.82	155.33	0.0500	Main Channel
588.71	155.02	0.0500	Main Channel
643.11	153.31	0.0500	Main Channel
664.74	159.07	0.0500	Main Channel
730.36	160.46	0.0500	Main Channel
751.97	162.42	0.0500	Main Channel
817.50	164.13	0.0500	Main Channel
850.33	169.19	0.0500	Main Channel
926.20	180.97	0.0500 /0.0600	Main Channel
999.30	182.01	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.95	153.62	.588E+05	68.3	0.87	14.34
3.91	155.58	.344E+06	586.8	1.27	9.78
5.86	157.53	.789E+06	2258.8	2.14	5.82
7.81	159.48	.125E+07	4608.1	2.74	4.53
9.77	161.44	.180E+07	7594.1	3.14	3.96
11.72	163.39	.241E+07	11380.8	3.52	3.53
13.67	165.34	.311E+07	16406.3	3.94	3.16
15.63	167.30	.383E+07	22759.8	4.43	2.81
17.58	169.25	.458E+07	29983.4	4.89	2.54
19.53	171.20	.535E+07	38059.1	5.31	2.34
21.49	173.16	.614E+07	46969.3	5.71	2.18
23.44	175.11	.695E+07	56704.4	6.09	2.04

25.39	177.06	.778E+07	67258.5	6.45	1.93
27.35	179.02	.864E+07	78628.8	6.79	1.83
29.30	180.97	.952E+07	90780.5	7.11	1.75
31.73	183.40	.107E+08	108622.1	7.55	1.65
34.15	185.82	.120E+08	126883.1	7.90	1.57
36.58	188.25	.133E+08	135284.9	7.56	1.64
39.00	190.67	.150E+08	154348.2	7.70	1.61

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3981)	23991.25	13.56	13.08	5.25	0.39	0.87
OUTFLOW: ID= 1 (3894)	23991.25	13.50	13.33	5.25	0.38	0.87

CALIB	STANDHYD (0151)	ID= 1 DT= 5.0 min	Area (ha)= 44.65	Total Imp(%)= 51.36	Dir. Conn.(%)= 45.76

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.93	21.72
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	6.20	6.20
Length	(m)=	545.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.12
over (min)		10.00	25.00
Storage Coeff. (min)=		7.89 (ii)	23.26 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.13	0.05

		TOTALS
PEAK FLOW	(cms)=	1.10 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	23.11
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.55

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4069)	IN= 2---> OUT= 1	DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	2.3600	1.3172
0.2000	0.8050	23.6000	1.4636
1.3500	1.0904	0.0000	

0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	44.650	1.351	5.25	23.11
OUTFLOW: ID= 1 (4069)	44.650	0.184	7.50	23.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.59
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 0.7391

CALIB	STANDHYD (0152)	ID= 1 DT= 5.0 min	Area (ha)= 137.29	Total Imp(%)= 16.08	Dir. Conn.(%)= 14.64

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	22.08	115.21
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	5.30	5.30
Length	(m)=	956.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.66
over (min)		10.00	30.00
Storage Coeff. (min)=		11.59 (ii)	26.32 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.10	0.04

		TOTALS
PEAK FLOW	(cms)=	2.578 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	15.86
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.38

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1950)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0152):	137.29	2.578	5.25	15.86
		+ ID2= 2 (3894):	23991.25	13.501	13.33	5.25
		ID = 3 (1950):	24128.54	13.513	13.25	5.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1950)	3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1950):	24128.54	13.513	13.25	5.31
+ ID2= 2 (4069):	44.65	0.184	7.50	23.09
ID = 1 (1950):	24173.19	13.644	13.25	5.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3829)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	181.92	0.0600	
30.85	181.35	0.0500	Main Channel
97.55	179.15	0.0500	Main Channel
147.07	175.07	0.0500	Main Channel
172.11	174.63	0.0500	Main Channel
258.46	165.26	0.0500	Main Channel
283.49	164.06	0.0500	Main Channel
332.97	160.31	0.0500	Main Channel
370.26	152.25	0.0500	Main Channel
394.67	149.57	0.0500	Main Channel
406.90	150.94	0.0500	Main Channel
505.87	152.07	0.0500	Main Channel
530.92	152.49	0.0500	Main Channel
555.38	160.43	0.0500	Main Channel
580.61	166.72	0.0500	Main Channel
635.47	183.10	0.0500	Main Channel
642.68	184.32	0.0500	Main Channel
703.59	183.19	0.0500	Main Channel
729.67	182.80	0.0500 /0.0600	Main Channel
741.87	183.33	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.74	151.31	.305E+05	20.1	0.61	25.28
3.48	153.05	.243E+06	325.9	1.25	12.42
5.22	154.79	.523E+06	1110.0	1.98	7.85
6.96	156.53	.825E+06	2257.9	2.55	6.09
8.70	158.27	.115E+07	3743.9	3.04	5.11
10.44	160.01	.149E+07	5558.4	3.47	4.48
12.18	161.75	.187E+07	7480.6	3.73	4.17
13.92	163.49	.229E+07	9745.6	3.96	3.92
15.66	165.23	.277E+07	12238.8	4.11	3.77
17.40	166.97	.330E+07	15629.5	4.41	3.52
19.14	168.71	.387E+07	19516.6	4.70	3.30
20.88	170.45	.447E+07	23877.8	4.98	3.12
22.62	172.19	.511E+07	28729.4	5.24	2.96
24.36	173.93	.578E+07	34087.7	5.49	2.83
26.10	175.67	.651E+07	38851.6	5.56	2.79
27.84	177.41	.729E+07	45260.3	5.78	2.69
29.58	179.15	.812E+07	52281.2	6.00	2.59
32.17	181.74	.949E+07	66028.2	6.48	2.40
34.75	184.32	.111E+08	74575.7	6.26	2.48

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

INFLOW : ID= 2 (1950)	24173.19	13.64	13.25	5.35	1.18	0.61
OUTFLOW: ID= 1 (3829)	24173.19	13.44	13.75	5.35	1.16	0.61

CALIB	NASHYD (0145)	ID= 1 DT= 5.0 min

Area (ha)= 18.63 Curve Number (CN)= 64.4
Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.61

Unit Hyd Qpeak (cms)= 1.167

PEAK FLOW (cms)= 0.109 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 5.935
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.141

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1820)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0145):	18.63	0.109	5.75	5.93
+ ID2= 2 (3829):	24173.19	13.439	13.75	5.35
ID = 3 (1820):	24191.82	13.440	13.75	5.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0144)	ID= 1 DT= 5.0 min

Area (ha)= 29.33
Total Imp(%)= 52.96 Dir. Conn.(%)= 48.16

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.53	13.80
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	6.92	6.02
Length	(m)=	442.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	12.26
over (min)		5.00	20.00
Storage Coeff. (min)=		7.02 (ii)	18.76 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.17	0.06

		TOTALS
PEAK FLOW	(cms)=	1.135 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	28.35
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.67

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4072)	IN= 2---> OUT= 1	DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	2.0600	0.6023
0.6000	0.3363	2.7200	0.7040
1.1900	0.4537	27.2000	0.7822

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0144)	29.330	1.135	5.25	28.35
OUTFLOW: ID= 1 (4072)	29.330	0.563	5.58	28.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.58
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.3157

ADD HYD (7534)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1820):	24191.82	13.440	13.75	5.35
+ ID2= 2 (4072):	29.33	0.563	5.58	28.34
ID = 3 (7534):	24221.15	13.463	13.67	5.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0146)	ID= 1 DT= 5.0 min

Area (ha)= 43.68
Total Imp(%)= 34.24 Dir. Conn.(%)= 30.32

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.96	28.72
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	6.86	6.86
Length	(m)=	539.63	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.06
over (min)		10.00	25.00
Storage Coeff. (min)=		7.61 (ii)	22.57 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.13	0.05

		TOTALS
PEAK FLOW	(cms)=	1.037 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	18.36

TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.21	0.44

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 67.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0147)	ID= 1 DT= 5.0 min

Area (ha)= 191.12
Total Imp(%)= 50.64 Dir. Conn.(%)= 45.92

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	96.78	94.34
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.88	4.88
Length	(m)=	1128.78	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.95
over (min)		15.00	30.00
Storage Coeff. (min)=		13.12 (ii)	26.71 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	6.303 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	26.07
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.62

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4071)	IN= 2---> OUT= 1	DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	12.1100	5.1602
2.4100	2.9528	121.1000	5.7336
7.5900	4.3002	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0147)	191.120	6.303	5.25	26.07
OUTFLOW: ID= 1 (4071)	191.120	2.074	6.50	26.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.90
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 2.5420

CALIB / STANDHYD (0148) / ID= 1 DT= 5.0 min	Area (ha)= 14.08	Total Imp(%)= 30.08	Dir. Conn.(%)= 27.36

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.24	9.84
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	8.10	8.10
Length	(m)=	306.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.96
over (min)		5.00	20.00
Storage Coeff. (min)=		5.15 (ii)	16.00 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.21	0.07

		TOTALS
PEAK FLOW	(cms)=	0.21	0.28	0.480 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	18.06	24.06
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.43	0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0753) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0148):	14.08	0.480	5.25	24.06
+ ID2= 2 (4071):	191.12	2.074	6.50	26.07
ID = 3 (0753):	205.20	2.230	6.25	25.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2196) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	179.82	0.0600	
9.58	179.50	0.0500	Main Channel
19.17	178.82	0.0500	Main Channel
28.75	176.51	0.0500	Main Channel
38.33	173.78	0.0500	Main Channel
47.92	171.08	0.0500	Main Channel
57.50	169.06	0.0500	Main Channel
67.09	168.68	0.0500	Main Channel
86.25	168.09	0.0500	Main Channel
95.84	168.90	0.0500	Main Channel

105.42	172.77	0.0500	Main Channel
115.00	175.76	0.0500	Main Channel
124.59	176.77	0.0500	Main Channel
134.17	177.21	0.0500	Main Channel
143.76	177.58	0.0500	Main Channel
153.34	177.98	0.0500	Main Channel
162.92	178.27	0.0500	Main Channel
172.51	178.37	0.0500	Main Channel
182.09	178.51	0.0500 /0.0600	Main Channel
191.67	178.82	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	168.64	.311E+04	8.2	1.23	6.32
1.10	169.19	.117E+05	54.2	2.15	3.61
1.65	169.74	.224E+05	148.8	3.10	2.51
2.19	170.29	.341E+05	281.9	3.86	2.01
2.74	170.83	.468E+05	452.3	4.52	1.72
3.29	171.38	.604E+05	662.0	5.11	1.52
3.84	171.93	.750E+05	910.7	5.67	1.37
4.39	172.48	.904E+05	1196.6	6.18	1.26
4.94	173.03	.107E+06	1517.9	6.65	1.17
5.49	173.58	.124E+06	1875.1	7.07	1.10
6.03	174.12	.142E+06	2272.7	7.48	1.04
6.58	174.67	.161E+06	2711.6	7.86	0.99
7.13	175.22	.181E+06	3192.7	8.23	0.95
7.68	175.77	.202E+06	3715.6	8.59	0.91
8.23	176.32	.224E+06	4193.3	8.73	0.89
8.78	176.87	.249E+06	4688.0	8.81	0.88
9.33	177.42	.276E+06	5084.5	8.60	0.90
9.87	177.96	.307E+06	5592.0	8.50	0.92
10.42	178.51	.344E+06	5857.0	7.95	0.98

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0753)	205.20	2.23	6.25	25.93	0.15	1.23
OUTFLOW: ID= 1 (2196)	205.20	2.22	6.33	25.93	0.15	1.23

CALIB / STANDHYD (0149) / ID= 1 DT= 5.0 min	Area (ha)= 97.27	Total Imp(%)= 42.00	Dir. Conn.(%)= 37.84

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	40.85	56.42
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	5.37	5.37
Length	(m)=	805.27	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.23
over (min)		10.00	25.00
Storage Coeff. (min)=		10.41 (ii)	23.47 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.11	0.05

TOTALS

				TOTALS
PEAK FLOW	(cms)=	1.97	1.19	3.094 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	14.95	24.43
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.36	0.58

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (0150) / ID= 1 DT= 5.0 min	Area (ha)= 61.92	Total Imp(%)= 56.08	Dir. Conn.(%)= 51.60

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	34.72	27.20
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.02	3.02
Length	(m)=	642.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	12.26
over (min)		10.00	30.00
Storage Coeff. (min)=		10.81 (ii)	25.25 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	1.71	0.67	2.327 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	17.52	29.12
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.42	0.69

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4070) / IN= 2---> OUT= 1 / DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	4.2100	1.3327
	1.3600	0.7102	5.5600	1.5782
	2.5100	1.0171	55.6000	1.7536

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0150)	61.920	2.327	5.25	29.12
OUTFLOW: ID= 1 (4070)	61.920	1.234	5.67	29.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 53.01
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.6445

ADD HYD (0751) / 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0149):	97.27	3.094	5.25	24.43
+ ID2= 2 (4070):	61.92	1.234	5.67	29.12
ID = 3 (0751):	159.19	4.166	5.25	26.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2197) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	194.23	0.0600	
9.75	193.70	0.0500	Main Channel
19.50	193.41	0.0500	Main Channel
29.25	193.23	0.0500	Main Channel
39.00	192.05	0.0500	Main Channel
48.75	190.15	0.0500	Main Channel
58.50	188.02	0.0500	Main Channel
78.00	184.19	0.0500	Main Channel
87.75	181.84	0.0500	Main Channel
97.50	180.07	0.0500	Main Channel
107.25	179.11	0.0500	Main Channel
116.99	178.60	0.0500	Main Channel
126.74	179.69	0.0500	Main Channel
136.49	182.28	0.0500	Main Channel
155.99	190.64	0.0500	Main Channel
165.74	194.29	0.0500	Main Channel
185.24	194.29	0.0500	Main Channel
194.99	194.40	0.0500	Main Channel
204.74	194.76	0.0500 /0.0600	Main Channel
214.49	195.30	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.82	179.43	.163E+05	12.8	1.40	21.17
1.64	180.25	.561E+05	74.0	2.35	12.64
2.47	181.07	.109E+06	194.3	3.17	9.36
3.29	181.89	.173E+06	373.9	3.85	7.73
4.11	182.72	.248E+06	625.2	4.50	6.60
4.93	183.54	.330E+06	944.4	5.11	5.82
5.76	184.36	.420E+06	1328.3	5.64	5.27
6.58	185.18	.518E+06	1775.1	6.11	4.87
7.40	186.00	.626E+06	2297.1	6.54	4.54
8.22	186.83	.743E+06	2898.2	6.96	4.27
9.05	187.65	.868E+06	3582.6	7.36	4.04
9.87	188.47	.100E+07	4360.3	7.76	3.83
10.69	189.29	.115E+07	5232.7	8.15	3.65
11.51	190.12	.130E+07	6197.6	8.52	3.49
12.34	190.94	.146E+07	7239.1	8.86	3.35
13.16	191.76	.163E+07	8375.8	9.19	3.23

13.98	192.58	.180E+07	9544.2	9.43	3.15
14.80	193.41	.200E+07	10401.9	9.28	3.20
15.63	194.23	.223E+07	12197.8	9.76	3.04

channel->		<---- hydrograph ---->			<-pipe /
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH
VEL					MAX
	(ha)	(cms)	(hrs)	(mm)	(m)
(m/s)					
INFLOW : ID= 2 (0751)	159.19	4.17	5.25	26.25	0.27
1.40					
OUTFLOW: ID= 1 (2197)	159.19	3.57	5.42	26.25	0.23
1.40					

ADD HYD (0752)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2196):	205.20	2.222	6.33	25.93
+ ID2= 2 (2197):	159.19	3.575	5.42	26.25
ID = 3 (0752):	364.39	5.583	5.50	26.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2195)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	178.09	0.0600	
38.97	177.26	0.0500	Main Channel
68.19	176.01	0.0500	Main Channel
77.94	174.99	0.0500	Main Channel
87.68	172.82	0.0500	Main Channel
107.16	167.06	0.0500	Main Channel
126.64	160.59	0.0500	Main Channel
136.39	160.28	0.0500	Main Channel
146.13	160.94	0.0500	Main Channel
165.61	160.93	0.0500	Main Channel
175.35	161.46	0.0500	Main Channel
185.10	162.70	0.0500	Main Channel
194.84	164.14	0.0500	Main Channel
204.58	165.32	0.0500	Main Channel
224.06	168.27	0.0500	Main Channel
233.81	169.07	0.0500	Main Channel
253.29	170.03	0.0500	Main Channel
292.26	172.14	0.0500	Main Channel
302.00	173.10	0.0500 /0.0600	Main Channel
340.97	175.49	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.75	161.04	.127E+05	11.7	0.95	18.03
1.51	161.79	.509E+05	99.7	2.01	8.51
2.26	162.54	.966E+05	263.4	2.80	6.11
3.02	163.30	.148E+06	499.1	3.45	4.95

3.77	164.05	.206E+06	805.5	4.01	4.26
4.52	164.81	.269E+06	1177.3	4.48	3.81
5.28	165.56	.339E+06	1628.9	4.92	3.47
6.03	166.31	.415E+06	2168.9	5.36	3.19
6.78	167.07	.496E+06	2790.7	5.76	2.96
7.54	167.82	.584E+06	3493.5	6.14	2.78
8.29	168.57	.677E+06	4249.9	6.44	2.65
9.05	169.33	.779E+06	5011.3	6.60	2.59
9.80	170.08	.893E+06	5822.6	6.68	2.56
10.55	170.84	.102E+07	6811.4	6.84	2.50
11.31	171.59	.116E+07	7952.0	7.02	2.44
12.06	172.34	.132E+07	9299.0	7.25	2.36
12.81	173.10	.148E+07	10918.7	7.58	2.26
14.01	174.29	.176E+07	14184.6	8.28	2.06
15.20	175.49	.207E+07	17754.9	8.80	1.94

channel->		<---- hydrograph ---->			<-pipe /
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH
VEL					MAX
	(ha)	(cms)	(hrs)	(mm)	(m)
(m/s)					
INFLOW : ID= 2 (0752)	364.39	5.58	5.50	26.07	0.36
0.95					
OUTFLOW: ID= 1 (2195)	364.39	5.24	5.92	26.07	0.33
0.95					

ADD HYD (7535)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0146):	43.68	1.037	5.25	18.36
+ ID2= 2 (2195):	364.39	5.245	5.92	26.07
ID = 3 (7535):	408.07	5.689	5.83	25.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1972)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7534):	24221.15	13.463	13.67	5.37
+ ID2= 2 (7535):	408.07	5.689	5.83	25.24
ID = 3 (1972):	24629.22	14.103	13.58	5.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3680)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	179.23	0.0600	
36.49	179.22	0.0500	Main Channel

85.77	176.88	0.0500	Main Channel
107.18	172.59	0.0500	Main Channel
132.40	163.36	0.0500	Main Channel
182.44	153.82	0.0500	Main Channel
207.50	151.08	0.0500	Main Channel
245.41	154.31	0.0500	Main Channel
271.04	153.94	0.0500	Main Channel
321.10	152.35	0.0500	Main Channel
346.12	150.14	0.0500	Main Channel
385.40	149.36	0.0500	Main Channel
466.28	149.65	0.0500	Main Channel
484.93	147.32	0.0500	Main Channel
509.97	148.83	0.0500	Main Channel
532.78	155.70	0.0500	Main Channel
572.85	157.40	0.0500	Main Channel
636.14	159.35	0.0500	Main Channel
686.81	173.48	0.0500 /0.0600	Main Channel
712.04	173.12	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
1.31	148.63	.120E+05	18.9	0.90	10.59
2.62	149.94	.679E+05	117.8	0.99	9.60
3.92	151.24	.198E+06	623.4	1.80	5.30
5.23	152.55	.356E+06	1411.2	2.26	4.20
6.54	153.86	.561E+06	2523.2	2.57	3.71
7.85	155.17	.818E+06	4322.7	3.02	3.15
9.16	156.48	.109E+07	6655.9	3.48	2.73
10.46	157.78	.139E+07	9323.6	3.83	2.49
11.77	159.09	.173E+07	12411.8	4.11	2.32
13.08	160.40	.209E+07	16008.1	4.54	2.10
14.39	161.71	.246E+07	21479.2	4.98	1.91
15.70	163.02	.284E+07	26875.9	5.40	1.76
17.00	164.32	.323E+07	32872.6	5.81	1.64
18.31	165.63	.362E+07	39405.6	6.21	1.53
19.62	166.94	.402E+07	46433.9	6.59	1.44
20.93	168.25	.443E+07	53948.8	6.95	1.37
22.24	169.56	.484E+07	61943.1	7.30	1.30
23.54	170.86	.526E+07	70410.9	7.64	1.25
24.85	172.17	.569E+07	79347.4	7.96	1.19

channel->		<---- hydrograph ---->			<-pipe /
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH
VEL					MAX
	(ha)	(cms)	(hrs)	(mm)	(m)
(m/s)					
INFLOW : ID= 2 (1972)	24629.22	14.10	13.58	5.70	0.98
0.90					
OUTFLOW: ID= 1 (3680)	24629.22	14.08	13.75	5.70	0.97
0.90					

ROUTE CHN(3608)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	167.44	0.0600	
17.24	163.16	0.0500	Main Channel
74.01	159.81	0.0500	Main Channel
110.67	158.36	0.0500	Main Channel

135.22	158.22	0.0500	Main Channel
196.90	153.89	0.0500	Main Channel
221.44	153.95	0.0500	Main Channel
258.68	147.29	0.0500	Main Channel
295.39	147.25	0.0500	Main Channel
307.67	144.96	0.0500	Main Channel
320.90	145.93	0.0500	Main Channel
468.17	147.98	0.0500	Main Channel
542.10	148.10	0.0500	Main Channel
566.52	158.51	0.0500	Main Channel
578.75	161.66	0.0500	Main Channel
597.39	163.28	0.0500	Main Channel
640.44	161.51	0.0500	Main Channel
689.92	166.30	0.0500	Main Channel
735.17	167.32	0.0500 /0.0600	Main Channel
829.90	166.33	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
1.06	146.02	.849E+04	5.6	0.51	25.19
2.12	147.08	.632E+05	61.1	0.75	17.22
3.18	148.14	.215E+06	244.2	0.88	14.69
4.24	149.20	.456E+06	837.1	1.43	9.08
5.30	150.26	.704E+06	1692.4	1.87	6.93
6.36	151.32	.959E+06	2779.5	2.25	5.75
7.42	152.38	.122E+07	4080.8	2.60	4.98
8.49	153.45	.149E+07	5585.3	2.91	4.44
9.55	154.51	.178E+07	6966.9	3.04	4.25
10.61	155.57	.209E+07	8835.3	3.29	3.94
11.67	156.63	.241E+07	10917.6	3.51	3.68
12.73	157.69	.275E+07	13216.3	3.73	3.47
13.79	158.75	.312E+07	15192.6	3.78	3.42
14.85	159.81	.351E+07	17776.6	3.93	3.29
16.15	161.11	.403E+07	22103.2	4.26	3.04
17.46	162.42	.459E+07	25745.1	4.36	2.97
18.76	163.72	.522E+07	29977.3	4.46	2.90
20.07	165.03	.589E+07	35744.0	4.71	2.75
21.37	166.33	.657E+07	41958.9	4.96	2.61

channel->		<---- hydrograph ---->			<-pipe /
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH
VEL					MAX
	(ha)	(cms)	(hrs)	(mm)	(m)
(m/s)					
INFLOW : ID= 2 (3680)	24629.22	14.08	13.75	5.70	1.22
0.54					
OUTFLOW: ID= 1 (3608)	24629.22	13.96	14.08	5.70	1.22
0.54					

CALIB				
NASHYD (0142)	Area	(ha)=	81.10	Curve Number (CN)= 66.1
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=		1.02	

Unit Hyd Qpeak (cms)= 3.037

PEAK FLOW (cms)= 0.390 (i)
TIME TO PEAK (hrs)= 6.417
RUNOFF VOLUME (mm)= 6.315
TOTAL RAINFALL (mm)= 42.000

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     RUNOFF COEFFICIENT   =     0.150

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0143)|   Area    (ha)=     95.71
|ID= 1 DT= 5.0 min |   Total Imp(%)=     27.36   Dir. Conn.(%)=  24.32
--------------------
                           IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       26.19          69.52
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        5.48           5.48
     Length            (m)=      798.79          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.32           4.48
               over (min)         10.00          30.00
     Storage Coeff.  (min)=       10.30 (ii)     28.36 (ii)
     Unit Hyd. Tpeak (min)=       10.00          30.00
     Unit Hyd. peak  (cms)=        0.11           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.25           0.59       1.755 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.50       5.25
     RUNOFF VOLUME    (mm)=       40.00           6.94      14.98
     TOTAL RAINFALL   (mm)=       42.00          42.00      42.00
     RUNOFF COEFFICIENT   =        0.95           0.17       0.36


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1548)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0142):     81.10      0.390        6.42        6.32
     + ID2= 2 (  0143):     95.71      1.755        5.25       14.98
       ==========================================================
       ID = 3 (  1548):    176.81      1.903        5.25       11.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1548)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1548):    176.81      1.903        5.25       11.00
     + ID2= 2 (  3608):  24629.22     13.957       14.08        5.70
       ==========================================================
       ID = 1 (  1548):  24806.03     13.968       14.08        5.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3300)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00        158.79        0.0600
                   25.53        158.34        0.0500      Main Channel
                   52.44        153.96        0.0500      Main Channel
                   79.35        145.92        0.0500      Main Channel
                  156.60        145.65        0.0500      Main Channel
                  187.11        145.73        0.0500      Main Channel
                  201.99        143.37        0.0500      Main Channel
                  246.60        145.72        0.0500      Main Channel
                  281.37        146.11        0.0500      Main Channel
                  294.88        151.01        0.0500      Main Channel
                  321.88        164.05        0.0500      Main Channel
                  348.80        174.60        0.0500      Main Channel
                  375.72        175.26        0.0500      Main Channel
                  433.99        174.76        0.0500      Main Channel
                  460.95        174.42        0.0500      Main Channel
                  484.85        173.74        0.0500      Main Channel
                  532.63        173.72        0.0500      Main Channel
                  579.88        171.72        0.0500      Main Channel
                  627.67        170.38    0.0500 /0.0600  Main Channel
                  665.44        170.38        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)     (m)     (cu.m.)         (cms)         (m/s)       (min)
        1.51   144.88    .164E+05         44.4          1.53        6.15
        3.03   146.40    .111E+06        352.3          1.80        5.24
        4.54   147.91    .290E+06       1694.3          3.31        2.85
        6.05   149.42    .476E+06       3769.6          4.48        2.11
        7.56   150.93    .671E+06       6486.0          5.47        1.72
        9.08   152.45    .873E+06       9814.5          6.36        1.48
       10.59   153.96    .108E+07      13709.7          7.16        1.32
       12.36   155.73    .134E+07      19226.3          8.12        1.16
       14.14   157.51    .161E+07      25549.0          8.97        1.05
       15.91   159.28    .190E+07      32735.9          9.72        0.97
       17.69   161.06    .222E+07      40874.8         10.41        0.91
       19.47   162.83    .254E+07      49874.7         11.11        0.85
       21.24   164.61    .286E+07      59657.3         11.79        0.80
       23.02   166.38    .319E+07      70154.7         12.44        0.76
       24.79   168.16    .352E+07      81417.1         13.08        0.72
       26.57   169.93    .385E+07      93428.7         13.70        0.69
       28.34   171.71    .424E+07      97671.4         13.02        0.72
       30.12   173.49    .469E+07     105747.4         12.74        0.74
       31.89   175.26    .526E+07      99867.3         10.74        0.88

                                      <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1548)   24806.03    13.97   14.08   5.74      0.48
1.53
  OUTFLOW: ID= 1 (  3300)   24806.03    13.96   14.17   5.74      0.47
1.53


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| ROUTE CHN(  3182)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00        169.24        0.0600
                   77.94        172.10        0.0500      Main Channel
                  153.68        169.89        0.0500      Main Channel
                  169.31        167.22        0.0500      Main Channel
                  213.27        145.92        0.0500      Main Channel
                  227.08        143.65        0.0500      Main Channel
                  244.78        143.37        0.0500      Main Channel
                  259.66        139.82        0.0500      Main Channel
                  267.47        139.64        0.0500      Main Channel
                  280.94        142.18        0.0500      Main Channel
                  290.16        142.89        0.0500      Main Channel
                  349.82        143.75        0.0500      Main Channel
                  424.34        143.95        0.0500      Main Channel
                  487.21        144.77        0.0500      Main Channel
                  537.30        146.77        0.0500      Main Channel
                  562.93        154.46        0.0500      Main Channel
                  595.79        166.75        0.0500      Main Channel
                  600.79        168.21        0.0500      Main Channel
                  612.19        168.87    0.0500 /0.0600  Main Channel
                  703.27        168.37        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)     (m)     (cu.m.)         (cms)         (m/s)       (min)
        1.62   141.26    .894E+04         20.8          0.89        7.15
        3.25   142.89    .284E+05         92.7          1.25        5.12
        4.87   144.51    .115E+06        300.7          1.00        6.37
        6.50   146.14    .291E+06       1215.1          1.60        3.99
        8.12   147.76    .492E+06       2784.7          2.17        2.95
        9.74   149.38    .701E+06       4925.3          2.69        2.37
       11.37   151.01    .915E+06       7542.2          3.16        2.02
       12.99   152.63    .113E+07      10605.2          3.58        1.78
       14.62   154.26    .136E+07      14093.6          3.97        1.61
       16.24   155.88    .159E+07      18016.3          4.34        1.47
       17.86   157.50    .183E+07      22341.7          4.69        1.36
       19.49   159.13    .206E+07      27057.0          5.02        1.27
       21.11   160.75    .231E+07      32154.8          5.33        1.20
       22.73   162.37    .256E+07      37629.4          5.63        1.13
       24.36   164.00    .281E+07      43476.3          5.92        1.08
       25.98   165.62    .307E+07      49692.3          6.20        1.03
       27.61   167.25    .334E+07      56237.2          6.46        0.99
       29.23   168.87    .362E+07      61813.6          6.55        0.98
       32.46   172.10    .437E+07      78834.5          6.91        0.92

                                      <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3300)   24806.03    13.96   14.17   5.74      1.09
0.89
  OUTFLOW: ID= 1 (  3182)   24806.03    13.95   14.25   5.74      1.08
0.89


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| CALIB            |
| STANDHYD (  0141)|   Area    (ha)=     54.06
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|ID= 1 DT= 5.0 min |   Total Imp(%)=     30.72   Dir. Conn.(%)=  27.68
--------------------
                           IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       16.61          37.45
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        4.11           4.11
     Length            (m)=      600.33          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.32           7.11
               over (min)         10.00          30.00
     Storage Coeff.  (min)=        9.46 (ii)     25.83 (ii)
     Unit Hyd. Tpeak (min)=       10.00          30.00
     Unit Hyd. peak  (cms)=        0.12           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.80           0.52       1.269 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.50       5.25
     RUNOFF VOLUME    (mm)=       40.00          10.92      18.97
     TOTAL RAINFALL   (mm)=       42.00          42.00      42.00
     RUNOFF COEFFICIENT   =        0.95           0.26       0.45

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.1    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7532)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0141):     54.06      1.269        5.25       18.97
     + ID2= 2 (  3182):  24806.03     13.950       14.25        5.74
       ==========================================================
       ID = 3 (  7532):  24860.09     13.950       14.25        5.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0173)|   Area    (ha)=     76.07   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.06

     Unit Hyd Qpeak  (cms)=     1.225

     PEAK FLOW       (cms)=     0.134 (i)
     TIME TO PEAK    (hrs)=     7.500
     RUNOFF VOLUME    (mm)=     4.149
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0174)|   Area    (ha)=      8.89   Curve Number   (CN)= 58.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
```

```
-------------------   U.H. Tp(hrs)=      0.34

     Unit Hyd Qpeak  (cms)=     0.446

     PEAK FLOW       (cms)=     0.024 (i)
     TIME TO PEAK    (hrs)=     6.250
     RUNOFF VOLUME    (mm)=     3.565
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
-------------------
| CALIB             |
| NASHYD   (  0175)|   Area    (ha)=     90.32   Curve Number   (CN)= 66.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.52

     Unit Hyd Qpeak  (cms)=     1.014

     PEAK FLOW       (cms)=     0.146 (i)
     TIME TO PEAK    (hrs)=     8.333
     RUNOFF VOLUME    (mm)=     4.802
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.114

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD   (  0176)|   Area    (ha)=    238.01   Curve Number   (CN)= 65.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.52

     Unit Hyd Qpeak  (cms)=     2.673

     PEAK FLOW       (cms)=     0.370 (i)
     TIME TO PEAK    (hrs)=     8.333
     RUNOFF VOLUME    (mm)=     4.629
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.110

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ROUTE CHN(  2303)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         296.08        0.0600
                 26.93         295.36        0.0450      Main Channel
                 62.49         294.73        0.0450      Main Channel
                 77.77         294.19        0.0450      Main Channel
                 85.83         293.77        0.0450      Main Channel
                 97.49         293.32        0.0450      Main Channel
                110.72         292.72        0.0450      Main Channel
                121.54         292.33        0.0450      Main Channel
                144.87         292.19        0.0450      Main Channel
                148.48         292.25        0.0450      Main Channel
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                156.54         292.52        0.0450      Main Channel
                167.36         293.14        0.0450      Main Channel
                180.59         294.18        0.0450      Main Channel
                192.25         295.13        0.0450      Main Channel
                201.68         295.70        0.0450      Main Channel
                205.33         296.06        0.0450      Main Channel
                215.63         296.89        0.0450      Main Channel
                225.06         297.34        0.0450      Main Channel
                251.19         297.78     0.0450 /0.0600  Main Channel
                266.50         297.91        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)          (cms)         (m/s)      (min)
       0.20   292.38    .513E+04           1.4           0.37      62.86
       0.39   292.58    .153E+05           6.9           0.63      36.67
       0.59   292.77    .280E+05          16.8           0.83      27.69
       0.78   292.97    .429E+05          31.2           1.00      22.89
       0.98   293.16    .598E+05          50.2           1.16      19.88
       1.17   293.36    .787E+05          74.2           1.30      17.70
       1.37   293.55    .996E+05         102.9           1.43      16.14
       1.56   293.75    .123E+06         136.9           1.54      14.92
       1.76   293.94    .147E+06         177.8           1.66      13.81
       1.95   294.14    .174E+06         224.5           1.78      12.91
       2.15   294.34    .202E+06         275.2           1.88      12.24
       2.34   294.53    .233E+06         331.6           1.97      11.69
       2.54   294.73    .265E+06         394.8           2.05      11.19
       2.77   294.95    .307E+06         490.5           2.21      10.41
       2.99   295.18    .353E+06         596.7           2.33       9.85
       3.22   295.40    .404E+06         713.4           2.44       9.44
       3.44   295.63    .459E+06         844.9           2.54       9.06
       3.67   295.86    .519E+06         994.3           2.65       8.69
       3.90   296.08    .581E+06        1159.1           2.75       8.36

                                      <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0176)     238.01     0.37    8.33   4.63      0.05
0.37
   OUTFLOW: ID= 1 (  2303)     238.01     0.35    9.50   4.63      0.05
0.37


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-
-------------------
| ADD HYD  (  7560)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0175):     90.32      0.146        8.33        4.80
     + ID2= 2 (  2303):    238.01      0.346        9.50        4.63
       ==========================================================
       ID = 3 (  7560):    328.33      0.484        9.25        4.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD   (  0177)|   Area    (ha)=    134.83   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
```



```
-------------------   U.H. Tp(hrs)=      1.84

     Unit Hyd Qpeak  (cms)=     1.251

     PEAK FLOW       (cms)=     0.163 (i)
     TIME TO PEAK    (hrs)=     8.667
     RUNOFF VOLUME    (mm)=     4.153
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD   (  0183)|   Area    (ha)=     43.77   Curve Number   (CN)= 54.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.81

     Unit Hyd Qpeak  (cms)=     0.923

     PEAK FLOW       (cms)=     0.068 (i)
     TIME TO PEAK    (hrs)=     7.250
     RUNOFF VOLUME    (mm)=     3.114
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.074

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD   (  0185)|   Area    (ha)=     30.80   Curve Number   (CN)= 58.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.78

     Unit Hyd Qpeak  (cms)=     0.674

     PEAK FLOW       (cms)=     0.056 (i)
     TIME TO PEAK    (hrs)=     7.250
     RUNOFF VOLUME    (mm)=     3.591
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| NASHYD   (  0186)|   Area    (ha)=     13.67   Curve Number   (CN)= 65.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     26.16   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.61

     Unit Hyd Qpeak  (cms)=     0.383

     PEAK FLOW       (cms)=     0.012 (i)
     TIME TO PEAK    (hrs)=     7.667
     RUNOFF VOLUME    (mm)=     1.637
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.039

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| NASHYD   (  0198)|   Area    (ha)=     11.88   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     11.88   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.44

     Unit Hyd Qpeak  (cms)=     0.461

     PEAK FLOW       (cms)=     0.041 (i)
     TIME TO PEAK    (hrs)=     6.250
     RUNOFF VOLUME    (mm)=     4.850
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.115

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD (  0197)|   Area    (ha)=     31.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=     18.80   Dir. Conn.(%)=  17.00
-------------------                          IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          5.99           25.87
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          2.30            2.30
     Length            (m)=        460.87           40.00
     Mannings n            =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32            4.17
               over (min)           10.00           35.00
     Storage Coeff.  (min)=          9.60 (ii)      33.72 (ii)
     Unit Hyd. Tpeak (min)=         10.00           35.00
     Unit Hyd. peak  (cms)=          0.11            0.03
                                                                 *TOTALS*
     PEAK FLOW       (cms)=          0.29            0.19          0.446 (iii)
     TIME TO PEAK    (hrs)=          5.25            5.58           5.25
     RUNOFF VOLUME    (mm)=         40.00            6.79          12.44
     TOTAL RAINFALL   (mm)=         42.00           42.00          42.00
     RUNOFF COEFFICIENT   =          0.95            0.16           0.30

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  60.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  1300)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0197):     31.86      0.446        5.25       12.44
     + ID2= 2 (  0198):     11.88      0.041        6.25        4.85
       ==========================================================
       ID = 3 (  1300):     43.74      0.477        5.25       10.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ROUTE CHN(  2976)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00         316.72        0.0600
                  3.16         316.57        0.0450      Main Channel
                 10.44         316.49        0.0450      Main Channel
                 17.72         314.42        0.0450      Main Channel
                 20.88         313.58        0.0450      Main Channel
                 28.16         312.35        0.0450      Main Channel
                 31.32         311.90        0.0450      Main Channel
                 32.32         311.98        0.0450      Main Channel
                 41.81         312.28        0.0450      Main Channel
                 48.13         312.35        0.0450      Main Channel
                 52.26         312.45        0.0450      Main Channel
                 62.70         311.81        0.0450      Main Channel
                 62.71         311.81        0.0450      Main Channel
                 73.14         313.04        0.0450      Main Channel
                 78.52         312.89        0.0450      Main Channel
                 83.62         312.89        0.0450      Main Channel
                 96.52         313.13        0.0450      Main Channel
                105.07         313.56        0.0450      Main Channel
                115.52         313.80    0.0450 /0.0600  Main Channel
                136.45         314.21        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.12   311.93    .380E+03          0.0         0.24     130.41
       0.25   312.06    .200E+04          0.4         0.36      86.99
       0.37   312.18    .540E+04          1.4         0.48      64.62
       0.50   312.31    .107E+05          3.3         0.57      53.98
       0.62   312.43    .186E+05          6.7         0.67      46.44
       0.75   312.56    .281E+05         12.7         0.84      36.97
       0.87   312.68    .381E+05         20.4         1.00      31.07
       1.00   312.81    .484E+05         29.7         1.14      27.19
       1.12   312.93    .597E+05         36.7         1.14      27.12
       1.24   313.05    .742E+05         46.2         1.16      26.78
       1.37   313.18    .908E+05         61.2         1.25      24.71
       1.49   313.30    .108E+06         79.9         1.37      22.59
       1.62   313.43    .127E+06        100.8         1.48      20.92
       1.74   313.55    .146E+06        124.1         1.58      19.56
       1.87   313.68    .166E+06        147.1         1.65      18.76
       1.99   313.80    .187E+06        172.7         1.72      18.05
       2.13   313.94    .212E+06        211.0         1.85      16.76
       2.26   314.07    .239E+06        252.9         1.96      15.78
       2.40   314.21    .268E+06        298.3         2.07      14.99

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1300)     43.74     0.48    5.25  10.38      0.26
0.36
   OUTFLOW: ID= 1 (  2976)     43.74     0.24    6.25  10.36      0.20
0.29


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--------------------
| CALIB            |
| STANDHYD (  0200)|   Area    (ha)=     53.21
|ID= 1 DT= 5.0 min |   Total Imp(%)=     53.80   Dir. Conn.(%)=  49.10
--------------------
                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        28.63           24.58
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         3.02            3.02
     Length            (m)=       595.59           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            4.38
               over (min)          10.00           35.00
     Storage Coeff.  (min)=        10.32 (ii)      32.12 (ii)
     Unit Hyd. Tpeak (min)=        10.00           35.00
     Unit Hyd. peak  (cms)=         0.11            0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=         1.40            0.20       1.559 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58        5.25
     RUNOFF VOLUME    (mm)=        40.00            6.64       23.02
     TOTAL RAINFALL   (mm)=        42.00           42.00       42.00
     RUNOFF COEFFICIENT   =         0.95            0.16        0.55


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  57.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  4050)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------          (cms)        (ha.m.)   |     (cms)          (ha.m.)
                              0.0000        0.0000   |      0.4740
2.0010
                              0.1550        0.8199   |      0.6830
2.5013
                              0.2670        1.2784   |     13.6600
2.7792

                                  AREA        QPEAK        TPEAK        R.V.
                                  (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  0200)       53.210       1.559         5.25       23.02
   OUTFLOW: ID= 1 (  4050)       53.210       0.180         7.92       22.99

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.52
                  TIME SHIFT OF PEAK FLOW          (min)=160.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.9210

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--------------------
| ADD HYD  (  0966)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0185):     30.80      0.056        7.25        3.59
     + ID2= 2 (  0186):     13.67      0.012        7.67        1.64
       ==========================================================
```



```
       ID = 3 (  0966):     44.47      0.068        7.25        2.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0966)|
|   2 +  1 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  0966):     44.47      0.068        7.25        2.99
     + ID2= 2 (  2976):     43.74      0.239        6.25       10.36
       ==========================================================
       ID = 1 (  0966):     88.21      0.299        6.33        6.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0966)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0966):     88.21      0.299        6.33        6.64
     + ID2= 2 (  4050):     53.21      0.180        7.92       22.99
       ==========================================================
       ID = 3 (  0966):    141.42      0.463        6.42       12.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  2543)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00         308.78        0.0600
                 21.96         308.51        0.0450      Main Channel
                 68.68         308.46        0.0450      Main Channel
                162.10         306.94        0.0450      Main Channel
                210.18         304.47        0.0450      Main Channel
                278.86         302.18        0.0450      Main Channel
                313.86         301.22        0.0450      Main Channel
                337.24         301.33        0.0450      Main Channel
                372.24         303.04        0.0450      Main Channel
                424.79         304.46        0.0450      Main Channel
                498.43         304.27        0.0450      Main Channel
                567.51         304.36        0.0450      Main Channel
                577.72         304.87        0.0450      Main Channel
                618.91         304.83        0.0450      Main Channel
                642.50         304.56        0.0450      Main Channel
                703.04         305.17        0.0450      Main Channel
                782.94         305.26        0.0450      Main Channel
                824.08         306.61        0.0450      Main Channel
                864.99         307.35    0.0450 /0.0600  Main Channel
                924.54         307.67        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.32   301.54    .962E+04          6.8         0.79      23.69
       0.65   301.87    .271E+05         29.6         1.22      15.30
```



```
       0.97   302.19    .513E+05         71.1         1.55      12.03
       1.29   302.51    .816E+05        135.6         1.85      10.04
       1.61   302.83    .118E+06        224.4         2.12       8.76
       1.94   303.16    .160E+06        337.1         2.35       7.91
       2.26   303.48    .210E+06        475.9         2.53       7.34
       2.58   303.80    .267E+06        650.6         2.72       6.84
       2.90   304.12    .332E+06        864.4         2.90       6.41
       3.23   304.45    .422E+06        858.6         2.27       8.19
       3.55   304.77    .558E+06       1235.7         2.47       7.53
       3.87   305.09    .726E+06       1686.3         2.59       7.18
       4.19   305.41    .927E+06       2245.1         2.70       6.88
       4.52   305.74    .114E+07       3133.7         3.06       6.09
       4.84   306.06    .137E+07       4145.0         3.38       5.50
       5.16   306.38    .160E+07       5275.7         3.69       5.04
       5.48   306.70    .183E+07       6508.4         3.97       4.69
       5.81   307.03    .207E+07       7794.7         4.19       4.44
       6.13   307.35    .233E+07       9129.5         4.37       4.25

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0966)    141.42     0.46    6.42  12.80      0.02
0.79
   OUTFLOW: ID= 1 (  2543)    141.42     0.45    7.17  12.80      0.02
0.79


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--------------------
| ROUTE CHN(  3112)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00         297.28        0.0600
                 22.55         297.30        0.0450      Main Channel
                 44.18         296.92        0.0450      Main Channel
                 65.42         296.67        0.0450      Main Channel
                 97.83         295.47        0.0450      Main Channel
                129.85         293.83        0.0450      Main Channel
                162.24         293.22        0.0450      Main Channel
                194.41         293.06        0.0450      Main Channel
                205.21         292.87        0.0450      Main Channel
                237.25         291.15        0.0450      Main Channel
                259.80         290.44        0.0450      Main Channel
                286.21         290.39        0.0450      Main Channel
                296.11         290.62        0.0450      Main Channel
                310.25         290.76        0.0450      Main Channel
                346.26         290.57        0.0450      Main Channel
                360.74         290.93        0.0450      Main Channel
                405.24         293.07        0.0450      Main Channel
                482.27         295.48        0.0450      Main Channel
                520.28         295.67    0.0450 /0.0600  Main Channel
                642.82         296.60        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.35   290.74    .633E+04          7.7         0.47      13.65
       0.70   291.09    .218E+05         51.3         0.90       7.07
       1.06   291.45    .396E+05        129.3         1.25       5.10
       1.41   291.80    .593E+05        238.0         1.53       4.15
```

1.76	292.15	.809E+05	376.8	1.78	3.58
2.11	292.50	.104E+06	546.1	2.00	3.18
2.46	292.85	.130E+06	746.6	2.20	2.89
2.82	293.21	.158E+06	896.0	2.16	2.94
3.17	293.56	.193E+06	1153.2	2.28	2.79
3.52	293.91	.233E+06	1472.6	2.42	2.63
3.87	294.26	.275E+06	1869.0	2.60	2.45
4.22	294.61	.319E+06	2314.3	2.77	2.30
4.58	294.97	.366E+06	2809.8	2.93	2.17
4.93	295.32	.415E+06	3357.0	3.09	2.06
5.28	295.67	.468E+06	3764.6	3.07	2.07
5.69	296.08	.540E+06	4635.8	3.28	1.94
6.10	296.49	.622E+06	5604.3	3.44	1.85
6.50	296.89	.712E+06	6576.8	3.53	1.80
6.91	297.30	.806E+06	7873.0	3.73	1.71

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2543)	141.42	0.45	7.17	12.80	0.02	0.47
OUTFLOW: ID= 1 (3112)	141.42	0.45	7.42	12.79	0.02	0.47

CALIB			
NASHYD (0187)	Area (ha)=	30.51	Curve Number (CN)= 58.0
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	0.81	

Unit Hyd Qpeak (cms)= 0.643

PEAK FLOW (cms)= 0.054 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 3.591
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.086

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0204)	Area (ha)=	90.00	Curve Number (CN)= 48.0
ID= 1 DT= 5.0 min	Ia (mm)=	31.92	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.28	

Unit Hyd Qpeak (cms)= 1.200

PEAK FLOW (cms)= 0.011 (i)
TIME TO PEAK (hrs)= 9.500
RUNOFF VOLUME (mm)= 0.356
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.008

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2213)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	309.21	0.0600	
9.96	308.88	0.0450	Main Channel
19.93	308.15	0.0450	Main Channel
39.85	306.20	0.0450	Main Channel
49.82	305.47	0.0450	Main Channel
59.78	305.11	0.0450	Main Channel
89.67	303.07	0.0450	Main Channel
99.63	302.90	0.0450	Main Channel
139.49	302.88	0.0450	Main Channel
149.45	303.15	0.0450	Main Channel
159.41	303.60	0.0450	Main Channel
169.38	303.83	0.0450	Main Channel
199.27	304.27	0.0450	Main Channel
229.16	305.13	0.0450	Main Channel
259.05	305.55	0.0450	Main Channel
328.79	306.98	0.0450	Main Channel
348.72	307.65	0.0450	Main Channel
358.68	308.37	0.0450	Main Channel
378.61	310.31	0.0450 /0.0600	Main Channel
388.57	311.05	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	303.21	.183E+05	12.6	0.73	24.29
0.66	303.54	.428E+05	45.9	1.15	15.54
0.99	303.87	.723E+05	94.9	1.40	12.70
1.32	304.20	.110E+06	161.9	1.57	11.35
1.65	304.53	.157E+06	264.3	1.80	9.88
1.98	304.86	.209E+06	396.7	2.03	8.77
2.31	305.19	.267E+06	552.0	2.21	8.05
2.63	305.52	.334E+06	719.0	2.30	7.75
2.96	305.85	.411E+06	952.1	2.47	7.20
3.29	306.18	.496E+06	1226.6	2.65	6.73
3.62	306.51	.587E+06	1546.3	2.82	6.32
3.95	306.83	.685E+06	1909.9	2.98	5.98
4.28	307.16	.789E+06	2334.1	3.16	5.64
4.61	307.49	.899E+06	2816.4	3.35	5.32
4.94	307.82	.101E+07	3362.3	3.55	5.02
5.27	308.15	.113E+07	3969.5	3.76	4.74
5.62	308.50	.126E+07	4704.8	4.00	4.46
5.98	308.86	.139E+07	5500.9	4.23	4.21
6.33	309.21	.153E+07	6353.0	4.45	4.00

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0204)	90.00	0.01	9.50	0.36	0.00	0.73
OUTFLOW: ID= 1 (2213)	90.00	0.01	10.08	0.36	0.00	0.73

ROUTE CHN(2214)

IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	299.64	0.0600	
19.94	299.48	0.0450	Main Channel
39.88	299.69	0.0450	Main Channel
79.75	299.56	0.0450	Main Channel
139.56	298.97	0.0450	Main Channel
159.50	298.66	0.0450	Main Channel
179.44	298.67	0.0450	Main Channel
209.35	298.21	0.0450	Main Channel
219.31	296.69	0.0450	Main Channel
229.28	296.76	0.0450	Main Channel
239.25	297.21	0.0450	Main Channel
249.22	297.00	0.0450	Main Channel
269.16	296.88	0.0450	Main Channel
279.13	297.23	0.0450	Main Channel
289.10	297.99	0.0450	Main Channel
299.07	298.55	0.0450	Main Channel
309.03	298.99	0.0450	Main Channel
328.97	299.72	0.0450	Main Channel
348.91	300.11	0.0450 /0.0600	Main Channel
358.87	300.38	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.15	296.84	.726E+03	0.4	0.29	30.97
0.30	296.99	.261E+04	1.6	0.33	27.75
0.45	297.14	.649E+04	5.7	0.47	19.07
0.60	297.29	.115E+05	13.3	0.63	14.38
0.75	297.44	.169E+05	24.5	0.79	11.48
0.90	297.59	.225E+05	38.4	0.93	9.76
1.05	297.74	.283E+05	54.9	1.05	8.60
1.20	297.89	.344E+05	74.0	1.16	7.75
1.35	298.04	.408E+05	95.4	1.27	7.12
1.50	298.19	.474E+05	119.0	1.36	6.64
1.65	298.34	.546E+05	138.3	1.37	6.58
1.80	298.49	.628E+05	160.9	1.39	6.50
1.95	298.64	.720E+05	187.5	1.41	6.40
2.10	298.79	.837E+05	204.4	1.32	6.82
2.25	298.94	.967E+05	246.3	1.38	6.54
2.40	299.09	.111E+06	289.1	1.41	6.40
2.55	299.24	.127E+06	337.8	1.44	6.25
2.70	299.39	.144E+06	393.9	1.48	6.10
2.85	299.54	.163E+06	457.9	1.52	5.94

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2213)	90.00	0.01	10.08	0.36	0.00	0.29
OUTFLOW: ID= 1 (2214)	90.00	0.01	10.67	0.36	0.00	0.29

CALIB			
STANDHYD (0201)	Area (ha)=	34.26	
ID= 1 DT= 5.0 min	Total Imp(%)=	51.40	Dir. Conn.(%)= 46.20

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	17.61	16.65
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.16	2.16
Length (m)=	477.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	4.73
over (min)	10.00	35.00
Storage Coeff. (min)=	10.00 (ii)	33.37 (ii)
Unit Hyd. Tpeak (min)=	10.00	35.00
Unit Hyd. peak (cms)=	0.11	0.03

		TOTALS
PEAK FLOW (cms)=	0.85	0.14	0.964 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	7.13	22.32
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.17	0.53

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4046)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.3230	1.3507
	0.1060	0.6285	0.4670	1.6884
	0.1820	0.9005	9.3400	1.8760

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	34.260	0.964	5.25	22.32
OUTFLOW: ID= 1 (4046)	34.260	0.099	8.33	22.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.29
TIME SHIFT OF PEAK FLOW (min)=185.00
MAXIMUM STORAGE USED (ha.m.)= 0.5881

CALIB			
STANDHYD (0203)	Area (ha)=	39.04	
ID= 1 DT= 5.0 min	Total Imp(%)=	47.40	Dir. Conn.(%)= 42.80

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	18.50	20.54
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.87	2.87
Length (m)=	510.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	4.12

```
                over (min)        10.00          35.00
     Storage Coeff.  (min)=        9.56 (ii)     32.25 (ii)
     Unit Hyd. Tpeak (min)=       10.00          35.00
     Unit Hyd. peak  (cms)=        0.11           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.90           0.15      1.021 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.58      5.25
     RUNOFF VOLUME    (mm)=       40.00           6.33     20.74
     TOTAL RAINFALL   (mm)=       42.00          42.00     42.00
     RUNOFF COEFFICIENT   =        0.95           0.15      0.49

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4048)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------          (cms)        (ha.m.)   |   (cms)          (ha.m.)
                              0.0000        0.0000   |      0.3630
1.4238
                              0.1200        0.6059   |      0.5250
1.8176
                              0.2050        0.9189   |     10.5000
2.0196

                                 AREA        QPEAK        TPEAK       R.V.
                                 (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0203)       39.040       1.021         5.25      20.74
   OUTFLOW: ID= 1 (  4048)       39.040       0.120         8.08      20.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.71
                  TIME SHIFT OF PEAK FLOW          (min)=170.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6038

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--------------------
| ADD HYD  (  0925)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2214):     90.00      0.011       10.67        0.36
     + ID2= 2 (  4046):     34.26      0.099        8.33       22.27
       ==========================================================
       ID = 3 (  0925):    124.26      0.107        9.25        6.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0925)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  0925):    124.26      0.107        9.25        6.40
     + ID2= 2 (  4048):     39.04      0.120        8.08       20.71
       ==========================================================
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       ID = 1 (  0925):    163.30      0.225        8.50        9.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2307)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance       Elevation       Manning
                   0.00          300.47        0.0600
                  19.90          300.22        0.0450      Main Channel
                  39.80          300.20        0.0450      Main Channel
                  79.60          299.79        0.0450      Main Channel
                 119.39          298.79        0.0450      Main Channel
                 139.29          298.01        0.0450      Main Channel
                 149.24          297.89        0.0450      Main Channel
                 159.19          297.93        0.0450      Main Channel
                 169.14          297.80        0.0450      Main Channel
                 189.04          298.18        0.0450      Main Channel
                 208.94          298.04        0.0450      Main Channel
                 218.89          298.14        0.0450      Main Channel
                 228.84          298.03        0.0450      Main Channel
                 248.74          297.58        0.0450      Main Channel
                 258.69          297.57        0.0450      Main Channel
                 268.64          297.66        0.0450      Main Channel
                 298.49          298.57        0.0450      Main Channel
                 328.34          299.46        0.0450      Main Channel
                 358.18          299.77    0.0450 /0.0600  Main Channel
                 388.00          300.49        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)      (cu.m.)          (cms)         (m/s)       (min)
        0.15   297.72    .123E+04           0.5           0.17       41.25
        0.29   297.86    .341E+04           1.9           0.24       29.65
        0.44   298.01    .781E+04           4.9           0.27       26.53
        0.59   298.16    .150E+05          10.7           0.30       23.35
        0.73   298.30    .245E+05          22.8           0.39       17.86
        0.88   298.45    .345E+05          39.1           0.48       14.71
        1.03   298.60    .451E+05          59.0           0.55       12.73
        1.17   298.74    .562E+05          82.5           0.62       11.35
        1.32   298.89    .679E+05         109.1           0.68       10.37
        1.47   299.04    .802E+05         139.0           0.73        9.62
        1.61   299.18    .932E+05         172.6           0.78        9.01
        1.76   299.33    .107E+06         209.8           0.83        8.49
        1.91   299.48    .121E+06         250.1           0.87        8.08
        2.05   299.62    .137E+06         289.2           0.89        7.87
        2.20   299.77    .153E+06         333.2           0.92        7.66
        2.37   299.94    .174E+06         397.9           0.96        7.31
        2.55   300.12    .197E+06         468.5           1.00        7.02
        2.72   300.29    .223E+06         556.2           1.05        6.67
        2.90   300.47    .250E+06         661.4           1.12        6.31

                                        <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0925)     163.30     0.23    8.50   9.82      0.07
0.17
   OUTFLOW: ID= 1 (  2307)     163.30     0.22    9.42   9.82      0.07
0.17
```



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| CALIB            |
| NASHYD   (  0218)|   Area    (ha)=     17.99   Curve Number   (CN)= 49.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      0.51

     Unit Hyd Qpeak  (cms)=     0.602

     PEAK FLOW       (cms)=     0.029 (i)
     TIME TO PEAK    (hrs)=     6.333
     RUNOFF VOLUME    (mm)=     2.595
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.062

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0226)|   Area    (ha)=    290.21   Curve Number   (CN)= 54.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.05

     Unit Hyd Qpeak  (cms)=     2.417

     PEAK FLOW       (cms)=     0.243 (i)
     TIME TO PEAK    (hrs)=     9.083
     RUNOFF VOLUME    (mm)=     3.120
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.074

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN(  2219)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance       Elevation       Manning
                   0.00          298.52        0.0600
                   9.57          298.23        0.0450      Main Channel
                  28.70          297.94        0.0450      Main Channel
                  38.27          297.82        0.0450      Main Channel
                  47.84          297.82        0.0450      Main Channel
                  57.41          297.89        0.0450      Main Channel
                  66.97          297.99        0.0450      Main Channel
                  76.54          298.01        0.0450      Main Channel
                  86.11          297.16        0.0450      Main Channel
                  95.68          297.31        0.0450      Main Channel
                 105.25          297.11        0.0450      Main Channel
                 114.81          296.59        0.0450      Main Channel
                 124.38          296.01        0.0450      Main Channel
                 133.95          296.22        0.0450      Main Channel
                 143.52          296.89        0.0450      Main Channel
                 153.08          297.17        0.0450      Main Channel
                 162.65          297.31        0.0450      Main Channel
                 172.22          297.38        0.0450      Main Channel
                 191.35          297.51    0.0450 /0.0600  Main Channel
                 200.92          297.53        0.0600
```



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      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)      (cu.m.)          (cms)         (m/s)       (min)
        0.08   296.09    .913E+02           0.0           0.14       56.40
        0.16   296.17    .365E+03           0.2           0.23       35.53
        0.24   296.24    .818E+03           0.5           0.30       26.38
        0.32   296.32    .139E+04           1.1           0.39       20.68
        0.39   296.40    .205E+04           2.0           0.46       17.50
        0.47   296.48    .289E+04           3.0           0.52       15.41
        0.55   296.56    .365E+04           4.4           0.58       13.91
        0.63   296.64    .459E+04           6.0           0.63       12.77
        0.71   296.72    .563E+04           7.9           0.68       11.87
        0.79   296.80    .677E+04          10.1           0.72       11.12
        0.87   296.88    .800E+04          12.7           0.76       10.49
        0.95   296.95    .935E+04          15.4           0.79       10.15
        1.03   297.03    .109E+05          18.4           0.81        9.84
        1.10   297.11    .125E+05          21.9           0.84        9.54
        1.18   297.19    .144E+05          24.4           0.82        9.83
        1.26   297.27    .168E+05          26.9           0.77       10.40
        1.34   297.35    .197E+05          31.2           0.76       10.52
        1.42   297.43    .231E+05          37.1           0.77       10.38
        1.50   297.51    .270E+05          44.2           0.79       10.18

                                        <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0226)     290.21     0.24    9.08   3.12      0.17
0.24
   OUTFLOW: ID= 1 (  2219)     290.21     0.24    9.50   3.12      0.17
0.24

--------------------------------------------------------------------------------
-
--------------------
| CALIB            |
| STANDHYD (  0212)|   Area    (ha)=     15.18
|ID= 1 DT= 5.0 min |   Total Imp(%)=     52.70   Dir. Conn.(%)=  47.90
--------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          8.00           7.18
     Dep. Storage     (mm)=          2.00           5.00
     Average Slope     (%)=          2.92           2.92
     Length            (m)=        318.12          40.00
     Mannings n           =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         19.32           4.23
               over (min)           5.00          30.00
     Storage Coeff.  (min)=          7.16 (ii)     29.50 (ii)
     Unit Hyd. Tpeak (min)=          5.00          30.00
     Unit Hyd. peak  (cms)=          0.17           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=          0.39           0.06      0.441 (iii)
     TIME TO PEAK    (hrs)=          5.25           5.50      5.25
     RUNOFF VOLUME    (mm)=         40.00           6.42     22.50
     TOTAL RAINFALL   (mm)=         42.00          42.00     42.00
     RUNOFF COEFFICIENT   =          0.95           0.15      0.54

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4049)						
IN= 2---> OUT= 1						
DT= 5.0 min	OUTFLOW	STORAGE		OUTFLOW		STORAGE
	(cms)	(ha.m.)		(cms)		(ha.m.)
	0.0000	0.0000		0.1600		0.5902
	0.0530	0.2641		0.2310		0.7429
	0.0900	0.4003		2.3100		0.8254

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0212)	15.180	0.441	5.25	22.50
OUTFLOW: ID= 1 (4049)	15.180	0.051	7.75	22.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.61
TIME SHIFT OF PEAK FLOW (min)=150.00
MAXIMUM STORAGE USED (ha.m.)= 0.2548

CALIB					
STANDHYD (0213)	Area (ha)=	23.86			
ID= 1 DT= 5.0 min	Total Imp(%)=	48.20	Dir. Conn.(%)=	42.20	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	11.50	12.36
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.47	2.47
Length (m)=	398.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	4.19
over (min)	10.00	35.00
Storage Coeff. (min)=	8.62 (ii)	32.16 (ii)
Unit Hyd. Tpeak (min)=	10.00	35.00
Unit Hyd. peak (cms)=	0.12	0.03
		TOTALS
PEAK FLOW (cms)=	0.54	0.09 0.617 (iii)
TIME TO PEAK (hrs)=	5.25	5.58 5.25
RUNOFF VOLUME (mm)=	40.00	6.29 20.52
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.95	0.15 0.49

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0217)	Area (ha)=	15.75			
ID= 1 DT= 5.0 min	Total Imp(%)=	50.80	Dir. Conn.(%)=	45.60	

CALIB					
STANDHYD (0221)	Area (ha)=	59.43			
ID= 1 DT= 5.0 min	Total Imp(%)=	35.00	Dir. Conn.(%)=	31.90	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.80	38.63
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.51	2.51
Length (m)=	629.44	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	3.69
over (min)	10.00	40.00
Storage Coeff. (min)=	11.28 (ii)	35.95 (ii)
Unit Hyd. Tpeak (min)=	10.00	40.00
Unit Hyd. peak (cms)=	0.10	0.03
		TOTALS
PEAK FLOW (cms)=	1.01	0.24 1.198 (iii)
TIME TO PEAK (hrs)=	5.25	5.67 5.25
RUNOFF VOLUME (mm)=	40.00	5.88 16.77
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.95	0.14 0.40

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4055)						
IN= 2---> OUT= 1						
DT= 5.0 min	OUTFLOW	STORAGE		OUTFLOW		STORAGE
	(cms)	(ha.m.)		(cms)		(ha.m.)
	0.0000	0.0000		0.5200		1.5453
	0.1700	0.5385		0.7500		2.1073
	0.2940	0.9249		15.0000		2.3414

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0221)	59.430	1.198	5.25	16.77
OUTFLOW: ID= 1 (4055)	59.430	0.210	7.50	16.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.57
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 0.6647

CALIB					
STANDHYD (0223)	Area (ha)=	24.92			
ID= 1 DT= 5.0 min	Total Imp(%)=	45.80	Dir. Conn.(%)=	41.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	11.41	13.51
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	1.77	1.77
Length (m)=	407.59	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	3.13
over (min)	10.00	40.00
Storage Coeff. (min)=	9.65 (ii)	38.93 (ii)
Unit Hyd. Tpeak (min)=	10.00	40.00
Unit Hyd. peak (cms)=	0.11	0.03
		TOTALS
PEAK FLOW (cms)=	0.55	0.07 0.602 (iii)
TIME TO PEAK (hrs)=	5.25	5.67 5.25
RUNOFF VOLUME (mm)=	40.00	4.99 19.34
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.95	0.12 0.46

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0224)	Area (ha)=	53.99			
ID= 1 DT= 5.0 min	Total Imp(%)=	79.80	Dir. Conn.(%)=	79.70	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.08	10.91
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.03	0.03
Length (m)=	599.94	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	1.97

over (min)	30.00	165.00			
Storage Coeff. (min)=	41.37 (ii)	161.09 (ii)			
Unit Hyd. Tpeak (min)=	30.00	165.00			
Unit Hyd. peak (cms)=	0.03	0.01			
		TOTALS			
PEAK FLOW (cms)=	1.81	0.02	1.815 (iii)		
TIME TO PEAK (hrs)=	5.42	7.92	5.42		
RUNOFF VOLUME (mm)=	40.00	4.41	32.77		
TOTAL RAINFALL (mm)=	42.00	42.00	42.00		
RUNOFF COEFFICIENT =	0.95	0.10	0.78		

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0215)	Area (ha)=	53.45			
ID= 1 DT= 5.0 min	Total Imp(%)=	44.00	Dir. Conn.(%)=	41.40	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	23.52	29.93
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	3.34	3.34
Length (m)=	596.94	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	3.81
over (min)	10.00	35.00
Storage Coeff. (min)=	10.03 (ii)	32.40 (ii)
Unit Hyd. Tpeak (min)=	10.00	35.00
Unit Hyd. peak (cms)=	0.11	0.03
		TOTALS
PEAK FLOW (cms)=	1.18	0.21 1.353 (iii)
TIME TO PEAK (hrs)=	5.25	5.58 5.25
RUNOFF VOLUME (mm)=	40.00	6.08 20.12
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.95	0.14 0.48

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 56.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0225)	Area (ha)=	26.92			
ID= 1 DT= 5.0 min	Total Imp(%)=	19.80	Dir. Conn.(%)=	19.80	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.33	21.59
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.30	2.30
Length (m)=	423.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	2.71

over (min)		10.00	40.00
Storage Coeff. (min)=		9.14 (ii)	37.81 (ii)
Unit Hyd. Tpeak (min)=		10.00	40.00
Unit Hyd. peak (cms)=		0.12	0.03
			TOTALS
PEAK FLOW	(cms)=	0.29	0.10 0.361 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67 5.25
RUNOFF VOLUME	(mm)=	40.00	4.70 11.69
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.11 0.28

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 50.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2109)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0213):	23.86	0.617	5.25	20.52
+ ID2= 2 (0215):	53.45	1.353	5.25	20.12
ID = 3 (2109):	77.31	1.970	5.25	20.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2109)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (2109):	77.31	1.970	5.25	20.24
+ ID2= 2 (0217):	15.75	0.417	5.25	20.91
ID = 1 (2109):	93.06	2.387	5.25	20.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2109)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2109):	93.06	2.387	5.25	20.36
+ ID2= 2 (2219):	290.21	0.240	9.50	3.12
ID = 3 (2109):	383.27	2.399	5.25	7.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2109)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (2109):	383.27	2.399	5.25	7.31
+ ID2= 2 (0223):	24.92	0.602	5.25	19.34
ID = 1 (2109):	408.19	3.001	5.25	8.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2109)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2109):	408.19	3.001	5.25	8.04
+ ID2= 2 (0224):	53.99	1.815	5.42	32.77
ID = 3 (2109):	462.18	4.773	5.25	10.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2109)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (2109):	462.18	4.773	5.25	10.93
+ ID2= 2 (0225):	26.92	0.361	5.25	11.69
ID = 1 (2109):	489.10	5.134	5.25	10.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2109)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2109):	489.10	5.134	5.25	10.97
+ ID2= 2 (4049):	15.18	0.051	7.75	22.42
ID = 3 (2109):	504.28	5.170	5.25	11.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2109)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (2109):	504.28	5.170	5.25	11.32
+ ID2= 2 (4055):	59.43	0.210	7.50	16.75
ID = 1 (2109):	563.71	5.306	5.25	11.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(4014)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	
STORAGE				
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	2.9500	
25.1958				
	0.0200	0.7317	3.7800	
27.5668				
	0.2000	3.6849	4.7100	
30.7694				
	0.3000	4.3754	5.7100	
33.2022				
	0.5000	6.1837	6.7900	
35.6613				
	0.7100	9.2760	7.9300	
38.1467				
	0.9400	11.6554	9.1300	
41.5014				
	1.1800	14.9164	10.4000	
44.0479				
	1.6000	18.1215	14.5300	
51.8434				
	2.1100	21.7008	100.0000	
66.2763				

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (2109)	563.710	5.306	5.25	11.89
OUTFLOW: ID= 1 (4014)	563.710	0.355	13.75	10.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.68
TIME SHIFT OF PEAK FLOW (min)=510.00
MAXIMUM STORAGE USED (ha.m.)= 4.8695

ROUTE CHN(2216)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	297.95	0.0600	
9.98	297.78	0.0450	Main Channel
29.94	297.88	0.0450	Main Channel
59.88	296.29	0.0450	Main Channel
119.77	294.47	0.0450	Main Channel
189.63	293.90	0.0450	Main Channel
219.58	293.90	0.0450	Main Channel
229.56	293.57	0.0450	Main Channel
239.54	293.50	0.0450	Main Channel
259.50	293.59	0.0450	Main Channel
279.46	294.07	0.0450	Main Channel
309.40	294.29	0.0450	Main Channel
339.35	294.74	0.0450	Main Channel
349.33	295.17	0.0450	Main Channel
379.27	296.07	0.0450	Main Channel
409.21	296.68	0.0450	Main Channel
429.17	296.45	0.0450	Main Channel
449.13	296.70	0.0450	Main Channel
479.08	296.95	0.0450 /0.0600	Main Channel
528.98	297.16	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	293.69	.306E+04	1.0	0.20	51.52
0.38	293.88	.835E+04	4.3	0.32	32.40
0.58	294.08	.194E+05	10.4	0.33	31.05
0.77	294.27	.356E+05	22.5	0.39	26.38
0.96	294.46	.571E+05	42.9	0.46	22.19
1.15	294.65	.820E+05	73.6	0.55	18.57
1.34	294.84	.109E+06	113.2	0.64	16.04
1.54	295.03	.137E+06	161.6	0.73	14.17
1.73	295.23	.167E+06	217.2	0.80	12.82
1.92	295.42	.198E+06	279.5	0.87	11.81
2.11	295.61	.231E+06	349.4	0.93	11.01
2.30	295.80	.265E+06	427.0	0.99	10.34
2.50	295.99	.300E+06	512.2	1.05	9.78
2.69	296.19	.338E+06	603.3	1.10	9.33
2.88	296.38	.377E+06	702.9	1.15	8.93
3.07	296.57	.418E+06	785.0	1.16	8.88
3.26	296.76	.464E+06	878.8	1.17	8.80
3.46	296.95	.514E+06	998.4	1.20	8.58
3.65	297.15	.568E+06	1164.2	1.26	8.13

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (4014)	563.71	0.35	13.75	10.89	0.07	0.20
OUTFLOW: ID= 1 (2216)	563.71	0.35	14.83	10.88	0.07	0.20

CALIB				
STANDHYD (0210)	Area (ha)=	49.96		
ID= 1 DT= 5.0 min	Total Imp(%)=	36.70	Dir. Conn.(%)=	33.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.34	31.62
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.66	1.66
Length	(m)=	577.12	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	3.24
over (min)		10.00	45.00
Storage Coeff. (min)=		12.11 (ii)	41.52 (ii)
Unit Hyd. Tpeak (min)=		10.00	45.00
Unit Hyd. peak (cms)=		0.10	0.03

				TOTALS
PEAK FLOW	(cms)=	0.89	0.17	1.007 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	40.00	5.33	16.91
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.13	0.40

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 52.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (0211)	Area (ha)=	13.38		
ID= 1 DT= 5.0 min	Total Imp(%)=	52.20	Dir. Conn.(%)=	45.90

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	6.98	6.40	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	1.91	1.91	
Length	(m)=	298.66	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	3.76	
over (min)		10.00	35.00	
Storage Coeff. (min)=		7.83 (ii)	34.39 (ii)	
Unit Hyd. Tpeak (min)=		10.00	35.00	
Unit Hyd. peak (cms)=		0.13	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.33	0.04	0.365 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	5.77	21.48
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.14	0.51

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 52.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4047)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.5300	0.3416
	0.0300	0.2027	0.8500	0.4099
	0.2100	0.2550	8.5000	0.4554

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0211)	13.380	0.365	5.25	21.48
OUTFLOW: ID= 1 (4047)	13.380	0.065	7.33	21.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.66
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.2127

CALIB				
STANDHYD (0216)	Area (ha)=	27.30		
ID= 1 DT= 5.0 min	Total Imp(%)=	49.50	Dir. Conn.(%)=	45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	13.51	13.79
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.12	2.12
Length	(m)=	426.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.28
over (min)		10.00	35.00
Storage Coeff. (min)=		9.41 (ii)	33.89 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.12	0.03
			TOTALS
PEAK FLOW	(cms)=	0.66	0.11 0.744 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58 5.25
RUNOFF VOLUME	(mm)=	40.00	6.56 21.61
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.16 0.51

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 57.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4057)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	1.6700	0.5732
	0.3900	0.2885	2.2800	0.6833
	0.8800	0.4100	22.8000	0.7592

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0216)	27.300	0.744	5.25	21.61
OUTFLOW: ID= 1 (4057)	27.300	0.334	5.67	21.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.86
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.2470

CALIB				
STANDHYD (0219)	Area (ha)=	15.59		
ID= 1 DT= 5.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)=	47.70

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.26	7.33
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.34	2.34
Length	(m)=	322.39	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.32

over (min)	10.00	35.00	
Storage Coeff. (min)=	7.71 (ii)	31.38 (ii)	
Unit Hyd. Tpeak (min)=	10.00	35.00	
Unit Hyd. peak (cms)=	0.13	0.03	
			TOTALS
PEAK FLOW (cms)=	0.40	0.06	0.447 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	6.49	22.47
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.15	0.54

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 56.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (0220)	Area (ha)=	6.32		
ID= 1 DT= 5.0 min	Total Imp(%)=	49.80	Dir. Conn.(%)=	45.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	3.15	3.17	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.71	2.71	
Length	(m)=	205.26	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	3.06	
over (min)		5.00	35.00	
Storage Coeff. (min)=		5.63 (ii)	31.61 (ii)	
Unit Hyd. Tpeak (min)=		5.00	35.00	
Unit Hyd. peak (cms)=		0.20	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.15	0.02	0.168 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	4.86	20.67
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.12	0.49

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2151)				
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0219):		15.59	0.447	5.25	22.47
+ ID2= 2 (0220):		6.32	0.168	5.25	20.67
ID = 3 (2151):		21.91	0.614	5.25	21.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(4056)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.2200	0.8007
	0.0730	0.3807	0.3180	1.0078
	0.1240	0.5487	3.1800	1.1198

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (2151)	21.910	0.614	5.25	21.95
OUTFLOW: ID= 1 (4056)	21.910	0.069	8.00	21.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.28
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.3616

ADD HYD (0895)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0210):	49.96	1.007	5.25	16.91
+ ID2= 2 (0218):	17.99	0.029	6.33	2.59
ID = 3 (0895):	67.95	1.025	5.25	13.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0895)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0895):	67.95	1.025	5.25	13.12
+ ID2= 2 (2216):	563.71	0.353	14.83	10.88
ID = 1 (0895):	631.66	1.065	5.25	11.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0895)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0895):	631.66	1.065	5.25	11.12
+ ID2= 2 (4047):	13.38	0.065	7.33	21.35
ID = 3 (0895):	645.04	1.087	5.25	11.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0895)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  0895):    645.04      1.087        5.25       11.34
     + ID2= 2 (  4056):     21.91      0.069        8.00       21.89
       ============================================================
       ID = 1 (  0895):    666.95      1.135        5.25       11.68

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0895)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0895):    666.95      1.135        5.25       11.68
     + ID2= 2 (  4057):     27.30      0.334        5.67       21.60
       ============================================================
       ID = 3 (  0895):    694.25      1.431        5.25       12.07

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  2217)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                  0.00         297.95       0.0600
                  9.98         297.78       0.0450      Main Channel
                 29.94         297.88       0.0450      Main Channel
                 59.88         296.29       0.0450      Main Channel
                119.77         294.47       0.0450      Main Channel
                189.63         293.90       0.0450      Main Channel
                219.58         293.90       0.0450      Main Channel
                229.56         293.57       0.0450      Main Channel
                239.54         293.50       0.0450      Main Channel
                259.50         293.59       0.0450      Main Channel
                279.46         294.07       0.0450      Main Channel
                309.40         294.29       0.0450      Main Channel
                339.35         294.74       0.0450      Main Channel
                349.33         295.17       0.0450      Main Channel
                379.27         296.07       0.0450      Main Channel
                409.21         296.68       0.0450      Main Channel
                429.17         296.45       0.0450      Main Channel
                449.13         296.70       0.0450      Main Channel
                479.08         296.95    0.0450 /0.0600  Main Channel
                528.98         297.16       0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.19   293.69    .255E+04          1.0         0.20      42.81
       0.38   293.88    .697E+04          4.3         0.32      26.93
       0.58   294.08    .162E+05         10.5         0.33      25.80
       0.77   294.27    .298E+05         22.6         0.39      21.92
       0.96   294.46    .477E+05         43.1         0.47      18.44
       1.15   294.65    .684E+05         73.9         0.56      15.43
       1.34   294.84    .910E+05        113.7         0.64      13.33
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       1.54   295.03    .115E+06        162.3         0.73      11.77
       1.73   295.23    .139E+06        218.2         0.81      10.65
       1.92   295.42    .165E+06        280.8         0.87       9.82
       2.11   295.61    .193E+06        351.0         0.94       9.15
       2.30   295.80    .221E+06        428.9         1.00       8.59
       2.50   295.99    .251E+06        514.6         1.06       8.12
       2.69   296.19    .282E+06        606.0         1.11       7.75
       2.88   296.38    .314E+06        706.1         1.16       7.42
       3.07   296.57    .349E+06        788.6         1.16       7.38
       3.26   296.76    .388E+06        882.8         1.17       7.32
       3.46   296.95    .429E+06       1003.0         1.20       7.13
       3.65   297.15    .474E+06       1169.5         1.27       6.76

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0895)     694.25     1.43    5.25  12.07      0.22
0.21
  OUTFLOW: ID= 1 (  2217)     694.25     1.03    5.58  12.07      0.19
0.20

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| CALIB              |
| STANDHYD (  0202)|   Area    (ha)=     20.02
|ID= 1 DT= 5.0 min |   Total Imp(%)=     49.20   Dir. Conn.(%)=  45.50
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         9.85           10.17
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.16            2.16
     Length            (m)=       365.33           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            4.01
               over (min)          10.00           35.00
     Storage Coeff.  (min)=         8.52 (ii)      33.49 (ii)
     Unit Hyd. Tpeak (min)=        10.00           35.00
     Unit Hyd. peak  (cms)=         0.12            0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=         0.49            0.07        0.548 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58         5.25
     RUNOFF VOLUME    (mm)=        40.00            6.24        21.60
     TOTAL RAINFALL   (mm)=        42.00           42.00        42.00
     RUNOFF COEFFICIENT   =         0.95            0.15         0.51

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1826)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0202):     20.02      0.548        5.25       21.60
```



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     + ID2= 2 (  2217):    694.25      1.032        5.58       12.07
       ============================================================
       ID = 3 (  1826):    714.27      1.504        5.25       12.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1826)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1826):    714.27      1.504        5.25       12.33
     + ID2= 2 (  2307):    163.30      0.222        9.42        9.82
       ============================================================
       ID = 1 (  1826):    877.57      1.584        5.25       11.87

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3691)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                  0.00         302.28       0.0600
                 10.08         302.75       0.0450      Main Channel
                 61.42         301.08       0.0450      Main Channel
                120.94         297.31       0.0450      Main Channel
                201.43         296.76       0.0450      Main Channel
                231.61         295.51       0.0450      Main Channel
                251.75         295.41       0.0450      Main Channel
                342.40         293.71       0.0450      Main Channel
                392.92         292.74       0.0450      Main Channel
                433.36         293.87       0.0450      Main Channel
                473.63         295.29       0.0450      Main Channel
                493.76         296.99       0.0450      Main Channel
                644.75         299.06       0.0450      Main Channel
                705.14         298.62       0.0450      Main Channel
                745.38         298.81       0.0450      Main Channel
                775.69         298.92       0.0450      Main Channel
                866.88         298.79       0.0450      Main Channel
                977.61         299.41       0.0450      Main Channel
               1010.14         301.29    0.0450 /0.0600  Main Channel
               1082.46         301.71       0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.52   293.26    .495E+04          3.9         0.32      21.33
       1.04   293.78    .198E+05         24.6         0.51      13.44
       1.56   294.30    .444E+05         72.8         0.68      10.16
       2.09   294.83    .781E+05        155.7         0.83       8.36
       2.61   295.35    .121E+06        280.8         0.96       7.19
       3.13   295.87    .174E+06        460.8         1.10       6.29
       3.65   296.39    .232E+06        708.9         1.27       5.44
       4.17   296.91    .294E+06        969.6         1.37       5.05
       4.69   297.43    .373E+06       1209.9         1.35       5.13
       5.21   297.95    .466E+06       1632.3         1.45       4.75
       5.73   298.47    .568E+06       2134.5         1.56       4.44
       6.26   299.00    .699E+06       2206.7         1.31       5.28
       6.78   299.52    .884E+06       3023.1         1.42       4.87
       7.30   300.04    .108E+07       4160.9         1.60       4.32
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       7.82   300.56    .128E+07       5446.3         1.77       3.91
       8.34   301.08    .148E+07       6874.2         1.93       3.59
       8.90   301.64    .171E+07       8632.0         2.10       3.29
       9.45   302.19    .195E+07      10594.5         2.26       3.06
      10.01   302.75    .219E+07      12739.7         2.41       2.87

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1826)     877.57     1.58    5.25  11.87      0.21
0.32
  OUTFLOW: ID= 1 (  3691)     877.57     1.38    5.67  11.86      0.18
0.32

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| CALIB              |
| STANDHYD (  0194)|   Area    (ha)=     14.88
|ID= 1 DT= 5.0 min |   Total Imp(%)=     49.20   Dir. Conn.(%)=  45.80
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         7.32            7.56
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.25            2.25
     Length            (m)=       314.96           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            4.55
               over (min)          10.00           35.00
     Storage Coeff.  (min)=         7.70 (ii)      31.15 (ii)
     Unit Hyd. Tpeak (min)=        10.00           35.00
     Unit Hyd. peak  (cms)=         0.13            0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=         0.37            0.06        0.418 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58         5.25
     RUNOFF VOLUME    (mm)=        40.00            7.10        22.17
     TOTAL RAINFALL   (mm)=        42.00           42.00        42.00
     RUNOFF COEFFICIENT   =         0.95            0.17         0.53

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD (  0195)|   Area    (ha)=     36.17
|ID= 1 DT= 5.0 min |   Total Imp(%)=     53.00   Dir. Conn.(%)=  48.30
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        19.17           17.00
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         1.70            1.70
     Length            (m)=       491.05           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            4.83
```

over (min)		10.00	40.00	
Storage Coeff. (min)=		10.92 (ii)	35.81 (ii)	
Unit Hyd. Tpeak (min)=		10.00	40.00	
Unit Hyd. peak (cms)=		0.11	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.93	0.14	1.043 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	7.33	23.11
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.17	0.55

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0919)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0194):		14.88	0.418	5.25	22.17
+ ID2= 2 (0195):		36.17	1.043	5.25	23.11
ID = 3 (0919):		51.05	1.461	5.25	22.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0919)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0919):		51.05	1.461	5.25	22.83
+ ID2= 2 (3691):		877.57	1.376	5.67	11.86
ID = 1 (0919):		928.62	2.735	5.25	12.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0193)	Area (ha)=	20.20	
ID= 1 DT= 5.0 min	Total Imp(%)=	47.80	Dir. Conn.(%)= 42.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.66	10.54
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.85	1.85
Length	(m)=	366.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.93
over (min)		10.00	35.00
Storage Coeff. (min)=		8.94 (ii)	33.01 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.12	0.03
			TOTALS

PEAK FLOW	(cms)=	0.45	0.09	0.532 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	7.41	21.09
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.18	0.50

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0918)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0193):		20.20	0.532	5.25	21.09
+ ID2= 2 (0919):		928.62	2.735	5.25	12.47
ID = 3 (0918):		948.82	3.267	5.25	12.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0192)	Area (ha)=	12.11	
ID= 1 DT= 5.0 min	Total Imp(%)=	44.40	Dir. Conn.(%)= 38.90

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.38	6.73
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.57	2.57
Length	(m)=	284.14	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.99
over (min)		5.00	30.00
Storage Coeff. (min)=		6.96 (ii)	28.68 (ii)
Unit Hyd. Tpeak (min)=		5.00	30.00
Unit Hyd. peak (cms)=		0.17	0.04
			TOTALS
PEAK FLOW	(cms)=	0.25	0.07	0.310 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	7.57	20.18
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.18	0.48

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 61.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0196)	Area (ha)=	6.37	
ID= 1 DT= 5.0 min	Total Imp(%)=	52.10	Dir. Conn.(%)= 46.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.32	3.05
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.74	2.74
Length	(m)=	206.07	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.35
over (min)		5.00	30.00
Storage Coeff. (min)=		5.63 (ii)	28.14 (ii)
Unit Hyd. Tpeak (min)=		5.00	30.00
Unit Hyd. peak (cms)=		0.20	0.04
			TOTALS
PEAK FLOW	(cms)=	0.16	0.03	0.182 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	6.51	22.08
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.16	0.53

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 56.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4051)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.4100	0.1397
	0.1000	0.0766	0.5500	0.1622
	0.2200	0.1045	5.5000	0.1802

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0196)	6.370	0.182	5.25	22.08
OUTFLOW: ID= 1 (4051)	6.370	0.079	5.50	22.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.61
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0606

ADD HYD (1823)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0192):		12.11	0.310	5.25	20.18
+ ID2= 2 (4051):		6.37	0.079	5.50	22.05
ID = 3 (1823):		18.48	0.385	5.25	20.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1823)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1823):		18.48	0.385	5.25	20.83
+ ID2= 2 (0918):		948.82	3.267	5.25	12.65
ID = 1 (1823):		967.30	3.652	5.25	12.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3685)				
IN= 2---> OUT= 1	Routing time step (min)= 5.00			
<------ DATA FOR SECTION (1.1) ------>				
Distance	Elevation	Manning		
0.00	298.36	0.0600		
20.81	297.25	0.0450	Main Channel	
31.22	297.10	0.0450	Main Channel	
50.93	296.25	0.0450	Main Channel	
60.94	295.88	0.0450	Main Channel	
70.95	295.82	0.0450	Main Channel	
80.96	293.93	0.0450	Main Channel	
83.25	293.68	0.0450	Main Channel	
90.96	292.51	0.0450	Main Channel	
93.66	292.33	0.0450	Main Channel	
100.97	291.58	0.0450	Main Channel	
104.07	292.03	0.0450	Main Channel	
110.98	292.84	0.0450	Main Channel	
120.99	294.32	0.0450	Main Channel	
124.88	294.75	0.0450	Main Channel	
130.99	295.62	0.0450	Main Channel	
161.02	295.97	0.0450	Main Channel	
176.91	295.72	0.0450	Main Channel	
201.04	295.86	0.0450 /0.0600	Main Channel	
218.54	296.06	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.23	291.80	.155E+03	0.1	0.25	24.15
0.45	292.03	.619E+03	0.7	0.40	15.22
0.68	292.25	.141E+04	2.0	0.52	11.77
0.90	292.48	.256E+04	4.3	0.61	9.98
1.13	292.70	.408E+04	8.1	0.73	8.37
1.35	292.93	.588E+04	13.5	0.84	7.24
1.58	293.15	.793E+04	20.6	0.95	6.43
1.80	293.38	.102E+05	29.3	1.05	5.83
2.03	293.60	.128E+05	39.7	1.14	5.37
2.25	293.83	.156E+05	51.8	1.22	5.02
2.48	294.05	.187E+05	66.2	1.30	4.71
2.70	294.28	.220E+05	83.1	1.39	4.42
2.93	294.51	.256E+05	101.7	1.46	4.20
3.15	294.73	.294E+05	122.5	1.53	4.01
3.38	294.96	.335E+05	146.4	1.60	3.82
3.61	295.18	.378E+05	172.9	1.68	3.65
3.83	295.41	.424E+05	201.9	1.75	3.50
4.06	295.63	.472E+05	230.6	1.79	3.41
4.28	295.86	.539E+05	182.9	1.25	4.91

<---- hydrograph ----> <-pipe /

```
channel->                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1823)     967.30     3.65    5.25  12.81      0.84
0.58
   OUTFLOW: ID= 1 (  3685)     967.30     3.47    5.33  12.81      0.82
0.58


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--------------------
| CALIB            |
| STANDHYD (  0188)|   Area    (ha)=    141.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=     41.00   Dir. Conn.(%)=  37.70
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       57.92          83.34
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        2.46           2.46
     Length            (m)=      970.43          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.32           4.94
               over (min)         15.00          40.00
     Storage Coeff.  (min)=       14.72 (ii)     36.81 (ii)
     Unit Hyd. Tpeak (min)=       15.00          40.00
     Unit Hyd. peak  (cms)=        0.08           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        2.81           0.71      3.348 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.67      5.25
     RUNOFF VOLUME    (mm)=       40.00           7.78     19.93
     TOTAL RAINFALL   (mm)=       42.00          42.00     42.00
     RUNOFF COEFFICIENT   =        0.95           0.19      0.47


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  63.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4054)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      8.8300
2.3976
                             2.0300        1.1264   |     12.1000
2.8964
                             4.6200        1.6896   |    121.0000
3.2182

                                AREA        QPEAK        TPEAK       R.V.
                                (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0188)     141.260      3.348         5.25       19.93
   OUTFLOW: ID= 1 (  4054)     141.260      1.782         5.83       19.92

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.22
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
```



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MAXIMUM  STORAGE   USED       (ha.m.)=  0.9888

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--------------------
| ROUTE CHN(  2218)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         293.75        0.0600
                   9.73         293.75        0.0450      Main Channel
                  29.20         293.77        0.0450      Main Channel
                  38.93         293.80        0.0450      Main Channel
                  48.67         293.88        0.0450      Main Channel
                  58.40         293.97        0.0450      Main Channel
                  68.13         294.01        0.0450      Main Channel
                  77.87         293.91        0.0450      Main Channel
                  97.34         293.61        0.0450      Main Channel
                 107.07         293.39        0.0450      Main Channel
                 116.80         293.03        0.0450      Main Channel
                 126.54         293.10        0.0450      Main Channel
                 146.00         293.63        0.0450      Main Channel
                 155.74         293.63        0.0450      Main Channel
                 165.47         293.62        0.0450      Main Channel
                 175.20         293.59        0.0450      Main Channel
                 214.14         293.65        0.0450      Main Channel
                 223.87         293.67        0.0450      Main Channel
                 233.60         293.73    0.0450 /0.0600  Main Channel
                 242.34         293.81        0.0600

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
       (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
      0.05   293.08    .133E+03          0.0         0.13       82.95
      0.10   293.13    .502E+03          0.2         0.23       47.39
      0.15   293.18    .987E+03          0.5         0.31       34.79
      0.20   293.23    .157E+04          0.9         0.37       28.64
      0.25   293.28    .226E+04          1.5         0.43       24.82
      0.30   293.33    .305E+04          2.3         0.48       22.15
      0.35   293.38    .395E+04          3.3         0.53       20.15
      0.40   293.43    .495E+04          4.4         0.57       18.82
      0.45   293.48    .609E+04          5.7         0.60       17.72
      0.50   293.53    .736E+04          7.3         0.64       16.74
      0.55   293.58    .876E+04          9.2         0.67       15.88
      0.60   293.63    .108E+05          7.6         0.45       23.83
      0.65   293.68    .147E+05         10.7         0.47       22.81
      0.70   293.73    .191E+05         15.7         0.53       20.26
      0.75   293.78    .244E+05         22.0         0.58       18.44
      0.81   293.84    .315E+05         30.5         0.62       17.23
      0.86   293.89    .391E+05         41.1         0.67       15.88
      0.92   293.95    .471E+05         53.2         0.72       14.76
      0.98   294.01    .555E+05         66.2         0.76       13.99

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  4054)     141.26     1.78    5.83  19.92      0.27
0.45
   OUTFLOW: ID= 1 (  2218)     141.26     1.71    6.25  19.92      0.26
0.44
```



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--------------------
| CALIB            |
| STANDHYD (  0191)|   Area    (ha)=     26.33
|ID= 1 DT= 5.0 min |   Total Imp(%)=     43.50   Dir. Conn.(%)=  38.40
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       11.45          14.88
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        1.84           1.84
     Length            (m)=      418.97          40.00
     Mannings n           =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.32           5.09
               over (min)         10.00          35.00
     Storage Coeff.  (min)=        9.70 (ii)     33.54 (ii)
     Unit Hyd. Tpeak (min)=       10.00          35.00
     Unit Hyd. peak  (cms)=        0.11           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.54           0.14      0.653 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.58      5.25
     RUNOFF VOLUME    (mm)=       40.00           7.77     20.14
     TOTAL RAINFALL   (mm)=       42.00          42.00     42.00
     RUNOFF COEFFICIENT   =        0.95           0.18      0.48


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  62.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1834)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0187):     30.51      0.054        7.25        3.59
     + ID2= 2 (  0191):     26.33      0.653        5.25       20.14
       ========================================================
       ID = 3 (  1834):     56.84      0.677        5.25       11.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1834)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1834):     56.84      0.677        5.25       11.26
     + ID2= 2 (  2218):    141.26      1.706        6.25       19.92
       ========================================================
       ID = 1 (  1834):    198.10      2.007        6.25       17.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1834)|
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```
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1834):    198.10      2.007        6.25       17.44
     + ID2= 2 (  3685):    967.30      3.466        5.33       12.81
       ========================================================
       ID = 3 (  1834):   1165.40      5.255        5.33       13.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3686)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         298.36        0.0600
                  20.81         297.25        0.0450      Main Channel
                  31.22         297.10        0.0450      Main Channel
                  50.93         296.25        0.0450      Main Channel
                  60.94         295.88        0.0450      Main Channel
                  70.95         295.82        0.0450      Main Channel
                  80.96         293.93        0.0450      Main Channel
                  83.25         293.68        0.0450      Main Channel
                  90.96         292.51        0.0450      Main Channel
                  93.66         292.33        0.0450      Main Channel
                 100.97         291.58        0.0450      Main Channel
                 104.07         292.03        0.0450      Main Channel
                 110.98         292.84        0.0450      Main Channel
                 120.99         294.32        0.0450      Main Channel
                 124.88         294.75        0.0450      Main Channel
                 130.99         295.62        0.0450      Main Channel
                 161.02         295.97        0.0450      Main Channel
                 176.91         295.72        0.0450      Main Channel
                 201.04         295.86    0.0450 /0.0600  Main Channel
                 218.54         296.06        0.0600

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
       (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
      0.23   291.80    .136E+03          0.1         0.20       27.13
      0.45   292.03    .545E+03          0.5         0.32       17.09
      0.68   292.25    .124E+04          1.6         0.41       13.22
      0.90   292.48    .225E+04          3.3         0.48       11.21
      1.13   292.70    .359E+04          6.4         0.57        9.40
      1.35   292.93    .518E+04         10.6         0.66        8.14
      1.58   293.15    .699E+04         16.1         0.75        7.22
      1.80   293.38    .903E+04         23.0         0.82        6.55
      2.03   293.60    .113E+05         31.2         0.89        6.03
      2.25   293.83    .138E+05         40.6         0.96        5.64
      2.48   294.05    .165E+05         52.0         1.02        5.29
      2.70   294.28    .194E+05         65.2         1.09        4.96
      2.93   294.51    .226E+05         79.8         1.14        4.71
      3.15   294.73    .259E+05         96.1         1.20        4.50
      3.38   294.96    .295E+05        114.9         1.26        4.29
      3.61   295.18    .334E+05        135.7         1.32        4.10
      3.83   295.41    .374E+05        158.5         1.37        3.93
      4.06   295.63    .416E+05        181.0         1.41        3.83
      4.28   295.86    .475E+05        143.5         0.98        5.52

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)   (hrs)   (mm)     (m)
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```
(m/s)
   INFLOW : ID= 2 (  1834)    1165.40     5.26    5.33  13.59      1.04
0.54
   OUTFLOW: ID= 1 (  3686)    1165.40     5.00    5.42  13.59      1.02
0.53


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--------------------
| CALIB
| STANDHYD (  0180)|   Area    (ha)=    110.33
|ID= 1 DT= 5.0 min |   Total Imp(%)=     49.10   Dir. Conn.(%)=  44.20
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        54.17           56.16
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.19            2.19
     Length            (m)=       857.63           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            3.52
               over (min)          15.00           45.00
     Storage Coeff.  (min)=        14.15 (ii)      40.33 (ii)
     Unit Hyd. Tpeak (min)=        15.00           45.00
     Unit Hyd. peak  (cms)=         0.08            0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=         2.58            0.33           2.812 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.75            5.25
     RUNOFF VOLUME    (mm)=        40.00            5.58           20.79
     TOTAL RAINFALL   (mm)=        42.00           42.00           42.00
     RUNOFF COEFFICIENT   =         0.95            0.13            0.50


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  4052)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      4.8600
2.0900
                             0.4500        1.0380   |      7.4900
2.5249
                             2.0100        1.4869   |     74.9000
2.8054

                                 AREA        QPEAK        TPEAK       R.V.
                                  (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0180)      110.330        2.812         5.25      20.79
   OUTFLOW: ID= 1 (  4052)      110.330        1.110         6.08      20.79

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.46
                TIME SHIFT OF PEAK FLOW       (min)= 50.00
                MAXIMUM  STORAGE   USED      (ha.m.)=  1.2280

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--------------------
| ADD HYD  (  1818)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3686):   1165.40       5.003        5.42       13.59
     + ID2= 2 (  4052):    110.33       1.110        6.08       20.79
       ==========================================================
       ID = 3 (  1818):   1275.73       5.741        5.58       14.21

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3677)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00         293.27        0.0600
                  2.67         293.01        0.0450      Main Channel
                 12.80         292.06        0.0450      Main Channel
                 18.69         291.51        0.0450      Main Channel
                 25.60         290.81        0.0450      Main Channel
                 34.71         290.22        0.0450      Main Channel
                 38.40         290.17        0.0450      Main Channel
                 50.74         291.22        0.0450      Main Channel
                 51.19         291.26        0.0450      Main Channel
                 53.01         291.42        0.0450      Main Channel
                 63.99         292.39        0.0450      Main Channel
                 66.76         292.63        0.0450      Main Channel
                 76.79         293.26        0.0450      Main Channel
                 82.78         293.30    0.0450 /0.0600  Main Channel
                 89.59         293.41        0.0600

          <-------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
            (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
           0.16   290.33    .434E+03          0.1         0.18       55.99
           0.31   290.49    .132E+04          0.6         0.28       36.45
           0.47   290.64    .262E+04          1.5         0.35       28.57
           0.63   290.80    .432E+04          3.0         0.42       24.01
           0.79   290.96    .640E+04          5.2         0.49       20.54
           0.94   291.12    .880E+04          8.1         0.55       18.18
           1.10   291.27    .115E+05         11.7         0.61       16.44
           1.26   291.43    .146E+05         16.1         0.67       15.08
           1.42   291.59    .179E+05         21.3         0.72       14.00
           1.57   291.75    .216E+05         27.5         0.77       13.12
           1.73   291.90    .256E+05         34.5         0.81       12.36
           1.89   292.06    .300E+05         42.6         0.86       11.71
           2.06   292.23    .351E+05         53.8         0.92       10.87
           2.24   292.41    .407E+05         66.4         0.98       10.21
           2.41   292.58    .466E+05         80.3         1.04        9.67
           2.58   292.75    .530E+05         95.2         1.08        9.28
           2.76   292.93    .599E+05        111.4         1.12        8.96
           2.93   293.10    .672E+05        129.5         1.16        8.65
           3.10   293.27    .750E+05        146.7         1.18        8.52

                                          <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  1818)    1275.73     5.74    5.58  14.21      0.82
```



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0.50
   OUTFLOW: ID= 1 (  3677)    1275.73     5.50    6.08  14.21      0.80
0.50


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| CALIB            |
| STANDHYD (  0178)|   Area    (ha)=    197.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=     45.30   Dir. Conn.(%)=  41.10
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        89.43          107.98
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.54            2.54
     Length            (m)=      1147.20           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            5.14
               over (min)          15.00           40.00
     Storage Coeff.  (min)=        16.13 (ii)      37.68 (ii)
     Unit Hyd. Tpeak (min)=        15.00           40.00
     Unit Hyd. peak  (cms)=         0.07            0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=         4.26            0.94           4.973 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.67            5.25
     RUNOFF VOLUME    (mm)=        40.00            7.93           21.11
     TOTAL RAINFALL   (mm)=        42.00           42.00           42.00
     RUNOFF COEFFICIENT   =         0.95            0.19            0.50


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  63.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0179)|   Area    (ha)=     14.77
|ID= 1 DT= 5.0 min |   Total Imp(%)=     48.30   Dir. Conn.(%)=  43.40
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         7.13            7.64
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         1.24            1.24
     Length            (m)=       313.79           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            2.94
               over (min)          10.00           45.00
     Storage Coeff.  (min)=         9.19 (ii)      42.58 (ii)
     Unit Hyd. Tpeak (min)=        10.00           45.00
     Unit Hyd. peak  (cms)=         0.12            0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.34            0.04           0.370 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.75            5.25
     RUNOFF VOLUME    (mm)=        40.00            4.85           20.10
     TOTAL RAINFALL   (mm)=        42.00           42.00           42.00
     RUNOFF COEFFICIENT   =         0.95            0.12            0.48


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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```
            CN*  =  48.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  2148)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0178):    197.41       4.973        5.25       21.11
     + ID2= 2 (  0179):     14.77       0.370        5.25       20.10
       ==========================================================
       ID = 3 (  2148):    212.18       5.343        5.25       21.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR(  4053)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      1.4220
6.3184
                             0.4580        2.2633   |      2.0430
8.4874
                             0.8030        3.7722   |     40.8600
9.4304

                                 AREA        QPEAK        TPEAK       R.V.
                                  (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  2148)      212.180       5.343         5.25      21.04
   OUTFLOW: ID= 1 (  4053)      212.180       0.692         8.25      21.04

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.94
                TIME SHIFT OF PEAK FLOW          (min)=180.00
                MAXIMUM  STORAGE   USED      (ha.m.)=  3.2851

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| ADD HYD  (  1812)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3677):   1275.73       5.503        6.08       14.21
     + ID2= 2 (  4053):    212.18       0.692        8.25       21.04
       ==========================================================
       ID = 3 (  1812):   1487.91       6.093        6.25       15.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0843)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1812):   1487.91       6.093        6.25       15.18
     + ID2= 2 (  0183):     43.77       0.068        7.25        3.11
```

ID = 3 (	0843):	1531.68	6.154	6.25	14.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0843)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0843):	1531.68	6.154	6.25	14.84
+ ID2= 2 (3112):	141.42	0.452	7.42	12.79
ID = 1 (0843):	1673.10	6.544	6.33	14.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3671)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	293.05	0.0600	
18.32	293.01	0.0450	Main Channel
69.55	293.25	0.0450	Main Channel
126.52	293.07	0.0450	Main Channel
170.37	292.62	0.0450	Main Channel
285.93	292.65	0.0450	Main Channel
309.37	292.00	0.0450	Main Channel
344.24	291.36	0.0450	Main Channel
357.44	292.05	0.0450	Main Channel
370.65	291.05	0.0450	Main Channel
388.01	289.03	0.0450	Main Channel
408.49	290.05	0.0450	Main Channel
418.69	290.81	0.0450	Main Channel
429.01	291.05	0.0450	Main Channel
439.08	290.98	0.0450	Main Channel
465.76	290.46	0.0450	Main Channel
474.00	292.56	0.0450	Main Channel
491.57	293.67	0.0450	Main Channel
508.88	293.92	0.0450 /0.0600	Main Channel
541.42	294.30	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	289.24	.230E+03	0.1	0.17	35.35
0.42	289.45	.921E+03	0.7	0.27	22.27
0.63	289.66	.207E+04	2.0	0.35	17.00
0.84	289.87	.368E+04	4.4	0.43	14.03
1.06	290.09	.575E+04	8.0	0.50	12.03
1.27	290.30	.822E+04	13.1	0.58	10.45
1.48	290.51	.111E+05	18.9	0.62	9.73
1.69	290.72	.149E+05	24.9	0.60	9.94
1.90	290.93	.200E+05	33.6	0.61	9.92
2.11	291.14	.269E+05	47.2	0.63	9.52
2.32	291.35	.346E+05	69.9	0.73	8.25
2.53	291.56	.431E+05	90.2	0.76	7.96
2.74	291.77	.530E+05	115.6	0.79	7.65
2.95	291.98	.644E+05	146.9	0.82	7.31
3.17	292.20	.771E+05	189.3	0.89	6.78

3.38	292.41	.903E+05	238.9	0.95	6.30
3.59	292.62	.104E+06	293.5	1.02	5.92
3.80	292.83	.128E+06	283.4	0.80	7.50
4.01	293.04	.154E+06	368.0	0.86	6.96

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0843)	1673.10	6.54	6.33	14.66	0.97	0.47
OUTFLOW: ID= 1 (3671)	1673.10	6.47	6.50	14.66	0.97	0.47

ROUTE CHN(3653)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	296.54	0.0600	
57.20	295.56	0.0450	Main Channel
202.13	293.62	0.0450	Main Channel
314.83	293.45	0.0450	Main Channel
393.17	291.97	0.0450	Main Channel
434.82	291.51	0.0450	Main Channel
450.83	289.29	0.0450	Main Channel
467.78	288.11	0.0450	Main Channel
489.02	287.88	0.0450	Main Channel
541.91	292.58	0.0450	Main Channel
658.70	293.73	0.0450	Main Channel
715.87	293.68	0.0450	Main Channel
754.45	292.91	0.0450	Main Channel
790.33	292.96	0.0450	Main Channel
906.06	293.71	0.0450	Main Channel
1034.20	294.03	0.0450	Main Channel
1050.87	294.51	0.0450	Main Channel
1095.87	293.88	0.0450	Main Channel
1181.29	294.88	0.0450 /0.0600	Main Channel
1208.37	294.97	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	288.24	.441E+04	1.8	0.30	41.09
0.72	288.60	.127E+05	8.6	0.50	24.61
1.08	288.96	.235E+05	20.6	0.64	19.03
1.44	289.32	.366E+05	38.3	0.76	15.96
1.79	289.67	.518E+05	63.2	0.89	13.67
2.15	290.03	.688E+05	94.4	1.01	12.13
2.51	290.39	.874E+05	132.4	1.11	11.00
2.87	290.75	.108E+06	177.4	1.20	10.13
3.23	291.11	.130E+06	229.9	1.29	9.42
3.59	291.47	.154E+06	290.0	1.38	8.84
3.95	291.83	.183E+06	315.9	1.27	9.63
4.31	292.19	.220E+06	377.3	1.25	9.72
4.66	292.54	.264E+06	466.1	1.29	9.44
5.02	292.90	.317E+06	534.3	1.23	9.90
5.38	293.26	.401E+06	560.7	1.02	11.93
5.74	293.62	.526E+06	643.3	0.90	13.63
6.19	294.07	.780E+06	983.6	0.92	13.22

6.64	294.52	.110E+07	1601.7	1.07	11.40
7.09	294.97	.144E+07	2439.0	1.24	9.86

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3671)	1673.10	6.47	6.50	14.66	0.60	0.41
OUTFLOW: ID= 1 (3653)	1673.10	6.14	6.83	14.66	0.59	0.40

ADD HYD (1827)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0177):	134.83	0.163	8.67	4.15
+ ID2= 2 (3653):	1673.10	6.143	6.83	14.66
ID = 3 (1827):	1807.93	6.272	6.83	13.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1827)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1827):	1807.93	6.272	6.83	13.88
+ ID2= 2 (7560):	328.33	0.484	9.25	4.68
ID = 1 (1827):	2136.26	6.606	6.92	12.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3642)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	292.06	0.0600	
37.68	292.26	0.0450	Main Channel
78.10	291.67	0.0450	Main Channel
118.81	290.71	0.0450	Main Channel
148.99	290.38	0.0450	Main Channel
197.83	290.46	0.0450	Main Channel
213.69	290.32	0.0450	Main Channel
236.99	291.20	0.0450	Main Channel
258.69	291.50	0.0450	Main Channel
279.45	290.50	0.0450	Main Channel
293.97	289.33	0.0450	Main Channel
301.20	286.89	0.0450	Main Channel
322.86	286.35	0.0450	Main Channel
353.47	286.68	0.0450	Main Channel
392.63	288.07	0.0450	Main Channel

416.73	290.43	0.0450	Main Channel	
467.02	292.45	0.0450	Main Channel	
507.09	292.90	0.0450	Main Channel	
548.15	292.80	0.0450 /0.0600	Main Channel	
602.26	293.19	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	286.65	.122E+04	1.8	0.30	11.57
0.59	286.94	.439E+04	11.3	0.54	6.50
0.89	287.24	.838E+04	30.0	0.75	4.65
1.18	287.53	.129E+05	56.9	0.92	3.79
1.48	287.83	.181E+05	92.2	1.07	3.27
1.77	288.12	.238E+05	137.0	1.21	2.89
2.07	288.42	.298E+05	194.5	1.37	2.55
2.36	288.71	.361E+05	260.7	1.51	2.31
2.66	289.01	.426E+05	335.5	1.65	2.12
2.96	289.31	.494E+05	418.7	1.78	1.97
3.25	289.60	.564E+05	504.2	1.87	1.87
3.55	289.90	.639E+05	598.1	1.96	1.78
3.84	290.19	.718E+05	701.5	2.05	1.71
4.14	290.49	.814E+05	616.4	1.59	2.20
4.43	290.78	.963E+05	721.0	1.57	2.23
4.73	291.08	.114E+06	875.6	1.61	2.16
5.02	291.37	.133E+06	1044.4	1.64	2.12
5.32	291.67	.155E+06	1271.4	1.72	2.04
5.71	292.06	.187E+06	1688.3	1.89	1.85

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1827)	2136.26	6.61	6.92	12.46	0.45	0.39
OUTFLOW: ID= 1 (3642)	2136.26	6.59	7.08	12.46	0.45	0.39

CALIB				
NASHYD (0181)	Area (ha)=	60.95	Curve Number (CN)=	58.0
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	0.82		

Unit Hyd Qpeak (cms)= 1.269

PEAK FLOW (cms)= 0.108 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 3.591
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.086

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0182)	Area (ha)=	30.56	Curve Number (CN)=	58.0
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	0.90		

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     Unit Hyd Qpeak  (cms)=     0.580

     PEAK FLOW       (cms)=     0.051 (i)
     TIME TO PEAK    (hrs)=     7.333
     RUNOFF VOLUME    (mm)=     3.593
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.086

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN(  2215)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         297.13        0.0600
                  19.38         297.08        0.0450      Main Channel
                  29.07         296.97        0.0450      Main Channel
                  48.44         296.46        0.0450      Main Channel
                  67.82         296.00        0.0450      Main Channel
                  77.51         295.87        0.0450      Main Channel
                  87.20         295.86        0.0450      Main Channel
                 106.57         296.04        0.0450      Main Channel
                 116.26         295.24        0.0450      Main Channel
                 125.95         294.22        0.0450      Main Channel
                 135.64         293.84        0.0450      Main Channel
                 145.33         293.94        0.0450      Main Channel
                 155.02         294.73        0.0450      Main Channel
                 164.70         296.38        0.0450      Main Channel
                 174.39         297.03        0.0450      Main Channel
                 203.46         296.73        0.0450      Main Channel
                 213.15         296.73        0.0450      Main Channel
                 222.84         296.85        0.0450      Main Channel
                 251.90         297.34    0.0450 /0.0600  Main Channel
                 261.59         297.40        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.16   294.01    .781E+03          1.0         0.69      12.55
       0.33   294.17    .231E+04          5.0         1.12       7.70
       0.49   294.33    .432E+04         12.5         1.51       5.76
       0.66   294.50    .665E+04         23.5         1.84       4.72
       0.82   294.66    .927E+04         37.8         2.12       4.08
       0.99   294.83    .122E+05         56.4         2.40       3.61
       1.15   294.99    .153E+05         78.9         2.67       3.24
       1.32   295.16    .187E+05        105.0         2.92       2.97
       1.48   295.32    .223E+05        134.6         3.14       2.76
       1.65   295.49    .261E+05        167.7         3.34       2.59
       1.81   295.65    .302E+05        204.9         3.53       2.45
       1.98   295.82    .345E+05        246.4         3.71       2.33
       2.14   295.98    .403E+05        229.0         2.95       2.94
       2.31   296.15    .486E+05        279.7         2.99       2.90
       2.47   296.31    .577E+05        353.3         3.19       2.72
       2.64   296.48    .674E+05        435.5         3.36       2.58
       2.80   296.64    .779E+05        529.1         3.53       2.45
       2.96   296.81    .898E+05        577.9         3.35       2.59
       3.13   296.97    .105E+06        655.1         3.25       2.67

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
```



```
VEL                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0182)      30.56     0.05    7.33   3.59      0.01
0.69
   OUTFLOW: ID= 1 (  2215)      30.56     0.05    7.58   3.59      0.01
0.69


--------------------------------------------------------------------------------
-
--------------------
| CALIB            |
| NASHYD   (  0184)|   Area    (ha)=     47.60   Curve Number   (CN)= 55.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.17

     Unit Hyd Qpeak  (cms)=     0.695

     PEAK FLOW       (cms)=     0.061 (i)
     TIME TO PEAK    (hrs)=     7.833
     RUNOFF VOLUME    (mm)=     3.230
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.077

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| ROUTE CHN(  2309)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         289.58        0.0600
                   3.16         289.38        0.0450      Main Channel
                  13.16         289.12        0.0450      Main Channel
                  15.16         289.08        0.0450      Main Channel
                  22.23         288.80        0.0450      Main Channel
                  25.23         288.76        0.0450      Main Channel
                  31.32         288.53        0.0450      Main Channel
                  35.32         288.41        0.0450      Main Channel
                  50.44         288.17        0.0450      Main Channel
                  59.56         288.10        0.0450      Main Channel
                  65.56         288.10        0.0450      Main Channel
                  69.56         288.15        0.0450      Main Channel
                  75.65         288.20        0.0450      Main Channel
                  85.65         288.74        0.0450      Main Channel
                  97.88         289.45        0.0450      Main Channel
                 116.00         290.60        0.0450      Main Channel
                 116.01         290.62        0.0450      Main Channel
                 123.00         290.90        0.0450      Main Channel
                 126.00         291.07    0.0450 /0.0600  Main Channel
                 151.20         291.01        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.15   288.24    .244E+04          1.8         0.64      22.10
       0.29   288.39    .695E+04          8.5         1.03      13.69
       0.44   288.53    .127E+05         20.6         1.37      10.29
       0.58   288.68    .194E+05         38.3         1.67       8.43
       0.73   288.83    .269E+05         60.5         1.90       7.42
       0.87   288.97    .354E+05         89.9         2.15       6.56
       1.02   289.12    .446E+05        124.1         2.35       5.99
```



```
       1.18   289.28    .561E+05        175.6         2.65       5.33
       1.35   289.44    .688E+05        235.9         2.90       4.86
       1.51   289.60    .823E+05        306.1         3.15       4.48
       1.67   289.77    .962E+05        385.3         3.39       4.16
       1.83   289.93    .111E+06        473.0         3.62       3.89
       1.99   290.09    .125E+06        569.2         3.85       3.67
       2.16   290.25    .140E+06        673.7         4.06       3.47
       2.32   290.42    .156E+06        786.4         4.28       3.30
       2.48   290.58    .171E+06        907.2         4.48       3.15
       2.64   290.74    .187E+06       1031.6         4.66       3.03
       2.81   290.90    .204E+06       1160.9         4.81       2.93
       2.97   291.07    .222E+06       1305.7         4.98       2.83

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0184)      47.60     0.06    7.83   3.23      0.00
0.64
   OUTFLOW: ID= 1 (  2309)      47.60     0.06    8.33   3.23      0.00
0.64


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-
--------------------
| ADD HYD  (  1953)|
|   1 +  2 =  3    |              AREA      QPEAK       TPEAK        R.V.
--------------------              (ha)      (cms)       (hrs)        (mm)
      ID1= 1 (  2215):     30.56      0.051        7.58        3.59
    + ID2= 2 (  2309):     47.60      0.060        8.33        3.23
      ==========================================================
      ID = 3 (  1953):     78.16      0.110        7.92        3.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  2310)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         289.58        0.0600
                   3.16         289.38        0.0450      Main Channel
                  13.16         289.12        0.0450      Main Channel
                  15.16         289.08        0.0450      Main Channel
                  22.23         288.80        0.0450      Main Channel
                  25.23         288.76        0.0450      Main Channel
                  31.32         288.53        0.0450      Main Channel
                  35.32         288.41        0.0450      Main Channel
                  50.44         288.17        0.0450      Main Channel
                  59.56         288.10        0.0450      Main Channel
                  65.56         288.10        0.0450      Main Channel
                  69.56         288.15        0.0450      Main Channel
                  75.65         288.20        0.0450      Main Channel
                  85.65         288.74        0.0450      Main Channel
                  97.88         289.45        0.0450      Main Channel
                 116.00         290.60        0.0450      Main Channel
                 116.01         290.62        0.0450      Main Channel
                 123.00         290.90        0.0450      Main Channel
                 126.00         291.07    0.0450 /0.0600  Main Channel
```



```
                 151.20         291.01        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.15   288.24    .722E+03          1.0         0.34      12.38
       0.29   288.39    .205E+04          4.5         0.54       7.67
       0.44   288.53    .376E+04         10.9         0.72       5.76
       0.58   288.68    .573E+04         20.2         0.88       4.72
       0.73   288.83    .796E+04         31.9         1.00       4.15
       0.87   288.97    .105E+05         47.4         1.13       3.67
       1.02   289.12    .132E+05         65.5         1.24       3.36
       1.18   289.28    .166E+05         92.6         1.40       2.98
       1.35   289.44    .203E+05        124.5         1.53       2.72
       1.51   289.60    .243E+05        161.5         1.66       2.51
       1.67   289.77    .284E+05        203.2         1.79       2.33
       1.83   289.93    .327E+05        249.5         1.91       2.18
       1.99   290.09    .370E+05        300.3         2.03       2.05
       2.16   290.25    .414E+05        355.4         2.14       1.94
       2.32   290.42    .460E+05        414.8         2.26       1.85
       2.48   290.58    .506E+05        478.6         2.36       1.76
       2.64   290.74    .554E+05        544.2         2.46       1.70
       2.81   290.90    .603E+05        612.4         2.54       1.64
       2.97   291.07    .655E+05        688.8         2.63       1.59

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1953)      78.16     0.11    7.92   3.37      0.02
0.34
   OUTFLOW: ID= 1 (  2310)      78.16     0.11    8.17   3.37      0.02
0.34


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-
--------------------
| ADD HYD  (  1821)|
|   1 +  2 =  3    |              AREA      QPEAK       TPEAK        R.V.
--------------------              (ha)      (cms)       (hrs)        (mm)
      ID1= 1 (  0181):     60.95      0.108        7.25        3.59
    + ID2= 2 (  2310):     78.16      0.110        8.17        3.37
      ==========================================================
      ID = 3 (  1821):    139.11      0.213        7.67        3.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-
--------------------
| ADD HYD  (  1821)|
|   3 +  2 =  1    |              AREA      QPEAK       TPEAK        R.V.
--------------------              (ha)      (cms)       (hrs)        (mm)
      ID1= 3 (  1821):    139.11      0.213        7.67        3.47
    + ID2= 2 (  3642):   2136.26      6.589        7.08       12.46
      ==========================================================
      ID = 1 (  1821):   2275.37      6.795        7.08       11.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1780)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0174):      8.89      0.024        6.25        3.57
     + ID2= 2 (  1821):   2275.37      6.795        7.08       11.91
       ============================================================
       ID = 3 (  1780):   2284.26      6.814        7.08       11.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN(  3638)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         293.34        0.0600
                 12.41         293.21        0.0450      Main Channel
                 77.30         291.37        0.0450      Main Channel
                109.98         291.06        0.0450      Main Channel
                151.64         290.79        0.0450      Main Channel
                257.91         291.72        0.0450      Main Channel
                287.17         291.48        0.0450      Main Channel
                340.57         289.22        0.0450      Main Channel
                356.24         285.90        0.0450      Main Channel
                405.40         286.47        0.0450      Main Channel
                434.65         289.12        0.0450      Main Channel
                478.79         289.83        0.0450      Main Channel
                495.32         291.08        0.0450      Main Channel
                511.27         290.79        0.0450      Main Channel
                551.96         291.30        0.0450      Main Channel
                568.45         292.83        0.0450      Main Channel
                591.34         292.09        0.0450      Main Channel
                622.94         293.82        0.0450      Main Channel
                658.41         294.14    0.0450 /0.0600  Main Channel
                679.49         294.08        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
       0.42   286.32    .459E+04          2.3         0.28       33.96
       0.84   286.74    .168E+05         15.1         0.51       18.48
       1.26   287.16    .310E+05         39.1         0.72       13.22
       1.68   287.58    .469E+05         72.7         0.88       10.74
       2.10   288.00    .643E+05        115.9         1.03        9.25
       2.52   288.42    .833E+05        168.7         1.15        8.23
       2.95   288.85    .104E+06        231.6         1.27        7.48
       3.37   289.27    .126E+06        289.6         1.31        7.27
       3.79   289.69    .156E+06        336.5         1.23        7.71
       4.21   290.11    .193E+06        434.4         1.28        7.39
       4.63   290.53    .234E+06        563.6         1.37        6.91
       5.05   290.95    .281E+06        600.3         1.22        7.80
       5.47   291.37    .362E+06        679.8         1.07        8.87
       5.89   291.79    .470E+06        932.1         1.13        8.41
       6.35   292.25    .604E+06       1371.5         1.29        7.34
       6.81   292.71    .747E+06       1862.1         1.42        6.69
       7.28   293.18    .901E+06       2466.9         1.56        6.09
       7.74   293.64    .106E+07       3171.4         1.70        5.58
       8.20   294.10    .123E+07       3852.1         1.79        5.31

                                      <---- hydrograph ---->   <-pipe /
```



```
channel->
                                  AREA     QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                                  (ha)     (cms)    (hrs)    (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  1780)    2284.26      6.81     7.08   11.88       0.57
0.33
   OUTFLOW: ID= 1 (  3638)    2284.26      6.53     7.67   11.88       0.56
0.33


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-
-------------------
| CALIB             |
| STANDHYD (  0172)|   Area    (ha)=     35.05
|ID= 1 DT= 5.0 min |   Total Imp(%)=     38.90   Dir. Conn.(%)=  36.70
-------------------
                                 IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         13.63           21.42
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          2.40            2.40
     Length            (m)=        483.39           40.00
     Mannings n           =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32            4.76
               over (min)           10.00           35.00
     Storage Coeff.  (min)=          9.76 (ii)      32.36 (ii)
     Unit Hyd. Tpeak (min)=         10.00           35.00
     Unit Hyd. peak  (cms)=          0.11            0.03
                                                                  *TOTALS*
     PEAK FLOW       (cms)=          0.69            0.19          0.841 (iii)
     TIME TO PEAK    (hrs)=          5.25            5.58           5.25
     RUNOFF VOLUME    (mm)=         40.00            7.63          19.51
     TOTAL RAINFALL   (mm)=         42.00           42.00          42.00
     RUNOFF COEFFICIENT   =          0.95            0.18           0.46


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  63.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  1769)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0172):     35.05      0.841        5.25       19.51
     + ID2= 2 (  0173):     76.07      0.134        7.50        4.15
       ============================================================
       ID = 3 (  1769):    111.12      0.889        5.25        8.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-
-------------------
| ADD HYD  (  1769)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1769):    111.12      0.889        5.25        8.99
```



```
     + ID2= 2 (  3638):   2284.26      6.534        7.67       11.88
       ============================================================
       ID = 1 (  1769):   2395.38      6.799        7.58       11.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-
-------------------
| CALIB             |
| NASHYD   (  0252)|   Area    (ha)=    151.99   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      2.74

     Unit Hyd Qpeak  (cms)=     0.947

     PEAK FLOW       (cms)=     0.145 (i)
     TIME TO PEAK    (hrs)=     9.667
     RUNOFF VOLUME    (mm)=     4.466
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| NASHYD   (  0255)|   Area    (ha)=     57.13   Curve Number   (CN)= 50.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.90

     Unit Hyd Qpeak  (cms)=     1.084

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
-------------------
| CALIB             |
| NASHYD   (  0256)|   Area    (ha)=    114.69   Curve Number   (CN)= 58.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.22

     Unit Hyd Qpeak  (cms)=     1.605

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
-------------------
| CALIB             |
| NASHYD   (  0257)|   Area    (ha)=    146.51   Curve Number   (CN)= 50.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
```



```
-------------------   U.H. Tp(hrs)=      1.17

     Unit Hyd Qpeak  (cms)=     2.138

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  1619)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0256):    114.69      0.000        0.00        0.00
     + ID2= 2 (  0257):    146.51      0.000        0.00        0.00
       ============================================================
       ID = 3 (  1619):    261.20      0.000        0.00        0.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-
-------------------
| ROUTE CHN(  3378)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         310.80        0.0600
                 11.05         310.19        0.0450      Main Channel
                 22.05         309.18        0.0450      Main Channel
                 63.15         304.59        0.0450      Main Channel
                102.27         302.51        0.0450      Main Channel
                112.39         302.51        0.0450      Main Channel
                122.39         302.69        0.0450      Main Channel
                127.49         303.04        0.0450      Main Channel
                142.59         302.75        0.0450      Main Channel
                162.73         303.39        0.0450      Main Channel
                192.90         304.55        0.0450      Main Channel
                213.12         305.96        0.0450      Main Channel
                223.32         306.11        0.0450      Main Channel
                233.42         306.67        0.0450      Main Channel
                250.55         307.80        0.0450      Main Channel
                293.92         310.53        0.0450      Main Channel
                314.05         311.74        0.0450      Main Channel
                334.24         313.33        0.0450      Main Channel
                352.37         315.20    0.0450 /0.0600  Main Channel
                378.66         316.74        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
       0.42   302.93    .981E+04          8.6         0.79       19.07
       0.83   303.34    .336E+05         48.5         1.31       11.55
       1.25   303.76    .654E+05        126.5         1.75        8.62
       1.67   304.18    .104E+06        243.7         2.11        7.13
       2.08   304.59    .150E+06        404.9         2.44        6.18
       2.50   305.01    .201E+06        628.5         2.83        5.34
       2.92   305.43    .256E+06        897.3         3.17        4.75
       3.33   305.84    .314E+06       1211.8         3.49        4.32
```

3.75	306.26	.378E+06	1533.1	3.67	4.11
4.17	306.68	.447E+06	1947.9	3.94	3.83
4.59	307.10	.520E+06	2422.8	4.21	3.58
5.00	307.51	.598E+06	2950.8	4.47	3.37
5.42	307.93	.678E+06	3532.1	4.71	3.20
5.84	308.35	.763E+06	4167.1	4.94	3.05
6.25	308.76	.852E+06	4859.4	5.16	2.92
6.67	309.18	.944E+06	5610.3	5.38	2.80
7.21	309.72	.107E+07	6744.7	5.70	2.64
7.75	310.26	.120E+07	7984.1	6.01	2.51
8.29	310.80	.134E+07	9331.5	6.28	2.40

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

ROUTE CHN(3110)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	300.09	0.0600	
4.12	300.09	0.0450	Main Channel
25.55	298.72	0.0450	Main Channel
52.25	295.56	0.0450	Main Channel
55.25	294.96	0.0450	Main Channel
64.47	294.35	0.0450	Main Channel
86.01	294.23	0.0450	Main Channel
106.69	294.58	0.0450	Main Channel
146.23	295.80	0.0450	Main Channel
158.95	296.23	0.0450	Main Channel
162.11	296.60	0.0450	Main Channel
178.03	299.96	0.0450	Main Channel
186.35	300.93	0.0450	Main Channel
200.92	302.48	0.0450	Main Channel
211.66	303.49	0.0450	Main Channel
227.20	303.99	0.0450	Main Channel
243.20	305.45	0.0450	Main Channel
251.53	305.79	0.0450	Main Channel
263.98	305.77	0.0450 /0.0600	Main Channel
266.21	305.52	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	294.79	.203E+05	7.7	0.37	43.93
1.12	295.35	.569E+05	34.2	0.58	27.71
1.68	295.91	.105E+06	81.0	0.74	21.67
2.24	296.47	.165E+06	154.7	0.91	17.76
2.81	297.04	.230E+06	258.2	1.08	14.86
3.37	297.60	.300E+06	385.4	1.24	12.96
3.93	298.16	.373E+06	535.2	1.39	11.62
4.49	298.72	.450E+06	707.8	1.52	10.61
5.05	299.28	.533E+06	919.4	1.67	9.66
5.69	299.92	.635E+06	1193.5	1.81	8.87
6.34	300.57	.746E+06	1493.5	1.93	8.33
6.98	301.21	.862E+06	1828.1	2.05	7.86
7.62	301.85	.981E+06	2196.0	2.16	7.44
8.26	302.49	.110E+07	2598.4	2.27	7.08
8.91	303.14	.123E+07	3028.4	2.38	6.77
9.55	303.78	.136E+07	3430.4	2.43	6.62
10.19	304.42	.150E+07	3898.2	2.50	6.43
10.84	305.07	.165E+07	4451.2	2.60	6.18
11.48	305.71	.180E+07	4995.8	2.68	6.01

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

CALIB	
NASHYD (0254)	Area (ha)= 119.04 Curve Number (CN)= 58.0
ID= 1 DT= 5.0 min	Ia (mm)= 52.08 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.39

Unit Hyd Qpeak (cms)= 1.462

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0253)	Area (ha)= 189.83
ID= 1 DT= 5.0 min	Total Imp(%)= 37.00 Dir. Conn.(%)= 35.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	70.24	119.59
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.32	2.32
Length	(m)=	1124.96	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.20
over (min)		15.00	45.00
Storage Coeff. (min)=		16.37 (ii)	40.38 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.07	0.03

		TOTALS
PEAK FLOW	(cms)=	4.089 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	18.56
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.44

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1310)	
1 + 2 = 3	

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0253):		189.83	4.089	5.25	18.56
+ ID2= 2 (0254):		119.04	0.000	0.00	0.00
ID = 3 (1310):		308.87	4.089	5.25	11.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1310)	
3 + 2 = 1	

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1310):		308.87	4.089	5.25	11.41
+ ID2= 2 (0255):		57.13	0.000	0.00	0.00
ID = 1 (1310):		366.00	4.089	5.25	9.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1310)	
1 + 2 = 3	

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 3110 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (3110):		366.00	4.089	5.25	9.63
+ ID2= 2 (3110):		0.00	0.000	0.00	0.00
ID = 3 (1310):		366.00	4.089	5.25	9.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2990)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	302.16	0.0600	
21.10	302.45	0.0450	Main Channel
51.01	302.23	0.0450	Main Channel
80.75	301.65	0.0450	Main Channel
115.74	301.61	0.0450	Main Channel
145.48	301.96	0.0450	Main Channel
186.88	301.30	0.0450	Main Channel
210.83	300.61	0.0450	Main Channel
222.50	300.68	0.0450	Main Channel
245.87	299.68	0.0450	Main Channel
269.77	299.09	0.0450	Main Channel
317.00	296.62	0.0450	Main Channel
340.88	294.48	0.0450	Main Channel
364.20	293.45	0.0450	Main Channel
375.89	293.45	0.0450	Main Channel
399.77	296.60	0.0450	Main Channel
411.44	299.00	0.0450	Main Channel
423.65	300.42	0.0450	Main Channel
435.33	300.97	0.0450 /0.0600	Main Channel
482.56	301.27	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	293.92	.749E+04	5.6	0.64	22.23

0.94	294.39	.206E+05	22.7	0.93	15.14
1.41	294.86	.388E+05	56.0	1.23	11.52
1.88	295.33	.604E+05	105.4	1.48	9.55
2.35	295.80	.856E+05	171.5	1.70	8.32
2.82	296.27	.114E+06	255.8	1.90	7.44
3.29	296.74	.146E+06	358.2	2.07	6.82
3.76	297.21	.183E+06	477.6	2.21	6.38
4.23	297.68	.224E+06	621.4	2.35	6.00
4.70	298.15	.269E+06	791.3	2.49	5.67
5.17	298.62	.319E+06	989.3	2.63	5.38
5.64	299.09	.374E+06	1215.2	2.76	5.12
6.11	299.56	.435E+06	1417.1	2.76	5.11
6.58	300.03	.505E+06	1700.5	2.86	4.95
7.05	300.50	.580E+06	2030.4	2.97	4.76
7.52	300.97	.668E+06	2282.5	2.90	4.88
8.01	301.46	.785E+06	2742.7	2.96	4.77
8.51	301.96	.935E+06	2834.1	2.57	5.50
9.00	302.45	.112E+07	3654.2	2.77	5.11

		<---- hydrograph ---->				<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1310)	366.00	4.09	5.25	9.63	0.34	0.64
OUTFLOW: ID= 1 (2990)	366.00	3.57	5.42	9.63	0.30	0.64

ROUTE CHN(2676)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	296.21	0.0600	
55.00	296.15	0.0450	Main Channel
95.08	295.45	0.0450	Main Channel
135.08	294.27	0.0450	Main Channel
195.15	292.12	0.0450	Main Channel
205.15	291.87	0.0450	Main Channel
215.15	290.71	0.0450	Main Channel
225.15	290.28	0.0450	Main Channel
255.15	290.28	0.0450	Main Channel
262.15	291.20	0.0450	Main Channel
282.15	292.89	0.0450	Main Channel
303.22	293.66	0.0450	Main Channel
315.22	294.36	0.0450	Main Channel
333.22	294.98	0.0450	Main Channel
382.82	296.68	0.0450	Main Channel
429.15	297.86	0.0450	Main Channel
457.98	298.11	0.0450	Main Channel
484.67	298.57	0.0450	Main Channel
506.78	298.86	0.0450 /0.0600	Main Channel
529.94	299.41	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	290.58	.121E+05	5.7	0.54	35.24
0.61	290.89	.271E+05	19.8	0.83	22.84
0.91	291.19	.440E+05	41.5	1.08	17.70

1.22	291.50	.629E+05	69.5	1.26	15.07
1.52	291.80	.838E+05	104.9	1.43	13.32
1.82	292.10	.108E+06	140.6	1.49	12.80
2.13	292.41	.137E+06	189.3	1.58	12.06
2.43	292.71	.170E+06	249.7	1.68	11.35
2.74	293.02	.208E+06	319.2	1.76	10.84
3.04	293.32	.251E+06	399.3	1.82	10.47
3.35	293.63	.300E+06	496.3	1.89	10.06
3.65	293.93	.354E+06	617.1	1.99	9.56
3.95	294.23	.413E+06	756.5	2.09	9.10
4.26	294.54	.477E+06	904.5	2.17	8.80
4.56	294.84	.548E+06	1070.1	2.23	8.54
4.87	295.15	.626E+06	1259.8	2.30	8.28
5.17	295.45	.710E+06	1474.9	2.37	8.02
5.47	295.75	.802E+06	1756.0	2.50	7.61
5.85	296.13	.930E+06	2146.7	2.64	7.22

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2990)	366.00	3.57	5.42	9.63	0.19	0.54
OUTFLOW: ID= 1 (2676)	366.00	2.89	5.83	9.63	0.15	0.54

ROUTE CHN(3593)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	295.40	0.0600	
40.38	294.96	0.0450	Main Channel
70.78	293.61	0.0450	Main Channel
91.07	292.97	0.0450	Main Channel
131.55	292.57	0.0450	Main Channel
141.65	292.40	0.0450	Main Channel
151.85	291.75	0.0450	Main Channel
170.97	290.04	0.0450	Main Channel
192.22	288.23	0.0450	Main Channel
202.29	286.42	0.0450	Main Channel
212.41	285.60	0.0450	Main Channel
222.61	285.50	0.0450	Main Channel
263.00	286.34	0.0450	Main Channel
273.05	287.88	0.0450	Main Channel
283.28	289.08	0.0450	Main Channel
299.45	290.11	0.0450	Main Channel
333.81	291.25	0.0450	Main Channel
364.14	292.02	0.0450	Main Channel
374.24	292.14	0.0450 /0.0600	Main Channel
401.58	292.35	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	285.85	.236E+04	2.8	0.43	14.26
0.70	286.20	.761E+04	13.6	0.66	9.31
1.05	286.55	.152E+05	37.8	0.92	6.72
1.40	286.90	.236E+05	75.1	1.18	5.24
1.75	287.25	.325E+05	123.0	1.40	4.41

2.10	287.60	.420E+05	181.2	1.59	3.86
2.45	287.95	.520E+05	249.2	1.77	3.48
2.80	288.30	.627E+05	325.3	1.92	3.21
3.15	288.65	.741E+05	408.0	2.03	3.03
3.49	288.99	.865E+05	502.3	2.15	2.87
3.84	289.34	.999E+05	602.6	2.23	2.76
4.19	289.69	.114E+06	715.0	2.31	2.67
4.54	290.04	.130E+06	842.4	2.39	2.58
4.89	290.39	.148E+06	969.7	2.43	2.54
5.24	290.74	.167E+06	1113.5	2.47	2.50
5.59	291.09	.188E+06	1279.1	2.52	2.45
5.94	291.44	.211E+06	1458.7	2.56	2.41
6.29	291.79	.236E+06	1656.4	2.60	2.37
6.64	292.14	.264E+06	1847.6	2.59	2.38

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2676)	366.00	2.89	5.83	9.63	0.35	0.43
OUTFLOW: ID= 1 (3593)	366.00	2.79	6.17	9.63	0.35	0.43

ADD HYD (7559)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0252):	151.99	0.145	9.67	4.47
	+ ID2= 2 (3593):	366.00	2.789	6.17	9.63
	ID = 3 (7559):	517.99	2.861	6.17	8.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0813)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (1769):	2395.38	6.799	7.58	11.74
	+ ID2= 2 (7559):	517.99	2.861	6.17	8.11
	ID = 3 (0813):	2913.37	8.816	7.17	11.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3622)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	293.47	0.0600	
29.14	292.97	0.0450	Main Channel
98.20	292.63	0.0450	Main Channel

109.10	292.99	0.0450	Main Channel
171.49	292.06	0.0450	Main Channel
221.00	290.80	0.0450	Main Channel
289.62	287.09	0.0450	Main Channel
326.56	284.64	0.0450	Main Channel
358.68	284.47	0.0450	Main Channel
366.39	285.08	0.0450	Main Channel
381.73	288.86	0.0450	Main Channel
397.08	290.95	0.0450	Main Channel
437.72	291.16	0.0450	Main Channel
578.11	291.90	0.0450	Main Channel
611.02	293.01	0.0450	Main Channel
652.39	293.58	0.0450	Main Channel
676.58	293.77	0.0450	Main Channel
695.12	292.40	0.0450	Main Channel
718.32	293.67	0.0450 /0.0600	Main Channel
736.80	293.46	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.48	284.95	.503E+04	7.2	0.48	11.65
0.96	285.43	.129E+05	29.9	0.78	7.19
1.44	285.91	.223E+05	66.8	1.01	5.56
1.92	286.39	.331E+05	118.1	1.21	4.67
2.40	286.87	.455E+05	184.8	1.37	4.10
2.88	287.35	.594E+05	266.3	1.52	3.72
3.36	287.83	.750E+05	364.5	1.64	3.43
3.84	288.31	.924E+05	482.2	1.77	3.19
4.32	288.79	.111E+06	620.6	1.88	2.99
4.80	289.27	.132E+06	776.9	1.98	2.84
5.28	289.75	.155E+06	956.9	2.08	2.71
5.76	290.23	.180E+06	1162.8	2.18	2.59
6.24	290.71	.207E+06	1396.1	2.28	2.48
6.72	291.19	.239E+06	1427.6	2.02	2.79
7.20	291.67	.286E+06	1500.2	1.77	3.18
7.68	292.15	.350E+06	1848.7	1.79	3.16
8.16	292.63	.422E+06	2332.6	1.87	3.02
8.64	293.11	.513E+06	2883.0	1.90	2.96
9.21	293.68	.641E+06	3766.3	1.99	2.84

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0813)	2913.37	8.82	7.17	11.10	0.51	0.50
OUTFLOW: ID= 1 (3622)	2913.37	8.75	7.33	11.10	0.51	0.50

ROUTE CHN(3614)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	292.49	0.0600	
20.44	292.45	0.0450	Main Channel
45.83	291.74	0.0450	Main Channel
71.36	291.59	0.0450	Main Channel
81.56	291.36	0.0450	Main Channel

91.63	290.71	0.0450	Main Channel
101.82	289.84	0.0450	Main Channel
151.76	286.03	0.0450	Main Channel
173.17	283.29	0.0450	Main Channel
183.46	283.11	0.0450	Main Channel
193.54	283.34	0.0450	Main Channel
224.32	283.15	0.0450	Main Channel
234.39	283.89	0.0450	Main Channel
254.60	285.83	0.0450	Main Channel
264.70	286.60	0.0450	Main Channel
284.78	290.00	0.0450	Main Channel
315.13	293.08	0.0450	Main Channel
396.07	291.80	0.0450	Main Channel
418.31	291.36	0.0450 /0.0600	Main Channel
438.42	289.91	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.52	283.63	.126E+05	10.9	0.49	19.29
1.03	284.14	.319E+05	46.1	0.82	11.55
1.55	284.66	.540E+05	101.9	1.08	8.84
2.06	285.17	.789E+05	177.8	1.29	7.40
2.58	285.69	.107E+06	274.3	1.47	6.47
3.09	286.20	.137E+06	388.4	1.62	5.88
3.61	286.72	.171E+06	524.2	1.74	5.45
4.12	287.23	.209E+06	692.5	1.89	5.03
4.64	287.75	.249E+06	886.5	2.03	4.69
5.16	288.27	.293E+06	1107.1	2.16	4.41
5.67	288.78	.339E+06	1355.5	2.28	4.17
6.19	289.30	.388E+06	1632.8	2.40	3.96
6.70	289.81	.440E+06	1939.9	2.52	3.78
7.22	290.33	.495E+06	2273.7	2.62	3.63
7.73	290.84	.556E+06	2633.1	2.70	3.52
8.25	291.36	.623E+06	3019.6	2.77	3.44
8.77	291.88	.703E+06	3055.3	2.48	3.83
9.34	292.45	.814E+06	3514.5	2.46	3.86
9.91	293.02	.949E+06	4097.6	2.46	3.86

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3622)	2913.37	8.75	7.33	11.10	0.41	0.49
OUTFLOW: ID= 1 (3614)	2913.37	8.53	7.75	11.10	0.40	0.49

ROUTE CHN(3610)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	294.56	0.0600	
64.27	293.16	0.0450	Main Channel
109.45	293.32	0.0450	Main Channel
170.69	292.14	0.0450	Main Channel
230.92	289.15	0.0450	Main Channel
249.35	283.24	0.0450	Main Channel
259.67	282.06	0.0450	Main Channel

281.01	281.38	0.0450		Main Channel
305.83	281.28	0.0450		Main Channel
323.73	282.57	0.0450		Main Channel
341.65	285.29	0.0450		Main Channel
353.52	286.56	0.0450		Main Channel
387.79	289.51	0.0450		Main Channel
456.90	291.22	0.0450		Main Channel
480.00	291.45	0.0450		Main Channel
530.14	291.65	0.0450		Main Channel
575.23	292.06	0.0450		Main Channel
716.96	296.00	0.0450		Main Channel
821.23	296.84	0.0450 /0.0600		Main Channel
862.22	296.72	0.0600		

<-------------------- TRAVEL TIME TABLE --------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	282.08	.266E+05	19.1	0.62	23.22
1.61	282.89	.722E+05	85.7	1.02	14.03
2.41	283.69	.127E+06	200.9	1.36	10.50
3.21	284.49	.187E+06	361.0	1.66	8.62
4.01	285.29	.252E+06	563.4	1.92	7.46
4.82	286.10	.324E+06	800.9	2.13	6.74
5.62	286.90	.402E+06	1079.9	2.31	6.21
6.42	287.70	.489E+06	1402.7	2.47	5.81
7.22	288.50	.584E+06	1778.7	2.62	5.47
8.03	289.31	.687E+06	2187.1	2.74	5.23
8.83	290.11	.809E+06	2451.0	2.61	5.50
9.63	290.91	.964E+06	2843.4	2.54	5.65
10.43	291.71	.116E+07	3056.8	2.26	6.34
11.24	292.52	.144E+07	3808.3	2.27	6.31
12.04	293.32	.177E+07	4858.5	2.36	6.08
12.92	294.20	.223E+07	6599.1	2.55	5.63
13.80	295.08	.273E+07	8664.2	2.73	5.25
14.68	295.96	.326E+07	11050.8	2.92	4.92
15.56	296.84	.384E+07	12981.7	2.91	4.93

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3614)	2913.37	8.53	7.75	11.10	0.36	0.62
OUTFLOW: ID= 1 (3610)	2913.37	8.31	8.17	11.10	0.35	0.62

CALIB STANDHYD (0243) ID= 1 DT= 5.0 min	Area (ha)= 137.40	Total Imp(%)= 21.20	Dir. Conn.(%)= 18.20

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	29.13	108.27
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.82	2.82
Length	(m)=	957.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.94
over (min)		15.00	40.00
Storage Coeff. (min)=		14.01 (ii)	35.21 (ii)

Unit Hyd. Tpeak (min)=	15.00	40.00	
Unit Hyd. peak (cms)=	0.08	0.03	
			TOTALS
PEAK FLOW (cms)=	1.32	0.93	2.044 (iii)
TIME TO PEAK (hrs)=	5.25	5.67	5.33
RUNOFF VOLUME (mm)=	40.00	7.91	13.75
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.19	0.33

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4044) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	9.2500	0.6893
	2.4900	0.2182	12.3500	0.8926
	5.1900	0.4116	123.5000	0.9918

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0243)	137.400	2.044	5.33	13.75
OUTFLOW: ID= 1 (4044)	137.400	1.875	5.42	13.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 91.73
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.1656

ADD HYD (1749) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3610):	2913.37	8.312	8.17	11.10
+ ID2= 2 (4044):	137.40	1.875	5.42	13.75
ID = 3 (1749):	3050.77	8.747	8.08	11.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3598) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	290.05	0.0600	
50.65	289.39	0.0450	Main Channel

129.99	289.41	0.0450		Main Channel
185.22	289.79	0.0450		Main Channel
229.02	289.65	0.0450		Main Channel
265.28	287.34	0.0450		Main Channel
279.75	285.46	0.0450		Main Channel
306.45	284.19	0.0450		Main Channel
315.93	282.38	0.0450		Main Channel
352.65	279.04	0.0450		Main Channel
397.31	282.00	0.0450		Main Channel
439.90	293.80	0.0450		Main Channel
484.80	293.72	0.0450		Main Channel
512.95	294.98	0.0450		Main Channel
527.57	294.55	0.0450		Main Channel
608.51	295.15	0.0450		Main Channel
643.87	296.01	0.0450		Main Channel
696.88	295.44	0.0450		Main Channel
729.97	295.45	0.0450 /0.0600		Main Channel
790.57	297.00	0.0600		

<-------------------- TRAVEL TIME TABLE --------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.58	279.62	.123E+04	2.2	0.52	9.15
1.15	280.19	.491E+04	14.2	0.82	5.77
1.73	280.77	.111E+05	41.9	1.07	4.40
2.30	281.34	.196E+05	90.1	1.30	3.63
2.88	281.92	.307E+05	163.4	1.51	3.13
3.46	282.50	.438E+05	274.6	1.78	2.66
4.03	283.07	.579E+05	420.1	2.06	2.30
4.61	283.65	.729E+05	593.0	2.31	2.05
5.19	284.23	.886E+05	790.4	2.53	1.87
5.76	284.80	.106E+06	975.7	2.61	1.81
6.34	285.38	.126E+06	1199.5	2.70	1.75
6.91	285.95	.147E+06	1502.9	2.89	1.64
7.49	286.53	.170E+06	1848.6	3.08	1.53
8.07	287.11	.194E+06	2230.4	3.26	1.45
8.64	287.68	.219E+06	2621.2	3.40	1.39
9.22	288.26	.246E+06	3035.0	3.51	1.35
9.79	288.83	.274E+06	3493.5	3.62	1.31
10.37	289.41	.305E+06	3998.5	3.72	1.27
11.01	290.05	.371E+06	3847.0	2.95	1.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1749)	3050.77	8.75	8.08	11.22	0.89	0.65
OUTFLOW: ID= 1 (3598)	3050.77	8.74	8.17	11.22	0.89	0.65

CALIB NASHYD (0242) ID= 1 DT= 5.0 min	Area (ha)= 91.28	Ia (mm)= 14.40	U.H. Tp(hrs)= 1.80	Curve Number (CN)= 62.0 # of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.866

PEAK FLOW (cms)= 0.112 (i)
TIME TO PEAK (hrs)= 8.667

RUNOFF VOLUME (mm)=	4.153
TOTAL RAINFALL (mm)=	42.000
RUNOFF COEFFICIENT =	0.099

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0247) ID= 1 DT= 5.0 min	Area (ha)= 407.16	Ia (mm)= 52.08	U.H. Tp(hrs)= 3.13	Curve Number (CN)= 50.0 # of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 2.221

PEAK FLOW	(cms)=	0.000 (i)
TIME TO PEAK	(hrs)=	0.000
RUNOFF VOLUME	(mm)=	0.000
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0248) ID= 1 DT= 5.0 min	Area (ha)= 89.27	Ia (mm)= 14.40	U.H. Tp(hrs)= 1.22	Curve Number (CN)= 50.0 # of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 1.249

PEAK FLOW	(cms)=	0.093 (i)
TIME TO PEAK	(hrs)=	8.000
RUNOFF VOLUME	(mm)=	2.701
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.064

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0249) ID= 1 DT= 5.0 min	Area (ha)= 84.39	Ia (mm)= 52.08	U.H. Tp(hrs)= 1.26	Curve Number (CN)= 62.0 # of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 1.143

PEAK FLOW	(cms)=	0.000 (i)
TIME TO PEAK	(hrs)=	0.000
RUNOFF VOLUME	(mm)=	0.000
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(3245) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

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                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         312.51        0.0600
                 27.45         312.26        0.0450      Main Channel
                 65.79         313.20        0.0450      Main Channel
                 96.58         312.76        0.0450      Main Channel
                121.25         312.16        0.0450      Main Channel
                141.02         311.62        0.0450      Main Channel
                165.49         310.59        0.0450      Main Channel
                226.71         308.83        0.0450      Main Channel
                286.61         307.02        0.0450      Main Channel
                326.60         306.24        0.0450      Main Channel
                403.14         305.84        0.0450      Main Channel
                437.98         305.61        0.0450      Main Channel
                506.91         305.67        0.0450      Main Channel
                559.56         306.41        0.0450      Main Channel
                579.83         306.37        0.0450      Main Channel
                640.69         309.50        0.0450      Main Channel
                650.75         309.55        0.0450      Main Channel
                701.67         310.26        0.0450      Main Channel
                762.48         311.45   0.0450 /0.0600   Main Channel
                778.65         311.58        0.0600

            <--------------------- TRAVEL TIME TABLE ---------------------->
             DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
              (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
             0.39   306.00    .526E+05          24.3         0.60      36.10
             0.78   306.39    .156E+06         109.7         0.91      23.71
             1.17   306.78    .295E+06         286.6         1.26      17.14
             1.56   307.17    .447E+06         543.3         1.57      13.72
             1.95   307.56    .611E+06         875.4         1.86      11.62
             2.34   307.95    .784E+06        1277.2         2.11      10.23
             2.73   308.34    .968E+06        1748.3         2.34       9.23
             3.11   308.72    .116E+07        2289.0         2.55       8.47
             3.50   309.11    .137E+07        2898.2         2.75       7.86
             3.89   309.50    .158E+07        3575.1         2.93       7.38
             4.28   309.89    .182E+07        4201.8         3.00       7.21
             4.67   310.28    .207E+07        4956.6         3.10       6.97
             5.06   310.67    .235E+07        5857.6         3.23       6.68
             5.45   311.06    .264E+07        6873.9         3.38       6.39
             5.84   311.45    .294E+07        7984.5         3.52       6.14
             6.28   311.89    .330E+07        9510.3         3.73       5.79
             6.72   312.33    .367E+07       11130.6         3.93       5.50
             7.15   312.76    .408E+07       12866.7         4.09       5.28
             7.59   313.20    .450E+07       14586.8         4.20       5.15


     **** WARNING:  INFLOW HYDROGRAPH IS DRY!!

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| ADD HYD  (  1371)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
*** W A R N I N G :  HYDROGRAPH   3245 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0248):     89.27      0.093        8.00        2.70
     + ID2= 2 (  3245):      0.00      0.000        0.00        0.00
       ==========================================================
       ID = 3 (  1371):     89.27      0.093        8.00        2.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3074)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         303.86        0.0600
                 16.87         304.65        0.0450      Main Channel
                 30.55         304.83        0.0450      Main Channel
                 52.65         304.48        0.0450      Main Channel
                 92.43         303.26        0.0450      Main Channel
                114.73         302.83        0.0450      Main Channel
                149.99         302.20        0.0450      Main Channel
                181.83         300.36        0.0450      Main Channel
                206.12         299.34        0.0450      Main Channel
                222.69         299.39        0.0450      Main Channel
                242.45         300.40        0.0450      Main Channel
                252.94         300.92        0.0450      Main Channel
                280.15         301.65        0.0450      Main Channel
                308.42         301.56        0.0450      Main Channel
                345.71         302.51        0.0450      Main Channel
                382.94         303.50        0.0450      Main Channel
                472.10         304.59        0.0450      Main Channel
                519.36         305.44        0.0450      Main Channel
                557.59         305.64   0.0450 /0.0600   Main Channel
                596.27         306.54        0.0600

            <--------------------- TRAVEL TIME TABLE ---------------------->
             DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
              (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
             0.23   299.57    .371E+04          2.4         0.55      26.06
             0.46   299.80    .970E+04          9.5         0.84      17.08
             0.69   300.03    .176E+05         21.8         1.06      13.52
             0.92   300.26    .275E+05         40.1         1.25      11.46
             1.14   300.48    .394E+05         65.5         1.43      10.01
             1.37   300.71    .529E+05         98.6         1.60       8.94
             1.60   300.94    .681E+05        139.2         1.76       8.15
             1.83   301.17    .854E+05        184.9         1.86       7.70
             2.06   301.40    .105E+06        240.9         1.97       7.28
             2.29   301.63    .128E+06        275.4         1.85       7.76
             2.52   301.86    .159E+06        360.7         1.95       7.35
             2.75   302.09    .193E+06        471.7         2.10       6.81
             2.97   302.31    .229E+06        591.0         2.22       6.46
             3.20   302.54    .269E+06        721.8         2.30       6.22
             3.43   302.77    .314E+06        875.1         2.40       5.98
             3.66   303.00    .363E+06       1052.8         2.50       5.74
             3.89   303.23    .416E+06       1255.0         2.60       5.52
             4.12   303.46    .472E+06       1493.2         2.72       5.27
             4.35   303.69    .532E+06       1731.1         2.80       5.13

                                          <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
  INFLOW : ID= 2 (  1371)      89.27     0.09    8.00   2.70      0.01
0.55
 OUTFLOW: ID= 1 (  3074)      89.27     0.09    8.42   2.70      0.01
0.55


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| CALIB            |
| NASHYD   (  0250)|   Area    (ha)=     31.57   Curve Number   (CN)= 58.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=      9.96   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      0.61

     Unit Hyd Qpeak  (cms)=     0.884

     PEAK FLOW       (cms)=     0.089 (i)
     TIME TO PEAK    (hrs)=     6.333
     RUNOFF VOLUME    (mm)=     4.733
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.113

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1281)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0247):    407.16      0.000        0.00        0.00
     + ID2= 2 (  0250):     31.57      0.089        6.33        4.73
       ==========================================================
       ID = 3 (  1281):    438.73      0.089        6.33        0.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1281)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1281):    438.73      0.089        6.33        0.34
     + ID2= 2 (  3074):     89.27      0.092        8.42        2.70
       ==========================================================
       ID = 1 (  1281):    528.00      0.165        7.33        0.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2939)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         304.63        0.0600
                 68.36         304.37        0.0450      Main Channel
                108.71         304.29        0.0450      Main Channel
                139.18         303.50        0.0450      Main Channel
                219.68         301.30        0.0450      Main Channel
                259.80         301.56        0.0450      Main Channel
                269.85         299.74        0.0450      Main Channel
                289.91         296.83        0.0450      Main Channel
                345.20         294.42        0.0450      Main Channel
                360.30         293.69        0.0450      Main Channel
                380.37         293.72        0.0450      Main Channel
                410.59         294.61        0.0450      Main Channel
                421.00         295.28        0.0450      Main Channel
                451.05         297.86        0.0450      Main Channel
                471.35         296.98        0.0450      Main Channel
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                491.47         296.97        0.0450      Main Channel
                506.55         298.13        0.0450      Main Channel
                511.55         298.78        0.0450      Main Channel
                581.87         303.42   0.0450 /0.0600   Main Channel
                618.98         303.62        0.0600

            <--------------------- TRAVEL TIME TABLE ---------------------->
             DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
              (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
             0.51   294.20    .135E+05         12.3         0.74      18.23
             1.02   294.71    .387E+05         53.1         1.11      12.16
             1.54   295.23    .734E+05        131.5         1.45       9.30
             2.05   295.74    .116E+06        250.3         1.75       7.71
             2.56   296.25    .166E+06        411.7         2.01       6.71
             3.07   296.76    .223E+06        619.3         2.25       6.00
             3.58   297.27    .292E+06        824.3         2.28       5.91
             4.10   297.79    .376E+06       1143.9         2.46       5.48
             4.61   298.30    .469E+06       1593.3         2.75       4.90
             5.12   298.81    .565E+06       2126.0         3.05       4.43
             5.63   299.32    .665E+06       2704.1         3.29       4.10
             6.15   299.84    .769E+06       3350.1         3.52       3.83
             6.66   300.35    .879E+06       4068.5         3.75       3.60
             7.17   300.86    .992E+06       4855.1         3.96       3.41
             7.68   301.37    .111E+07       5541.9         4.04       3.34
             8.19   301.88    .125E+07       6040.0         3.90       3.45
             8.71   302.40    .141E+07       6996.4         4.02       3.35
             9.22   302.91    .157E+07       8059.8         4.15       3.25
             9.73   303.42    .175E+07       9235.1         4.27       3.16

                                          <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
  INFLOW : ID= 2 (  1281)     528.00     0.16    7.33   0.74      0.01
0.74
 OUTFLOW: ID= 1 (  2939)     528.00     0.16    7.67   0.74      0.01
0.74


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| CALIB            |
| STANDHYD (  0245)|   Area    (ha)=     74.32
|ID= 1 DT= 5.0 min |   Total Imp(%)=     48.60   Dir. Conn.(%)=  45.20
--------------------

                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        36.12           38.20
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.71            2.71
     Length            (m)=       703.89           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            4.70
           over (min)              10.00           35.00
     Storage Coeff.   (min)=       11.78 (ii)      33.66 (ii)
     Unit Hyd. Tpeak (min)=        10.00           35.00
     Unit Hyd. peak  (cms)=         0.10            0.03
                                                            *TOTALS*
     PEAK FLOW       (cms)=         1.79            0.32      2.057 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58       5.25
     RUNOFF VOLUME    (mm)=        40.00            7.34      22.10
     TOTAL RAINFALL   (mm)=        42.00           42.00      42.00
     RUNOFF COEFFICIENT   =         0.95            0.17       0.53
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(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 61.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0246)	Area (ha)=	49.17	
ID= 1 DT= 5.0 min	Total Imp(%)=	47.40	Dir. Conn.(%)= 43.50

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	23.31	25.86	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.53	2.53	
Length	(m)=	572.54	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	19.32	5.29	
over (min)		10.00	35.00	
Storage Coeff. (min)	=	10.64 (ii)	31.96 (ii)	
Unit Hyd. Tpeak (min)	=	10.00	35.00	
Unit Hyd. peak (cms)	=	0.11	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.14	0.25	1.351 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	8.19	22.03
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.52

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1024)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0245):	74.32	2.057	5.25	22.10
+	ID2= 2 (0246):	49.17	1.351	5.25	22.03
	ID = 3 (1024):	123.49	3.408	5.25	22.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1024)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (1024):	123.49	3.408	5.25	22.07
+	ID2= 2 (2939):	528.00	0.163	7.67	0.74
	ID = 1 (1024):	651.49	3.446	5.25	4.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (2623)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	299.17	0.0600	
66.57	298.45	0.0450	Main Channel
91.44	297.56	0.0450	Main Channel
103.65	296.70	0.0450	Main Channel
125.73	295.01	0.0450	Main Channel
154.97	293.24	0.0450	Main Channel
167.78	292.96	0.0450	Main Channel
193.40	292.91	0.0450	Main Channel
206.21	293.35	0.0450	Main Channel
219.02	294.19	0.0450	Main Channel
244.69	293.89	0.0450	Main Channel
270.36	292.51	0.0450	Main Channel
334.52	289.74	0.0450	Main Channel
359.63	290.81	0.0450	Main Channel
372.44	290.68	0.0450	Main Channel
410.90	292.38	0.0450	Main Channel
468.57	296.62	0.0450	Main Channel
500.62	297.02	0.0450	Main Channel
577.81	295.43	0.0450 /0.0600	Main Channel
605.74	295.43	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	290.02	.284E+04	0.9	0.49	50.79
0.57	290.31	.114E+05	5.9	0.78	31.99
0.85	290.59	.256E+05	17.5	1.03	24.42
1.14	290.88	.486E+05	35.4	1.10	22.91
1.42	291.16	.809E+05	73.6	1.37	18.32
1.71	291.45	.119E+06	126.4	1.60	15.65
1.99	291.73	.162E+06	195.0	1.81	13.85
2.28	292.02	.211E+06	280.7	2.00	12.54
2.56	292.30	.266E+06	384.6	2.18	11.51
2.85	292.59	.326E+06	512.3	2.37	10.59
3.13	292.87	.390E+06	663.1	2.56	9.79
3.41	293.15	.468E+06	745.9	2.40	10.47
3.70	293.44	.562E+06	939.0	2.52	9.97
3.98	293.72	.663E+06	1177.0	2.67	9.39
4.27	294.01	.773E+06	1421.7	2.77	9.07
4.55	294.29	.897E+06	1710.1	2.87	8.75
4.84	294.58	.103E+07	2102.9	3.08	8.14
5.12	294.86	.116E+07	2531.9	3.28	7.64
5.41	295.15	.130E+07	2999.5	3.48	7.22

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1024)	651.49	3.45	5.25	4.78	0.43	0.61
OUTFLOW: ID= 1 (2623)	651.49	2.56	5.33	4.78	0.38	0.56

CALIB			
STANDHYD (0244)	Area (ha)=	38.33	
ID= 1 DT= 5.0 min	Total Imp(%)=	37.40	Dir. Conn.(%)= 33.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	14.34	23.99	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.87	2.87	
Length	(m)=	505.50	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	19.32	3.99	
over (min)		10.00	35.00	
Storage Coeff. (min)	=	9.50 (ii)	32.47 (ii)	
Unit Hyd. Tpeak (min)	=	10.00	35.00	
Unit Hyd. peak (cms)	=	0.12	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.68	0.17	0.819 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	6.23	17.37
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.15	0.41

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 56.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7558)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0244):	38.33	0.819	5.25	17.37
+	ID2= 2 (2623):	651.49	2.557	5.33	4.78
	ID = 3 (7558):	689.82	3.308	5.33	5.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0771)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0242):	91.28	0.112	8.67	4.15
+	ID2= 2 (3598):	3050.77	8.737	8.17	11.22
	ID = 3 (0771):	3142.05	8.848	8.17	11.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0771)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0771):	3142.05	8.848	8.17	11.01
+	ID2= 2 (7558):	689.82	3.308	5.33	5.48
	ID = 1 (0771):	3831.87	9.795	8.00	10.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3600)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	290.05	0.0600	
50.65	289.39	0.0450	Main Channel
129.99	289.41	0.0450	Main Channel
185.22	289.79	0.0450	Main Channel
229.02	289.65	0.0450	Main Channel
265.28	287.34	0.0450	Main Channel
279.75	285.46	0.0450	Main Channel
306.45	284.19	0.0450	Main Channel
315.93	282.38	0.0450	Main Channel
352.65	279.04	0.0450	Main Channel
397.31	282.00	0.0450	Main Channel
439.90	293.80	0.0450	Main Channel
484.80	293.72	0.0450	Main Channel
512.95	294.98	0.0450	Main Channel
527.57	294.55	0.0450	Main Channel
608.51	295.15	0.0450	Main Channel
643.87	296.01	0.0450	Main Channel
696.88	295.44	0.0450	Main Channel
729.97	295.45	0.0450 /0.0600	Main Channel
790.57	297.00	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.58	279.62	.216E+04	1.3	0.31	27.20
1.15	280.19	.865E+04	8.4	0.49	17.14
1.73	280.77	.195E+05	24.8	0.64	13.08
2.30	281.34	.346E+05	53.4	0.77	10.80
2.88	281.92	.540E+05	96.8	0.89	9.30
3.46	282.50	.771E+05	162.6	1.05	7.90
4.03	283.07	.102E+06	248.8	1.22	6.83
4.61	283.65	.128E+06	351.2	1.37	6.08
5.19	284.23	.156E+06	468.1	1.50	5.55
5.76	284.80	.187E+06	577.9	1.55	5.38
6.34	285.38	.221E+06	710.4	1.60	5.20
6.91	285.95	.260E+06	890.1	1.71	4.86
7.49	286.53	.299E+06	1094.8	1.83	4.56
8.07	287.11	.341E+06	1320.9	1.93	4.31
8.64	287.68	.385E+06	1552.4	2.01	4.14
9.22	288.26	.432E+06	1797.5	2.08	4.01
9.79	288.83	.482E+06	2069.0	2.14	3.89
10.37	289.41	.536E+06	2368.1	2.20	3.77
11.01	290.05	.652E+06	2278.3	1.74	4.77

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

```
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0771)    3831.87     9.79    8.00  10.02      1.20
0.50
   OUTFLOW: ID= 1 (  3600)    3831.87     9.69    8.25  10.01      1.20
0.49


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| CALIB              |
| STANDHYD (  0241)|   Area    (ha)=     61.54
|ID= 1 DT= 5.0 min |   Total Imp(%)=     36.50   Dir. Conn.(%)=  29.40
--------------------
                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        22.46         39.08
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         2.73          2.73
     Length            (m)=       640.52         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        19.32          4.77
                over (min)         10.00         35.00
     Storage Coeff.  (min)=        11.12 (ii)    32.83 (ii)
     Unit Hyd. Tpeak (min)=        10.00         35.00
     Unit Hyd. peak  (cms)=         0.10          0.03
                                                             *TOTALS*
     PEAK FLOW       (cms)=         0.97          0.34           1.245 (iii)
     TIME TO PEAK    (hrs)=         5.25          5.58            5.25
     RUNOFF VOLUME    (mm)=        40.00          7.17           16.82
     TOTAL RAINFALL   (mm)=        42.00         42.00           42.00
     RUNOFF COEFFICIENT   =         0.95          0.17            0.40


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1736)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  0241):     61.54      1.245        5.25       16.82
      + ID2= 2 (  3600):   3831.87      9.691        8.25       10.01
        ===========================================================
        ID = 3 (  1736):   3893.41      9.859        8.25       10.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB              |
| NASHYD   (  0240)|   Area    (ha)=    151.76   Curve Number   (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.35

     Unit Hyd Qpeak  (cms)=     1.919

     PEAK FLOW       (cms)=     0.000 (i)
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```
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN(  2276)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         309.29         0.0600
                   5.00         308.53         0.0450      Main Channel
                  23.89         305.32         0.0450      Main Channel
                  35.56         303.59         0.0450      Main Channel
                  35.57         303.50         0.0450      Main Channel
                  47.22         301.71         0.0450      Main Channel
                  54.43         300.53         0.0450      Main Channel
                  58.90         299.98         0.0450      Main Channel
                  66.11         299.03         0.0450      Main Channel
                  70.58         298.30         0.0450      Main Channel
                  74.19         297.81         0.0450      Main Channel
                  82.25         296.80         0.0450      Main Channel
                  93.07         296.76         0.0450      Main Channel
                 329.36         296.76         0.0450      Main Channel
                 340.17         297.25         0.0450      Main Channel
                 342.59         297.40         0.0450      Main Channel
                 353.41         298.81         0.0450      Main Channel
                 370.90         300.98         0.0450      Main Channel
                 380.34         302.29     0.0450 /0.0600  Main Channel
                 405.95         305.46         0.0600

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)      (cu.m.)        (cms)         (m/s)      (min)
       0.43    297.19    .680E+05         128.5          1.20       8.83
       0.85    297.61    .139E+06         414.5          1.88       5.60
       1.28    298.04    .212E+06         824.4          2.46       4.29
       1.70    298.47    .287E+06        1343.3          2.96       3.56
       2.13    298.89    .364E+06        1962.9          3.42       3.09
       2.55    299.32    .442E+06        2674.4          3.83       2.75
       2.98    299.74    .522E+06        3475.4          4.22       2.50
       3.40    300.17    .603E+06        4363.4          4.58       2.30
       3.83    300.59    .687E+06        5337.3          4.92       2.15
       4.25    301.02    .772E+06        6404.0          5.25       2.01
       4.68    301.44    .859E+06        7558.5          5.57       1.89
       5.10    301.87    .947E+06        8794.0          5.88       1.80
       5.53    302.29    .104E+07       10109.0          6.17       1.71
       5.95    302.72    .113E+07       11567.2          6.49       1.63
       6.48    303.24    .124E+07       13493.0          6.86       1.54
       7.01    303.77    .136E+07       15558.0          7.22       1.46
       7.54    304.30    .148E+07       17732.1          7.56       1.39
       8.06    304.83    .161E+07       20031.7          7.89       1.34
       8.59    305.36    .173E+07       22465.8          8.20       1.29


     **** WARNING:  INFLOW HYDROGRAPH IS DRY!!

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| CALIB              |
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| NASHYD   (  0239)|   Area    (ha)=    311.06   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.72

     Unit Hyd Qpeak  (cms)=     1.952

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0824)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
*** W A R N I N G :  HYDROGRAPH   2276 <ID= 1> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0824 = HYDROGRAPH 0239
        ID1= 1 (  2276):      0.00      0.000        0.00        0.00
      + ID2= 2 (  0239):    311.06      0.000        0.00        0.00
        ===========================================================
        ID = 3 (  0824):    311.06      0.000        0.00        0.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2305)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         300.80         0.0600
                   2.24         300.82         0.0450      Main Channel
                   7.24         300.84         0.0450      Main Channel
                  19.44         300.39         0.0450      Main Channel
                  19.45         300.39         0.0450      Main Channel
                  19.45         300.36         0.0450      Main Channel
                  31.65         299.42         0.0450      Main Channel
                  35.89         298.81         0.0450      Main Channel
                  44.49         297.74         0.0450      Main Channel
                  53.10         296.79         0.0450      Main Channel
                  56.70         296.83         0.0450      Main Channel
                  68.10         298.66         0.0450      Main Channel
                  69.52         298.93         0.0450      Main Channel
                  69.53         299.06         0.0450      Main Channel
                  81.72         301.27         0.0450      Main Channel
                  86.72         301.50         0.0450      Main Channel
                  93.94         301.69     0.0450 /0.0600  Main Channel
                  97.54         301.79         0.0600

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)      (cu.m.)        (cms)         (m/s)      (min)
       0.20    296.99    .163E+04           0.4          0.44      67.77
       0.41    297.19    .454E+04           1.7          0.68      44.63
       0.61    297.39    .858E+04           4.1          0.86      35.26
       0.81    297.60    .138E+05           7.7          1.01      29.82
       1.01    297.80    .201E+05          12.8          1.15      26.10
       1.22    298.00    .274E+05          19.6          1.29      23.33
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       1.42    298.20    .359E+05          28.2          1.42      21.22
       1.62    298.41    .454E+05          38.7          1.54      19.55
       1.82    298.61    .560E+05          51.3          1.66      18.19
       2.03    298.81    .676E+05          66.3          1.77      16.99
       2.23    299.01    .801E+05          84.4          1.91      15.81
       2.43    299.22    .933E+05         104.4          2.02      14.90
       2.63    299.42    .107E+06         126.4          2.13      14.16
       2.84    299.62    .123E+06         148.7          2.19      13.76
       3.04    299.82    .139E+06         173.9          2.26      13.35
       3.24    300.03    .157E+06         202.5          2.33      12.95
       3.44    300.23    .177E+06         234.5          2.40      12.57
       3.65    300.43    .198E+06         269.6          2.47      12.21
       3.85    300.63    .220E+06         301.0          2.47      12.20


     **** WARNING:  INFLOW HYDROGRAPH IS DRY!!

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--------------------
| ROUTE CHN(  2278)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         284.06         0.0600
                  15.29         283.42         0.0450      Main Channel
                  23.89         283.13         0.0450      Main Channel
                  47.27         282.72         0.0450      Main Channel
                  53.10         282.49         0.0450      Main Channel
                  58.93         281.42         0.0450      Main Channel
                  72.02         278.76         0.0450      Main Channel
                 109.81         278.33         0.0450      Main Channel
                 130.95         278.37         0.0450      Main Channel
                 153.45         278.49         0.0450      Main Channel
                 176.79         278.67         0.0450      Main Channel
                 200.13         278.77         0.0450      Main Channel
                 212.34         278.77         0.0450      Main Channel
                 243.78         279.46         0.0450      Main Channel
                 262.65         280.09         0.0450      Main Channel
                 270.71         280.52         0.0450      Main Channel
                 281.53         281.39         0.0450      Main Channel
                 294.61         284.57         0.0450      Main Channel
                 300.44         285.55     0.0450 /0.0600  Main Channel
                 304.00         285.79         0.0600

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)      (cu.m.)        (cms)         (m/s)      (min)
       0.30    278.63    .165E+05           8.8          0.57      31.16
       0.60    278.93    .570E+05          48.9          0.92      19.42
       0.90    279.23    .107E+06         131.1          1.31      13.61
       1.20    279.53    .162E+06         247.4          1.63      10.92
       1.50    279.83    .221E+06         398.8          1.93       9.23
       1.80    280.13    .283E+06         582.1          2.20       8.10
       2.10    280.43    .348E+06         801.7          2.47       7.23
       2.40    280.73    .415E+06        1055.3          2.72       6.55
       2.70    281.03    .483E+06        1340.2          2.97       6.01
       3.00    281.33    .554E+06        1654.0          3.20       5.58
       3.30    281.63    .625E+06        2006.0          3.43       5.20
       3.60    281.93    .698E+06        2388.7          3.66       4.87
       3.90    282.23    .772E+06        2799.1          3.88       4.59
       4.20    282.53    .846E+06        3229.5          4.08       4.37
       4.50    282.83    .923E+06        3606.3          4.18       4.27
       4.80    283.13    .101E+07        3964.1          4.22       4.23
       5.11    283.43    .109E+07        4526.7          4.44       4.02
```

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  5.41   283.74    .118E+07       5139.9          4.64       3.84
  5.72   284.05    .128E+07       5788.4          4.84       3.68

     **** WARNING:  INFLOW HYDROGRAPH IS DRY!!

-------------------------------------------------------------------------------
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--------------------
| CALIB            |
| STANDHYD (  0238)|   Area    (ha)=    110.50
|ID= 1 DT= 5.0 min |   Total Imp(%)=     17.80   Dir. Conn.(%)=  13.00
--------------------
                          IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       19.67           90.83
     Dep. Storage     (mm)=        2.00            5.00
     Average Slope     (%)=        3.26            3.26
     Length            (m)=      858.29           40.00
     Mannings n            =       0.013           0.250

     Max.Eff.Inten.(mm/hr)=       19.32            5.30
               over (min)         15.00           35.00
     Storage Coeff.  (min)=       12.56 (ii)      32.30 (ii)
     Unit Hyd. Tpeak (min)=       15.00           35.00
     Unit Hyd. peak  (cms)=        0.08            0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.76            0.85      1.486 (iii)
     TIME TO PEAK    (hrs)=        5.25            5.58       5.33
     RUNOFF VOLUME    (mm)=       40.00            8.07      12.22
     TOTAL RAINFALL   (mm)=       42.00           42.00      42.00
     RUNOFF COEFFICIENT   =        0.95            0.19       0.29

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  64.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  7557)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
*** W A R N I N G :  HYDROGRAPH   2278 <ID= 1> IS DRY.
*** W A R N I N G :  HYDROGRAPH   7557 = HYDROGRAPH 0238
      ID1= 1 (  2278):       0.00      0.000        0.00        0.00
    + ID2= 2 (  0238):     110.50      1.486        5.33       12.22
      ============================================================
      ID = 3 (  7557):     110.50      1.486        5.33       12.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1815)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
      ID1= 1 (  1736):    3893.41      9.859        8.25       10.12
    + ID2= 2 (  7557):     110.50      1.486        5.33       12.22
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      ID = 3 (  1815):    4003.91     10.137        8.08       10.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3579)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         288.30        0.0600
                 29.23         288.41        0.0450      Main Channel
                121.86         287.34        0.0450      Main Channel
                142.01         288.66        0.0450      Main Channel
                162.17         288.80        0.0450      Main Channel
                182.28         284.80        0.0450      Main Channel
                202.33         282.99        0.0450      Main Channel
                283.03         282.14        0.0450      Main Channel
                327.13         279.32        0.0450      Main Channel
                358.48         276.23        0.0450      Main Channel
                388.86         277.82        0.0450      Main Channel
                411.42         280.70        0.0450      Main Channel
                433.45         284.84        0.0450      Main Channel
                452.29         285.91        0.0450      Main Channel
                474.73         288.72        0.0450      Main Channel
                527.18         289.89        0.0450      Main Channel
                557.30         291.43        0.0450      Main Channel
                607.30         292.47        0.0450      Main Channel
                647.46         294.21    0.0450 /0.0600  Main Channel
                674.46         295.34        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)          (cms)         (m/s)       (min)
       0.62   276.85    .149E+04           2.4           0.43       10.40
       1.23   277.46    .596E+04          15.2           0.68        6.55
       1.85   278.08    .133E+05          45.8           0.92        4.84
       2.47   278.70    .227E+05          97.7           1.15        3.87
       3.09   279.32    .339E+05         170.9           1.35        3.30
       3.70   279.93    .472E+05         263.3           1.49        2.99
       4.32   280.55    .629E+05         383.8           1.63        2.73
       4.94   281.17    .809E+05         538.3           1.78        2.51
       5.55   281.78    .101E+06         726.7           1.92        2.32
       6.17   282.40    .124E+06         876.2           1.89        2.36
       6.79   283.02    .156E+06        1042.6           1.79        2.49
       7.41   283.64    .193E+06        1448.2           2.00        2.23
       8.02   284.25    .233E+06        1912.9           2.20        2.03
       8.64   284.87    .273E+06        2436.5           2.38        1.87
       9.26   285.49    .316E+06        2994.6           2.53        1.76
       9.88   286.11    .361E+06        3629.2           2.69        1.66
      10.49   286.72    .408E+06        4358.2           2.86        1.56
      11.11   287.34    .456E+06        5148.0           3.02        1.48
      11.73   287.96    .510E+06        5899.5           3.09        1.44

                                      <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1815)    4003.91    10.14    8.08  10.18      0.99
0.55
   OUTFLOW: ID= 1 (  3579)    4003.91    10.12    8.25  10.18      0.99
```



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0.55

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--------------------
| CALIB            |
| NASHYD   (  0236)|   Area    (ha)=     98.48   Curve Number   (CN)= 50.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     26.88   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      0.88

     Unit Hyd Qpeak  (cms)=     1.911

     PEAK FLOW       (cms)=     0.038 (i)
     TIME TO PEAK    (hrs)=     8.333
     RUNOFF VOLUME    (mm)=     0.847
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.020

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0237)|   Area    (ha)=    160.46   Curve Number   (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     46.32   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.26

     Unit Hyd Qpeak  (cms)=     2.174

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN(  3173)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         316.54        0.0600
                 50.50         316.17        0.0450      Main Channel
                 89.59         315.58        0.0450      Main Channel
                142.22         312.88        0.0450      Main Channel
                212.05         310.94        0.0450      Main Channel
                298.09         306.09        0.0450      Main Channel
                324.36         306.08        0.0450      Main Channel
                349.98         298.17        0.0450      Main Channel
                352.81         297.38        0.0450      Main Channel
                363.44         296.88        0.0450      Main Channel
                432.03         296.88        0.0450      Main Channel
                506.89         296.98        0.0450      Main Channel
                545.99         296.91        0.0450      Main Channel
                597.89         299.06        0.0450      Main Channel
                636.98         300.93        0.0450      Main Channel
                682.47         303.97        0.0450      Main Channel
                754.68         307.56        0.0450      Main Channel
                780.38         309.22        0.0450      Main Channel
                806.64         310.46    0.0450 /0.0600  Main Channel
```



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  841.54        311.05        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)          (cms)         (m/s)       (min)
       0.71   297.59    .876E+05          146.4           1.09        9.97
       1.43   298.31    .190E+06          500.5           1.71        6.32
       2.14   299.02    .301E+06         1022.9           2.20        4.91
       2.86   299.74    .421E+06         1709.7           2.64        4.11
       3.57   300.45    .549E+06         2551.3           3.02        3.59
       4.29   301.17    .685E+06         3556.3           3.37        3.21
       5.00   301.88    .828E+06         4734.7           3.72        2.91
       5.72   302.60    .976E+06         6064.9           4.04        2.68
       6.43   303.31    .113E+07         7546.9           4.34        2.50
       7.15   304.03    .129E+07         9176.1           4.62        2.35
       7.86   304.74    .146E+07        10902.6           4.85        2.23
       8.58   305.46    .163E+07        12788.8           5.08        2.13
       9.29   306.17    .182E+07        14223.0           5.08        2.13
      10.01   306.89    .202E+07        16331.0           5.24        2.07
      10.72   307.60    .224E+07        18650.7           5.40        2.00
      11.44   308.32    .247E+07        21260.1           5.58        1.94
      12.15   309.03    .271E+07        24083.3           5.76        1.88
      12.87   309.75    .297E+07        27037.9           5.92        1.83
      13.58   310.46    .323E+07        30197.7           6.07        1.78


     **** WARNING:  INFLOW HYDROGRAPH IS DRY!!

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--------------------
| ROUTE CHN(  3058)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         302.55        0.0600
                 13.62         302.82        0.0450      Main Channel
                 51.65         299.96        0.0450      Main Channel
                 73.86         296.96        0.0450      Main Channel
                 89.09         295.66        0.0450      Main Channel
                114.16         294.28        0.0450      Main Channel
                151.42         295.98        0.0450      Main Channel
                161.42         296.67        0.0450      Main Channel
                189.28         297.43        0.0450      Main Channel
                201.51         296.75        0.0450      Main Channel
                251.60         296.32        0.0450      Main Channel
                305.71         296.89        0.0450      Main Channel
                322.71         297.34        0.0450      Main Channel
                353.87         298.89        0.0450      Main Channel
                365.92         299.38        0.0450      Main Channel
                405.97         300.45        0.0450      Main Channel
                488.08         303.05        0.0450      Main Channel
                526.14         303.73        0.0450      Main Channel
                556.21         305.72    0.0450 /0.0600  Main Channel
                586.31         307.11        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)          (cms)         (m/s)       (min)
       0.41   294.69    .540E+04           1.6           0.47       57.54
       0.81   295.09    .216E+05           9.9           0.75       36.24
       1.22   295.50    .486E+05          29.3           0.99       27.66
       1.62   295.90    .860E+05          63.7           1.21       22.52
       2.03   296.31    .132E+06         116.7           1.45       18.87
       2.43   296.71    .212E+06         148.7           1.15       23.76
```

2.84	297.12	.346E+06	278.9	1.32	20.68
3.25	297.53	.508E+06	483.6	1.56	17.50
3.65	297.93	.682E+06	768.3	1.84	14.79
4.06	298.34	.863E+06	1108.0	2.10	12.99
4.46	298.74	.105E+07	1501.0	2.33	11.68
4.87	299.15	.125E+07	1942.2	2.54	10.72
5.27	299.55	.145E+07	2422.7	2.73	10.00
5.68	299.96	.167E+07	2943.2	2.88	9.46
6.20	300.48	.197E+07	3713.1	3.09	8.83
6.72	301.00	.228E+07	4598.3	3.29	8.28
7.23	301.51	.262E+07	5582.8	3.49	7.82
7.75	302.03	.298E+07	6670.4	3.67	7.44
8.27	302.55	.335E+07	7864.4	3.84	7.10

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

CALIB			
STANDHYD (0235)	Area (ha)=	152.97	
ID= 1 DT= 5.0 min	Total Imp(%)=	18.30	Dir. Conn.(%)= 16.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.99	124.98
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.36	2.36
Length	(m)=	1009.85	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	2.65
over (min)		15.00	45.00
Storage Coeff. (min)=		15.27 (ii)	43.99 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.07	0.03

				TOTALS
PEAK FLOW	(cms)=	1.32	0.53	1.683 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	40.00	4.50	10.32
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.11	0.25

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 48.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2084)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0235):		152.97	1.683	5.25	10.32
+ ID2= 2 (0236):		98.48	0.038	8.33	0.85
ID = 3 (2084):		251.45	1.685	5.25	6.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2084)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (2084):		251.45	1.685	5.25	6.61
+ ID2= 2 (3058):		0.00	0.000	0.00	0.00
ID = 1 (2084):		251.45	1.685	5.25	6.61

*** W A R N I N G : HYDROGRAPH 3058 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0001 = HYDROGRAPH 0003

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3059)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	302.55	0.0600	
13.62	302.82	0.0450	Main Channel
51.65	299.96	0.0450	Main Channel
73.86	296.96	0.0450	Main Channel
89.09	295.66	0.0450	Main Channel
114.16	294.28	0.0450	Main Channel
151.42	295.98	0.0450	Main Channel
161.42	296.67	0.0450	Main Channel
189.28	297.43	0.0450	Main Channel
201.51	296.75	0.0450	Main Channel
251.60	296.32	0.0450	Main Channel
305.71	296.89	0.0450	Main Channel
322.71	297.34	0.0450	Main Channel
353.87	298.89	0.0450	Main Channel
365.92	299.38	0.0450	Main Channel
405.97	300.45	0.0450	Main Channel
488.08	303.05	0.0450	Main Channel
526.14	303.73	0.0450	Main Channel
556.21	305.72	0.0450 /0.0600	Main Channel
586.31	307.11	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	294.69	.506E+04	2.0	0.60	42.81
0.81	295.09	.202E+05	12.5	0.95	26.97
1.22	295.50	.455E+05	36.9	1.24	20.58
1.62	295.90	.807E+05	80.2	1.53	16.76
2.03	296.31	.124E+06	147.0	1.82	14.04
2.43	296.71	.199E+06	187.4	1.45	17.68
2.84	297.12	.324E+06	351.4	1.66	15.39
3.25	297.53	.476E+06	609.3	1.96	13.02
3.65	297.93	.639E+06	968.0	2.32	11.01
4.06	298.34	.809E+06	1396.0	2.64	9.66
4.46	298.74	.987E+06	1891.2	2.94	8.69
4.87	299.15	.117E+07	2447.1	3.21	7.97
5.27	299.55	.136E+07	3052.6	3.43	7.44
5.68	299.96	.157E+07	3708.4	3.63	7.04
6.20	300.48	.184E+07	4678.4	3.89	6.57
6.72	301.00	.214E+07	5793.7	4.15	6.16
7.23	301.51	.246E+07	7034.2	4.39	5.82
7.75	302.03	.279E+07	8404.5	4.62	5.53

8.27	302.55	.314E+07	9909.0	4.84	5.29

<---- hydrograph ----> <-pipe / channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	2084)	251.45	1.68	5.25	6.61	0.35	0.60
OUTFLOW: ID= 1 (	3059)	251.45	1.24	5.58	6.61	0.25	0.60

CALIB			
STANDHYD (0234)	Area (ha)=	118.68	
ID= 1 DT= 5.0 min	Total Imp(%)=	41.20	Dir. Conn.(%)= 37.10

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.90	69.78
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.77	2.77
Length	(m)=	889.49	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	2.43
over (min)		15.00	45.00
Storage Coeff. (min)=		13.48 (ii)	41.82 (ii)
Unit Hyd. Tpeak (min)=		15.00	45.00
Unit Hyd. peak (cms)=		0.08	0.03

				TOTALS
PEAK FLOW	(cms)=	2.33	0.28	2.526 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	40.00	3.96	17.33
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.09	0.41

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 43.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7556)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0234):		118.68	2.526	5.25	17.33
+ ID2= 2 (3059):		251.45	1.238	5.58	6.61
ID = 3 (7556):		370.13	3.607	5.25	10.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2035)

1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3579):		4003.91	10.124	8.25	10.18
+ ID2= 2 (7556):		370.13	3.607	5.25	10.05
ID = 3 (2035):		4374.04	10.952	7.92	10.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3568)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	295.26	0.0600	
20.55	294.79	0.0450	Main Channel
73.44	292.50	0.0450	Main Channel
114.22	290.19	0.0450	Main Channel
177.85	285.63	0.0450	Main Channel
206.80	282.42	0.0450	Main Channel
243.81	280.36	0.0450	Main Channel
258.12	275.50	0.0450	Main Channel
298.14	275.02	0.0450	Main Channel
336.82	276.45	0.0450	Main Channel
351.63	279.25	0.0450	Main Channel
365.77	281.44	0.0450	Main Channel
395.05	283.63	0.0450	Main Channel
418.66	284.58	0.0450	Main Channel
445.02	284.50	0.0450	Main Channel
478.58	285.30	0.0450	Main Channel
592.19	286.53	0.0450	Main Channel
603.51	290.14	0.0450	Main Channel
681.90	290.97	0.0450 /0.0600	Main Channel
702.37	291.54	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.84	275.86	.221E+05	22.6	0.67	16.30
1.68	276.70	.636E+05	109.9	1.13	9.65
2.52	277.54	.111E+06	265.0	1.56	7.01
3.36	278.38	.163E+06	475.2	1.91	5.72
4.20	279.22	.219E+06	738.5	2.21	4.93
5.04	280.06	.278E+06	1050.1	2.47	4.41
5.88	280.90	.343E+06	1365.8	2.61	4.19
6.72	281.74	.420E+06	1713.6	2.68	4.08
7.56	282.58	.510E+06	2140.5	2.75	3.97
8.39	283.41	.611E+06	2709.4	2.90	3.76
9.23	284.25	.725E+06	3311.5	2.99	3.65
10.07	285.09	.866E+06	3736.5	2.83	3.86
10.91	285.93	.103E+07	4693.1	2.98	3.67
11.75	286.77	.122E+07	5794.1	3.12	3.50
12.59	287.61	.142E+07	7008.7	3.24	3.37
13.43	288.45	.164E+07	8408.4	3.37	3.24
14.27	289.29	.188E+07	10003.7	3.49	3.12
15.11	290.13	.213E+07	11805.3	3.62	3.01
15.95	290.97	.243E+07	13032.4	3.52	3.10

<---- hydrograph ----> <-pipe / channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	

(m/s)
INFLOW : ID= 2 (2035) 4374.04 10.95 7.92 10.17 0.41
0.67
OUTFLOW: ID= 1 (3568) 4374.04 10.90 8.25 10.17 0.40
0.67

ROUTE CHN(3560)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	287.30	0.0600	
13.42	286.91	0.0450	Main Channel
59.54	284.55	0.0450	Main Channel
97.59	282.43	0.0450	Main Channel
115.97	281.08	0.0450	Main Channel
136.63	274.09	0.0450	Main Channel
167.80	273.21	0.0450	Main Channel
208.72	273.22	0.0450	Main Channel
280.52	274.34	0.0450	Main Channel
299.52	274.20	0.0450	Main Channel
313.97	273.19	0.0450	Main Channel
321.20	273.27	0.0450	Main Channel
378.23	275.70	0.0450	Main Channel
394.71	284.00	0.0450	Main Channel
409.36	287.28	0.0450	Main Channel
427.44	288.08	0.0450	Main Channel
445.54	289.21	0.0450	Main Channel
467.24	290.00	0.0450	Main Channel
475.89	291.04	0.0450 /0.0600	Main Channel
510.25	291.80	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.71	273.90	.250E+05	45.7	0.71	9.12
1.42	274.61	.769E+05	222.3	1.12	5.77
2.13	275.32	.140E+06	568.0	1.58	4.10
2.84	276.03	.207E+06	1060.0	1.99	3.25
3.55	276.74	.276E+06	1694.7	2.39	2.71
4.26	277.45	.346E+06	2445.1	2.75	2.36
4.97	278.16	.417E+06	3303.8	3.08	2.10
5.68	278.87	.489E+06	4265.5	3.40	1.91
6.39	279.58	.561E+06	5326.1	3.69	1.76
7.10	280.29	.635E+06	6482.3	3.97	1.63
7.81	281.00	.710E+06	7731.4	4.23	1.53
8.52	281.71	.787E+06	8945.5	4.42	1.47
9.23	282.42	.866E+06	10237.1	4.60	1.41
9.94	283.13	.949E+06	11557.1	4.73	1.37
10.65	283.84	.104E+07	12979.6	4.87	1.33
11.36	284.55	.113E+07	14475.3	4.99	1.30
12.07	285.26	.122E+07	16433.5	5.23	1.24
12.99	286.18	.135E+07	19134.4	5.50	1.18
13.90	287.09	.149E+07	22045.8	5.75	1.13

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3568)	4374.04	10.90	8.25	10.17	0.17	0.71

0.71
OUTFLOW: ID= 1 (3560) 4374.04 10.89 8.33 10.17 0.17
0.71

ROUTE CHN(3551)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	288.56	0.0600	
28.09	286.83	0.0450	Main Channel
43.87	286.15	0.0450	Main Channel
72.83	285.58	0.0450	Main Channel
90.19	285.50	0.0450	Main Channel
103.07	281.57	0.0450	Main Channel
127.56	272.63	0.0450	Main Channel
145.65	271.94	0.0450	Main Channel
174.77	271.48	0.0450	Main Channel
182.01	272.45	0.0450	Main Channel
210.88	273.72	0.0450	Main Channel
247.60	276.54	0.0450	Main Channel
263.47	277.67	0.0450	Main Channel
276.70	278.94	0.0450	Main Channel
295.78	280.07	0.0450	Main Channel
326.82	282.78	0.0450	Main Channel
368.93	288.83	0.0450	Main Channel
386.93	291.50	0.0450	Main Channel
397.09	292.69	0.0450 /0.0600	Main Channel
401.09	292.76	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.86	272.34	.587E+04	13.2	0.57	7.39
1.73	273.21	.191E+05	69.7	0.92	4.57
2.59	274.07	.373E+05	181.8	1.23	3.42
3.45	274.93	.586E+05	352.9	1.51	2.77
4.31	275.79	.830E+05	580.0	1.76	2.38
5.18	276.66	.110E+06	865.9	1.97	2.12
6.04	277.52	.141E+06	1211.5	2.17	1.93
6.90	278.38	.174E+06	1638.2	2.37	1.77
7.77	279.25	.210E+06	2120.7	2.54	1.65
8.63	280.11	.249E+06	2653.3	2.68	1.56
9.49	280.97	.291E+06	3305.5	2.85	1.47
10.36	281.84	.336E+06	4035.2	3.02	1.39
11.22	282.70	.384E+06	4843.8	3.17	1.32
12.08	283.56	.434E+06	5786.2	3.35	1.25
12.94	284.42	.486E+06	6817.4	3.52	1.19
13.81	285.29	.540E+06	7933.2	3.69	1.14
14.67	286.15	.601E+06	8349.9	3.49	1.20
15.53	287.01	.670E+06	9838.2	3.69	1.13
16.74	288.22	.774E+06	12125.0	3.93	1.06

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3560)	4374.04	10.89	8.33	10.17	0.71	0.57
OUTFLOW: ID= 1 (3551)	4374.04	10.86	8.50	10.17	0.71	0.57

0.57

CALIB
NASHYD (0232) | Area (ha)= 70.33 Curve Number (CN)= 46.0
ID= 1 DT= 5.0 min | Ia (mm)= 39.24 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.01

Unit Hyd Qpeak (cms)= 1.189

PEAK FLOW (cms)= 0.001 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 0.025
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.001

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0233) | Area (ha)= 97.24
ID= 1 DT= 5.0 min | Total Imp(%)= 25.40 Dir. Conn.(%)= 21.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.70	72.54
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.00	3.00
Length	(m)=	805.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	2.54
over (min)		10.00	40.00
Storage Coeff. (min)=		12.40 (ii)	39.57 (ii)
Unit Hyd. Tpeak (min)=		10.00	40.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.10 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	11.82
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.28

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 45.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2205)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	292.16	0.0600	
9.80	291.01	0.0450	Main Channel
19.60	291.20	0.0450	Main Channel
29.40	290.67	0.0450	Main Channel

39.20	288.90	0.0450	Main Channel
68.60	286.75	0.0450	Main Channel
98.00	285.70	0.0450	Main Channel
117.60	285.54	0.0450	Main Channel
127.40	285.32	0.0450	Main Channel
137.20	284.71	0.0450	Main Channel
147.00	282.45	0.0450	Main Channel
156.80	280.62	0.0450	Main Channel
166.60	281.09	0.0450	Main Channel
176.40	282.38	0.0450	Main Channel
186.20	284.32	0.0450	Main Channel
196.00	285.82	0.0450	Main Channel
205.80	286.41	0.0450	Main Channel
225.40	286.63	0.0450	Main Channel
254.81	287.62	0.0450 /0.0600	Main Channel
264.60	287.69	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	280.99	.143E+04	1.7	0.95	14.21
0.74	281.35	.534E+04	10.8	1.64	8.21
1.11	281.72	.107E+05	29.1	2.18	6.16
1.48	282.09	.176E+05	57.3	2.63	5.10
1.84	282.46	.258E+05	97.4	3.05	4.41
2.21	282.83	.352E+05	151.8	3.48	3.86
2.58	283.20	.456E+05	218.9	3.87	3.47
2.95	283.57	.571E+05	299.3	4.23	3.18
3.32	283.94	.696E+05	393.8	4.57	2.94
3.69	284.30	.831E+05	503.0	4.88	2.75
4.06	284.67	.977E+05	624.2	5.15	2.61
4.43	285.04	.114E+06	734.4	5.19	2.59
4.79	285.41	.133E+06	847.4	5.14	2.62
5.16	285.78	.158E+06	895.0	4.57	2.95
5.53	286.15	.190E+06	1103.0	4.68	2.88
5.90	286.52	.228E+06	1311.2	4.65	2.89
6.27	286.89	.274E+06	1595.9	4.70	2.86
6.64	287.26	.326E+06	2004.3	4.96	2.71
7.01	287.62	.382E+06	2475.4	5.22	2.58

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0233)	97.24	1.34	5.25	11.82	0.29	0.95
OUTFLOW: ID= 1 (2205)	97.24	1.24	5.33	11.82	0.27	0.95

ADD HYD (1946)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2205):	97.24	1.240	5.33	11.82
+ ID2= 2 (0232):	70.33	0.001	12.33	0.03
ID = 3 (1946):	167.57	1.240	5.33	6.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1946)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1946):		167.57	1.240	5.33	6.87
+ ID2= 2 (3551):		4374.04	10.861	8.50	10.17
ID = 1 (1946):		4541.61	11.052	8.42	10.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3507)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	286.95	0.0600	
29.29	286.25	0.0450	Main Channel
36.59	285.91	0.0450	Main Channel
65.65	282.27	0.0450	Main Channel
93.58	279.63	0.0450	Main Channel
102.24	277.59	0.0450	Main Channel
116.89	276.35	0.0450	Main Channel
128.44	276.13	0.0450	Main Channel
138.50	275.07	0.0450	Main Channel
174.53	272.79	0.0450	Main Channel
189.18	272.22	0.0450	Main Channel
211.07	272.30	0.0450	Main Channel
232.93	271.76	0.0450	Main Channel
268.38	271.84	0.0450	Main Channel
291.26	271.19	0.0450	Main Channel
312.95	271.55	0.0450	Main Channel
321.36	274.80	0.0450	Main Channel
327.76	278.42	0.0450	Main Channel
332.23	278.98	0.0450 /0.0600	Main Channel
335.06	279.78	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	271.62	.493E+04	3.6	0.41	22.89
0.87	272.06	.215E+05	22.7	0.59	15.84
1.30	272.49	.494E+05	71.3	0.81	11.55
1.73	272.92	.831E+05	161.0	1.09	8.60
2.16	273.35	.119E+06	282.6	1.33	7.02
2.60	273.79	.157E+06	432.7	1.55	6.04
3.03	274.22	.197E+06	610.4	1.74	5.37
3.46	274.65	.238E+06	815.3	1.92	4.87
3.90	275.09	.282E+06	1048.5	2.08	4.48
4.33	275.52	.327E+06	1318.9	2.26	4.13
4.76	275.95	.374E+06	1616.2	2.43	3.85
5.19	276.38	.422E+06	1886.1	2.51	3.73
5.63	276.82	.473E+06	2239.5	2.66	3.52
6.06	277.25	.525E+06	2620.8	2.80	3.34
6.49	277.68	.579E+06	3036.0	2.94	3.18
6.92	278.11	.634E+06	3501.3	3.10	3.02
7.36	278.55	.690E+06	3985.8	3.24	2.88
7.79	278.98	.746E+06	4477.2	3.36	2.78
8.59	279.78	.854E+06	5525.6	3.63	2.57

<---- hydrograph ----> <-pipe /

channel-> VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (1946)		4541.61	11.05	8.42	10.05	0.60	0.46
OUTFLOW: ID= 1 (3507)		4541.61	11.00	8.58	10.05	0.60	0.46

CALIB					
NASHYD (0230)	Area	(ha)=	154.91	Curve Number	(CN)= 64.0
ID= 1 DT= 5.0 min	Ia	(mm)=	14.40	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		1.86		

Unit Hyd Qpeak (cms)= 1.422

PEAK FLOW	(cms)=	0.200 (i)
TIME TO PEAK	(hrs)=	8.667
RUNOFF VOLUME	(mm)=	4.465
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0231)	Area	(ha)=	149.00	Curve Number	(CN)= 66.0
ID= 1 DT= 5.0 min	Ia	(mm)=	25.56	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		1.14		

Unit Hyd Qpeak (cms)= 2.231

PEAK FLOW	(cms)=	0.107 (i)
TIME TO PEAK	(hrs)=	8.500
RUNOFF VOLUME	(mm)=	1.832
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.044

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2301)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	286.31	0.0600	
6.00	285.87	0.0450	Main Channel
16.06	284.19	0.0450	Main Channel
29.06	282.13	0.0450	Main Channel
39.06	280.15	0.0450	Main Channel
46.13	279.40	0.0450	Main Channel
56.13	278.65	0.0450	Main Channel
66.13	278.28	0.0450	Main Channel
106.30	277.76	0.0450	Main Channel
116.30	277.55	0.0450	Main Channel

126.30	277.77	0.0450	Main Channel
143.37	279.58	0.0450	Main Channel
146.37	279.87	0.0450	Main Channel
156.53	280.44	0.0450	Main Channel
164.53	280.82	0.0450	Main Channel
166.53	281.05	0.0450	Main Channel
176.53	281.29	0.0450	Main Channel
185.59	282.33	0.0450	Main Channel
205.59	284.90	0.0450 /0.0600	Main Channel
217.60	286.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.44	278.00	.503E+04	10.2	1.11	8.24
0.88	278.44	.191E+05	64.7	1.86	4.91
1.33	278.88	.380E+05	182.0	2.62	3.48
1.77	279.32	.594E+05	356.0	3.28	2.78
2.21	279.77	.832E+05	587.0	3.86	2.36
2.65	280.21	.109E+06	863.9	4.32	2.11
3.09	280.65	.138E+06	1200.4	4.76	1.92
3.54	281.09	.169E+06	1605.1	5.19	1.76
3.98	281.53	.204E+06	2057.2	5.53	1.65
4.42	281.98	.240E+06	2629.3	6.00	1.52
4.86	282.42	.277E+06	3262.7	6.43	1.42
5.31	282.86	.317E+06	3962.7	6.84	1.33
5.75	283.30	.357E+06	4728.5	7.24	1.26
6.19	283.74	.400E+06	5560.6	7.61	1.20
6.63	284.19	.443E+06	6460.1	7.97	1.14
7.10	284.65	.491E+06	7545.2	8.41	1.08
7.56	285.11	.540E+06	8756.7	8.87	1.03
8.02	285.58	.591E+06	10107.7	9.36	0.97
8.48	286.04	.644E+06	11547.5	9.81	0.93

<---- hydrograph ----> <-pipe /

channel-> VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (0231)		149.00	0.11	8.50	1.83	0.00	1.11
OUTFLOW: ID= 1 (2301)		149.00	0.11	8.67	1.83	0.00	1.11

ROUTE CHN(2302)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	286.31	0.0600	
6.00	285.87	0.0450	Main Channel
16.06	284.19	0.0450	Main Channel
29.06	282.13	0.0450	Main Channel
39.06	280.15	0.0450	Main Channel
46.13	279.40	0.0450	Main Channel
56.13	278.65	0.0450	Main Channel
66.13	278.28	0.0450	Main Channel
106.30	277.76	0.0450	Main Channel
116.30	277.55	0.0450	Main Channel
126.30	277.77	0.0450	Main Channel
143.37	279.58	0.0450	Main Channel

146.37	279.87	0.0450	Main Channel
156.53	280.44	0.0450	Main Channel
164.53	280.82	0.0450	Main Channel
166.53	281.05	0.0450	Main Channel
176.53	281.29	0.0450	Main Channel
185.59	282.33	0.0450	Main Channel
205.59	284.90	0.0450 /0.0600	Main Channel
217.60	286.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.44	278.00	.550E+04	6.6	0.72	13.87
0.88	278.44	.209E+05	42.0	1.20	8.27
1.33	278.88	.415E+05	118.2	1.70	5.85
1.77	279.32	.649E+05	231.2	2.13	4.68
2.21	279.77	.909E+05	381.2	2.51	3.97
2.65	280.21	.119E+06	561.1	2.81	3.55
3.09	280.65	.151E+06	779.7	3.09	3.23
3.54	281.09	.185E+06	1042.5	3.37	2.96
3.98	281.53	.223E+06	1336.1	3.59	2.78
4.42	281.98	.262E+06	1707.7	3.90	2.56
4.86	282.42	.303E+06	2119.1	4.18	2.39
5.31	282.86	.346E+06	2573.8	4.45	2.24
5.75	283.30	.391E+06	3071.1	4.70	2.12
6.19	283.74	.437E+06	3611.6	4.94	2.02
6.63	284.19	.485E+06	4195.7	5.18	1.93
7.10	284.65	.537E+06	4900.5	5.46	1.82
7.56	285.11	.590E+06	5687.4	5.76	1.73
8.02	285.58	.646E+06	6564.9	6.08	1.64
8.48	286.04	.704E+06	7500.0	6.37	1.56

<---- hydrograph ----> <-pipe /

channel-> VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (2301)		149.00	0.11	8.67	1.83	0.01	0.72
OUTFLOW: ID= 1 (2302)		149.00	0.11	9.00	1.83	0.01	0.72

ADD HYD (1781)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0230):		154.91	0.200	8.67	4.46
+ ID2= 2 (2302):		149.00	0.107	9.00	1.83
ID = 3 (1781):		303.91	0.306	8.83	3.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1781)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1781):		303.91	0.306	8.83	3.17

```
     + ID2= 2 (  3507):   4541.61     11.001        8.58       10.05
       ==========================================================
       ID = 1 (  1781):   4845.52     11.306        8.58        9.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3508)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         286.95        0.0600
                 29.29         286.25        0.0450      Main Channel
                 36.59         285.91        0.0450      Main Channel
                 65.65         282.27        0.0450      Main Channel
                 93.58         279.63        0.0450      Main Channel
                102.24         277.59        0.0450      Main Channel
                116.89         276.35        0.0450      Main Channel
                128.44         276.13        0.0450      Main Channel
                138.50         275.07        0.0450      Main Channel
                174.53         272.79        0.0450      Main Channel
                189.18         272.22        0.0450      Main Channel
                211.07         272.30        0.0450      Main Channel
                232.93         271.76        0.0450      Main Channel
                268.38         271.84        0.0450      Main Channel
                291.26         271.19        0.0450      Main Channel
                312.95         271.55        0.0450      Main Channel
                321.36         274.80        0.0450      Main Channel
                327.76         278.42        0.0450      Main Channel
                332.23         278.98    0.0450 /0.0600  Main Channel
                335.06         279.78        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
       (m)       (m)     (cu.m.)         (cms)        (m/s)      (min)
      0.43   271.62    .348E+04          5.6          0.63       10.43
      0.87   272.06    .152E+05         35.2          0.92        7.21
      1.30   272.49    .349E+05        110.6          1.26        5.26
      1.73   272.92    .588E+05        249.9          1.69        3.92
      2.16   273.35    .842E+05        438.6          2.07        3.20
      2.60   273.79    .111E+06        671.5          2.40        2.75
      3.03   274.22    .139E+06        947.3          2.70        2.45
      3.46   274.65    .169E+06       1265.4          2.98        2.22
      3.90   275.09    .199E+06       1627.3          3.24        2.04
      4.33   275.52    .231E+06       2047.1          3.51        1.88
      4.76   275.95    .264E+06       2508.5          3.77        1.75
      5.19   276.38    .298E+06       2927.4          3.89        1.70
      5.63   276.82    .334E+06       3476.0          4.12        1.60
      6.06   277.25    .372E+06       4067.8          4.34        1.52
      6.49   277.68    .410E+06       4712.1          4.56        1.45
      6.92   278.11    .448E+06       5434.4          4.81        1.38
      7.36   278.55    .488E+06       6186.4          5.03        1.31
      7.79   278.98    .528E+06       6949.1          5.22        1.27
      8.59   279.78    .604E+06       8576.2          5.64        1.17

                                     <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1781)    4845.52    11.31    8.58   9.61      0.52
0.67
```



```
   OUTFLOW: ID= 1 (  3508)    4845.52    11.29    8.75   9.61      0.52
0.67

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-
--------------------
| CALIB            |
| NASHYD   (  0228)|   Area    (ha)=     64.49   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      0.95

     Unit Hyd Qpeak  (cms)=     1.159

     PEAK FLOW       (cms)=     0.121 (i)
     TIME TO PEAK    (hrs)=     7.333
     RUNOFF VOLUME    (mm)=     4.147
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0229)|   Area    (ha)=     42.37   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     47.04   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      0.78

     Unit Hyd Qpeak  (cms)=     0.927

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-

--------------------
| ADD HYD  (  0951)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0228):     64.49      0.121        7.33        4.15
     + ID2= 2 (  0229):     42.37      0.000        0.00        0.00
       ==========================================================
       ID = 3 (  0951):    106.86      0.121        7.33        2.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0951)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  0951):    106.86      0.121        7.33        2.50
     + ID2= 2 (  3508):   4845.52     11.290        8.75        9.61
       ==========================================================
       ID = 1 (  0951):   4952.38     11.397        8.67        9.46
```



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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3445)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         280.72        0.0600
                 41.24         281.54        0.0450      Main Channel
                 78.56         283.79        0.0450      Main Channel
                123.30         283.41        0.0450      Main Channel
                145.86         275.78        0.0450      Main Channel
                171.57         268.43        0.0450      Main Channel
                264.70         268.01        0.0450      Main Channel
                293.28         267.10        0.0450      Main Channel
                305.16         268.69        0.0450      Main Channel
                328.19         275.77        0.0450      Main Channel
                339.41         275.78        0.0450      Main Channel
                351.09         273.21        0.0450      Main Channel
                374.21         273.94        0.0450      Main Channel
                385.75         276.17        0.0450      Main Channel
                408.69         277.02        0.0450      Main Channel
                420.40         279.03        0.0450      Main Channel
                450.70         276.45        0.0450      Main Channel
                475.49         277.37        0.0450      Main Channel
                551.17         284.29    0.0450 /0.0600  Main Channel
                595.91         289.01        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
       (m)       (m)     (cu.m.)         (cms)        (m/s)      (min)
      0.70   267.80    .290E+04          5.0          0.54        9.62
      1.39   268.49    .183E+05         37.5          0.63        8.12
      2.09   269.19    .474E+05        178.2          1.16        4.43
      2.78   269.88    .775E+05        395.3          1.58        3.27
      3.48   270.58    .109E+06        678.6          1.93        2.67
      4.17   271.27    .141E+06       1022.8          2.24        2.29
      4.87   271.97    .174E+06       1424.6          2.53        2.03
      5.56   272.66    .208E+06       1882.1          2.79        1.84
      6.26   273.36    .243E+06       2345.6          2.98        1.73
      6.95   274.05    .283E+06       2742.4          2.99        1.72
      7.65   274.75    .327E+06       3354.6          3.17        1.62
      8.34   275.44    .373E+06       4034.0          3.34        1.54
      9.04   276.14    .423E+06       4696.2          3.43        1.50
      9.74   276.84    .478E+06       5255.5          3.40        1.52
     10.43   277.53    .541E+06       5985.0          3.41        1.51
     11.13   278.23    .610E+06       6984.6          3.53        1.46
     11.82   278.92    .684E+06       8093.9          3.65        1.41
     12.52   279.62    .761E+06       9472.3          3.84        1.34
     13.21   280.31    .841E+06      10984.9          4.03        1.28

                                     <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0951)    4952.38    11.40    8.67   9.46      0.83
0.55
   OUTFLOW: ID= 1 (  3445)    4952.38    11.38    8.75   9.46      0.83
0.55
```



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--------------------
| ROUTE CHN(  3384)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         279.26        0.0600
                 11.45         279.65        0.0450      Main Channel
                 52.83         279.04        0.0450      Main Channel
                 73.49         275.32        0.0450      Main Channel
                 83.93         274.46        0.0450      Main Channel
                135.66         271.47        0.0450      Main Channel
                156.32         269.59        0.0450      Main Channel
                166.53         266.72        0.0450      Main Channel
                208.30         268.20        0.0450      Main Channel
                249.65         269.64        0.0450      Main Channel
                266.22         271.48        0.0450      Main Channel
                291.03         276.11        0.0450      Main Channel
                322.19         281.69        0.0450      Main Channel
                332.39         283.31        0.0450      Main Channel
                404.96         285.20        0.0450      Main Channel
                415.41         286.38        0.0450      Main Channel
                446.71         291.68        0.0450      Main Channel
                477.55         297.12        0.0450      Main Channel
                508.76         298.31    0.0450 /0.0600  Main Channel
                536.69         298.21        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
       (m)       (m)     (cu.m.)         (cms)        (m/s)      (min)
      1.54   268.26    .172E+05         42.7          1.13        6.69
      3.08   269.80    .689E+05        274.6          1.81        4.18
      4.62   271.34    .148E+06        815.1          2.51        3.02
      6.16   272.88    .249E+06       1663.2          3.04        2.50
      7.70   274.42    .376E+06       2889.6          3.50        2.17
      9.24   275.96    .523E+06       4660.3          4.06        1.87
     10.78   277.50    .683E+06       6922.0          4.61        1.65
     12.32   279.04    .856E+06       9610.5          5.11        1.48
     14.07   280.79    .110E+07      13565.3          5.63        1.35
     15.82   282.54    .135E+07      18269.7          6.14        1.24
     17.58   284.30    .163E+07      22301.0          6.24        1.22
     19.33   286.05    .194E+07      27569.2          6.46        1.18
     21.08   287.80    .228E+07      35098.7          7.02        1.08
     22.83   289.55    .262E+07      43483.8          7.56        1.00
     24.58   291.30    .297E+07      52662.4          8.07        0.94
     26.33   293.05    .333E+07      62651.5          8.57        0.89
     28.09   294.81    .370E+07      73424.2          9.05        0.84
     29.84   296.56    .407E+07      84967.7          9.51        0.80
     31.59   298.31    .446E+07      94364.1          9.63        0.79

                                     <---- hydrograph ---->   <-pipe /
channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3445)    4952.38    11.38    8.75   9.46      0.41
1.13
   OUTFLOW: ID= 1 (  3384)    4952.38    11.37    8.92   9.46      0.41
1.13

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--------------------
| CALIB              |
| NASHYD   (  0227)|   Area    (ha)=     67.77   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      0.99

     Unit Hyd Qpeak  (cms)=     1.169

     PEAK FLOW       (cms)=     0.134 (i)
     TIME TO PEAK    (hrs)=     7.417
     RUNOFF VOLUME    (mm)=     4.459
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| CALIB              |
| NASHYD   (  0282)|   Area    (ha)=     43.00   Curve Number   (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      0.93

     Unit Hyd Qpeak  (cms)=     0.789

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1620)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0227):     67.77      0.134        7.42        4.46
     + ID2= 2 (  0282):     43.00      0.000        0.00        0.00
       ================================================================
       ID = 3 (  1620):    110.77      0.134        7.42        2.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1620)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1620):    110.77      0.134        7.42        2.73
     + ID2= 2 (  3384):   4952.38     11.371        8.92        9.46
       ================================================================
       ID = 1 (  1620):   5063.15     11.487        8.92        9.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3379)|
```



```
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         282.77        0.0600
               26.34         280.60        0.0450      Main Channel
               42.19         277.57        0.0450      Main Channel
               65.19         273.14        0.0450      Main Channel
               82.23         269.97        0.0450      Main Channel
               93.45         269.32        0.0450      Main Channel
              118.36         268.93        0.0450      Main Channel
              150.15         267.96        0.0450      Main Channel
              160.98         266.96        0.0450      Main Channel
              204.86         265.33        0.0450      Main Channel
              246.22         263.35        0.0450      Main Channel
              251.32         263.70        0.0450      Main Channel
              266.90         263.93        0.0450      Main Channel
              395.70         264.20        0.0450      Main Channel
              439.13         264.85        0.0450      Main Channel
              466.66         269.26        0.0450      Main Channel
              482.52         273.99        0.0450      Main Channel
              539.57         290.44        0.0450      Main Channel
              549.01         292.74    0.0450 /0.0600  Main Channel
              577.97         293.80        0.0600

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)         (m/s)      (min)
       1.02   264.37   .340E+05          41.0          0.65      13.82
       2.03   265.38   .153E+06         418.9          1.47       6.09
       3.05   266.40   .293E+06        1130.6          2.08       4.32
       4.06   267.41   .450E+06        2175.8          2.60       3.45
       5.08   268.43   .619E+06        3493.0          3.03       2.96
       6.09   269.44   .811E+06        4980.1          3.30       2.71
       7.11   270.46   .102E+07        7122.7          3.75       2.39
       8.13   271.48   .124E+07        9658.9          4.20       2.13
       9.14   272.49   .146E+07       12512.6          4.62       1.94
      10.16   273.51   .168E+07       15675.7          5.01       1.79
      11.17   274.52   .191E+07       19140.7          5.38       1.67
      12.19   275.54   .215E+07       22899.5          5.73       1.56
      13.20   276.55   .239E+07       26949.3          6.07       1.48
      14.22   277.57   .263E+07       31287.2          6.39       1.40
      15.24   278.59   .288E+07       36162.4          6.74       1.33
      16.28   279.63   .314E+07       41462.2          7.09       1.26
      17.32   280.67   .341E+07       47074.6          7.42       1.21
      18.36   281.71   .368E+07       53010.8          7.74       1.16
      19.40   282.75   .397E+07       59269.1          8.04       1.12

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1620)    5063.15    11.49    8.92   9.31      0.28
0.65
   OUTFLOW: ID= 1 (  3379)    5063.15    11.46    9.08   9.31      0.28
0.65

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--------------------
| ROUTE CHN(  3316)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
```



```
              <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                0.00         287.43        0.0600
               26.48         287.23        0.0450      Main Channel
               56.85         284.06        0.0450      Main Channel
               72.18         274.07        0.0450      Main Channel
               81.31         268.39        0.0450      Main Channel
               87.39         265.35        0.0450      Main Channel
               97.46         262.37        0.0450      Main Channel
              138.35         261.07        0.0450      Main Channel
              169.93         261.47        0.0450      Main Channel
              189.25         261.36        0.0450      Main Channel
              199.32         260.51        0.0450      Main Channel
              213.65         261.65        0.0450      Main Channel
              267.33         261.70        0.0450      Main Channel
              290.79         262.37        0.0450      Main Channel
              300.86         262.41        0.0450      Main Channel
              312.33         267.75        0.0450      Main Channel
              328.68         277.84        0.0450      Main Channel
              337.76         281.49        0.0450      Main Channel
              351.96         283.50    0.0450 /0.0600  Main Channel
              386.53         284.19        0.0600

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)         (m/s)      (min)
       1.21   261.72   .249E+05          32.2          0.70      12.89
       2.42   262.93   .146E+06         499.3          1.83       4.89
       3.63   264.14   .283E+06        1462.6          2.78       3.22
       4.84   265.35   .424E+06        2805.5          3.56       2.52
       6.05   266.56   .569E+06        4501.3          4.26       2.10
       7.26   267.77   .716E+06        6512.0          4.89       1.83
       8.47   268.98   .867E+06        8834.2          5.48       1.64
       9.68   270.19   .102E+07       11443.7          6.03       1.49
      10.89   271.40   .118E+07       14324.4          6.55       1.37
      12.10   272.61   .134E+07       17467.4          7.03       1.27
      13.31   273.82   .150E+07       20865.3          7.50       1.20
      14.52   275.03   .166E+07       24515.6          7.94       1.13
      15.73   276.24   .183E+07       28410.9          8.37       1.07
      16.94   277.45   .200E+07       32546.0          8.77       1.02
      18.15   278.66   .217E+07       36864.8          9.15       0.98
      19.36   279.87   .234E+07       41394.7          9.51       0.94
      20.57   281.08   .252E+07       46160.4          9.86       0.91
      21.78   282.29   .270E+07       50771.9         10.11       0.89
      22.99   283.50   .289E+07       55447.1         10.33       0.87

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3379)    5063.15    11.46    9.08   9.31      0.43
0.70
   OUTFLOW: ID= 1 (  3316)    5063.15    11.44    9.33   9.31      0.43
0.70

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| CALIB              |
| STANDHYD (  0280)|   Area    (ha)=     98.50
|ID= 1 DT= 5.0 min |   Total Imp(%)=     21.90   Dir. Conn.(%)=  17.40
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                              IMPERVIOUS      PERVIOUS (i)
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     Surface Area     (ha)=        21.57          76.93
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         3.53           3.53
     Length            (m)=       810.35          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32           3.63
               over (min)          10.00          35.00
     Storage Coeff.  (min)=        11.86 (ii)     34.28 (ii)
     Unit Hyd. Tpeak (min)=        10.00          35.00
     Unit Hyd. peak  (cms)=         0.10           0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=         0.92           0.50        1.315 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.58         5.25
     RUNOFF VOLUME    (mm)=        40.00           5.74        11.70
     TOTAL RAINFALL   (mm)=        42.00          42.00        42.00
     RUNOFF COEFFICIENT   =         0.95           0.14         0.28

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  54.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD (  0281)|   Area    (ha)=     39.99
|ID= 1 DT= 5.0 min |   Total Imp(%)=     20.10   Dir. Conn.(%)=  20.10
--------------------

                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         8.04          31.95
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         2.96           2.96
     Length            (m)=       516.33          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32           4.43
               over (min)          10.00          35.00
     Storage Coeff.  (min)=         9.53 (ii)     31.36 (ii)
     Unit Hyd. Tpeak (min)=        10.00          35.00
     Unit Hyd. peak  (cms)=         0.12           0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=         0.43           0.26        0.644 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.58         5.25
     RUNOFF VOLUME    (mm)=        40.00           7.35        13.91
     TOTAL RAINFALL   (mm)=        42.00          42.00        42.00
     RUNOFF COEFFICIENT   =         0.95           0.18         0.33

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  63.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0985)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
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	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0280):	98.50	1.315	5.25	11.70
+ ID2= 2 (0281):	39.99	0.644	5.25	13.91
ID = 3 (0985):	138.49	1.959	5.25	12.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0985)
3 + 2 = 1

	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0985):	138.49	1.959	5.25	12.34
+ ID2= 2 (3316):	5063.15	11.436	9.33	9.31
ID = 1 (0985):	5201.64	11.601	9.25	9.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3295)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	286.45	0.0600	
10.06	286.39	0.0450	Main Channel
69.48	274.04	0.0450	Main Channel
126.89	263.31	0.0450	Main Channel
155.75	260.94	0.0450	Main Channel
177.79	259.43	0.0450	Main Channel
199.35	258.90	0.0450	Main Channel
213.89	256.34	0.0450	Main Channel
221.29	258.80	0.0450	Main Channel
243.19	259.21	0.0450	Main Channel
264.79	261.03	0.0450	Main Channel
288.26	265.32	0.0450	Main Channel
298.33	268.02	0.0450	Main Channel
330.42	270.32	0.0450	Main Channel
344.91	274.61	0.0450	Main Channel
381.23	275.81	0.0450	Main Channel
387.06	276.73	0.0450	Main Channel
406.40	277.52	0.0450	Main Channel
450.94	277.88	0.0450 /0.0600	Main Channel
522.14	278.28	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.11	257.45	.215E+04	6.9	1.30	5.21
2.21	258.55	.861E+04	43.7	2.06	3.28
3.32	259.66	.290E+05	136.5	1.91	3.54
4.43	260.77	.687E+05	461.0	2.72	2.48
5.53	261.87	.120E+06	1031.5	3.47	1.94
6.64	262.98	.181E+06	1844.4	4.14	1.63
7.74	264.08	.249E+06	2955.1	4.81	1.40
8.85	265.19	.322E+06	4338.0	5.44	1.24
9.96	266.30	.401E+06	6002.2	6.05	1.11
11.06	267.40	.485E+06	7923.8	6.62	1.02
12.17	268.51	.573E+06	9955.2	7.03	0.96
13.28	269.62	.670E+06	12102.5	7.31	0.92

14.38	270.72	.776E+06	14737.5	7.68	0.88
15.49	271.83	.888E+06	17959.8	8.19	0.82
16.59	272.93	.100E+07	21488.2	8.66	0.78
17.70	274.04	.112E+07	25325.6	9.12	0.74
19.11	275.45	.129E+07	29748.4	9.35	0.72
20.53	276.87	.147E+07	35466.5	9.75	0.69
21.94	278.28	.169E+07	39300.1	9.42	0.72

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0985)	5201.64	11.60	9.25	9.39	1.25	1.36
OUTFLOW: ID= 1 (3295)	5201.64	11.60	9.25	9.39	1.25	1.36

CALIB
STANDHYD (0276) | Area (ha)= 77.01
ID= 1 DT= 5.0 min | Total Imp(%)= 22.60 Dir. Conn.(%)= 22.60

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	17.40	59.61
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.96	2.96
Length	(m)=	716.52	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.28
over (min)		10.00	35.00
Storage Coeff. (min)=		11.60 (ii)	33.73 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	0.93	0.46	1.299 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	7.11	14.54
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.17	0.35

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0983)
1 + 2 = 3

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0276):	77.01	1.299	5.25	14.54
+ ID2= 2 (3295):	5201.64	11.597	9.25	9.39
ID = 3 (0983):	5278.65	11.702	9.25	9.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3296)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	286.45	0.0600	
10.06	286.39	0.0450	Main Channel
69.48	274.04	0.0450	Main Channel
126.89	263.31	0.0450	Main Channel
155.75	260.94	0.0450	Main Channel
177.79	259.43	0.0450	Main Channel
199.35	258.90	0.0450	Main Channel
213.89	256.34	0.0450	Main Channel
221.29	258.80	0.0450	Main Channel
243.19	259.21	0.0450	Main Channel
264.79	261.03	0.0450	Main Channel
288.26	265.32	0.0450	Main Channel
298.33	268.02	0.0450	Main Channel
330.42	270.32	0.0450	Main Channel
344.91	274.61	0.0450	Main Channel
381.23	275.81	0.0450	Main Channel
387.06	276.73	0.0450	Main Channel
406.40	277.52	0.0450	Main Channel
450.94	277.88	0.0450 /0.0600	Main Channel
522.14	278.28	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.11	257.45	.135E+04	5.9	1.12	3.78
2.21	258.55	.539E+04	37.7	1.77	2.38
3.32	259.66	.182E+05	117.7	1.64	2.57
4.43	260.77	.430E+05	397.5	2.34	1.80
5.53	261.87	.753E+05	889.4	2.99	1.41
6.64	262.98	.113E+06	1590.3	3.57	1.18
7.74	264.08	.156E+06	2548.0	4.15	1.02
8.85	265.19	.202E+06	3740.3	4.69	0.90
9.96	266.30	.251E+06	5175.2	5.22	0.81
11.06	267.40	.304E+06	6832.1	5.71	0.74
12.17	268.51	.359E+06	8583.6	6.06	0.70
13.28	269.62	.420E+06	10435.1	6.30	0.67
14.38	270.72	.486E+06	12707.1	6.63	0.64
15.49	271.83	.556E+06	15485.5	7.06	0.60
16.59	272.93	.629E+06	18527.8	7.47	0.57
17.70	274.04	.704E+06	21836.5	7.86	0.54
19.11	275.45	.807E+06	25650.0	8.06	0.52
20.53	276.87	.922E+06	30580.3	8.40	0.50
21.94	278.28	.106E+07	33885.8	8.12	0.52

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0983)	5278.65	11.70	9.25	9.47	1.31	1.20
OUTFLOW: ID= 1 (3296)	5278.65	11.70	9.25	9.47	1.30	1.20

CALIB
NASHYD (0277) | Area (ha)= 128.71 Curve Number (CN)= 61.0
ID= 1 DT= 5.0 min | Ia (mm)= 14.40 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.45

Unit Hyd Qpeak (cms)= 1.515

PEAK FLOW (cms)= 0.179 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 4.005
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.095

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0278) | Area (ha)= 252.13 Curve Number (CN)= 50.0
ID= 1 DT= 5.0 min | Ia (mm)= 14.40 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.57

Unit Hyd Qpeak (cms)= 1.675

PEAK FLOW (cms)= 0.153 (i)
TIME TO PEAK (hrs)= 9.583
RUNOFF VOLUME (mm)= 2.704
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.064

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2233)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	280.58	0.0600	
17.55	279.88	0.0450	Main Channel
25.16	279.49	0.0450	Main Channel
41.73	278.82	0.0450	Main Channel
58.29	277.97	0.0450	Main Channel
69.47	276.90	0.0450	Main Channel
72.64	276.74	0.0450	Main Channel
93.67	274.84	0.0450	Main Channel
102.61	273.83	0.0450	Main Channel
124.56	272.74	0.0450	Main Channel
146.67	272.18	0.0450	Main Channel
157.85	272.11	0.0450	Main Channel
184.29	272.94	0.0450	Main Channel
190.99	273.55	0.0450	Main Channel
196.38	273.79	0.0450	Main Channel
208.47	274.66	0.0450	Main Channel
224.12	275.77	0.0450	Main Channel
237.14	277.37	0.0450	Main Channel
246.08	278.47	0.0450 /0.0600	Main Channel
249.24	278.65	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH ELEV VOLUME FLOW RATE VELOCITY TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.33	272.44	.109E+05	5.8	0.89	31.52
0.67	272.78	.358E+05	29.1	1.37	20.51
1.00	273.11	.714E+05	79.1	1.87	15.03
1.34	273.45	.113E+06	155.7	2.32	12.13
1.67	273.78	.162E+06	254.7	2.66	10.59
2.01	274.12	.217E+06	391.3	3.05	9.23
2.34	274.45	.276E+06	557.3	3.41	8.25
2.68	274.79	.339E+06	752.1	3.74	7.52
3.01	275.12	.407E+06	973.6	4.03	6.97
3.35	275.46	.480E+06	1225.4	4.31	6.53
3.68	275.79	.557E+06	1510.2	4.57	6.15
4.02	276.13	.639E+06	1840.6	4.86	5.79
4.35	276.46	.724E+06	2203.8	5.14	5.48
4.69	276.80	.813E+06	2595.5	5.39	5.22
5.02	277.13	.906E+06	3020.8	5.63	5.00
5.36	277.47	.100E+07	3491.1	5.87	4.79
5.69	277.80	.110E+07	3996.8	6.11	4.60
6.03	278.13	.121E+07	4515.7	6.31	4.46
6.36	278.47	.132E+07	5051.0	6.48	4.34

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0278)	252.13	0.15	9.58	2.70	0.01	0.89
OUTFLOW: ID= 1 (2233)	252.13	0.15	10.17	2.70	0.01	0.89

CALIB			
STANDHYD (0279)	Area (ha)=	19.20	
ID= 1 DT= 5.0 min	Total Imp(%)=	20.60	Dir. Conn.(%)= 20.60

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.96	15.24
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.43	3.43
Length	(m)=	357.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.13
over (min)		5.00	30.00
Storage Coeff. (min)=		7.32 (ii)	28.80 (ii)
Unit Hyd. Tpeak (min)=		5.00	30.00
Unit Hyd. peak (cms)=		0.17	0.04

		TOTALS
PEAK FLOW	(cms)=	0.317 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	13.69
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.33

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 61.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1772)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2233):	252.13	0.152	10.17	2.70
	+ ID2= 2 (0277):	128.71	0.179	8.25	4.00
	ID = 3 (1772):	380.84	0.317	9.00	3.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1772)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (1772):	380.84	0.317	9.00	3.14
	+ ID2= 2 (0279):	19.20	0.317	5.25	13.69
	ID = 1 (1772):	400.04	0.379	5.25	3.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1772)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1772):	400.04	0.379	5.25	3.65
	+ ID2= 2 (3296):	5278.65	11.699	9.25	9.47
	ID = 3 (1772):	5678.69	12.039	9.25	9.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3244)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<----- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	274.50	0.0600	
36.95	269.69	0.0450	Main Channel
89.20	266.32	0.0450	Main Channel
105.56	264.86	0.0450	Main Channel
140.43	264.70	0.0450	Main Channel
182.42	259.82	0.0450	Main Channel
208.05	252.71	0.0450	Main Channel
225.38	253.48	0.0450	Main Channel
250.98	254.02	0.0450	Main Channel
294.17	255.22	0.0450	Main Channel
337.46	254.01	0.0450	Main Channel
359.90	266.01	0.0450	Main Channel
370.73	269.01	0.0450	Main Channel
404.38	270.46	0.0450	Main Channel
421.86	269.66	0.0450	Main Channel
455.51	265.92	0.0450	Main Channel

486.10	266.43	0.0450	Main Channel	
515.48	271.30	0.0450	Main Channel	
549.11	272.77	0.0450 /0.0600	Main Channel	
575.65	275.08	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.13	253.84	.112E+05	14.9	0.81	12.57
2.27	254.98	.655E+05	130.9	1.22	8.35
3.40	256.11	.163E+06	529.0	1.98	5.13
4.54	257.25	.266E+06	1161.4	2.67	3.81
5.67	258.38	.373E+06	1985.7	3.25	3.13
6.80	259.51	.484E+06	2988.2	3.76	2.70
7.94	260.65	.601E+06	4108.8	4.17	2.44
9.07	261.78	.726E+06	5382.9	4.52	2.25
10.21	262.92	.859E+06	6835.2	4.85	2.09
11.34	264.05	.100E+07	8471.0	5.16	1.97
12.48	265.19	.116E+07	9484.6	4.99	2.03
13.61	266.32	.134E+07	10971.9	4.98	2.04
14.74	267.45	.157E+07	13320.7	5.18	1.96
15.91	268.62	.183E+07	16245.6	5.42	1.87
17.08	269.79	.212E+07	19071.2	5.49	1.85
18.25	270.96	.245E+07	22621.4	5.62	1.81
19.42	272.13	.281E+07	27150.3	5.89	1.72
20.59	273.30	.319E+07	32478.7	6.21	1.64
21.76	274.47	.358E+07	38938.1	6.62	1.53

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1772)	5678.69	12.04	9.25	9.06	0.92	0.81
OUTFLOW: ID= 1 (3244)	5678.69	12.02	9.42	9.06	0.91	0.81

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB					
NASHYD (0274)	Area (ha)=	100.66	Curve Number (CN)=	64.0	
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.41			

Unit Hyd Qpeak	(cms)=	1.219
PEAK FLOW	(cms)=	0.159 (i)
TIME TO PEAK	(hrs)=	8.250
RUNOFF VOLUME	(mm)=	4.463
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0275)	Area (ha)=	21.53	Curve Number (CN)=	62.0	
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	0.45			

Unit Hyd Qpeak	(cms)=	0.817
PEAK FLOW	(cms)=	0.061 (i)
TIME TO PEAK	(hrs)=	6.250
RUNOFF VOLUME	(mm)=	4.129
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.098

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1475)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0274):	100.66	0.159	8.25	4.46
	+ ID2= 2 (0275):	21.53	0.061	6.25	4.13
	ID = 3 (1475):	122.19	0.203	7.42	4.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1475)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (1475):	122.19	0.203	7.42	4.40
	+ ID2= 2 (3244):	5678.69	12.017	9.42	9.06
	ID = 1 (1475):	5800.88	12.186	9.42	8.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3220)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<----- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	269.23	0.0600	
31.58	268.01	0.0450	Main Channel
44.49	269.04	0.0450	Main Channel
104.66	268.18	0.0450	Main Channel
169.67	263.63	0.0450	Main Channel
249.09	261.82	0.0450	Main Channel
257.49	261.11	0.0450	Main Channel
263.89	256.69	0.0450	Main Channel
278.20	250.87	0.0450	Main Channel
292.48	249.98	0.0450	Main Channel
314.02	250.13	0.0450	Main Channel
371.04	249.66	0.0450	Main Channel
410.28	250.07	0.0450	Main Channel
430.48	250.65	0.0450	Main Channel
440.48	251.56	0.0450	Main Channel
470.67	263.32	0.0450	Main Channel
489.73	266.87	0.0450	Main Channel
533.99	272.46	0.0450	Main Channel
561.15	274.10	0.0450 /0.0600	Main Channel

583.30 274.53 0.0600

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.02	250.68	.456E+05	115.6	1.15	6.57
2.04	251.70	.119E+06	535.5	2.04	3.70
3.06	252.72	.196E+06	1207.0	2.79	2.71
4.08	253.74	.276E+06	2085.1	3.42	2.21
5.10	254.76	.358E+06	3152.3	3.99	1.89
6.12	255.78	.442E+06	4397.6	4.50	1.68
7.14	256.80	.529E+06	5815.7	4.98	1.52
8.16	257.82	.618E+06	7415.1	5.44	1.39
9.18	258.84	.709E+06	9175.0	5.87	1.29
10.20	259.86	.801E+06	11091.5	6.27	1.20
11.22	260.88	.896E+06	13161.8	6.66	1.13
12.24	261.90	.994E+06	14938.6	6.81	1.11
13.26	262.92	.111E+07	15745.0	6.44	1.17
14.28	263.94	.124E+07	17406.7	6.35	1.19
15.30	264.96	.139E+07	20128.6	6.57	1.15
16.32	265.98	.155E+07	23127.9	6.78	1.11
17.34	267.00	.171E+07	26400.6	6.99	1.08
18.36	268.02	.189E+07	29877.3	7.17	1.05
19.38	269.04	.209E+07	31594.0	6.84	1.10

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1475)	5800.88	12.19	9.42	8.96	0.11	1.15
OUTFLOW: ID= 1 (3220)	5800.88	12.18	9.42	8.96	0.11	1.15

ROUTE CHN(3221)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	269.23	0.0600	
31.58	268.01	0.0450	Main Channel
44.49	269.04	0.0450	Main Channel
104.66	268.18	0.0450	Main Channel
169.67	263.63	0.0450	Main Channel
249.09	261.82	0.0450	Main Channel
257.49	261.11	0.0450	Main Channel
263.89	256.69	0.0450	Main Channel
278.20	250.87	0.0450	Main Channel
292.48	249.98	0.0450	Main Channel
314.02	250.13	0.0450	Main Channel
371.04	249.66	0.0450	Main Channel
410.28	250.07	0.0450	Main Channel
430.48	250.65	0.0450	Main Channel
440.48	251.56	0.0450	Main Channel
470.67	263.32	0.0450	Main Channel
489.73	266.87	0.0450	Main Channel
533.99	272.46	0.0450	Main Channel
561.15	274.10	0.0450 /0.0600	Main Channel
583.30	274.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.02	250.68	.247E+05	102.7	1.02	4.01
2.04	251.70	.645E+05	475.7	1.81	2.26
3.06	252.72	.106E+06	1072.1	2.48	1.65
4.08	253.74	.150E+06	1852.0	3.04	1.35
5.10	254.76	.194E+06	2799.9	3.54	1.16
6.12	255.78	.240E+06	3905.9	4.00	1.02
7.14	256.80	.287E+06	5165.5	4.42	0.93
8.16	257.82	.335E+06	6586.1	4.83	0.85
9.18	258.84	.384E+06	8149.2	5.21	0.79
10.20	259.86	.435E+06	9851.5	5.57	0.74
11.22	260.88	.486E+06	11690.2	5.91	0.69
12.24	261.90	.539E+06	13268.5	6.05	0.68
13.26	262.92	.601E+06	13984.7	5.72	0.72
14.28	263.94	.674E+06	15460.6	5.64	0.73
15.30	264.96	.754E+06	17878.2	5.83	0.70
16.32	265.98	.839E+06	20542.1	6.02	0.68
17.34	267.00	.929E+06	23448.9	6.21	0.66
18.36	268.02	.102E+07	26536.9	6.37	0.64
19.38	269.04	.114E+07	28061.7	6.08	0.67

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3220)	5800.88	12.18	9.42	8.96	0.12	1.02
OUTFLOW: ID= 1 (3221)	5800.88	12.18	9.50	8.96	0.12	1.02

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3213)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	276.73	0.0600	
38.73	276.19	0.0450	Main Channel
71.82	274.33	0.0450	Main Channel
104.43	268.08	0.0450	Main Channel
130.65	264.35	0.0450	Main Channel
172.13	250.58	0.0450	Main Channel
182.57	247.97	0.0450	Main Channel
211.55	247.29	0.0450	Main Channel
227.50	245.85	0.0450	Main Channel
265.89	247.17	0.0450	Main Channel
276.33	251.86	0.0450	Main Channel
287.06	254.87	0.0450	Main Channel
326.61	263.93	0.0450	Main Channel
349.51	267.41	0.0450	Main Channel
359.83	268.37	0.0450	Main Channel
391.24	267.07	0.0450	Main Channel
411.93	269.28	0.0450	Main Channel
443.43	271.56	0.0450	Main Channel
464.08	271.28	0.0450 /0.0600	Main Channel
494.29	271.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.34	247.19	.259E+05	36.3	1.01	11.90
2.68	248.53	.989E+05	240.5	1.75	6.86
4.02	249.87	.188E+06	660.5	2.53	4.75
5.35	251.20	.286E+06	1253.5	3.16	3.80
6.69	252.54	.390E+06	2003.2	3.70	3.25
8.03	253.88	.503E+06	2904.7	4.16	2.89
9.37	255.22	.624E+06	3963.7	4.57	2.62
10.71	256.56	.755E+06	5176.9	4.94	2.43
12.05	257.90	.895E+06	6565.9	5.29	2.27
13.38	259.23	.104E+07	8137.3	5.61	2.14
14.72	260.57	.120E+07	9898.1	5.93	2.03
16.06	261.91	.137E+07	11855.1	6.22	1.93
17.40	263.25	.155E+07	14015.2	6.51	1.84
18.74	264.59	.174E+07	16266.8	6.74	1.78
20.08	265.93	.194E+07	18483.8	6.86	1.75
21.41	267.26	.216E+07	20635.1	6.87	1.75
22.75	268.60	.243E+07	21759.6	6.45	1.86
24.09	269.94	.273E+07	25250.6	6.65	1.81
25.43	271.28	.306E+07	29006.7	6.83	1.76

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3221)	5800.88	12.18	9.50	8.96	0.45	1.01
OUTFLOW: ID= 1 (3213)	5800.88	12.17	9.67	8.96	0.45	1.01

CALIB	NASHYD (0272)	ID= 1 DT= 5.0 min	Area (ha)= 91.34	Ia (mm)= 14.40	U.H. Tp(hrs)= 1.04	Curve Number (CN)= 62.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 1.499

PEAK FLOW (cms)= 0.162 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 4.148
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.099

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0273)	ID= 1 DT= 5.0 min	Area (ha)= 59.08	Ia (mm)= 14.40	U.H. Tp(hrs)= 0.78	Curve Number (CN)= 64.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 1.293

PEAK FLOW (cms)= 0.134 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 4.455
TOTAL RAINFALL (mm)= 42.000

RUNOFF COEFFICIENT = 0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1462)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0272):		91.34	0.162	7.50	4.15
	+ ID2= 2 (0273):		59.08	0.134	7.25	4.46
	ID = 3 (1462):		150.42	0.295	7.33	4.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1462)	3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 3 (1462):		150.42	0.295	7.33	4.27
	+ ID2= 2 (3213):		5800.88	12.170	9.67	8.96
	ID = 1 (1462):		5951.30	12.381	9.58	8.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3199)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	271.67	0.0600	
24.44	266.88	0.0450	Main Channel
65.41	266.53	0.0450	Main Channel
96.05	260.94	0.0450	Main Channel
152.53	260.23	0.0450	Main Channel
167.74	258.69	0.0450	Main Channel
230.50	257.69	0.0450	Main Channel
332.39	250.92	0.0450	Main Channel
415.31	246.85	0.0450	Main Channel
431.54	244.45	0.0450	Main Channel
476.71	244.54	0.0450	Main Channel
491.92	243.08	0.0450	Main Channel
508.66	245.88	0.0450	Main Channel
572.03	246.09	0.0450	Main Channel
638.41	253.04	0.0450	Main Channel
655.74	250.80	0.0450	Main Channel
689.62	250.40	0.0450	Main Channel
709.44	258.03	0.0450	Main Channel
751.12	275.05	0.0450 /0.0600	Main Channel
804.40	278.13	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.47	244.55	.110E+05	10.9	0.55	16.90
2.93	246.01	.766E+05	184.1	1.33	6.93

4.40	247.48	.209E+06	771.8	2.04	4.51
5.86	248.94	.375E+06	1770.6	2.61	3.53
7.33	250.41	.576E+06	3216.7	3.09	2.99
8.79	251.87	.840E+06	5030.1	3.31	2.78
10.26	253.34	.115E+07	7805.1	3.76	2.45
11.72	254.80	.148E+07	11476.6	4.28	2.16
13.19	256.27	.184E+07	15797.5	4.75	1.94
14.66	257.74	.222E+07	20709.8	5.16	1.79
16.12	259.20	.264E+07	25379.4	5.31	1.74
17.59	260.67	.310E+07	31279.2	5.58	1.65
19.05	262.13	.360E+07	38840.2	5.96	1.55
20.52	263.60	.412E+07	47925.5	6.43	1.43
21.98	265.06	.464E+07	57810.2	6.88	1.34
23.45	266.53	.518E+07	68478.9	7.31	1.26
24.92	268.00	.575E+07	80568.4	7.75	1.19
26.63	269.71	.643E+07	95855.6	8.24	1.12
28.34	271.42	.713E+07	112330.1	8.71	1.06

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1462)	5951.30	12.38	9.58	8.84	1.48	0.55
OUTFLOW: ID= 1 (3199)	5951.30	12.36	9.75	8.84	1.48	0.55

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3196)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	276.54	0.0600	
39.00	273.73	0.0450	Main Channel
69.68	269.70	0.0450	Main Channel
130.10	261.32	0.0450	Main Channel
156.24	255.93	0.0450	Main Channel
174.76	254.28	0.0450	Main Channel
205.57	253.08	0.0450	Main Channel
220.52	250.44	0.0450	Main Channel
243.10	243.49	0.0450	Main Channel
258.02	240.27	0.0450	Main Channel
265.76	242.05	0.0450	Main Channel
318.00	241.97	0.0450	Main Channel
363.26	242.67	0.0450	Main Channel
393.06	243.75	0.0450	Main Channel
429.11	246.06	0.0450	Main Channel
468.03	247.72	0.0450	Main Channel
489.95	247.80	0.0450	Main Channel
516.52	248.28	0.0450	Main Channel
532.06	250.16	0.0450 /0.0600	Main Channel
584.13	260.55	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.99	241.26	.144E+04	1.9	0.43	12.66
1.98	242.25	.107E+05	11.7	0.36	15.11
2.97	243.24	.481E+05	108.6	0.74	7.39

3.96	244.23	.965E+05	308.8	1.05	5.21
4.94	245.21	.151E+06	607.9	1.32	4.15
5.93	246.20	.212E+06	996.2	1.54	3.55
6.92	247.19	.281E+06	1461.8	1.71	3.21
7.91	248.18	.362E+06	1908.8	1.73	3.16
8.90	249.17	.457E+06	2715.9	1.95	2.81
9.89	250.16	.556E+06	3672.1	2.17	2.53
10.88	251.15	.659E+06	4806.5	2.40	2.28
12.03	252.30	.783E+06	6285.1	2.64	2.08
13.19	253.46	.912E+06	7823.7	2.82	1.94
14.34	254.61	.105E+07	9401.4	2.94	1.87
15.50	255.77	.120E+07	11362.8	3.11	1.76
16.65	256.92	.136E+07	13639.0	3.30	1.66
17.81	258.08	.152E+07	16124.2	3.50	1.57
18.96	259.23	.168E+07	18796.1	3.68	1.49
20.11	260.38	.185E+07	21654.1	3.85	1.42

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3199)	5951.30	12.36	9.75	8.84	1.98	0.36
OUTFLOW: ID= 1 (3196)	5951.30	12.33	10.00	8.84	1.98	0.36

ROUTE CHN(3185)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ----->

Distance	Elevation	Manning	
0.00	261.46	0.0600	
25.00	258.88	0.0450	Main Channel
42.00	254.79	0.0450	Main Channel
55.00	250.41	0.0450	Main Channel
62.00	248.62	0.0450	Main Channel
92.00	246.20	0.0450	Main Channel
122.00	240.32	0.0450	Main Channel
172.07	240.81	0.0450	Main Channel
176.07	240.28	0.0450	Main Channel
182.07	240.30	0.0450	Main Channel
186.07	240.78	0.0450	Main Channel
202.07	241.08	0.0450	Main Channel
212.07	243.54	0.0450	Main Channel
222.07	248.21	0.0450	Main Channel
232.07	252.48	0.0450	Main Channel
252.07	253.50	0.0450	Main Channel
262.07	253.62	0.0450	Main Channel
280.07	253.56	0.0450	Main Channel
285.19	253.76	0.0450 /0.0600	Main Channel
334.72	254.57	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.75	241.03	.194E+05	24.4	0.71	13.24
1.50	241.78	.559E+05	132.4	1.33	7.03
2.25	242.53	.953E+05	306.8	1.81	5.18
3.00	243.28	.138E+06	540.4	2.20	4.25
3.74	244.02	.183E+06	834.2	2.56	3.65

4.49	244.77	.230E+06	1185.3	2.89	3.24
5.24	245.52	.280E+06	1590.6	3.19	2.93
5.99	246.27	.332E+06	2044.6	3.46	2.70
6.74	247.02	.387E+06	2504.9	3.63	2.58
7.49	247.77	.448E+06	3028.2	3.80	2.46
8.24	248.52	.512E+06	3616.9	3.96	2.36
8.99	249.27	.581E+06	4353.8	4.21	2.22
9.74	250.02	.651E+06	5167.6	4.46	2.10
10.48	250.76	.724E+06	6052.0	4.70	1.99
11.23	251.51	.798E+06	7007.4	4.93	1.90
11.98	252.26	.873E+06	8026.0	5.16	1.81
12.73	253.01	.952E+06	8849.3	5.22	1.79
13.48	253.76	.104E+07	8954.2	4.83	1.94
14.29	254.57	.116E+07	10521.0	5.09	1.84

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3196)	5951.30	12.33	10.00	8.84	0.38	0.71
OUTFLOW: ID= 1 (3185)	5951.30	12.31	10.25	8.84	0.37	0.71

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	
NASHYD (0261)	Area (ha)= 139.51 Curve Number (CN)= 64.0
ID= 1 DT= 5.0 min	Ia (mm)= 14.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.39

Unit Hyd Qpeak (cms)= 1.714

PEAK FLOW (cms)= 0.222 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 4.463
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0262)	Area (ha)= 87.27 Curve Number (CN)= 60.0
ID= 1 DT= 5.0 min	Ia (mm)= 14.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.39

Unit Hyd Qpeak (cms)= 1.072

PEAK FLOW (cms)= 0.120 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 3.863
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.092

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1447)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0261):	139.51	0.222	8.25	4.46
+ ID2= 2 (0262):	87.27	0.120	8.25	3.86
ID = 3 (1447):	226.78	0.342	8.25	4.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1447)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1447):	226.78	0.342	8.25	4.23
+ ID2= 2 (3185):	5951.30	12.308	10.25	8.84
ID = 1 (1447):	6178.08	12.588	10.17	8.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3178)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ----->

Distance	Elevation	Manning	
0.00	256.68	0.0600	
15.07	255.25	0.0450	Main Channel
30.17	252.60	0.0450	Main Channel
55.25	247.19	0.0450	Main Channel
125.44	237.56	0.0450	Main Channel
175.60	238.76	0.0450	Main Channel
195.76	238.93	0.0450	Main Channel
245.98	238.52	0.0450	Main Channel
276.19	238.74	0.0450	Main Channel
306.59	238.70	0.0450	Main Channel
315.59	239.09	0.0450	Main Channel
354.69	239.40	0.0450	Main Channel
386.39	239.47	0.0450	Main Channel
400.70	240.98	0.0450	Main Channel
415.51	242.71	0.0450	Main Channel
437.39	245.69	0.0450	Main Channel
444.46	247.00	0.0450	Main Channel
458.10	250.88	0.0450	Main Channel
466.51	251.63	0.0450 /0.0600	Main Channel
482.40	251.30	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.70	238.26	.894E+04	7.1	0.59	20.88
1.41	238.97	.595E+05	52.6	0.65	18.87
2.11	239.67	.182E+06	270.5	1.09	11.23
2.81	240.37	.330E+06	705.3	1.58	7.79
3.52	241.08	.483E+06	1298.0	1.98	6.20
4.22	241.78	.642E+06	2036.8	2.34	5.25
4.92	242.48	.807E+06	2912.4	2.66	4.62
5.63	243.19	.978E+06	3924.1	2.96	4.15

6.33	243.89	.115E+07	5066.5	3.23	3.79
7.04	244.60	.133E+07	6335.8	3.49	3.51
7.74	245.30	.152E+07	7730.3	3.74	3.28
8.44	246.00	.171E+07	9258.5	3.98	3.08
9.15	246.71	.191E+07	10922.1	4.21	2.91
9.85	247.41	.211E+07	12735.6	4.44	2.76
10.55	248.11	.232E+07	14708.8	4.68	2.62
11.26	248.82	.252E+07	16803.1	4.90	2.50
11.96	249.52	.273E+07	19017.2	5.12	2.40
12.66	250.22	.295E+07	21349.9	5.34	2.30
13.37	250.93	.316E+07	23787.1	5.54	2.22

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	1447)	6178.08	12.59	10.17	8.67	0.79	0.59
OUTFLOW: ID= 1 (	3178)	6178.08	12.53	10.58	8.67	0.79	0.59

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3125)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	252.54	0.0600	
39.19	250.68	0.0450	Main Channel
82.28	246.49	0.0450	Main Channel
103.63	245.28	0.0450	Main Channel
153.79	241.06	0.0450	Main Channel
160.86	240.17	0.0450	Main Channel
225.77	234.64	0.0450	Main Channel
297.81	235.08	0.0450	Main Channel
342.78	236.09	0.0450	Main Channel
347.78	236.75	0.0450	Main Channel
376.73	252.91	0.0450	Main Channel
390.87	253.01	0.0450	Main Channel
405.18	253.56	0.0450	Main Channel
419.66	255.43	0.0450	Main Channel
441.15	259.12	0.0450	Main Channel
455.29	260.05	0.0450	Main Channel
469.60	262.79	0.0450	Main Channel
491.48	265.83	0.0450	Main Channel
498.55	266.39	0.0450 /0.0600	Main Channel
537.56	264.64	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.48	236.12	.648E+05	155.3	1.21	6.96
2.96	237.60	.176E+06	733.0	2.12	3.99
4.44	239.08	.302E+06	1668.9	2.80	3.02
5.92	240.57	.443E+06	2958.5	3.38	2.50
7.41	242.05	.598E+06	4581.3	3.89	2.17
8.89	243.53	.767E+06	6532.4	4.32	1.96
10.37	245.01	.952E+06	8849.1	4.72	1.79
11.85	246.49	.115E+07	11394.7	5.01	1.69
13.66	248.30	.142E+07	15893.2	5.66	1.49

15.47	250.11	.171E+07	21060.5	6.24	1.36
17.28	251.92	.203E+07	26964.8	6.75	1.25
19.09	253.73	.238E+07	31965.6	6.82	1.24
20.90	255.54	.276E+07	39069.3	7.18	1.18
22.70	257.34	.315E+07	47181.8	7.60	1.11
24.51	259.15	.355E+07	56021.9	8.01	1.06
26.32	260.96	.396E+07	64978.6	8.31	1.02
28.13	262.77	.439E+07	75579.0	8.73	0.97
29.94	264.58	.483E+07	86526.8	9.09	0.93
31.75	266.39	.529E+07	97856.2	9.38	0.90

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	3178)	6178.08	12.53	10.58	8.67	0.12	1.21
OUTFLOW: ID= 1 (	3125)	6178.08	12.52	10.67	8.67	0.12	1.21

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3113)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	260.34	0.0600	
8.65	260.75	0.0450	Main Channel
15.86	260.45	0.0450	Main Channel
30.17	257.74	0.0450	Main Channel
54.85	252.39	0.0450	Main Channel
72.28	248.75	0.0450	Main Channel
99.19	244.75	0.0450	Main Channel
112.44	241.74	0.0450	Main Channel
131.86	235.70	0.0450	Main Channel
139.09	234.04	0.0450	Main Channel
191.24	232.45	0.0450	Main Channel
198.87	233.87	0.0450	Main Channel
236.41	234.59	0.0450	Main Channel
244.05	235.90	0.0450	Main Channel
250.76	239.56	0.0450	Main Channel
259.00	243.06	0.0450	Main Channel
266.63	246.67	0.0450	Main Channel
273.34	248.79	0.0450	Main Channel
304.18	253.31	0.0450 /0.0600	Main Channel
307.34	253.00	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.39	233.84	.172E+05	34.2	0.93	8.38
2.78	235.23	.752E+05	251.6	1.56	4.98
4.17	236.62	.148E+06	729.7	2.30	3.38
5.56	238.01	.226E+06	1415.1	2.92	2.66
6.95	239.40	.308E+06	2284.6	3.46	2.25
8.34	240.79	.395E+06	3324.1	3.92	1.98
9.73	242.18	.487E+06	4528.1	4.33	1.79
11.13	243.58	.585E+06	5892.1	4.69	1.66
12.52	244.97	.689E+06	7428.2	5.02	1.55
13.91	246.36	.800E+06	9080.7	5.29	1.47

15.30	247.75	.920E+06	10905.2	5.53	1.41
16.69	249.14	.105E+07	12923.0	5.75	1.35
18.08	250.53	.119E+07	15112.9	5.94	1.31
19.47	251.92	.134E+07	17564.8	6.13	1.27
20.86	253.31	.149E+07	20298.5	6.33	1.23
22.72	255.17	.172E+07	25055.0	6.79	1.14
24.58	257.03	.196E+07	30277.1	7.22	1.08
26.44	258.89	.220E+07	35905.9	7.62	1.02
28.30	260.75	.245E+07	42118.5	8.02	0.97

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	3125)	6178.08	12.52	10.67	8.67	0.51	0.93
OUTFLOW: ID= 1 (	3113)	6178.08	12.51	10.83	8.67	0.50	0.93

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3108)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	247.40	0.0600	
2.00	247.41	0.0450	Main Channel
14.20	240.04	0.0450	Main Channel
22.26	234.02	0.0450	Main Channel
26.38	233.85	0.0450	Main Channel
32.38	232.58	0.0450	Main Channel
62.71	231.78	0.0450	Main Channel
82.98	232.17	0.0450	Main Channel
113.35	232.86	0.0450	Main Channel
123.56	234.51	0.0450	Main Channel
130.56	236.98	0.0450	Main Channel
133.72	237.79	0.0450	Main Channel
143.78	239.61	0.0450	Main Channel
174.92	239.55	0.0450	Main Channel
197.28	239.95	0.0450	Main Channel
219.39	243.19	0.0450	Main Channel
230.57	245.49	0.0450	Main Channel
251.60	249.56	0.0450	Main Channel
263.78	251.45	0.0450 /0.0600	Main Channel
268.25	251.89	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.75	232.53	.132E+05	15.2	0.61	14.43
1.50	233.28	.450E+05	96.7	1.14	7.75
2.25	234.03	.814E+05	238.9	1.56	5.68
3.00	234.78	.122E+06	451.2	1.97	4.49
3.75	235.53	.163E+06	721.0	2.34	3.77
4.51	236.29	.206E+06	1041.1	2.68	3.30
5.26	237.04	.250E+06	1408.5	2.98	2.96
6.01	237.79	.296E+06	1816.4	3.25	2.71
6.76	238.54	.343E+06	2257.8	3.49	2.53
7.51	239.29	.393E+06	2745.2	3.70	2.38
8.26	240.04	.455E+06	2749.2	3.20	2.76

9.01	240.79	.529E+06	3471.9	3.48	2.54
9.93	241.71	.624E+06	4458.9	3.79	2.33
10.85	242.63	.722E+06	5557.5	4.08	2.17
11.77	243.55	.824E+06	6782.0	4.36	2.03
12.69	244.47	.929E+06	8140.4	4.64	1.90
13.61	245.39	.104E+07	9610.3	4.91	1.80
14.53	246.31	.115E+07	11184.4	5.16	1.71
15.45	247.23	.126E+07	12869.2	5.40	1.64

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	3113)	6178.08	12.51	10.83	8.67	0.62	0.61
OUTFLOW: ID= 1 (	3108)	6178.08	12.47	11.08	8.67	0.62	0.61

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB					
NASHYD (	0260)	Area (ha)=	173.60	Curve Number (CN)=	61.0
ID= 1 DT= 5.0 min		Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
		U.H. Tp(hrs)=	1.62		

Unit Hyd Qpeak (cms)= 1.830

PEAK FLOW (cms)= 0.223 (i)
TIME TO PEAK (hrs)= 8.417
RUNOFF VOLUME (mm)= 4.005
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.095

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7553)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (	0260):	173.60	0.223	8.42	4.01
+ ID2= 2 (	3108):	6178.08	12.469	11.08	8.67
ID = 3 (	7553):	6351.68	12.645	11.08	8.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (	0263)	Area (ha)=	134.05	Curve Number (CN)=	62.0
ID= 1 DT= 5.0 min		Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
		U.H. Tp(hrs)=	1.36		

Unit Hyd Qpeak (cms)= 1.683

PEAK FLOW (cms)= 0.201 (i)
TIME TO PEAK (hrs)= 8.250

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     RUNOFF VOLUME    (mm)=     4.151
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0264)|   Area    (ha)=    167.30   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.03

     Unit Hyd Qpeak  (cms)=     1.407

     PEAK FLOW       (cms)=     0.188 (i)
     TIME TO PEAK    (hrs)=     9.000
     RUNOFF VOLUME    (mm)=     4.153
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0267)|   Area    (ha)=    137.77   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     25.92   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.36

     Unit Hyd Qpeak  (cms)=     1.729

     PEAK FLOW       (cms)=     0.073 (i)
     TIME TO PEAK    (hrs)=     9.083
     RUNOFF VOLUME    (mm)=     1.503
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.036

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0268)|   Area    (ha)=    311.05   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.30

     Unit Hyd Qpeak  (cms)=     2.309

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0269)|   Area    (ha)=    173.61   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     39.84   # of Linear Res.(N)= 1.50
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--------------------   U.H. Tp(hrs)=      1.37

     Unit Hyd Qpeak  (cms)=     2.163

     PEAK FLOW       (cms)=     0.002 (i)
     TIME TO PEAK    (hrs)=    12.583
     RUNOFF VOLUME    (mm)=     0.032
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.001

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0270)|   Area    (ha)=    128.59   Curve Number   (CN)= 57.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     32.28   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.46

     Unit Hyd Qpeak  (cms)=     1.504

     PEAK FLOW       (cms)=     0.020 (i)
     TIME TO PEAK    (hrs)=     9.917
     RUNOFF VOLUME    (mm)=     0.469
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.011

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0271)|   Area    (ha)=    126.91   Curve Number   (CN)= 53.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     52.08   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.10

     Unit Hyd Qpeak  (cms)=     1.970

     PEAK FLOW       (cms)=     0.000 (i)
     TIME TO PEAK    (hrs)=     0.000
     RUNOFF VOLUME    (mm)=     0.000
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1951)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0269):    173.61      0.002       12.58        0.03
     + ID2= 2 (  0270):    128.59      0.020        9.92        0.47
       ==========================================================
       ID = 3 (  1951):    302.20      0.020       10.67        0.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1951)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1951):    302.20      0.020       10.67        0.22
     + ID2= 2 (  0271):    126.91      0.000        0.00        0.00
       ==========================================================
       ID = 1 (  1951):    429.11      0.020       10.67        0.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3830)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         286.40        0.0600
                  40.46         283.80        0.0450      Main Channel
                  56.61         283.60        0.0450      Main Channel
                  83.89         282.58        0.0450      Main Channel
                 101.03         281.80        0.0450      Main Channel
                 120.17         281.10        0.0450      Main Channel
                 122.17         280.94        0.0450      Main Channel
                 129.24         281.20        0.0450      Main Channel
                 138.33         281.85        0.0450      Main Channel
                 156.55         283.47        0.0450      Main Channel
                 162.63         284.75        0.0450      Main Channel
                 193.24         285.42        0.0450      Main Channel
                 203.31         285.83        0.0450      Main Channel
                 228.58         288.31        0.0450      Main Channel
                 254.06         289.86        0.0450      Main Channel
                 264.12         290.68        0.0450      Main Channel
                 284.24         291.81        0.0450      Main Channel
                 291.31         291.86        0.0450      Main Channel
                 294.48         291.79    0.0450 /0.0600  Main Channel
                 297.48         291.37        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
       0.53   281.47    .112E+05          3.3         0.54       56.46
       1.06   282.00    .438E+05         21.0         0.87       34.70
       1.60   282.54    .943E+05         60.2         1.16       26.11
       2.13   283.07    .163E+06        124.0         1.38       21.90
       2.66   283.60    .251E+06        220.8         1.60       18.94
       3.25   284.19    .377E+06        402.3         1.94       15.60
       3.84   284.78    .517E+06        634.0         2.22       13.60
       4.43   285.37    .685E+06        846.3         2.24       13.49
       5.02   285.96    .886E+06       1185.6         2.43       12.45
       5.61   286.55    .111E+07       1629.0         2.67       11.31
       6.20   287.14    .133E+07       2146.7         2.92       10.36
       6.79   287.73    .157E+07       2729.9         3.16        9.58
       7.38   288.32    .181E+07       3376.8         3.38        8.94
       7.97   288.91    .206E+07       4048.9         3.56        8.48
       8.56   289.50    .232E+07       4787.4         3.74        8.08
       9.15   290.09    .259E+07       5607.1         3.92        7.70
       9.74   290.68    .287E+07       6515.3         4.12        7.34
      10.33   291.27    .316E+07       7436.9         4.27        7.08
      10.92   291.86    .346E+07       8253.8         4.33        6.99

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
```



```
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1951)     429.11     0.02   10.67   0.15      0.00
0.54
   OUTFLOW: ID= 1 (  3830)     429.11     0.02   12.33   0.15      0.00
0.54


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--------------------
| ROUTE CHN(  3652)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         290.30        0.0600
                  20.56         289.84        0.0450      Main Channel
                  46.06         287.87        0.0450      Main Channel
                  58.85         285.98        0.0450      Main Channel
                  76.77         282.66        0.0450      Main Channel
                  90.71         279.67        0.0450      Main Channel
                 122.59         274.17        0.0450      Main Channel
                 153.87         273.73        0.0450      Main Channel
                 162.19         274.08        0.0450      Main Channel
                 169.83         275.25        0.0450      Main Channel
                 193.49         282.27        0.0450      Main Channel
                 201.12         283.11        0.0450      Main Channel
                 213.92         282.02        0.0450      Main Channel
                 229.83         281.65        0.0450      Main Channel
                 248.93         284.13        0.0450      Main Channel
                 267.07         285.69        0.0450      Main Channel
                 299.35         289.71        0.0450      Main Channel
                 329.48         293.20        0.0450      Main Channel
                 369.71         295.70    0.0450 /0.0600  Main Channel
                 398.88         295.65        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)       (min)
       1.09   274.82    .444E+05          47.0         1.25       15.76
       2.18   275.91    .114E+06         195.7         2.02        9.71
       3.26   276.99    .197E+06         437.1         2.62        7.50
       4.35   278.08    .292E+06         771.8         3.11        6.31
       5.44   279.17    .400E+06        1204.9         3.55        5.54
       6.53   280.26    .521E+06        1748.6         3.95        4.96
       7.61   281.34    .653E+06        2406.2         4.34        4.52
       8.70   282.43    .811E+06        2848.1         4.13        4.75
       9.79   283.52    .102E+07        3685.7         4.27        4.60
      10.88   284.61    .125E+07        4878.7         4.61        4.26
      11.96   285.69    .150E+07        6236.6         4.90        4.01
      13.05   286.78    .178E+07        7861.5         5.22        3.76
      14.14   287.87    .207E+07        9698.7         5.52        3.56
      15.23   288.96    .239E+07       11966.6         5.90        3.33
      16.53   290.26    .282E+07       15018.6         6.28        3.13
      17.84   291.57    .329E+07       18489.6         6.61        2.97
      19.14   292.87    .379E+07       22376.3         6.96        2.82
      20.45   294.18    .430E+07       26297.6         7.20        2.73
      21.75   295.48    .485E+07       30549.6         7.42        2.64

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
```

```
   INFLOW : ID= 2 (  3830)     429.11     0.02   12.33   0.15      0.00
1.25
   OUTFLOW: ID= 1 (  3652)     429.11     0.02   12.58   0.15      0.00
1.25


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--------------------
| ADD HYD  (  1547)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0267):    137.77      0.073        9.08        1.50
     + ID2= 2 (  0268):    311.05      0.000        0.00        0.00
       ========================================================
       ID = 3 (  1547):    448.82      0.073        9.08        0.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-

--------------------
| ADD HYD  (  1547)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1547):    448.82      0.073        9.08        0.46
     + ID2= 2 (  3652):    429.11      0.020       12.58        0.15
       ========================================================
       ID = 1 (  1547):    877.93      0.086        9.50        0.31

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3298)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         291.67        0.0600
                71.71         291.09        0.0450      Main Channel
               132.92         287.29        0.0450      Main Channel
               151.41         288.16        0.0450      Main Channel
               184.04         284.61        0.0450      Main Channel
               204.47         285.82        0.0450      Main Channel
               234.96         285.14        0.0450      Main Channel
               286.09         277.73        0.0450      Main Channel
               367.70         271.09        0.0450      Main Channel
               398.23         267.98        0.0450      Main Channel
               561.69         267.98        0.0450      Main Channel
               571.76         268.79        0.0450      Main Channel
               618.80         278.50        0.0450      Main Channel
               633.14         281.13        0.0450      Main Channel
               663.64         285.78        0.0450      Main Channel
               673.84         290.33        0.0450      Main Channel
               704.50         294.22        0.0450      Main Channel
               735.18         294.25        0.0450      Main Channel
               801.74         297.07    0.0450 /0.0600  Main Channel
               861.23         297.11        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
```



```
      1.21   269.19    .282E+06       494.8         2.32        9.49
      2.41   270.39    .595E+06      1618.7         3.60        6.12
      3.62   271.60    .937E+06      3251.2         4.59        4.80
      4.83   272.81    .131E+07      5364.8         5.41        4.07
      6.03   274.01    .172E+07      7974.5         6.14        3.59
      7.24   275.22    .216E+07     11090.9         6.80        3.24
      8.45   276.43    .263E+07     14728.2         7.41        2.98
      9.66   277.64    .314E+07     18902.9         7.97        2.77
     10.86   278.84    .367E+07     23848.6         8.59        2.57
     12.07   280.05    .423E+07     29340.5         9.18        2.40
     13.28   281.26    .481E+07     35379.4         9.73        2.27
     14.48   282.46    .542E+07     41910.8        10.23        2.16
     15.69   283.67    .605E+07     49020.4        10.71        2.06
     16.90   284.88    .671E+07     56123.5        11.06        1.99
     18.10   286.08    .745E+07     60737.8        10.78        2.05
     19.31   287.29    .825E+07     70645.9        11.32        1.95
     20.77   288.75    .930E+07     82595.0        11.75        1.88
     22.23   290.21    .104E+08     98342.0        12.50        1.76
     23.69   291.67    .116E+08    114522.9        13.07        1.69

                                   <---- hydrograph ---->   <-pipe /
channel->
                          AREA     QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                          (ha)     (cms)    (hrs)    (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  1547)     877.93     0.09     9.50   0.31      0.00
2.32
   OUTFLOW: ID= 1 (  3298)     877.93     0.09     9.67   0.31      0.00
2.32


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--------------------
| ADD HYD  (  7555)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0264):    167.30      0.188        9.00        4.15
     + ID2= 2 (  3298):    877.93      0.086        9.67        0.31
       ========================================================
       ID = 3 (  7555):   1045.23      0.273        9.33        0.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0265)|   Area    (ha)=     58.62   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      0.93

     Unit Hyd Qpeak  (cms)=     1.076

     PEAK FLOW       (cms)=     0.112 (i)
     TIME TO PEAK    (hrs)=     7.333
     RUNOFF VOLUME    (mm)=     4.147
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0266)|   Area    (ha)=    303.85   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.71

     Unit Hyd Qpeak  (cms)=     1.914

     PEAK FLOW       (cms)=     0.272 (i)
     TIME TO PEAK    (hrs)=     9.667
     RUNOFF VOLUME    (mm)=     4.154
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ROUTE CHN(  2209)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         282.45        0.0600
                69.98         282.08        0.0450      Main Channel
                79.98         281.24        0.0450      Main Channel
               109.97         276.84        0.0450      Main Channel
               159.96         272.72        0.0450      Main Channel
               169.96         271.10        0.0450      Main Channel
               179.96         268.23        0.0450      Main Channel
               189.96         267.37        0.0450      Main Channel
               209.95         268.33        0.0450      Main Channel
               229.95         268.00        0.0450      Main Channel
               239.95         269.34        0.0450      Main Channel
               249.94         272.86        0.0450      Main Channel
               259.94         277.08        0.0450      Main Channel
               269.94         280.39        0.0450      Main Channel
               319.93         284.29        0.0450      Main Channel
               329.92         284.49        0.0450      Main Channel
               339.92         284.01        0.0450      Main Channel
               349.92         282.63        0.0450      Main Channel
               369.92         277.05    0.0450 /0.0600  Main Channel
               399.90         277.20        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
       0.88   268.25    .195E+05         19.2          1.31       16.91
       1.76   269.13    .856E+05        184.1          2.86        7.75
       2.64   270.01    .162E+06        497.2          4.09        5.43
       3.52   270.89    .245E+06        938.5          5.10        4.35
       4.40   271.77    .335E+06       1484.3          5.89        3.77
       5.28   272.65    .435E+06       2149.4          6.58        3.37
       6.16   273.53    .546E+06       2879.0          7.01        3.16
       7.04   274.41    .673E+06       3761.3          7.44        2.98
       7.92   275.29    .814E+06       4814.5          7.87        2.82
       8.80   276.17    .970E+06       6051.1          8.30        2.67
       9.68   277.05    .114E+07       7518.0          8.77        2.53
      10.61   277.98    .137E+07       9318.5          9.05        2.45
      11.54   278.91    .162E+07      11422.5          9.40        2.36
      12.47   279.84    .188E+07      13824.4          9.78        2.27
      13.40   280.77    .216E+07      16353.0         10.08        2.20
      14.33   281.70    .246E+07      19156.4         10.35        2.14
      15.26   282.63    .283E+07      22530.9         10.59        2.10
      16.19   283.56    .328E+07      26285.9         10.68        2.08
```



```
      17.12   284.49    .374E+07      29745.4         10.57        2.10

                                   <---- hydrograph ---->   <-pipe /
channel->
                          AREA     QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                          (ha)     (cms)    (hrs)    (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  0266)     303.85     0.27     9.67   4.15      0.01
1.31
   OUTFLOW: ID= 1 (  2209)     303.85     0.27    10.00   4.15      0.01
1.31


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--------------------
| ADD HYD  (  7554)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2209):    303.85      0.271       10.00        4.15
     + ID2= 2 (  0265):     58.62      0.112        7.33        4.15
       ========================================================
       ID = 3 (  7554):    362.47      0.355        9.00        4.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1877)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7554):    362.47      0.355        9.00        4.15
     + ID2= 2 (  7555):   1045.23      0.273        9.33        0.93
       ========================================================
       ID = 3 (  1877):   1407.70      0.628        9.17        1.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3299)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         291.67        0.0600
                71.71         291.09        0.0450      Main Channel
               132.92         287.29        0.0450      Main Channel
               151.41         288.16        0.0450      Main Channel
               184.04         284.61        0.0450      Main Channel
               204.47         285.82        0.0450      Main Channel
               234.96         285.14        0.0450      Main Channel
               286.09         277.73        0.0450      Main Channel
               367.70         271.09        0.0450      Main Channel
               398.23         267.98        0.0450      Main Channel
               561.69         267.98        0.0450      Main Channel
               571.76         268.79        0.0450      Main Channel
               618.80         278.50        0.0450      Main Channel
               633.14         281.13        0.0450      Main Channel
               663.64         285.78        0.0450      Main Channel
               673.84         290.33        0.0450      Main Channel
```

704.50	294.22	0.0450	Main Channel
735.18	294.25	0.0450	Main Channel
801.74	297.07	0.0450 /0.0600	Main Channel
861.23	297.11	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.21	269.19	.153E+06	343.1	1.61	7.43
2.41	270.39	.323E+06	1122.6	2.50	4.80
3.62	271.60	.509E+06	2254.8	3.18	3.76
4.83	272.81	.712E+06	3720.6	3.76	3.19
6.03	274.01	.933E+06	5530.6	4.26	2.81
7.24	275.22	.117E+07	7691.9	4.72	2.54
8.45	276.43	.143E+07	10214.5	5.14	2.33
9.66	277.64	.170E+07	13109.7	5.53	2.17
10.86	278.84	.200E+07	16539.7	5.96	2.01
12.07	280.05	.230E+07	20348.5	6.36	1.88
13.28	281.26	.261E+07	24536.7	6.74	1.78
14.48	282.46	.294E+07	29066.4	7.09	1.69
15.69	283.67	.329E+07	33997.1	7.43	1.61
16.90	284.88	.365E+07	38923.4	7.67	1.56
18.10	286.08	.405E+07	42123.5	7.48	1.60
19.31	287.29	.448E+07	48995.0	7.85	1.53
20.77	288.75	.505E+07	57282.1	8.15	1.47
22.23	290.21	.565E+07	68203.1	8.67	1.38
23.69	291.67	.630E+07	79425.1	9.06	1.32

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1877)	1407.70	0.63	9.17	1.76	0.00	1.61
OUTFLOW: ID= 1 (3299)	1407.70	0.63	9.25	1.76	0.00	1.61

ROUTE CHN(2747)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	278.85	0.0600	
62.03	275.37	0.0450	Main Channel
93.70	274.04	0.0450	Main Channel
160.95	270.10	0.0450	Main Channel
185.29	266.93	0.0450	Main Channel
225.32	261.81	0.0450	Main Channel
233.58	260.93	0.0450	Main Channel
304.10	257.67	0.0450	Main Channel
347.58	255.77	0.0450	Main Channel
377.84	251.27	0.0450	Main Channel
412.61	249.13	0.0450	Main Channel
452.83	251.60	0.0450	Main Channel
504.11	253.07	0.0450	Main Channel
542.68	255.01	0.0450	Main Channel
574.54	257.97	0.0450	Main Channel
638.36	265.32	0.0450	Main Channel
654.34	269.00	0.0450	Main Channel
686.88	273.41	0.0450	Main Channel

718.74	281.74	0.0450 /0.0600	Main Channel
750.71	283.83	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.56	250.69	.485E+05	71.2	1.81	11.36
3.11	252.24	.193E+06	440.9	2.81	7.30
4.67	253.80	.449E+06	1363.6	3.73	5.49
6.23	255.36	.791E+06	3024.2	4.71	4.36
7.78	256.91	.121E+07	5309.6	5.42	3.78
9.34	258.47	.172E+07	8448.0	6.05	3.39
10.90	260.03	.232E+07	12638.6	6.69	3.06
12.45	261.58	.301E+07	18145.4	7.41	2.77
14.01	263.14	.376E+07	25134.9	8.21	2.50
15.57	264.70	.456E+07	33247.6	8.96	2.29
17.13	266.26	.541E+07	42714.5	9.71	2.11
18.68	267.81	.629E+07	53472.3	10.45	1.96
20.24	269.37	.721E+07	65281.4	11.13	1.84
21.80	270.93	.818E+07	77245.1	11.62	1.76
23.35	272.48	.921E+07	89906.6	12.00	1.71
24.91	274.04	.103E+08	104227.6	12.42	1.65
26.51	275.64	.115E+08	124034.2	13.22	1.55
28.12	277.25	.128E+08	145488.0	13.95	1.47
29.72	278.85	.142E+08	168609.7	14.61	1.40

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3299)	1407.70	0.63	9.25	1.76	0.01	1.81
OUTFLOW: ID= 1 (2747)	1407.70	0.63	9.50	1.76	0.01	1.81

ROUTE CHN(3567)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	268.56	0.0600	
65.42	265.86	0.0450	Main Channel
92.26	265.79	0.0450	Main Channel
108.83	263.94	0.0450	Main Channel
137.81	263.08	0.0450	Main Channel
176.77	252.29	0.0450	Main Channel
210.95	237.62	0.0450	Main Channel
221.40	235.59	0.0450	Main Channel
276.22	234.61	0.0450	Main Channel
291.78	239.27	0.0450	Main Channel
315.28	243.63	0.0450	Main Channel
346.23	246.78	0.0450	Main Channel
401.67	247.80	0.0450	Main Channel
408.95	246.14	0.0450	Main Channel
493.11	253.75	0.0450	Main Channel
514.03	253.63	0.0450	Main Channel
556.23	258.01	0.0450	Main Channel
611.83	265.56	0.0450	Main Channel
640.18	270.35	0.0450 /0.0600	Main Channel
706.42	272.41	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.73	236.34	.303E+05	185.8	2.49	2.72
3.46	238.07	.807E+05	836.2	4.21	1.61
5.20	239.81	.139E+06	1891.4	5.52	1.23
6.93	241.54	.206E+06	3316.0	6.53	1.04
8.66	243.27	.283E+06	5163.5	7.41	0.91
10.39	245.00	.371E+06	7298.8	8.00	0.85
12.13	246.74	.474E+06	9620.7	8.24	0.82
13.86	248.47	.628E+06	11720.2	7.58	0.89
15.59	250.20	.811E+06	16927.8	8.48	0.80
17.32	251.93	.101E+07	23130.7	9.30	0.73
19.05	253.66	.123E+07	29900.9	9.90	0.68
20.79	255.40	.148E+07	37761.1	10.39	0.65
22.52	257.13	.174E+07	47757.9	11.14	0.61
24.25	258.86	.202E+07	59166.9	11.88	0.57
25.98	260.59	.232E+07	72008.5	12.62	0.54
27.72	262.33	.263E+07	86129.2	13.33	0.51
29.45	264.06	.295E+07	98268.6	13.52	0.50
31.18	265.79	.331E+07	114586.0	14.06	0.48
33.95	268.56	.397E+07	148384.7	15.18	0.45

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2747)	1407.70	0.63	9.50	1.76	0.01	2.49
OUTFLOW: ID= 1 (3567)	1407.70	0.63	9.50	1.76	0.01	2.49

ADD HYD (7552)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0263):		134.05	0.201	8.25	4.15
+ ID2= 2 (3567):		1407.70	0.627	9.50	1.76
ID = 3 (7552):		1541.75	0.813	9.17	1.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1977)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7552):		1541.75	0.813	9.17	1.97
+ ID2= 2 (7553):		6351.68	12.645	11.08	8.54
ID = 3 (1977):		7893.43	13.371	11.00	7.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3109)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	247.40	0.0600	
2.00	247.41	0.0450	Main Channel
14.20	240.04	0.0450	Main Channel
22.26	234.02	0.0450	Main Channel
26.38	233.85	0.0450	Main Channel
32.38	232.58	0.0450	Main Channel
62.71	231.78	0.0450	Main Channel
82.98	232.17	0.0450	Main Channel
113.35	232.86	0.0450	Main Channel
123.56	234.51	0.0450	Main Channel
130.56	236.98	0.0450	Main Channel
133.72	237.79	0.0450	Main Channel
143.78	239.61	0.0450	Main Channel
174.92	239.55	0.0450	Main Channel
197.28	239.95	0.0450	Main Channel
219.39	245.19	0.0450	Main Channel
230.57	245.49	0.0450	Main Channel
251.60	249.56	0.0450	Main Channel
263.78	251.45	0.0450 /0.0600	Main Channel
268.25	251.89	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.75	232.53	.785E+04	15.2	0.61	8.63
1.50	233.28	.269E+05	96.6	1.14	4.63
2.25	234.03	.486E+05	238.5	1.55	3.39
3.00	234.78	.725E+05	450.4	1.96	2.68
3.75	235.53	.974E+05	719.8	2.34	2.26
4.51	236.29	.123E+06	1039.4	2.67	1.97
5.26	237.04	.149E+06	1406.2	2.98	1.77
6.01	237.79	.177E+06	1813.4	3.25	1.62
6.76	238.54	.205E+06	2254.0	3.48	1.51
7.51	239.29	.234E+06	2740.6	3.70	1.42
8.26	240.04	.271E+06	2744.6	3.20	1.65
9.01	240.79	.316E+06	3466.2	3.47	1.52
9.93	241.71	.372E+06	4451.5	3.78	1.39
10.85	242.63	.431E+06	5548.3	4.07	1.29
11.77	243.55	.492E+06	6770.8	4.35	1.21
12.69	244.47	.555E+06	8126.9	4.63	1.14
13.61	245.39	.619E+06	9594.4	4.90	1.08
14.53	246.31	.685E+06	11165.9	5.15	1.02
15.45	247.23	.754E+06	12847.8	5.39	0.98

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1977)	7893.43	13.37	11.00	7.26	0.66	0.61
OUTFLOW: ID= 1 (3109)	7893.43	13.36	11.08	7.26	0.66	0.61

ROUTE CHN(3096)

| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	243.00	0.0600	
38.42	239.74	0.0450	Main Channel
71.08	235.24	0.0450	Main Channel
128.61	232.95	0.0450	Main Channel
155.24	233.60	0.0450	Main Channel
185.74	233.67	0.0450	Main Channel
257.97	232.04	0.0450	Main Channel
303.12	231.83	0.0450	Main Channel
329.75	227.96	0.0450	Main Channel
350.13	229.38	0.0450	Main Channel
432.05	231.25	0.0450	Main Channel
443.13	233.98	0.0450	Main Channel
468.52	245.65	0.0450	Main Channel
525.58	262.19	0.0450	Main Channel
535.79	262.25	0.0450	Main Channel
555.33	259.30	0.0450	Main Channel
572.66	258.25	0.0450	Main Channel
614.40	265.91	0.0450	Main Channel
656.36	271.34	0.0450 /0.0600	Main Channel
667.85	270.94	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.82	229.78	.210E+05	33.8	0.90	10.35
3.64	231.60	.118E+06	321.7	1.53	6.12
5.46	233.42	.320E+06	1021.5	1.79	5.22
7.28	235.24	.672E+06	2860.7	2.39	3.91
9.69	237.65	.119E+07	7273.8	3.42	2.73
12.09	240.05	.174E+07	13302.1	4.27	2.18
14.50	242.46	.233E+07	20907.7	5.02	1.86
16.91	244.87	.296E+07	30046.1	5.69	1.64
19.31	247.27	.359E+07	40500.0	6.31	1.48
21.72	249.68	.424E+07	52226.7	6.90	1.35
24.13	252.09	.489E+07	65223.4	7.47	1.25
26.53	254.49	.556E+07	79451.5	8.00	1.17
28.94	256.90	.624E+07	94881.7	8.52	1.10
31.35	259.31	.694E+07	108318.0	8.75	1.07
33.75	261.71	.769E+07	122612.2	8.93	1.04
36.16	264.12	.849E+07	139940.8	9.23	1.01
38.57	266.53	.931E+07	160661.8	9.66	0.97
40.97	268.93	.102E+08	182070.0	10.04	0.93
43.38	271.34	.110E+08	204870.6	10.40	0.90

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3109)	7893.43	13.36	11.08	7.26	0.72	0.90
OUTFLOW: ID= 1 (3096)	7893.43	13.34	11.25	7.26	0.71	0.90

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(3085)| | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	240.74	0.0600	
28.33	239.19	0.0450	Main Channel
89.42	236.72	0.0450	Main Channel
132.07	233.94	0.0450	Main Channel
172.63	232.07	0.0450	Main Channel
203.10	231.49	0.0450	Main Channel
253.84	230.76	0.0450	Main Channel
278.25	230.05	0.0450	Main Channel
287.72	230.91	0.0450	Main Channel
306.11	230.66	0.0450	Main Channel
323.36	229.65	0.0450	Main Channel
341.88	226.47	0.0450	Main Channel
351.78	227.62	0.0450	Main Channel
417.69	227.74	0.0450	Main Channel
441.28	229.26	0.0450	Main Channel
500.54	230.53	0.0450	Main Channel
539.36	231.17	0.0450	Main Channel
557.96	232.19	0.0450	Main Channel
581.48	234.88	0.0450 /0.0600	Main Channel
601.86	239.38	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.65	227.12	.608E+03	1.5	0.49	6.87
1.29	227.76	.353E+04	6.4	0.37	9.13
1.94	228.41	.153E+05	67.2	0.88	3.80
2.59	229.06	.289E+05	177.4	1.23	2.72
3.23	229.70	.449E+05	318.0	1.42	2.35
3.88	230.35	.662E+05	486.5	1.48	2.27
4.53	231.00	.972E+05	704.8	1.46	2.30
5.18	231.65	.140E+06	1135.2	1.64	2.05
5.82	232.29	.188E+06	1747.3	1.87	1.80
6.47	232.94	.241E+06	2541.5	2.13	1.58
7.12	233.59	.295E+06	3466.6	2.36	1.42
7.76	234.23	.353E+06	4532.9	2.59	1.30
8.41	234.88	.412E+06	5742.3	2.80	1.20
9.16	235.63	.483E+06	7360.4	3.07	1.09
9.91	236.38	.557E+06	9151.3	3.31	1.01
10.66	237.13	.632E+06	11201.1	3.56	0.94
11.41	237.88	.711E+06	13508.9	3.82	0.88
12.16	238.63	.794E+06	16011.4	4.06	0.83
12.91	239.38	.879E+06	18717.6	4.28	0.78

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3096)	7893.43	13.34	11.25	7.26	1.37	0.39
OUTFLOW: ID= 1 (3085)	7893.43	13.33	11.42	7.26	1.37	0.39

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(3081)| | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.35	0.0600	
18.52	251.04	0.0450	Main Channel
42.90	251.18	0.0450	Main Channel
65.66	249.76	0.0450	Main Channel
80.47	248.33	0.0450	Main Channel
94.79	245.38	0.0450	Main Channel
116.30	236.58	0.0450	Main Channel
137.82	228.00	0.0450	Main Channel
159.53	225.35	0.0450	Main Channel
180.08	226.93	0.0450	Main Channel
339.02	226.40	0.0450	Main Channel
404.16	226.66	0.0450	Main Channel
468.74	231.00	0.0450	Main Channel
491.29	230.99	0.0450	Main Channel
521.90	232.00	0.0450	Main Channel
547.50	233.35	0.0450	Main Channel
576.77	237.63	0.0450	Main Channel
605.39	238.12	0.0450	Main Channel
645.46	238.20	0.0450 /0.0600	Main Channel
654.77	238.39	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.68	226.03	.247E+04	1.6	0.34	24.93
1.35	226.70	.226E+05	12.0	0.27	31.28
2.03	227.38	.109E+06	129.1	0.60	14.12
2.71	228.06	.206E+06	356.4	0.88	9.61
3.38	228.73	.306E+06	674.6	1.12	7.57
4.06	229.41	.411E+06	1073.6	1.33	6.38
4.73	230.08	.520E+06	1549.0	1.51	5.60
5.41	230.76	.633E+06	2098.1	1.69	5.03
6.09	231.44	.756E+06	2608.8	1.76	4.83
6.76	232.11	.889E+06	3295.9	1.89	4.50
7.44	232.79	.103E+07	4098.0	2.03	4.18
8.12	233.47	.117E+07	4991.3	2.17	3.91
8.79	234.14	.132E+07	6016.8	2.32	3.65
9.47	234.82	.147E+07	7122.1	2.47	3.43
10.14	235.49	.162E+07	8305.7	2.61	3.25
10.82	236.17	.177E+07	9566.3	2.74	3.09
11.50	236.85	.193E+07	10903.0	2.88	2.95
12.17	237.52	.209E+07	12315.1	3.00	2.82
12.85	238.20	.225E+07	12712.8	2.87	2.95

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3085)	7893.43	13.33	11.42	7.26	1.36	0.27
OUTFLOW: ID= 1 (3081)	7893.43	13.12	12.08	7.26	1.36	0.27

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(3069)| | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	237.56	0.0600	
9.44	237.36	0.0450	Main Channel
18.04	234.82	0.0450	Main Channel
33.88	229.48	0.0450	Main Channel
45.55	226.08	0.0450	Main Channel
141.65	225.58	0.0450	Main Channel
165.60	225.10	0.0450	Main Channel
177.80	224.07	0.0450	Main Channel
189.47	224.13	0.0450	Main Channel
201.69	225.32	0.0450	Main Channel
260.96	226.65	0.0450	Main Channel
286.81	227.00	0.0450	Main Channel
317.42	226.01	0.0450	Main Channel
338.23	227.76	0.0450	Main Channel
341.83	227.86	0.0450	Main Channel
355.48	228.89	0.0450	Main Channel
379.12	229.56	0.0450	Main Channel
412.81	230.60	0.0450	Main Channel
444.85	232.25	0.0450 /0.0600	Main Channel
453.41	232.17	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	224.48	.327E+04	3.3	0.55	16.42
0.82	224.89	.871E+04	13.3	0.82	10.95
1.23	225.30	.166E+05	28.7	0.94	9.62
1.64	225.71	.314E+05	48.9	0.84	10.69
2.05	226.12	.646E+05	105.0	0.88	10.25
2.45	226.52	.112E+06	234.4	1.13	7.97
2.86	226.93	.168E+06	410.3	1.32	6.84
3.27	227.34	.232E+06	679.2	1.58	5.70
3.68	227.75	.297E+06	1011.9	1.84	4.90
4.09	228.16	.365E+06	1392.3	2.06	4.36
4.50	228.57	.433E+06	1829.4	2.28	3.95
4.91	228.98	.504E+06	2307.3	2.48	3.64
5.32	229.39	.577E+06	2801.7	2.63	3.43
5.73	229.80	.653E+06	3350.6	2.77	3.25
6.14	230.21	.733E+06	3953.1	2.91	3.09
6.54	230.61	.816E+06	4608.4	3.05	2.95
6.95	231.02	.902E+06	5356.2	3.21	2.81
7.36	231.43	.989E+06	6155.3	3.36	2.68
7.77	231.84	.108E+07	7005.8	3.51	2.57

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3081)	7893.43	13.12	12.08	7.26	0.81	0.82
OUTFLOW: ID= 1 (3069)	7893.43	13.12	12.08	7.26	0.81	0.82

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| CALIB | NASHYD (0259) | ID= 1 DT= 5.0 min | Area (ha)= 137.69 Curve Number (CN)= 62.0 | Ia (mm)= 14.40 # of Linear Res.(N)= 1.50 | U.H. Tp(hrs)= 1.99

Unit Hyd Qpeak (cms)= 1.181

PEAK FLOW (cms)= 0.157 (i)
TIME TO PEAK (hrs)= 8.917
RUNOFF VOLUME (mm)= 4.153
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.099

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7548)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):		137.69	0.157	8.92	4.15
+ ID2= 2 (3069):		7893.43	13.117	12.08	7.26
ID = 3 (7548):		8031.12	13.242	12.08	7.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0283)	Area (ha)=	34.58	Curve Number (CN)= 60.0
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	0.62	

Unit Hyd Qpeak (cms)= 0.952

PEAK FLOW (cms)= 0.076 (i)
TIME TO PEAK (hrs)= 6.583
RUNOFF VOLUME (mm)= 3.852
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.092

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0284)	Area (ha)=	45.97	Curve Number (CN)= 64.0
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.03	

Unit Hyd Qpeak (cms)= 0.762

PEAK FLOW (cms)= 0.089 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 4.460
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0285)	Area (ha)=	446.38	
ID= 1 DT= 5.0 min	Total Imp(%)=	30.50	Dir. Conn.(%)= 27.40

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	136.15	310.23
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.33	2.33
Length (m)=	1725.07	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	19.32	5.01	
over (min)	20.00	45.00	
Storage Coeff. (min)=	21.14 (ii)	43.49 (ii)	
Unit Hyd. Tpeak (min)=	20.00	45.00	
Unit Hyd. peak (cms)=	0.05	0.03	
PEAK FLOW (cms)=	6.18	2.46	7.988 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.33
RUNOFF VOLUME (mm)=	40.00	7.96	16.74
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.19	0.40

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0286)	Area (ha)=	267.02	
ID= 1 DT= 5.0 min	Total Imp(%)=	23.80	Dir. Conn.(%)= 21.40

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	63.55	203.47
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.21	2.21
Length (m)=	1334.22	40.00
Mannings n =	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=	19.32	4.88	
over (min)	20.00	45.00	
Storage Coeff. (min)=	18.39 (ii)	41.30 (ii)	
Unit Hyd. Tpeak (min)=	20.00	45.00	
Unit Hyd. peak (cms)=	0.06	0.03	
PEAK FLOW (cms)=	2.94	1.60	4.132 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.33
RUNOFF VOLUME (mm)=	40.00	7.86	14.74
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.19	0.35

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0748)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0285):		446.38	7.988	5.33	16.74
+ ID2= 2 (0286):		267.02	4.132	5.33	14.74
ID = 3 (0748):		713.40	12.120	5.33	15.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (2203)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	260.70	0.0600	
29.71	260.63	0.0450	Main Channel
59.43	259.05	0.0450	Main Channel
69.33	257.88	0.0450	Main Channel
99.04	253.57	0.0450	Main Channel
108.95	252.65	0.0450	Main Channel
118.85	251.20	0.0450	Main Channel
138.66	249.87	0.0450	Main Channel
158.47	248.82	0.0450	Main Channel
168.37	247.69	0.0450	Main Channel
178.28	245.30	0.0450	Main Channel
188.18	243.65	0.0450	Main Channel
198.08	244.06	0.0450	Main Channel
217.89	245.38	0.0450	Main Channel
227.80	246.37	0.0450	Main Channel
237.70	247.95	0.0450	Main Channel
257.51	253.03	0.0450	Main Channel
267.41	255.03	0.0450	Main Channel
277.32	256.66	0.0450 /0.0600	Main Channel
287.22	257.83	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.72	244.38	.949E+04	9.3	1.24	17.05
1.44	245.10	.339E+05	52.3	1.96	10.80
2.17	245.82	.713E+05	147.7	2.63	8.05
2.89	246.54	.118E+06	302.8	3.25	6.52
3.61	247.27	.173E+06	523.8	3.85	5.51
4.33	247.99	.235E+06	798.8	4.32	4.90
5.06	248.71	.305E+06	1141.5	4.75	4.46
5.78	249.43	.387E+06	1507.3	4.96	4.27
6.50	250.16	.483E+06	1978.4	5.21	4.07
7.22	250.88	.592E+06	2574.2	5.53	3.83
7.95	251.60	.712E+06	3326.0	5.94	3.57
8.67	252.32	.841E+06	4222.8	6.39	3.32
9.39	253.04	.977E+06	5196.2	6.77	3.13
10.11	253.77	.112E+07	6264.6	7.10	2.99
10.84	254.49	.128E+07	7503.4	7.48	2.84
11.56	255.21	.144E+07	8858.4	7.83	2.71
12.28	255.93	.161E+07	10321.3	8.16	2.60
13.00	256.66	.179E+07	11916.6	8.48	2.50
14.17	257.83	.210E+07	15074.3	9.14	2.32

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

INFLOW : ID= 2 (0748) 713.40 12.12 5.33 15.99 0.77 1.27
OUTFLOW: ID= 1 (2203) 713.40 11.11 5.50 15.99 0.75 1.26

ADD HYD (7550)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2203):		713.40	11.108	5.50	15.99
+ ID2= 2 (0284):		45.97	0.089	7.50	4.46
ID = 3 (7550):		759.37	11.153	5.50	15.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0288)	Area (ha)=	480.44	Curve Number (CN)= 64.0
ID= 1 DT= 5.0 min	Ia (mm)=	52.08	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	3.20	

Unit Hyd Qpeak (cms)= 2.563

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0289)	Area (ha)=	365.24	Curve Number (CN)= 64.0
ID= 1 DT= 5.0 min	Ia (mm)=	52.08	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	2.98	

Unit Hyd Qpeak (cms)= 2.092

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0947)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0288):		480.44	0.000	0.00	0.00
+ ID2= 2 (0289):		365.24	0.000	0.00	0.00

ID = 3 (0947): 845.68 0.000 0.00 0.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2311)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	257.67	0.0600	
22.68	257.53	0.0450	Main Channel
48.30	257.13	0.0450	Main Channel
58.93	254.98	0.0450	Main Channel
61.76	254.01	0.0450	Main Channel
74.56	247.65	0.0450	Main Channel
77.39	245.86	0.0450	Main Channel
88.02	241.12	0.0450	Main Channel
89.44	240.90	0.0450	Main Channel
100.84	240.34	0.0450	Main Channel
105.08	240.38	0.0450	Main Channel
114.30	240.84	0.0450	Main Channel
136.33	242.55	0.0450	Main Channel
153.38	243.53	0.0450	Main Channel
167.61	245.26	0.0450	Main Channel
179.65	247.41	0.0450	Main Channel
183.26	247.97	0.0450	Main Channel
205.94	251.96	0.0450	Main Channel
218.75	254.29	0.0450 /0.0600	Main Channel
228.00	256.25	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.82	241.16	.428E+05	18.3	1.19	39.02
1.64	241.98	.126E+06	87.9	1.93	23.92
2.46	242.80	.238E+06	210.7	2.46	18.83
3.28	243.62	.385E+06	398.9	2.88	16.08
4.10	244.44	.558E+06	686.2	3.41	13.55
4.92	245.26	.750E+06	1050.3	3.88	11.91
5.75	246.08	.960E+06	1511.2	4.37	10.59
6.57	246.90	.118E+07	2054.7	4.82	9.60
7.39	247.72	.142E+07	2673.8	5.22	8.86
8.21	248.54	.167E+07	3371.8	5.59	8.27
9.03	249.36	.194E+07	4157.5	5.95	7.77
9.85	250.18	.222E+07	5029.8	6.29	7.35
10.67	251.01	.251E+07	5991.2	6.61	6.99
11.49	251.83	.282E+07	7043.8	6.92	6.68
12.31	252.65	.315E+07	8193.9	7.22	6.40
13.13	253.47	.349E+07	9440.4	7.52	6.15
13.95	254.29	.384E+07	10775.1	7.79	5.94
14.94	255.27	.428E+07	12698.7	8.24	5.61
15.92	256.26	.474E+07	14706.0	8.60	5.38

**** WARNING: INFLOW HYDROGRAPH IS DRY!!

CALIB	
STANDHYD (0287)	Area (ha)= 223.97
ID= 1 DT= 5.0 min	Total Imp(%)= 16.60 Dir. Conn.(%)= 14.90

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	37.18	186.79
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	3.45	3.45
Length (m)=	1221.94	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	4.93
over (min)	15.00	40.00
Storage Coeff. (min)=	15.27 (ii)	35.25 (ii)
Unit Hyd. Tpeak (min)=	15.00	40.00
Unit Hyd. peak (cms)=	0.07	0.03

		TOTALS
PEAK FLOW (cms)=	1.76	1.55	2.984 (iii)
TIME TO PEAK (hrs)=	5.25	5.67	5.33
RUNOFF VOLUME (mm)=	40.00	7.77	12.57
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.19	0.30

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1011)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 2311 <ID= 1> IS DRY.					
*** W A R N I N G : HYDROGRAPH 1011 = HYDROGRAPH 0287					
ID1= 1 (2311):		0.00	0.000	0.00	0.00
+ ID2= 2 (0287):		223.97	2.984	5.33	12.57
ID = 3 (1011):		223.97	2.984	5.33	12.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1855)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1011):		223.97	2.984	5.33	12.57
+ ID2= 2 (7550):		759.37	11.153	5.50	15.29
ID = 3 (1855):		983.34	13.872	5.42	14.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0290)	Area (ha)= 111.48 Curve Number (CN)= 61.0
ID= 1 DT= 5.0 min	Ia (mm)= 14.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.17

Unit Hyd Qpeak (cms)= 1.627

PEAK FLOW (cms)= 0.177 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 4.003
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.095

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0291)	Area (ha)= 138.00 Curve Number (CN)= 62.0
ID= 1 DT= 5.0 min	Ia (mm)= 52.08 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.51

Unit Hyd Qpeak (cms)= 1.560

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0292)	Area (ha)= 262.27 Curve Number (CN)= 62.0
ID= 1 DT= 5.0 min	Ia (mm)= 18.36 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.76

Unit Hyd Qpeak (cms)= 5.892

PEAK FLOW (cms)= 0.413 (i)
TIME TO PEAK (hrs)= 7.333
RUNOFF VOLUME (mm)= 3.107
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.074

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0293)	Area (ha)= 298.45 Curve Number (CN)= 62.0
ID= 1 DT= 5.0 min	Ia (mm)= 52.08 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.05

Unit Hyd Qpeak (cms)= 2.486

PEAK FLOW (cms)= 0.000 (i)
TIME TO PEAK (hrs)= 0.000
RUNOFF VOLUME (mm)= 0.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.000

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0294)	Area (ha)= 410.21 Curve Number (CN)= 54.0
ID= 1 DT= 5.0 min	Ia (mm)= 27.24 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.76

Unit Hyd Qpeak (cms)= 2.537

PEAK FLOW (cms)= 0.081 (i)
TIME TO PEAK (hrs)= 11.667
RUNOFF VOLUME (mm)= 0.942
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.022

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0946)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0293):		298.45	0.000	0.00	0.00
+ ID2= 2 (0294):		410.21	0.081	11.67	0.94
ID = 3 (0946):		708.66	0.081	11.67	0.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2228)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	254.15	0.0600	
27.00	251.79	0.0450	Main Channel
37.00	251.07	0.0450	Main Channel
57.00	249.98	0.0450	Main Channel
58.00	249.75	0.0450	Main Channel
67.00	248.22	0.0450	Main Channel
68.00	247.88	0.0450	Main Channel
87.00	244.15	0.0450	Main Channel
88.00	243.82	0.0450	Main Channel
97.00	241.98	0.0450	Main Channel
98.00	241.89	0.0450	Main Channel
107.00	239.98	0.0450	Main Channel
117.00	240.07	0.0450	Main Channel
127.00	240.57	0.0450	Main Channel
137.00	243.88	0.0450	Main Channel
147.00	245.66	0.0450	Main Channel
158.00	246.87	0.0450	Main Channel
177.00	248.38	0.0450	Main Channel
187.00	249.37	0.0450 /0.0600	Main Channel
195.00	250.34	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.52	240.50	.159E+05	5.5	0.75	48.58
1.04	241.02	.435E+05	25.0	1.26	28.95
1.57	241.55	.757E+05	57.2	1.65	22.05
2.09	242.07	.113E+06	100.9	1.95	18.62

2.61	242.59	.155E+06	158.7	2.24	16.25
3.13	243.11	.202E+06	230.4	2.49	14.59
3.65	243.63	.253E+06	316.5	2.73	13.33
4.17	244.15	.309E+06	417.2	2.94	12.36
4.70	244.68	.371E+06	528.0	3.10	11.72
5.22	245.20	.440E+06	657.4	3.26	11.14
5.74	245.72	.514E+06	805.0	3.42	10.65
6.26	246.24	.596E+06	963.3	3.52	10.32
6.78	246.76	.687E+06	1146.8	3.64	9.99
7.30	247.28	.787E+06	1344.8	3.73	9.75
7.83	247.81	.897E+06	1571.2	3.82	9.52
8.35	248.33	.102E+07	1836.2	3.94	9.23
8.87	248.85	.115E+07	2136.3	4.06	8.95
9.39	249.37	.129E+07	2472.6	4.19	8.67
9.91	249.89	.144E+07	2914.4	4.43	8.21

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0946)	708.66	0.08	11.67	0.55	0.01	0.75
OUTFLOW: ID= 1 (2228)	708.66	0.08	12.50	0.55	0.01	0.75

ADD HYD (2073)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2228):	708.66	0.080	12.50	0.55
+ ID2= 2 (0291):	138.00	0.000	0.00	0.00
ID = 3 (2073):	846.66	0.080	12.50	0.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2073)
3 + 2 = 1

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (2073):	846.66	0.080	12.50	0.46
+ ID2= 2 (0292):	262.27	0.413	7.33	3.11
ID = 1 (2073):	1108.93	0.440	7.50	1.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2229)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	254.15	0.0600	
27.00	251.79	0.0450	Main Channel

37.00	251.07	0.0450	Main Channel
57.00	249.98	0.0450	Main Channel
58.00	249.75	0.0450	Main Channel
67.00	248.22	0.0450	Main Channel
68.00	247.88	0.0450	Main Channel
87.00	244.15	0.0450	Main Channel
88.00	243.82	0.0450	Main Channel
97.00	241.98	0.0450	Main Channel
98.00	241.89	0.0450	Main Channel
107.00	239.98	0.0450	Main Channel
117.00	240.07	0.0450	Main Channel
127.00	240.57	0.0450	Main Channel
137.00	243.88	0.0450	Main Channel
147.00	245.66	0.0450	Main Channel
158.00	246.87	0.0450	Main Channel
177.00	248.38	0.0450	Main Channel
187.00	249.37	0.0450 /0.0600	Main Channel
195.00	250.34	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.52	240.50	.664E+04	6.9	0.95	15.97
1.04	241.02	.181E+05	31.7	1.59	9.52
1.57	241.55	.315E+05	72.5	2.09	7.25
2.09	242.07	.469E+05	127.8	2.47	6.12
2.61	242.59	.645E+05	201.2	2.84	5.34
3.13	243.11	.840E+05	291.9	3.16	4.80
3.65	243.63	.105E+06	401.0	3.46	4.38
4.17	244.15	.129E+06	528.6	3.73	4.06
4.70	244.68	.155E+06	669.0	3.93	3.85
5.22	245.20	.183E+06	833.0	4.14	3.66
5.74	245.72	.214E+06	1020.1	4.33	3.50
6.26	246.24	.248E+06	1220.7	4.47	3.39
6.78	246.76	.286E+06	1453.2	4.61	3.28
7.30	247.28	.328E+06	1704.2	4.73	3.21
7.83	247.81	.374E+06	1991.0	4.84	3.13
8.35	248.33	.424E+06	2326.8	4.99	3.04
8.87	248.85	.478E+06	2707.1	5.15	2.94
9.39	249.37	.536E+06	3133.3	5.31	2.85
9.91	249.89	.598E+06	3693.1	5.61	2.70

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2073)	1108.93	0.44	7.50	1.08	0.03	0.95
OUTFLOW: ID= 1 (2229)	1108.93	0.44	7.83	1.08	0.03	0.95

ROUTE CHN(2230)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	254.15	0.0600	
27.00	251.79	0.0450	Main Channel
37.00	251.07	0.0450	Main Channel
57.00	249.98	0.0450	Main Channel

58.00	249.75	0.0450	Main Channel
67.00	248.22	0.0450	Main Channel
68.00	247.88	0.0450	Main Channel
87.00	244.15	0.0450	Main Channel
88.00	243.82	0.0450	Main Channel
97.00	241.98	0.0450	Main Channel
98.00	241.89	0.0450	Main Channel
107.00	239.98	0.0450	Main Channel
117.00	240.07	0.0450	Main Channel
127.00	240.57	0.0450	Main Channel
137.00	243.88	0.0450	Main Channel
147.00	245.66	0.0450	Main Channel
158.00	246.87	0.0450	Main Channel
177.00	248.38	0.0450	Main Channel
187.00	249.37	0.0450 /0.0600	Main Channel
195.00	250.34	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.52	240.50	.345E+04	5.2	0.71	11.09
1.04	241.02	.940E+04	23.7	1.19	6.61
1.57	241.55	.164E+05	54.2	1.56	5.03
2.09	242.07	.244E+05	95.6	1.85	4.25
2.61	242.59	.335E+05	150.4	2.12	3.71
3.13	243.11	.436E+05	218.3	2.36	3.33
3.65	243.63	.548E+05	299.9	2.58	3.04
4.17	244.15	.669E+05	395.3	2.79	2.82
4.70	244.68	.803E+05	500.3	2.94	2.68
5.22	245.20	.951E+05	623.0	3.09	2.54
5.74	245.72	.111E+06	762.9	3.24	2.43
6.26	246.24	.129E+06	912.9	3.34	2.36
6.78	246.76	.149E+06	1086.7	3.45	2.28
7.30	247.28	.170E+06	1274.5	3.53	2.23
7.83	247.81	.194E+06	1489.0	3.62	2.17
8.35	248.33	.220E+06	1740.1	3.73	2.11
8.87	248.85	.248E+06	2024.5	3.85	2.04
9.39	249.37	.278E+06	2343.2	3.97	1.98
9.91	249.89	.311E+06	2761.9	4.20	1.87

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2229)	1108.93	0.44	7.83	1.08	0.04	0.71
OUTFLOW: ID= 1 (2230)	1108.93	0.43	8.08	1.08	0.04	0.71

ADD HYD (7551)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2230):	1108.93	0.435	8.08	1.08
+ ID2= 2 (0290):	111.48	0.177	7.75	4.00
ID = 3 (7551):	1220.41	0.612	8.00	1.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0942)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1855):	983.34	13.872	5.42	14.67
+ ID2= 2 (7551):	1220.41	0.612	8.00	1.35
ID = 3 (0942):	2203.75	14.026	5.50	7.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2269)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.23	0.0600	
25.00	236.39	0.0450	Main Channel
35.00	235.87	0.0450	Main Channel
55.00	234.01	0.0450	Main Channel
85.00	233.39	0.0450	Main Channel
95.00	233.09	0.0450	Main Channel
105.00	229.73	0.0450	Main Channel
115.00	226.88	0.0450	Main Channel
135.00	226.22	0.0450	Main Channel
145.00	224.87	0.0450	Main Channel
150.00	225.45	0.0450	Main Channel
160.00	225.51	0.0450	Main Channel
175.00	226.33	0.0450	Main Channel
205.00	227.64	0.0450	Main Channel
220.00	228.23	0.0450	Main Channel
235.00	229.52	0.0450	Main Channel
250.00	231.32	0.0450	Main Channel
265.00	231.93	0.0450	Main Channel
285.00	233.13	0.0450 /0.0600	Main Channel
296.00	233.52	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.59	225.46	.179E+04	1.7	0.62	17.32
1.18	226.05	.115E+05	18.3	1.02	10.45
1.77	226.64	.285E+05	56.7	1.27	8.38
2.36	227.23	.560E+05	141.8	1.62	6.58
2.95	227.82	.899E+05	276.9	1.97	5.41
3.54	228.41	.130E+06	466.4	2.30	4.64
4.13	229.00	.174E+06	721.3	2.65	4.02
4.72	229.59	.222E+06	1029.4	2.97	3.59
5.31	230.18	.272E+06	1399.7	3.29	3.24
5.90	230.77	.325E+06	1822.9	3.59	2.97
6.49	231.36	.380E+06	2291.9	3.86	2.77
7.08	231.95	.440E+06	2735.3	3.98	2.68
7.67	232.54	.506E+06	3291.9	4.17	2.56
8.26	233.13	.575E+06	3895.6	4.33	2.46
8.91	233.78	.664E+06	4491.8	4.33	2.46
9.56	234.44	.764E+06	5389.8	4.51	2.36
10.22	235.09	.868E+06	6508.2	4.80	2.22
10.87	235.74	.975E+06	7725.6	5.07	2.10
11.52	236.39	.109E+07	9165.7	5.39	1.98

```
                                          <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0942)    2203.75    14.03    5.50   7.29      1.03
0.87
   OUTFLOW: ID= 1 (  2269)    2203.75    13.61    5.58   7.29      1.01
0.86


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--------------------
| ADD HYD  (  7549)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  2269):   2203.75     13.612        5.58        7.29
      + ID2= 2 (  0283):     34.58      0.076        6.58        3.85
        ============================================================
        ID = 3 (  7549):   2238.33     13.668        5.58        7.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1844)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  7548):   8031.12     13.242       12.08        7.20
      + ID2= 2 (  7549):   2238.33     13.668        5.58        7.24
        ============================================================
        ID = 3 (  1844):  10269.45     14.250       12.00        7.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3052)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                   0.00        233.24        0.0600
                  10.40        233.87        0.0450      Main Channel
                  43.48        236.72        0.0450      Main Channel
                  77.09        235.35        0.0450      Main Channel
                 106.71        233.36        0.0450      Main Channel
                 129.33        232.96        0.0450      Main Channel
                 172.82        230.02        0.0450      Main Channel
                 217.22        227.97        0.0450      Main Channel
                 293.03        224.77        0.0450      Main Channel
                 322.65        222.72        0.0450      Main Channel
                 338.59        222.80        0.0450      Main Channel
                 352.51        221.25        0.0450      Main Channel
                 367.46        221.37        0.0450      Main Channel
                 404.31        231.13        0.0450      Main Channel
                 434.00        227.72        0.0450      Main Channel
                 463.47        231.48        0.0450      Main Channel
                 515.09        234.98        0.0450      Main Channel
                 552.14        238.09        0.0450      Main Channel
```



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                 589.72        239.09    0.0450 /0.0600  Main Channel
                 629.73        239.15        0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
       0.62   221.87    .923E+04          7.0          0.67      21.89
       1.24   222.49    .235E+05         27.2          1.01      14.39
       1.86   223.11    .475E+05         57.7          1.06      13.71
       2.48   223.73    .814E+05        125.6          1.35      10.80
       3.09   224.34    .121E+06        220.9          1.59       9.16
       3.71   224.96    .168E+06        341.9          1.79       8.17
       4.33   225.58    .222E+06        489.4          1.93       7.58
       4.95   226.20    .286E+06        677.5          2.07       7.05
       5.57   226.82    .360E+06        910.2          2.22       6.58
       6.19   227.44    .442E+06       1191.4          2.36       6.18
       6.81   228.06    .534E+06       1498.7          2.46       5.94
       7.43   228.68    .641E+06       1855.3          2.54       5.75
       8.04   229.29    .761E+06       2285.6          2.63       5.55
       8.66   229.91    .895E+06       2794.5          2.73       5.34
       9.28   230.53    .104E+07       3410.6          2.86       5.10
       9.90   231.15    .120E+07       4117.4          3.00       4.87
      10.52   231.77    .137E+07       4956.5          3.16       4.61
      11.14   232.39    .155E+07       5860.0          3.31       4.41
      11.76   233.01    .174E+07       6828.6          3.44       4.24

                                          <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1844)   10269.45    14.25   12.00   7.21      0.84
0.76
   OUTFLOW: ID= 1 (  3052)   10269.45    14.20   12.17   7.21      0.84
0.76

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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--------------------
| ROUTE CHN(  3032)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                   0.00        227.21        0.0600
                  42.39        225.18        0.0450      Main Channel
                  71.32        224.03        0.0450      Main Channel
                  91.74        221.51        0.0450      Main Channel
                 102.22        220.32        0.0450      Main Channel
                 122.91        220.04        0.0450      Main Channel
                 267.32        220.04        0.0450      Main Channel
                 318.88        220.37        0.0450      Main Channel
                 360.24        220.97        0.0450      Main Channel
                 412.96        220.17        0.0450      Main Channel
                 423.40        218.52        0.0450      Main Channel
                 444.33        220.04        0.0450      Main Channel
                 484.52        219.84        0.0450      Main Channel
                 505.41        220.86        0.0450      Main Channel
                 536.78        226.18        0.0450      Main Channel
                 557.71        228.95        0.0450      Main Channel
                 568.16        229.43        0.0450      Main Channel
                 580.88        230.72        0.0450      Main Channel
                 615.50        232.36    0.0450 /0.0600  Main Channel
```



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                 660.59        232.91        0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
       0.42   218.94    .516E+03          0.6          0.36      13.37
       0.85   219.37    .206E+04          4.1          0.57       8.42
       1.27   219.79    .465E+04         12.0          0.74       6.43
       1.70   220.22    .200E+05         28.9          0.41      11.55
       2.12   220.64    .587E+05        142.8          0.70       6.85
       2.54   221.06    .106E+06        347.6          0.94       5.08
       2.97   221.49    .156E+06        656.9          1.20       3.96
       3.39   221.91    .207E+06       1041.6          1.44       3.31
       3.81   222.33    .259E+06       1495.7          1.65       2.88
       4.24   222.76    .311E+06       2015.0          1.85       2.57
       4.66   223.18    .364E+06       2596.4          2.04       2.34
       5.09   223.61    .418E+06       3237.6          2.22       2.15
       5.51   224.03    .472E+06       3936.6          2.38       2.00
       6.04   224.56    .542E+06       4917.3          2.59       1.84
       6.57   225.09    .615E+06       5991.2          2.79       1.71
       7.10   225.62    .689E+06       7162.2          2.97       1.60
       7.63   226.15    .766E+06       8427.9          3.15       1.52
       8.16   226.68    .845E+06       9776.8          3.31       1.44
       8.69   227.21    .927E+06      11217.6          3.46       1.38

                                          <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3052)   10269.45    14.20   12.17   7.21      1.33
0.67
   OUTFLOW: ID= 1 (  3032)   10269.45    14.19   12.33   7.21      1.32
0.68

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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--------------------
| CALIB            |
| NASHYD   (  0307)|   Area    (ha)=    228.18   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.24

     Unit Hyd Qpeak  (cms)=     1.739

     PEAK FLOW       (cms)=     0.238 (i)
     TIME TO PEAK    (hrs)=     9.250
     RUNOFF VOLUME    (mm)=     4.154
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1340)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  3032):  10269.45     14.192       12.33        7.21
      + ID2= 2 (  0307):    228.18      0.238        9.25        4.15
        ============================================================
```



```
        ID = 3 (  1340):  10497.63     14.390       12.33        7.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3025)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                   0.00        239.09        0.0600
                   6.83        239.28        0.0450      Main Channel
                  14.08        238.39        0.0450      Main Channel
                  38.07        231.27        0.0450      Main Channel
                  65.96        225.05        0.0450      Main Channel
                  73.69        223.97        0.0450      Main Channel
                 105.44        221.36        0.0450      Main Channel
                 126.10        222.17        0.0450      Main Channel
                 150.27        222.26        0.0450      Main Channel
                 181.06        221.28        0.0450      Main Channel
                 201.48        219.67        0.0450      Main Channel
                 232.12        219.58        0.0450      Main Channel
                 242.34        217.61        0.0450      Main Channel
                 252.53        219.11        0.0450      Main Channel
                 299.62        219.45        0.0450      Main Channel
                 335.36        219.05        0.0450      Main Channel
                 393.38        217.75        0.0450      Main Channel
                 417.54        218.11        0.0450      Main Channel
                 479.81        228.05    0.0450 /0.0600  Main Channel
                 496.65        228.52        0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
       1.04   218.65    .172E+05         20.0          0.46      14.33
       2.09   219.70    .752E+05        117.4          0.62      10.68
       3.13   220.74    .173E+06        446.9          1.03       6.47
       4.18   221.79    .282E+06        898.8          1.27       5.23
       5.22   222.83    .422E+06       1524.6          1.44       4.61
       6.26   223.87    .575E+06       2470.8          1.71       3.88
       7.31   224.92    .736E+06       3632.5          1.97       3.38
       8.35   225.96    .902E+06       5000.3          2.21       3.01
       9.40   227.01    .107E+07       6553.3          2.43       2.73
      10.44   228.05    .125E+07       8284.8          2.64       2.51
      11.69   229.30    .147E+07      10697.3          2.90       2.29
      12.94   230.55    .169E+07      13373.6          3.15       2.11
      14.18   231.79    .192E+07      16314.0          3.38       1.96
      15.43   233.04    .215E+07      19515.9          3.61       1.84
      16.68   234.29    .238E+07      22954.5          3.84       1.73
      17.93   235.54    .262E+07      26623.8          4.05       1.64
      19.17   236.78    .285E+07      30518.4          4.26       1.56
      20.42   238.03    .309E+07      34634.1          4.46       1.49
      21.67   239.28    .333E+07      39128.6          4.68       1.42

                                          <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1340)   10497.63    14.39   12.33   7.15      0.75
0.46
   OUTFLOW: ID= 1 (  3025)   10497.63    14.31   12.25   7.15      0.75
0.46
```

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(3020) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00 |

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	249.18	0.0600	
28.60	249.91	0.0450	Main Channel
42.91	246.06	0.0450	Main Channel
71.85	235.00	0.0450	Main Channel
107.84	220.45	0.0450	Main Channel
122.65	216.69	0.0450	Main Channel
142.46	218.54	0.0450	Main Channel
173.28	218.66	0.0450	Main Channel
253.82	218.74	0.0450	Main Channel
362.03	219.48	0.0450	Main Channel
392.12	219.96	0.0450	Main Channel
465.42	221.70	0.0450	Main Channel
517.14	221.19	0.0450	Main Channel
539.63	217.45	0.0450	Main Channel
593.44	217.55	0.0450	Main Channel
634.56	218.00	0.0450	Main Channel
652.04	220.69	0.0450	Main Channel
669.15	225.34	0.0450	Main Channel
682.16	227.26	0.0450 /0.0600	Main Channel
699.41	227.54	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.51	218.20	.517E+05	42.3	0.57	20.39
3.02	219.71	.327E+06	425.7	0.92	12.79
4.53	221.22	.787E+06	1592.6	1.42	8.23
6.04	222.73	.136E+07	3590.3	1.85	6.32
7.55	224.24	.196E+07	6501.0	2.33	5.02
9.06	225.75	.256E+07	10062.1	2.76	4.25
10.57	227.26	.318E+07	14200.5	3.13	3.74
12.08	228.77	.383E+07	19110.6	3.51	3.34
13.97	230.66	.464E+07	26079.8	3.95	2.97
15.85	232.54	.546E+07	33916.6	4.36	2.69
17.74	234.43	.629E+07	42578.0	4.75	2.46
19.63	236.32	.713E+07	52021.4	5.13	2.28
21.52	238.21	.796E+07	62223.7	5.49	2.13
23.40	240.09	.881E+07	73165.6	5.83	2.01
25.29	241.98	.966E+07	84827.5	6.17	1.90
27.18	243.87	.105E+08	97192.6	6.49	1.80
29.07	245.76	.114E+08	110246.0	6.80	1.72
30.95	247.64	.123E+08	124498.8	7.13	1.64
32.84	249.53	.131E+08	139562.8	7.46	1.57

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3025)	10497.63	14.31	12.25	7.15	0.51	0.57
OUTFLOW: ID= 1 (3020)	10497.63	14.23	13.00	7.15	0.50	0.57

| ROUTE CHN(3012) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00 |

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	235.41	0.0600	
31.69	231.24	0.0450	Main Channel
59.98	225.27	0.0450	Main Channel
67.05	224.97	0.0450	Main Channel
102.40	228.96	0.0450	Main Channel
139.75	228.42	0.0450	Main Channel
173.69	229.12	0.0450	Main Channel
286.22	224.77	0.0450	Main Channel
289.82	224.52	0.0450	Main Channel
318.67	217.13	0.0450	Main Channel
354.02	216.75	0.0450	Main Channel
361.09	215.58	0.0450	Main Channel
375.40	217.09	0.0450	Main Channel
427.30	217.47	0.0450	Main Channel
499.26	228.57	0.0450	Main Channel
520.13	232.83	0.0450	Main Channel
548.42	241.88	0.0450	Main Channel
562.56	244.92	0.0450	Main Channel
570.96	245.07	0.0450 /0.0600	Main Channel
628.19	252.80	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.97	216.55	.513E+04	3.1	0.43	27.22
1.94	217.52	.419E+05	27.7	0.47	25.23
2.91	218.49	.121E+06	152.1	0.89	13.23
3.88	219.46	.206E+06	352.1	1.20	9.77
4.84	220.42	.299E+06	620.8	1.46	8.02
5.81	221.39	.398E+06	956.0	1.69	6.94
6.78	222.36	.504E+06	1357.2	1.89	6.19
7.75	223.33	.618E+06	1825.1	2.08	5.64
8.72	224.30	.738E+06	2360.7	2.25	5.21
9.69	225.27	.868E+06	2770.1	2.25	5.23
10.66	226.24	.103E+07	3277.9	2.24	5.24
11.79	227.37	.126E+07	4057.2	2.27	5.16
12.91	228.49	.152E+07	4972.9	2.30	5.10
14.04	229.62	.187E+07	6012.7	2.26	5.19
15.17	230.75	.224E+07	8026.5	2.52	4.66
16.29	231.87	.263E+07	10292.5	2.76	4.25
17.42	233.00	.302E+07	12810.1	2.99	3.93
18.55	234.13	.342E+07	15594.2	3.21	3.66
19.67	235.25	.384E+07	18613.0	3.42	3.43

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3020)	10497.63	14.23	13.00	7.15	1.41	0.45
OUTFLOW: ID= 1 (3012)	10497.63	14.09	13.17	7.14	1.40	0.45

| ROUTE CHN(2992) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00 |

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	243.27	0.0600	
59.15	245.28	0.0450	Main Channel
69.35	242.78	0.0450	Main Channel
92.28	235.89	0.0450	Main Channel
120.19	226.36	0.0450	Main Channel
162.04	216.89	0.0450	Main Channel
194.92	215.48	0.0450	Main Channel
286.50	216.00	0.0450	Main Channel
340.67	215.83	0.0450	Main Channel
351.50	214.35	0.0450	Main Channel
370.34	217.75	0.0450	Main Channel
401.24	214.53	0.0450	Main Channel
446.78	215.36	0.0450	Main Channel
500.10	214.70	0.0450	Main Channel
538.07	217.55	0.0450	Main Channel
578.27	224.69	0.0450	Main Channel
602.64	229.61	0.0450	Main Channel
614.08	229.91	0.0450	Main Channel
619.46	231.33	0.0450 /0.0600	Main Channel
644.37	231.66	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.54	215.89	.868E+05	76.0	0.54	19.02
3.09	217.44	.410E+06	774.1	1.17	8.82
4.63	218.98	.776E+06	2164.8	1.72	5.98
6.17	220.52	.116E+07	4108.3	2.19	4.70
7.72	222.07	.156E+07	6545.0	2.60	3.96
9.26	223.61	.197E+07	9447.1	2.96	3.47
10.81	225.16	.239E+07	12803.0	3.30	3.12
12.35	226.70	.283E+07	16620.1	3.62	2.84
13.89	228.24	.329E+07	20905.7	3.93	2.62
15.44	229.79	.375E+07	25418.6	4.18	2.46
16.98	231.33	.423E+07	30515.4	4.45	2.31
18.72	233.07	.481E+07	37249.6	4.77	2.15
20.47	234.82	.540E+07	44568.2	5.09	2.02
22.21	236.56	.600E+07	52428.4	5.40	1.91
23.96	238.31	.660E+07	60803.3	5.69	1.81
25.70	240.05	.720E+07	69705.0	5.97	1.72
27.44	241.79	.781E+07	79123.4	6.25	1.65
29.19	243.54	.843E+07	89317.4	6.54	1.57
30.93	245.28	.909E+07	100425.1	6.81	1.51

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3012)	10497.63	14.09	13.17	7.14	0.29	0.54
OUTFLOW: ID= 1 (2992)	10497.63	14.02	13.50	7.14	0.28	0.54

| ROUTE CHN(2989) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00 |

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.03	0.0600	
15.46	226.94	0.0450	Main Channel
19.06	227.16	0.0450	Main Channel
56.59	224.25	0.0450	Main Channel
66.08	222.87	0.0450	Main Channel
97.60	217.11	0.0450	Main Channel
115.25	215.98	0.0450	Main Channel
137.43	215.17	0.0450	Main Channel
188.96	213.98	0.0450	Main Channel
211.15	214.29	0.0450	Main Channel
241.01	214.38	0.0450	Main Channel
250.55	214.03	0.0450	Main Channel
261.76	213.08	0.0450	Main Channel
273.58	214.23	0.0450	Main Channel
299.77	214.36	0.0450	Main Channel
321.82	214.46	0.0450	Main Channel
353.77	218.17	0.0450	Main Channel
380.42	223.53	0.0450	Main Channel
414.29	225.70	0.0450 /0.0600	Main Channel
426.66	225.70	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.63	213.71	.152E+04	1.7	0.38	15.16
1.26	214.34	.946E+04	8.9	0.33	17.62
1.89	214.97	.445E+05	84.7	0.66	8.76
2.52	215.60	.868E+05	235.8	0.94	6.14
3.16	216.24	.134E+06	457.4	1.18	4.88
3.79	216.87	.185E+06	748.1	1.40	4.12
4.42	217.50	.239E+06	1111.0	1.61	3.58
5.05	218.13	.295E+06	1541.6	1.80	3.19
5.68	218.76	.352E+06	2040.8	2.00	2.88
6.31	219.39	.411E+06	2599.4	2.18	2.64
6.94	220.02	.472E+06	3215.4	2.35	2.45
7.57	220.65	.534E+06	3887.9	2.51	2.29
8.20	221.28	.597E+06	4616.1	2.67	2.16
8.83	221.91	.662E+06	5399.4	2.81	2.04
9.47	222.55	.728E+06	6237.7	2.95	1.95
10.10	223.18	.796E+06	7124.6	3.09	1.86
10.73	223.81	.866E+06	8013.8	3.19	1.80
11.36	224.44	.938E+06	8884.4	3.27	1.76
11.99	225.07	.101E+07	9776.8	3.33	1.73

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2992)	10497.63	14.02	13.50	7.14	1.30	0.34
OUTFLOW: ID= 1 (2989)	10497.63	13.98	13.75	7.14	1.30	0.34

| ROUTE CHN(2975) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00 |

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	238.99	0.0600	
47.02	228.78	0.0450	Main Channel
75.97	225.52	0.0450	Main Channel
161.15	222.94	0.0450	Main Channel
168.22	221.62	0.0450	Main Channel
179.53	216.69	0.0450	Main Channel
196.50	213.39	0.0450	Main Channel
213.48	213.55	0.0450	Main Channel
224.79	211.82	0.0450	Main Channel
231.86	212.54	0.0450	Main Channel
242.54	211.51	0.0450	Main Channel
256.96	213.11	0.0450	Main Channel
289.41	213.00	0.0450	Main Channel
315.89	214.65	0.0450	Main Channel
332.95	215.45	0.0450	Main Channel
344.32	217.31	0.0450	Main Channel
378.04	226.68	0.0450	Main Channel
394.33	231.07	0.0450	Main Channel
404.30	234.86	0.0450 /0.0600	Main Channel
417.92	237.59	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.27	212.78	.127E+05	13.1	0.58	16.17
2.55	214.06	.716E+05	108.2	0.84	11.02
3.82	215.33	.162E+06	361.4	1.24	7.49
5.09	216.60	.271E+06	789.8	1.63	5.72
6.37	217.88	.388E+06	1383.2	1.99	4.68
7.64	219.15	.512E+06	2123.5	2.32	4.02
8.92	220.43	.640E+06	2996.8	2.61	3.56
10.19	221.70	.774E+06	3996.4	2.88	3.23
11.46	222.97	.915E+06	5063.6	3.09	3.01
12.74	224.25	.108E+07	5801.5	3.01	3.09
14.01	225.52	.127E+07	6841.5	3.00	3.10
15.28	226.79	.149E+07	8771.0	3.29	2.83
16.82	228.33	.177E+07	11374.4	3.59	2.59
18.35	229.86	.206E+07	14306.2	3.88	2.40
19.88	231.39	.236E+07	17570.8	4.15	2.24
21.42	232.93	.267E+07	21191.3	4.42	2.10
22.95	234.46	.300E+07	25121.5	4.68	1.99
24.49	236.00	.333E+07	29526.6	4.95	1.88
26.02	237.53	.367E+07	34315.6	5.21	1.78

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2989)	10497.63	13.98	13.75	7.14	1.29	0.58
OUTFLOW: ID= 1 (2975)	10497.63	13.93	14.00	7.14	1.29	0.58

ROUTE CHN(2938)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	232.19	0.0600	
7.28	230.37	0.0450	Main Channel
17.76	229.71	0.0450	Main Channel
30.49	230.69	0.0450	Main Channel
57.78	235.08	0.0450	Main Channel
70.46	234.73	0.0450	Main Channel
80.90	233.09	0.0450	Main Channel
104.03	226.29	0.0450	Main Channel
131.27	217.15	0.0450	Main Channel
143.90	215.29	0.0450	Main Channel
154.67	211.98	0.0450	Main Channel
199.65	212.30	0.0450	Main Channel
248.23	212.97	0.0450	Main Channel
288.61	215.85	0.0450	Main Channel
328.90	217.53	0.0450	Main Channel
367.08	220.31	0.0450	Main Channel
399.31	221.59	0.0450	Main Channel
439.59	225.83	0.0450	Main Channel
469.95	232.82	0.0450 /0.0600	Main Channel
497.10	232.25	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.18	213.16	.114E+05	42.6	0.57	4.47
2.36	214.34	.315E+05	204.0	1.00	2.57
3.55	215.53	.553E+05	467.6	1.30	1.97
4.73	216.71	.839E+05	814.5	1.49	1.72
5.91	217.89	.119E+06	1308.7	1.70	1.51
7.09	219.07	.158E+06	1976.1	1.93	1.33
8.27	220.25	.201E+06	2782.2	2.14	1.20
9.46	221.44	.248E+06	3643.9	2.26	1.13
10.64	222.62	.300E+06	4810.9	2.47	1.04
11.82	223.80	.355E+06	6158.4	2.67	0.96
13.00	224.98	.413E+06	7666.5	2.86	0.90
14.18	226.16	.473E+06	9367.4	3.05	0.84
15.37	227.35	.535E+06	11298.9	3.25	0.79
16.55	228.53	.599E+06	13391.2	3.45	0.75
17.73	229.71	.664E+06	15644.4	3.63	0.71
19.07	231.05	.744E+06	18004.1	3.73	0.69
20.42	232.40	.830E+06	20815.3	3.86	0.66
21.76	233.74	.924E+06	23973.3	3.99	0.64
23.10	235.08	.102E+07	27004.4	4.06	0.63

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2975)	10497.63	13.93	14.00	7.14	0.39	0.57
OUTFLOW: ID= 1 (2938)	10497.63	13.92	14.08	7.14	0.39	0.57

CALIB					
NASHYD (0306)	Area	(ha)=	226.56	Curve Number	(CN)= 62.0
ID= 1 DT= 5.0 min	Ia	(mm)=	14.40	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		2.19		

Unit Hyd Qpeak (cms)= 1.766

PEAK FLOW	(cms)=	0.241 (i)
TIME TO PEAK	(hrs)=	9.250
RUNOFF VOLUME	(mm)=	4.154
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.099

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1274)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2938):	10497.63	13.925	14.08	7.14
+ ID2= 2 (0306):	226.56	0.241	9.25	4.15
ID = 3 (1274):	10724.19	14.083	13.75	7.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2930)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	239.44	0.0600	
29.22	239.21	0.0450	Main Channel
43.41	238.47	0.0450	Main Channel
63.57	236.26	0.0450	Main Channel
101.85	226.34	0.0450	Main Channel
138.22	218.78	0.0450	Main Channel
164.38	214.11	0.0450	Main Channel
194.57	212.80	0.0450	Main Channel
245.09	211.80	0.0450	Main Channel
255.16	210.11	0.0450	Main Channel
275.28	211.59	0.0450	Main Channel
355.95	211.64	0.0450	Main Channel
394.20	212.24	0.0450	Main Channel
430.58	212.54	0.0450	Main Channel
436.66	212.02	0.0450	Main Channel
439.66	212.72	0.0450	Main Channel
456.79	220.59	0.0450	Main Channel
484.99	234.97	0.0450	Main Channel
494.06	237.57	0.0450 /0.0600	Main Channel
517.25	238.42	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.45	211.56	.211E+05	13.6	0.67	25.77
2.89	213.00	.290E+06	251.8	0.90	19.17
4.34	214.45	.689E+06	988.0	1.48	11.63
5.78	215.89	.112E+07	2149.0	1.99	8.66
7.23	217.34	.156E+07	3658.8	2.42	7.11
8.67	218.78	.202E+07	5492.3	2.80	6.13
10.12	220.23	.250E+07	7647.9	3.16	5.44
11.56	221.67	.299E+07	10106.0	3.49	4.93
13.01	223.12	.350E+07	12856.7	3.79	4.53
14.45	224.56	.402E+07	15893.8	4.08	4.21
15.90	226.01	.455E+07	19213.8	4.36	3.95

17.34	227.45	.510E+07	22851.7	4.62	3.72
18.79	228.90	.566E+07	26778.9	4.88	3.53
20.23	230.34	.624E+07	30982.4	5.12	3.36
21.68	231.79	.683E+07	35461.0	5.36	3.21
23.12	233.23	.743E+07	40213.8	5.59	3.08
24.57	234.68	.804E+07	45240.7	5.81	2.96
26.01	236.12	.866E+07	50423.5	6.01	2.86
27.46	237.57	.931E+07	55340.4	6.13	2.80

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1274)	10724.19	14.08	13.75	7.08	1.45	0.67
OUTFLOW: ID= 1 (2930)	10724.19	13.97	14.67	7.08	1.45	0.67

CALIB					
NASHYD (0305)	Area	(ha)=	112.36	Curve Number	(CN)= 64.0
ID= 1 DT= 5.0 min	Ia	(mm)=	14.40	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		1.77		

Unit Hyd Qpeak (cms)= 1.084

PEAK FLOW	(cms)=	0.151 (i)
TIME TO PEAK	(hrs)=	8.583
RUNOFF VOLUME	(mm)=	4.465
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1202)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2930):	10724.19	13.969	14.67	7.08
+ ID2= 2 (0305):	112.36	0.151	8.58	4.46
ID = 3 (1202):	10836.55	14.040	14.42	7.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2831)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	235.93	0.0600	
95.59	235.51	0.0450	Main Channel
163.72	234.63	0.0450	Main Channel
173.15	232.59	0.0450	Main Channel
185.96	226.93	0.0450	Main Channel

210.37	213.55	0.0450		Main Channel
222.58	209.63	0.0450		Main Channel
242.62	208.50	0.0450		Main Channel
314.61	209.18	0.0450		Main Channel
331.68	207.38	0.0450		Main Channel
364.77	208.87	0.0450		Main Channel
405.05	209.83	0.0450		Main Channel
415.05	210.69	0.0450		Main Channel
455.18	226.28	0.0450		Main Channel
515.78	231.44	0.0450		Main Channel
560.96	233.06	0.0450		Main Channel
595.24	232.31	0.0450		Main Channel
619.95	233.10	0.0450		Main Channel
756.71	234.52	0.0450 /0.0600		Main Channel
779.09	235.34	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.43	208.81	.250E+05	23.7	0.62	17.63
2.86	210.24	.173E+06	344.8	1.30	8.38
4.29	211.67	.357E+06	1102.8	2.02	5.40
5.71	213.09	.549E+06	2197.5	2.62	4.17
7.14	214.52	.749E+06	3597.1	3.15	3.47
8.57	215.95	.954E+06	5276.2	3.62	3.01
10.00	217.38	.117E+07	7216.1	4.06	2.69
11.43	218.81	.138E+07	9406.9	4.46	2.45
12.86	220.24	.161E+07	11841.7	4.83	2.26
14.28	221.66	.183E+07	14515.7	5.18	2.11
15.71	223.09	.207E+07	17425.4	5.52	1.98
17.14	224.52	.231E+07	20568.4	5.83	1.87
18.57	225.95	.256E+07	23943.1	6.14	1.78
20.00	227.38	.281E+07	26965.5	6.28	1.74
21.43	228.81	.309E+07	30098.4	6.39	1.71
22.85	230.23	.338E+07	33558.9	6.50	1.68
24.28	231.66	.369E+07	37110.2	6.59	1.66
25.71	233.09	.405E+07	36604.3	5.92	1.84
27.14	234.52	.454E+07	36860.4	5.32	2.05

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1202)	10836.55	14.04	14.42	7.05	0.85	0.62
OUTFLOW: ID= 1 (2831)	10836.55	13.98	14.83	7.05	0.84	0.62

ROUTE CHN(2803)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	231.09	0.0600	
43.35	230.41	0.0450	Main Channel
53.35	228.70	0.0450	Main Channel
103.76	224.21	0.0450	Main Channel
123.82	219.60	0.0450	Main Channel
164.16	215.38	0.0450	Main Channel
184.21	214.57	0.0450	Main Channel

264.72	210.86	0.0450		Main Channel
298.45	210.82	0.0450		Main Channel
429.00	208.43	0.0450		Main Channel
472.60	207.29	0.0450		Main Channel
537.82	206.44	0.0450		Main Channel
550.03	204.24	0.0450		Main Channel
595.85	208.56	0.0450		Main Channel
624.90	222.75	0.0450		Main Channel
632.11	225.12	0.0450		Main Channel
668.11	228.51	0.0450		Main Channel
704.66	231.99	0.0450		Main Channel
791.83	235.28	0.0450 /0.0600		Main Channel
877.19	235.44	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.36	205.60	.139E+05	14.0	0.94	16.56
2.72	206.96	.646E+05	76.2	1.10	14.14
4.08	208.32	.224E+06	382.3	1.60	9.74
5.44	209.68	.476E+06	1034.5	2.03	7.66
6.79	211.03	.831E+06	2061.5	2.32	6.72
8.15	212.39	.128E+07	4001.3	2.91	5.34
9.51	213.75	.178E+07	6506.6	3.42	4.55
10.87	215.11	.231E+07	9557.2	3.86	4.03
12.23	216.47	.288E+07	13404.7	4.35	3.58
13.59	217.83	.347E+07	17884.5	4.81	3.24
14.95	219.19	.408E+07	22922.7	5.24	2.97
16.31	220.55	.471E+07	28672.9	5.68	2.74
17.67	221.91	.536E+07	35038.1	6.11	2.55
19.02	223.26	.601E+07	41911.9	6.52	2.39
20.38	224.62	.667E+07	49103.7	6.87	2.26
21.74	225.98	.736E+07	56044.8	7.11	2.19
23.10	227.34	.809E+07	63341.3	7.31	2.13
24.46	228.70	.885E+07	71254.2	7.52	2.07
26.85	231.09	.103E+08	88730.9	8.06	1.93

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2831)	10836.55	13.98	14.83	7.05	1.35	0.94
OUTFLOW: ID= 1 (2803)	10836.55	13.93	14.83	7.05	1.35	0.94

CALIB	
NASHYD (0303)	Area (ha)= 244.00
ID= 1 DT= 5.0 min	Ia (mm)= 14.40
	U.H. Tp(hrs)= 2.54

Curve Number (CN)= 66.0
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 1.640

PEAK FLOW (cms)= 0.266 (i)
TIME TO PEAK (hrs)= 9.500
RUNOFF VOLUME (mm)= 4.805
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.114

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

309.49	201.12	0.0450		Main Channel
333.58	203.48	0.0450		Main Channel
339.98	205.21	0.0450		Main Channel
359.85	213.34	0.0450		Main Channel
372.71	218.84	0.0450		Main Channel
401.03	223.07	0.0450		Main Channel
432.30	225.43	0.0450		Main Channel
478.45	228.01	0.0450 /0.0600		Main Channel
508.97	227.55	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.34	202.16	.287E+05	34.8	0.86	13.73
2.68	203.50	.111E+06	221.3	1.41	8.33
4.01	204.83	.221E+06	622.6	1.99	5.93
5.35	206.17	.375E+06	1137.3	2.14	5.49
6.69	207.51	.570E+06	2148.2	2.66	4.42
8.03	208.85	.779E+06	3472.1	3.15	3.74
9.37	210.19	.100E+07	5076.7	3.58	3.28
10.70	211.52	.123E+07	6951.6	3.98	2.96
12.04	212.86	.148E+07	9095.8	4.35	2.71
13.38	214.20	.174E+07	11424.8	4.65	2.53
14.91	215.73	.206E+07	14873.1	5.10	2.31
16.45	217.27	.244E+07	18820.2	5.44	2.16
17.98	218.80	.284E+07	23293.9	5.79	2.03
19.52	220.34	.325E+07	27916.8	6.06	1.94
21.05	221.87	.367E+07	32988.5	6.34	1.85
22.59	223.41	.410E+07	38353.1	6.60	1.78
24.12	224.94	.455E+07	43645.4	6.77	1.74
25.66	226.48	.503E+07	49093.5	6.89	1.71
27.19	228.01	.554E+07	54972.2	7.01	1.68

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1132)	11192.80	14.17	14.83	6.97	0.54	0.86
OUTFLOW: ID= 1 (2749)	11192.80	14.14	15.17	6.97	0.54	0.86

ROUTE CHN(2714)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	222.63	0.0600	
34.06	220.43	0.0450	Main Channel
58.25	217.02	0.0450	Main Channel
83.60	216.96	0.0450	Main Channel
93.45	216.17	0.0450	Main Channel
126.63	205.18	0.0450	Main Channel
148.20	203.57	0.0450	Main Channel
159.42	201.83	0.0450	Main Channel
192.15	201.87	0.0450	Main Channel
214.11	202.78	0.0450	Main Channel
291.38	200.84	0.0450	Main Channel
313.49	199.96	0.0450	Main Channel
328.74	198.55	0.0450	Main Channel

CALIB		
NASHYD (0304)	Area (ha)=	112.25
ID= 1 DT= 5.0 min	Ia (mm)=	14.40
	U.H. Tp(hrs)=	2.15

Curve Number (CN)= 58.0
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.891

PEAK FLOW (cms)= 0.105 (i)
TIME TO PEAK (hrs)= 9.250
RUNOFF VOLUME (mm)= 3.599
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.086

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1132)				
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2803):		10836.55	13.933	14.83	7.05
+ ID2= 2 (0303):		244.00	0.266	9.50	4.81
ID = 3 (1132):		11080.55	14.112	14.83	7.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1132)				
3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1132):		11080.55	14.112	14.83	7.00
+ ID2= 2 (0304):		112.25	0.105	9.25	3.60
ID = 1 (1132):		11192.80	14.172	14.83	6.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2749)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	216.78	0.0600	
48.62	215.68	0.0450	Main Channel
80.58	214.20	0.0450	Main Channel
92.29	213.06	0.0450	Main Channel
127.87	207.87	0.0450	Main Channel
142.31	206.27	0.0450	Main Channel
211.44	204.79	0.0450	Main Channel
223.10	203.84	0.0450	Main Channel
247.15	200.82	0.0450	Main Channel
258.83	201.06	0.0450	Main Channel
270.51	203.14	0.0450	Main Channel

340.84	200.10	0.0450		Main Channel
357.40	203.04	0.0450		Main Channel
390.21	214.92	0.0450		Main Channel
412.24	218.58	0.0450		Main Channel
496.46	223.38	0.0450		Main Channel
521.54	222.91	0.0450 /0.0600		Main Channel
565.62	223.06	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.23	199.78	.133E+05	12.6	0.89	17.71
2.46	201.01	.602E+05	80.3	1.26	12.50
3.69	202.24	.179E+06	258.2	1.37	11.53
4.93	203.48	.407E+06	855.1	1.99	7.92
6.16	204.71	.662E+06	1814.3	2.59	6.08
7.39	205.94	.937E+06	3128.6	3.16	4.99
8.62	207.17	.122E+07	4770.1	3.69	4.27
9.85	208.40	.151E+07	6691.5	4.18	3.77
11.08	209.63	.182E+07	8881.3	4.62	3.41
12.31	210.86	.213E+07	11331.6	5.04	3.13
13.54	212.09	.244E+07	14036.8	5.43	2.90
14.78	213.33	.277E+07	16993.0	5.80	2.72
16.01	214.56	.310E+07	20197.4	6.15	2.56
17.24	215.79	.345E+07	23519.5	6.45	2.44
18.47	217.02	.381E+07	25381.6	6.30	2.50
19.70	218.25	.422E+07	29621.4	6.64	2.37
21.29	219.84	.478E+07	34764.0	6.87	2.29
22.88	221.43	.541E+07	40356.7	7.05	2.24
24.47	223.02	.612E+07	46276.8	7.15	2.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2749)	11192.80	14.14	15.17	6.97	1.26	0.90
OUTFLOW: ID= 1 (2714)	11192.80	14.11	15.42	6.97	1.26	0.90

ROUTE CHN(2675)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	213.71	0.0600	
9.00	214.28	0.0450	Main Channel
15.00	213.58	0.0450	Main Channel
40.10	208.89	0.0450	Main Channel
65.18	206.85	0.0450	Main Channel
75.18	203.32	0.0450	Main Channel
82.25	201.36	0.0450	Main Channel
95.25	197.21	0.0450	Main Channel
115.32	197.25	0.0450	Main Channel
145.37	195.91	0.0450	Main Channel
155.37	194.57	0.0450	Main Channel
165.37	194.85	0.0450	Main Channel
175.42	197.18	0.0450	Main Channel
222.47	197.49	0.0450	Main Channel
247.59	197.84	0.0450	Main Channel

258.81	199.31	0.0450		Main Channel
280.92	204.25	0.0450		Main Channel
303.04	204.90	0.0450		Main Channel
325.04	205.94	0.0450 /0.0600		Main Channel
363.55	206.35	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.03	195.60	.897E+04	11.9	0.84	12.57
2.07	196.64	.292E+05	51.9	1.13	9.38
3.10	197.67	.821E+05	133.7	1.03	10.24
4.13	198.70	.185E+06	470.4	1.61	6.56
5.17	199.74	.296E+06	987.7	2.12	4.99
6.20	200.77	.412E+06	1664.4	2.56	4.13
7.24	201.81	.533E+06	2484.4	2.95	3.58
8.27	202.84	.660E+06	3442.2	3.31	3.20
9.30	203.87	.792E+06	4542.5	3.63	2.91
10.34	204.91	.934E+06	5501.8	3.74	2.83
11.37	205.94	.109E+07	6699.1	3.88	2.72
12.41	206.98	.129E+07	8463.6	4.17	2.53
13.46	208.03	.149E+07	10262.2	4.37	2.42
14.50	209.07	.170E+07	12296.2	4.59	2.30
15.54	210.11	.192E+07	14690.3	4.86	2.17
16.58	211.15	.214E+07	17277.2	5.13	2.06
17.63	212.20	.236E+07	20053.3	5.39	1.96
18.67	213.24	.259E+07	23016.0	5.64	1.87
19.71	214.28	.282E+07	26355.1	5.93	1.78

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2714)	11192.80	14.11	15.42	6.97	1.09	0.85
OUTFLOW: ID= 1 (2675)	11192.80	14.09	15.58	6.97	1.09	0.85

ROUTE CHN(2643)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	224.02	0.0600	
32.73	224.40	0.0450	Main Channel
65.06	223.06	0.0450	Main Channel
87.01	220.29	0.0450	Main Channel
109.01	216.85	0.0450	Main Channel
163.28	204.36	0.0450	Main Channel
170.90	200.91	0.0450	Main Channel
185.28	195.85	0.0450	Main Channel
218.06	193.03	0.0450	Main Channel
248.55	200.27	0.0450	Main Channel
261.56	204.93	0.0450	Main Channel
294.38	208.83	0.0450	Main Channel
343.35	210.97	0.0450	Main Channel
359.91	210.89	0.0450	Main Channel
370.69	208.28	0.0450	Main Channel
392.31	210.91	0.0450	Main Channel
414.27	216.21	0.0450	Main Channel

431.75	218.34	0.0450		Main Channel
469.11	224.77	0.0450 /0.0600		Main Channel
541.14	230.75	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.58	194.61	.185E+05	18.2	0.92	16.89
3.16	196.19	.735E+05	119.3	1.52	10.27
4.74	197.77	.151E+06	343.6	2.12	7.34
6.32	199.35	.246E+06	683.7	2.60	5.99
7.90	200.93	.356E+06	1156.1	3.04	5.13
9.48	202.51	.479E+06	1776.8	3.47	4.50
11.06	204.09	.614E+06	2530.2	3.85	4.05
12.64	205.67	.764E+06	3307.0	4.05	3.85
14.22	207.25	.942E+06	4197.7	4.17	3.74
15.81	208.84	.115E+07	5180.7	4.21	3.70
17.39	210.42	.143E+07	5971.8	3.90	3.99
18.97	212.00	.180E+07	7734.3	4.01	3.88
20.55	213.58	.221E+07	10482.9	4.44	3.51
22.13	215.16	.263E+07	13614.9	4.84	3.22
23.71	216.74	.307E+07	17060.0	5.19	3.00
25.29	218.32	.355E+07	20663.6	5.44	2.86
26.87	219.90	.405E+07	24842.4	5.73	2.72
28.45	221.48	.459E+07	29381.0	5.99	2.60
30.03	223.06	.515E+07	34359.4	6.23	2.50

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2675)	11192.80	14.09	15.58	6.97	1.22	0.92
OUTFLOW: ID= 1 (2643)	11192.80	14.05	15.83	6.97	1.21	0.92

CALIB	NASHYD (0302)	ID= 1 DT= 5.0 min	Area (ha)= 153.74	Curve Number (CN)= 64.0
			Ia (mm)= 14.40	# of Linear Res.(N)= 1.50
			U.H. Tp(hrs)= 2.24	

Unit Hyd Qpeak (cms)=	1.172	
PEAK FLOW (cms)=	0.173	(i)
TIME TO PEAK (hrs)=	9.250	
RUNOFF VOLUME (mm)=	4.466	
TOTAL RAINFALL (mm)=	42.000	
RUNOFF COEFFICIENT =	0.106	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0300)	ID= 1 DT= 5.0 min	Area (ha)= 27.10	Total Imp(%)= 47.00	Dir. Conn.(%)= 41.10

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	12.74	14.36

Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.75	2.75
Length (m)=	425.05	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	6.03
over (min)	10.00	30.00
Storage Coeff. (min)=	8.67 (ii)	28.39 (ii)
Unit Hyd. Tpeak (min)=	10.00	30.00
Unit Hyd. peak (cms)=	0.12	0.04

			TOTALS
PEAK FLOW (cms)=	0.60	0.16	0.742 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	40.00	8.76	21.60
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.21	0.51

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1018)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (2643):	11192.80	14.050	15.83	6.97
		+ ID2= 2 (0300):	27.10	0.742	5.25	21.60
		ID = 3 (1018):	11219.90	14.050	15.83	7.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1018)	3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 3 (1018):	11219.90	14.050	15.83	7.00
		+ ID2= 2 (0302):	153.74	0.173	9.25	4.47
		ID = 1 (1018):	11373.64	14.138	15.83	6.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2616)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	219.72	0.0600	
89.25	222.22	0.0450	Main Channel
191.73	222.00	0.0450	Main Channel
274.75	191.55	0.0450	Main Channel
295.42	190.25	0.0450	Main Channel
336.81	194.59	0.0450	Main Channel

388.79	196.01	0.0450		Main Channel
419.65	200.05	0.0450		Main Channel
460.94	198.66	0.0450		Main Channel
502.49	198.57	0.0450		Main Channel
554.03	197.40	0.0450		Main Channel
647.43	199.71	0.0450		Main Channel
678.58	201.92	0.0450		Main Channel
709.75	203.20	0.0450		Main Channel
734.55	205.46	0.0450		Main Channel
761.31	211.11	0.0450		Main Channel
802.97	214.55	0.0450		Main Channel
840.20	218.12	0.0450		Main Channel
844.33	220.05	0.0450	/0.0600	Main Channel
881.59	224.67	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.49	191.74	.233E+05	27.9	1.00	13.88
2.98	193.23	.784E+05	159.9	1.69	8.17
4.47	194.72	.156E+06	402.0	2.14	6.48
5.96	196.21	.286E+06	771.4	2.24	6.17
7.45	197.70	.457E+06	1405.4	2.55	5.42
8.94	199.19	.770E+06	2107.5	2.27	6.09
10.43	200.68	.125E+07	4160.8	2.77	5.00
11.92	202.17	.177E+07	7147.3	3.35	4.14
13.41	203.66	.234E+07	10792.5	3.83	3.62
14.90	205.15	.294E+07	15328.0	4.33	3.20
16.39	206.64	.356E+07	20713.7	4.84	2.86
17.88	208.13	.419E+07	26817.6	5.31	2.61
19.37	209.62	.484E+07	33577.7	5.76	2.40
20.86	211.11	.550E+07	40978.4	6.19	2.24
22.35	212.60	.619E+07	48467.5	6.51	2.13
23.84	214.09	.690E+07	56600.5	6.82	2.03
25.33	215.58	.763E+07	65501.7	7.13	1.94
26.82	217.07	.839E+07	75112.7	7.44	1.86
28.31	218.56	.918E+07	85694.3	7.76	1.78

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1018)	11373.64	14.14	15.83	6.97	0.75	1.00
OUTFLOW: ID= 1 (2616)	11373.64	14.11	16.08	6.97	0.75	1.00

ROUTE CHN(2578)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	219.48	0.0600	
34.35	219.99	0.0450	Main Channel
76.89	217.63	0.0450	Main Channel
112.57	213.55	0.0450	Main Channel
153.27	200.98	0.0450	Main Channel
194.03	189.46	0.0450	Main Channel
210.55	186.34	0.0450	Main Channel
218.87	186.89	0.0450	Main Channel

235.09	191.17	0.0450		Main Channel
243.35	192.39	0.0450		Main Channel
286.21	192.10	0.0450		Main Channel
309.11	192.57	0.0450		Main Channel
328.29	192.34	0.0450		Main Channel
390.73	192.34	0.0450		Main Channel
426.43	205.63	0.0450		Main Channel
443.27	209.88	0.0450		Main Channel
472.55	221.12	0.0450		Main Channel
496.99	222.17	0.0450		Main Channel
513.53	220.96	0.0450	/0.0600	Main Channel
545.94	221.02	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.84	188.18	.141E+05	37.3	1.49	6.31
3.68	190.02	.464E+05	190.4	2.31	4.06
5.52	191.86	.938E+05	490.8	2.94	3.18
7.36	193.70	.272E+06	1164.2	2.41	3.89
9.20	195.54	.500E+06	3107.3	3.49	2.68
11.04	197.38	.741E+06	5776.2	4.38	2.14
12.88	199.22	.993E+06	9114.1	5.16	1.82
14.72	201.06	.126E+07	13092.4	5.85	1.60
16.57	202.91	.153E+07	17710.4	6.49	1.44
18.41	204.75	.182E+07	22942.5	7.08	1.32
20.25	206.59	.212E+07	28717.0	7.62	1.23
22.09	208.43	.243E+07	35046.5	8.10	1.16
23.93	210.27	.276E+07	42044.8	8.57	1.09
25.77	212.11	.309E+07	49828.2	9.05	1.04
27.61	213.95	.344E+07	58011.1	9.47	0.99
29.45	215.79	.381E+07	66053.9	9.74	0.96
31.29	217.63	.420E+07	74851.7	10.01	0.94
33.13	219.47	.462E+07	86473.4	10.52	0.89
35.40	221.74	.523E+07	98596.9	10.59	0.88

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2616)	11373.64	14.11	16.08	6.97	0.70	1.49
OUTFLOW: ID= 1 (2578)	11373.64	14.11	16.17	6.97	0.69	1.49

ROUTE CHN(2579)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	219.48	0.0600	
34.35	219.99	0.0450	Main Channel
76.89	217.63	0.0450	Main Channel
112.57	213.55	0.0450	Main Channel
153.27	200.98	0.0450	Main Channel
194.03	189.46	0.0450	Main Channel
210.55	186.34	0.0450	Main Channel
218.87	186.89	0.0450	Main Channel
235.09	191.17	0.0450	Main Channel
243.35	192.39	0.0450	Main Channel

286.21	192.10	0.0450		Main Channel
309.11	192.57	0.0450		Main Channel
328.29	192.34	0.0450		Main Channel
390.73	192.34	0.0450		Main Channel
426.43	205.63	0.0450		Main Channel
443.27	209.88	0.0450		Main Channel
472.55	221.12	0.0450		Main Channel
496.99	222.17	0.0450		Main Channel
513.53	220.96	0.0450	/0.0600	Main Channel
545.94	221.02	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.84	188.18	.883E+04	21.6	0.86	6.83
3.68	190.02	.290E+05	109.9	1.33	4.39
5.52	191.86	.586E+05	283.2	1.70	3.45
7.36	193.70	.170E+06	671.8	1.39	4.21
9.20	195.54	.313E+06	1793.1	2.01	2.91
11.04	197.38	.463E+06	3333.3	2.53	2.31
12.88	199.22	.620E+06	5259.4	2.98	1.97
14.72	201.06	.785E+06	7555.1	3.38	1.73
16.57	202.91	.958E+06	10220.1	3.75	1.56
18.41	204.75	.114E+07	13239.3	4.09	1.43
20.25	206.59	.132E+07	16571.6	4.39	1.33
22.09	208.43	.152E+07	20224.1	4.67	1.25
23.93	210.27	.172E+07	24262.5	4.95	1.18
25.77	212.11	.193E+07	28754.0	5.22	1.12
27.61	213.95	.215E+07	33476.1	5.46	1.07
29.45	215.79	.238E+07	38117.3	5.62	1.04
31.29	217.63	.262E+07	43194.2	5.78	1.01
33.13	219.47	.289E+07	49900.7	6.07	0.96
35.40	221.74	.327E+07	56896.8	6.11	0.96

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2578)	11373.64	14.11	16.17	6.97	1.20	0.86
OUTFLOW: ID= 1 (2579)	11373.64	14.10	16.25	6.97	1.20	0.86

ROUTE CHN(2535)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	214.68	0.0600	
23.06	213.62	0.0450	Main Channel
51.12	211.45	0.0450	Main Channel
70.19	205.57	0.0450	Main Channel
93.19	201.24	0.0450	Main Channel
113.27	195.28	0.0450	Main Channel
138.39	190.49	0.0450	Main Channel
157.49	185.64	0.0450	Main Channel
163.49	185.16	0.0450	Main Channel
203.58	185.45	0.0450	Main Channel
215.81	185.06	0.0450	Main Channel
253.87	183.18	0.0450	Main Channel

293.99	184.18	0.0450		Main Channel
312.99	188.39	0.0450		Main Channel
344.28	196.25	0.0450		Main Channel
394.37	201.04	0.0450		Main Channel
438.56	205.92	0.0450		Main Channel
486.72	206.78	0.0450		Main Channel
504.72	208.51	0.0450	/0.0600	Main Channel
520.13	208.96	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.33	184.51	.378E+05	52.0	1.01	12.12
2.67	185.85	.140E+06	278.2	1.46	8.36
4.00	187.18	.286E+06	876.3	2.24	5.45
5.33	188.51	.444E+06	1737.5	2.86	4.26
6.67	189.85	.613E+06	2847.5	3.40	3.59
8.00	191.18	.792E+06	4183.5	3.87	3.15
9.33	192.51	.982E+06	5745.5	4.28	2.85
10.67	193.85	.119E+07	7546.9	4.66	2.62
12.00	195.18	.140E+07	9592.3	5.02	2.43
13.33	196.51	.163E+07	11895.3	5.36	2.28
14.66	197.84	.187E+07	14250.8	5.59	2.18
16.00	199.18	.213E+07	16895.8	5.82	2.10
17.33	200.51	.240E+07	19844.2	6.04	2.02
18.66	201.84	.270E+07	23107.4	6.27	1.95
20.00	203.18	.301E+07	26673.4	6.48	1.88
21.33	204.51	.334E+07	30587.6	6.70	1.82
22.66	205.84	.369E+07	34896.8	6.91	1.76
24.00	207.18	.409E+07	37520.8	6.72	1.82
25.33	208.51	.451E+07	43017.2	6.98	1.75

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2579)	11373.64	14.10	16.25	6.97	0.36	1.01
OUTFLOW: ID= 1 (2535)	11373.64	14.07	16.42	6.97	0.36	1.01

CALIB	
NASHYD (0299)	Area (ha)= 136.19 Curve Number (CN)= 61.0
ID= 1 DT= 5.0 min	Ia (mm)= 14.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.31

Unit Hyd Qpeak (cms)= 1.007

PEAK FLOW (cms)= 0.134 (i)
TIME TO PEAK (hrs)= 9.250
RUNOFF VOLUME (mm)= 4.007
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.095

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

| NASHYD (0301)| Area (ha)= 74.77 Curve Number (CN)= 58.0
|ID= 1 DT= 5.0 min | Ia (mm)= 14.40 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 1.11

Unit Hyd Qpeak (cms)= 1.150

PEAK FLOW (cms)= 0.110 (i)
TIME TO PEAK (hrs)= 7.667
RUNOFF VOLUME (mm)= 3.595
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.086

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (0914)|
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2535):	11373.64	14.065	16.42	6.97
+ ID2= 2 (0299):	136.19	0.134	9.25	4.01
ID = 3 (0914):	11509.83	14.130	16.42	6.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0914)|
| 3 + 2 = 1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0914):	11509.83	14.130	16.42	6.93
+ ID2= 2 (0301):	74.77	0.110	7.67	3.59
ID = 1 (0914):	11584.60	14.142	16.42	6.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(2489)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	193.86	0.0600	
6.41	193.91	0.0450	Main Channel
70.74	193.10	0.0450	Main Channel
94.95	193.59	0.0450	Main Channel
136.37	185.75	0.0450	Main Channel
157.79	183.09	0.0450	Main Channel
182.81	180.07	0.0450	Main Channel
195.64	180.47	0.0450	Main Channel
208.44	181.31	0.0450	Main Channel
233.49	181.40	0.0450	Main Channel
309.16	182.23	0.0450	Main Channel
359.83	183.50	0.0450	Main Channel
384.87	185.07	0.0450	Main Channel
422.71	186.98	0.0450	Main Channel
435.53	189.49	0.0450	Main Channel
481.21	204.79	0.0450	Main Channel

486.21	205.97	0.0450	Main Channel
497.61	207.52	0.0450	Main Channel
524.27	207.15	0.0450 /0.0600	Main Channel
545.68	207.76	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.72	180.79	.746E+04	5.0	0.52	24.80
1.45	181.52	.288E+05	22.5	0.60	21.35
2.17	182.24	.898E+05	95.1	0.82	15.74
2.90	182.97	.180E+06	263.0	1.12	11.42
3.62	183.69	.290E+06	523.0	1.39	9.23
4.34	184.41	.412E+06	890.2	1.67	7.71
5.07	185.14	.543E+06	1344.4	1.91	6.73
5.79	185.86	.685E+06	1880.0	2.11	6.07
6.52	186.59	.838E+06	2514.5	2.31	5.55
7.24	187.31	.100E+07	3274.1	2.52	5.09
7.96	188.03	.117E+07	4165.3	2.75	4.67
8.69	188.76	.134E+07	5147.9	2.96	4.33
9.41	189.48	.151E+07	6220.7	3.16	4.06
10.13	190.20	.169E+07	7401.6	3.37	3.81
10.86	190.93	.188E+07	8670.8	3.56	3.61
11.58	191.65	.206E+07	10026.9	3.74	3.43
12.31	192.38	.225E+07	11469.0	3.92	3.27
13.03	193.10	.244E+07	12996.5	4.09	3.13
13.79	193.86	.268E+07	14194.3	4.08	3.14

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0914)	11584.60	14.14	16.42	6.91	1.10	0.56
OUTFLOW: ID= 1 (2489)	11584.60	14.08	16.67	6.91	1.09	0.56

| ROUTE CHN(2429)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	202.56	0.0600	
32.58	203.14	0.0450	Main Channel
60.08	199.15	0.0450	Main Channel
90.59	190.16	0.0450	Main Channel
121.09	187.35	0.0450	Main Channel
151.60	188.72	0.0450	Main Channel
196.03	180.42	0.0450	Main Channel
215.48	180.01	0.0450	Main Channel
236.98	178.21	0.0450	Main Channel
247.77	180.31	0.0450	Main Channel
291.03	179.78	0.0450	Main Channel
301.81	178.22	0.0450	Main Channel
314.60	179.77	0.0450	Main Channel
369.60	179.98	0.0450	Main Channel
386.20	186.46	0.0450	Main Channel
450.64	186.13	0.0450	Main Channel
526.95	187.05	0.0450	Main Channel
554.01	186.44	0.0450	Main Channel

607.78	190.04	0.0450 /0.0600	Main Channel
668.00	204.08	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.18	179.39	.919E+04	15.0	0.67	10.20
2.37	180.58	.624E+05	131.9	0.87	7.88
3.55	181.76	.150E+06	550.3	1.51	4.55
4.73	182.94	.243E+06	1182.3	2.00	3.42
5.91	184.12	.339E+06	2004.6	2.43	2.82
7.10	185.31	.441E+06	3005.7	2.80	2.44
8.28	186.49	.554E+06	3363.6	2.49	2.75
9.46	187.67	.743E+06	4532.4	2.51	2.73
10.64	188.85	.965E+06	6427.4	2.74	2.50
11.83	190.04	.121E+07	8978.4	3.05	2.24
13.01	191.22	.146E+07	12235.0	3.44	1.99
14.40	192.61	.177E+07	16598.5	3.86	1.77
15.79	194.00	.208E+07	21501.1	4.26	1.61
17.18	195.39	.239E+07	26924.9	4.63	1.48
18.57	196.78	.271E+07	32855.8	4.98	1.38
19.97	198.18	.304E+07	39282.8	5.31	1.29
21.36	199.57	.338E+07	46275.7	5.63	1.22
22.75	200.96	.372E+07	53953.0	5.96	1.15
24.14	202.35	.407E+07	62143.9	6.27	1.09

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2489)	11584.60	14.08	16.67	6.91	1.11	0.67
OUTFLOW: ID= 1 (2429)	11584.60	14.06	16.83	6.91	1.10	0.67

| ROUTE CHN(2402)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	197.46	0.0600	
28.61	198.70	0.0450	Main Channel
59.20	197.98	0.0450	Main Channel
114.10	184.50	0.0450	Main Channel
190.52	177.38	0.0450	Main Channel
232.55	176.53	0.0450	Main Channel
273.33	176.64	0.0450	Main Channel
314.12	180.13	0.0450	Main Channel
354.91	181.41	0.0450	Main Channel
385.15	184.92	0.0450	Main Channel
435.58	181.22	0.0450	Main Channel
469.49	178.72	0.0450	Main Channel
480.79	176.57	0.0450	Main Channel
492.10	177.99	0.0450	Main Channel
657.12	178.71	0.0450	Main Channel
730.33	183.37	0.0450	Main Channel
753.79	184.13	0.0450	Main Channel
785.82	190.63	0.0450	Main Channel
809.84	199.86	0.0450 /0.0600	Main Channel
819.00	201.10	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.07	177.60	.570E+05	46.7	0.57	20.36
2.15	178.68	.191E+06	178.7	0.66	17.80
3.22	179.75	.442E+06	641.4	1.02	11.50
4.29	180.82	.739E+06	1342.3	1.27	9.18
5.36	181.89	.109E+07	2335.5	1.50	7.78
6.44	182.97	.148E+07	3652.2	1.72	6.77
7.51	184.04	.192E+07	5218.7	1.91	6.13
8.58	185.11	.240E+07	7275.2	2.13	5.49
9.65	186.18	.289E+07	9821.0	2.39	4.90
10.73	187.26	.338E+07	12673.9	2.63	4.45
11.80	188.33	.389E+07	15822.4	2.85	4.10
12.87	189.40	.440E+07	19257.3	3.07	3.81
13.94	190.47	.492E+07	22971.3	3.27	3.57
15.02	191.55	.544E+07	27004.8	3.48	3.36
16.09	192.62	.598E+07	31314.9	3.67	3.18
17.16	193.69	.651E+07	35888.3	3.86	3.02
18.23	194.76	.705E+07	40720.3	4.05	2.89
19.31	195.84	.760E+07	45806.6	4.22	2.77
20.38	196.91	.815E+07	51143.7	4.40	2.66

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2429)	11584.60	14.06	16.83	6.91	0.32	0.57
OUTFLOW: ID= 1 (2402)	11584.60	14.01	17.08	6.91	0.32	0.57

| ROUTE CHN(2374)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	200.28	0.0600	
57.41	191.19	0.0450	Main Channel
103.76	186.49	0.0450	Main Channel
130.69	186.00	0.0450	Main Channel
172.51	186.06	0.0450	Main Channel
214.37	185.58	0.0450	Main Channel
224.86	183.93	0.0450	Main Channel
245.83	176.32	0.0450	Main Channel
278.15	176.63	0.0450	Main Channel
298.13	176.22	0.0450	Main Channel
340.00	176.89	0.0450	Main Channel
371.41	176.48	0.0450	Main Channel
392.29	176.76	0.0450	Main Channel
465.60	177.01	0.0450	Main Channel
486.57	178.01	0.0450	Main Channel
507.45	183.59	0.0450	Main Channel
549.31	190.59	0.0450	Main Channel
591.15	205.65	0.0450	Main Channel
601.59	206.88	0.0450 /0.0600	Main Channel
622.52	207.01	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.14	177.36	.922E+05	113.6	0.73	13.52
2.28	178.50	.256E+06	590.5	1.37	7.22
3.42	179.64	.426E+06	1356.5	1.89	5.24
4.56	180.78	.602E+06	2363.6	2.33	4.25
5.71	181.93	.783E+06	3590.7	2.72	3.63
6.85	183.07	.969E+06	5025.2	3.08	3.21
7.99	184.21	.116E+07	6625.8	3.39	2.92
9.13	185.35	.136E+07	8362.2	3.65	2.71
10.27	186.49	.160E+07	8795.9	3.26	3.03
11.65	187.87	.195E+07	12057.6	3.66	2.70
13.03	189.25	.232E+07	15766.2	4.02	2.46
14.41	190.63	.271E+07	19929.3	4.36	2.27
15.79	192.01	.312E+07	24693.7	4.70	2.10
17.17	193.39	.353E+07	29930.1	5.03	1.97
18.54	194.76	.396E+07	35615.4	5.34	1.85
19.92	196.14	.439E+07	41742.8	5.64	1.75
21.30	197.52	.484E+07	48306.8	5.92	1.67
22.68	198.90	.529E+07	55303.6	6.20	1.60
24.06	200.28	.576E+07	62730.2	6.46	1.53

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2402)	11584.60	14.01	17.08	6.91	0.14	0.73
OUTFLOW: ID= 1 (2374)	11584.60	13.98	17.42	6.91	0.14	0.73

ROUTE CHN(4006)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	197.96	0.0600	
52.92	198.61	0.0450	Main Channel
63.41	196.22	0.0450	Main Channel
77.01	192.36	0.0450	Main Channel
92.87	188.53	0.0450	Main Channel
105.55	186.14	0.0450	Main Channel
148.03	175.12	0.0450	Main Channel
158.51	173.35	0.0450	Main Channel
179.40	174.05	0.0450	Main Channel
211.06	174.51	0.0450	Main Channel
232.29	174.66	0.0450	Main Channel
267.11	176.81	0.0450	Main Channel
288.34	177.91	0.0450	Main Channel
327.28	178.33	0.0450	Main Channel
369.39	178.26	0.0450	Main Channel
438.11	177.59	0.0450	Main Channel
462.54	178.24	0.0450	Main Channel
494.38	180.22	0.0450	Main Channel
558.05	188.82	0.0450 /0.0600	Main Channel
580.40	192.50	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.29	174.64	.102E+05	18.5	0.50	9.13
2.58	175.93	.436E+05	170.0	1.07	4.28
3.87	177.22	.864E+05	456.7	1.45	3.15
5.16	178.51	.160E+06	701.6	1.20	3.80
6.45	179.80	.282E+06	1713.4	1.67	2.74
7.73	181.09	.412E+06	3117.5	2.07	2.20
9.02	182.37	.547E+06	4878.8	2.44	1.87
10.31	183.66	.688E+06	6965.7	2.78	1.65
11.60	184.95	.833E+06	9367.6	3.08	1.48
12.89	186.24	.984E+06	12075.3	3.36	1.36
14.18	187.53	.114E+07	15057.3	3.62	1.26
15.47	188.82	.130E+07	18352.3	3.86	1.18
16.87	190.22	.148E+07	22581.3	4.17	1.09
18.27	191.62	.167E+07	27180.5	4.46	1.02
19.67	193.02	.186E+07	32168.1	4.73	0.96
21.06	194.41	.206E+07	37543.7	5.00	0.91
22.46	195.81	.225E+07	43273.2	5.26	0.87
23.86	197.21	.245E+07	49571.3	5.54	0.82
25.26	198.61	.266E+07	56326.3	5.81	0.79

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2374)	11584.60	13.98	17.42	6.91	0.97	0.50
OUTFLOW: ID= 1 (4006)	11584.60	13.98	17.50	6.91	0.97	0.50

CALIB	
NASHYD (0298)	Area (ha)= 178.76 Curve Number (CN)= 62.0
ID= 1 DT= 5.0 min	Ia (mm)= 14.40 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 2.56

Unit Hyd Qpeak (cms)= 1.192

PEAK FLOW (cms)= 0.168 (i)
TIME TO PEAK (hrs)= 9.500
RUNOFF VOLUME (mm)= 4.154
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.099

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0297)	Area (ha)= 70.58
ID= 1 DT= 5.0 min	Total Imp(%)= 43.60 Dir. Conn.(%)= 40.20

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	30.77	39.81
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.98	1.98
Length	(m)=	685.95	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)= 19.32 5.93
over (min) 15.00 35.00

Storage Coeff. (min)=	12.76 (ii)	34.67 (ii)	
Unit Hyd. Tpeak (min)=	15.00	35.00	
Unit Hyd. peak (cms)=	0.08	0.03	
			TOTALS
PEAK FLOW (cms)=	1.51	0.42	1.854 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	9.27	21.62
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.22	0.51

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 68.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4059)	IN= 2---> OUT= 1	DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	4.9700	1.3025
1.6300	0.6728	6.5200	1.5527
2.9900	0.9489	65.2000	1.7252

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0297)	70.580	1.854	5.25	21.62
OUTFLOW: ID= 1 (4059)	70.580	1.129	5.67	21.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 60.91
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.4665

ROUTE CHN(2249)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	199.14	0.0600	
6.89	199.10	0.0450	Main Channel
13.59	198.34	0.0450	Main Channel
18.07	197.13	0.0450	Main Channel
21.23	196.97	0.0450	Main Channel
29.47	195.16	0.0450	Main Channel
51.06	193.34	0.0450	Main Channel
58.77	194.07	0.0450	Main Channel
63.24	193.93	0.0450	Main Channel
66.40	193.18	0.0450	Main Channel
74.65	190.19	0.0450	Main Channel
81.36	186.37	0.0450	Main Channel
88.99	184.02	0.0450	Main Channel
97.24	182.85	0.0450	Main Channel
103.95	181.50	0.0450	Main Channel
108.42	181.95	0.0450	Main Channel
111.58	182.80	0.0450	Main Channel

119.83	185.66	0.0450	Main Channel	
134.17	189.51	0.0450 /0.0600	Main Channel	
162.60	197.29	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	182.30	.282E+04	8.1	1.85	5.80
1.60	183.10	.965E+04	43.4	2.89	3.71
2.40	183.90	.205E+05	117.4	3.69	2.90
3.20	184.70	.348E+05	249.0	4.60	2.33
4.01	185.50	.516E+05	434.5	5.41	1.98
4.81	186.30	.711E+05	672.5	6.08	1.76
5.61	187.10	.933E+05	982.3	6.77	1.58
6.41	187.91	.118E+06	1356.9	7.42	1.45
7.21	188.71	.144E+06	1798.7	8.01	1.34
8.01	189.51	.173E+06	2311.0	8.58	1.25
8.88	190.37	.207E+06	3025.8	9.40	1.14
9.74	191.24	.244E+06	3811.7	10.06	1.07
10.61	192.10	.283E+06	4692.6	10.65	1.01
11.47	192.97	.326E+06	5672.7	11.18	0.96
12.34	193.83	.374E+06	6171.6	10.61	1.01
13.20	194.70	.435E+06	6901.9	10.19	1.05
14.07	195.56	.504E+06	8299.2	10.58	1.01
14.93	196.43	.578E+06	10018.7	11.15	0.96
15.80	197.29	.656E+06	11777.6	11.55	0.93

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4059)	70.58	1.13	5.67	21.62	0.11	1.85
OUTFLOW: ID= 1 (2249)	70.58	1.12	5.75	21.62	0.11	1.85

ADD HYD (1285)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2249):	70.58	1.122	5.75	21.62
+ ID2= 2 (0298):	178.76	0.168	9.50	4.15
ID = 3 (1285):	249.34	1.188	5.83	9.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1285)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1285):	249.34	1.188	5.83	9.10
+ ID2= 2 (4006):	11584.60	13.975	17.50	6.91
ID = 1 (1285):	11833.94	14.056	17.42	6.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  4007)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00         197.96        0.0600
                 52.92         198.61        0.0450      Main Channel
                 63.41         196.22        0.0450      Main Channel
                 77.01         192.36        0.0450      Main Channel
                 92.87         188.53        0.0450      Main Channel
                105.55         186.14        0.0450      Main Channel
                148.03         175.12        0.0450      Main Channel
                158.51         173.35        0.0450      Main Channel
                179.40         174.05        0.0450      Main Channel
                211.06         174.51        0.0450      Main Channel
                232.29         174.66        0.0450      Main Channel
                267.11         176.81        0.0450      Main Channel
                288.34         177.91        0.0450      Main Channel
                327.28         178.33        0.0450      Main Channel
                369.39         178.26        0.0450      Main Channel
                438.11         177.59        0.0450      Main Channel
                462.54         178.24        0.0450      Main Channel
                494.38         180.22        0.0450      Main Channel
                558.05         188.82    0.0450 /0.0600  Main Channel
                580.40         192.50        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       1.29   174.64    .114E+05         29.5         0.80       6.45
       2.58   175.93    .491E+05        270.7         1.70       3.02
       3.87   177.22    .971E+05        727.2         2.31       2.23
       5.16   178.51    .180E+06       1117.1         1.91       2.68
       6.45   179.80    .317E+06       2727.9         2.65       1.94
       7.73   181.09    .463E+06       4963.4         3.30       1.55
       9.02   182.37    .615E+06       7767.6         3.89       1.32
      10.31   183.66    .773E+06      11090.2         4.42       1.16
      11.60   184.95    .936E+06      14914.3         4.91       1.05
      12.89   186.24    .111E+07      19225.3         5.36       0.96
      14.18   187.53    .128E+07      23973.0         5.76       0.89
      15.47   188.82    .146E+07      29219.0         6.15       0.83
      16.87   190.22    .167E+07      35952.0         6.64       0.77
      18.27   191.62    .188E+07      43274.5         7.10       0.72
      19.67   193.02    .209E+07      51215.3         7.54       0.68
      21.06   194.41    .231E+07      59774.0         7.96       0.64
      22.46   195.81    .253E+07      68896.0         8.38       0.61
      23.86   197.21    .276E+07      78923.3         8.82       0.58
      25.26   198.61    .299E+07      89678.0         9.24       0.56

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1285)   11833.94    14.06   17.42   6.96      0.61
0.80
  OUTFLOW: ID= 1 (  4007)   11833.94    14.04   17.58   6.96      0.61
0.80


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| CALIB            |
| NASHYD   (  0296)|   Area    (ha)=     95.92   Curve Number   (CN)= 58.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.15

     Unit Hyd Qpeak  (cms)=     1.424

     PEAK FLOW       (cms)=     0.138 (i)
     TIME TO PEAK    (hrs)=     7.750
     RUNOFF VOLUME    (mm)=     3.595
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.086

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7541)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0296):     95.92       0.138        7.75        3.60
     + ID2= 2 (  4007):  11833.94      14.040       17.58        6.96
       ==========================================================
       ID = 3 (  7541):  11929.86      14.051       17.58        6.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0308)|   Area    (ha)=    200.88   Curve Number   (CN)= 57.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.22

     Unit Hyd Qpeak  (cms)=     1.545

     PEAK FLOW       (cms)=     0.176 (i)
     TIME TO PEAK    (hrs)=     9.250
     RUNOFF VOLUME    (mm)=     3.473
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.083

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0309)|   Area    (ha)=    134.95   Curve Number   (CN)= 57.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.86

     Unit Hyd Qpeak  (cms)=     1.239

     PEAK FLOW       (cms)=     0.135 (i)
     TIME TO PEAK    (hrs)=     8.750
     RUNOFF VOLUME    (mm)=     3.472
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.083

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| NASHYD   (  0310)|   Area    (ha)=    125.54   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.89

     Unit Hyd Qpeak  (cms)=     1.134

     PEAK FLOW       (cms)=     0.160 (i)
     TIME TO PEAK    (hrs)=     8.750
     RUNOFF VOLUME    (mm)=     4.465
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0313)|   Area    (ha)=     98.19   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.35

     Unit Hyd Qpeak  (cms)=     0.713

     PEAK FLOW       (cms)=     0.106 (i)
     TIME TO PEAK    (hrs)=     9.333
     RUNOFF VOLUME    (mm)=     4.466
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0314)|   Area    (ha)=    133.93   Curve Number   (CN)= 66.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.04

     Unit Hyd Qpeak  (cms)=     1.121

     PEAK FLOW       (cms)=     0.174 (i)
     TIME TO PEAK    (hrs)=     9.000
     RUNOFF VOLUME    (mm)=     4.804
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.114

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0315)|   Area    (ha)=    167.71   Curve Number   (CN)= 65.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.00

     Unit Hyd Qpeak  (cms)=     0.954

     PEAK FLOW       (cms)=     0.154 (i)
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     TIME TO PEAK    (hrs)=    10.000
     RUNOFF VOLUME    (mm)=     4.633
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.110

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0316)|   Area    (ha)=    211.25   Curve Number   (CN)= 65.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.95

     Unit Hyd Qpeak  (cms)=     1.223

     PEAK FLOW       (cms)=     0.196 (i)
     TIME TO PEAK    (hrs)=    10.000
     RUNOFF VOLUME    (mm)=     4.633
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.110

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0868)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0315):    167.71      0.154       10.00        4.63
     + ID2= 2 (  0316):    211.25      0.196       10.00        4.63
       ==========================================================
       ID = 3 (  0868):    378.96      0.350       10.00        4.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2283)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00         238.89        0.0600
                  7.07         237.35        0.0450      Main Channel
                 12.73         236.65        0.0450      Main Channel
                 21.21         236.00        0.0450      Main Channel
                 26.87         235.46        0.0450      Main Channel
                 35.36         234.47        0.0450      Main Channel
                 41.01         233.92        0.0450      Main Channel
                 55.15         232.36        0.0450      Main Channel
                 63.64         231.27        0.0450      Main Channel
                 69.30         230.68        0.0450      Main Channel
                 77.78         230.19        0.0450      Main Channel
                 83.44         230.29        0.0450      Main Channel
                 91.92         230.58        0.0450      Main Channel
                 97.58         232.23        0.0450      Main Channel
                106.07         235.60        0.0450      Main Channel
                111.72         237.16        0.0450      Main Channel
                120.21         239.07        0.0450      Main Channel
                125.87         239.54        0.0450      Main Channel
                134.35         239.99    0.0450 /0.0600  Main Channel
```

137.20 240.00 0.0600

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	230.62	.419E+04	3.5	0.65	20.13
0.86	231.05	.127E+05	18.7	1.16	11.34
1.29	231.48	.231E+05	45.0	1.54	8.55
1.72	231.91	.352E+05	82.7	1.86	7.09
2.15	232.34	.489E+05	132.3	2.14	6.16
2.58	232.77	.642E+05	193.6	2.38	5.53
3.02	233.20	.813E+05	268.0	2.61	5.06
3.45	233.63	.100E+06	356.3	2.82	4.68
3.88	234.07	.120E+06	458.6	3.01	4.38
4.31	234.50	.143E+06	575.6	3.19	4.13
4.74	234.93	.167E+06	712.5	3.38	3.90
5.17	235.36	.192E+06	866.6	3.56	3.70
5.60	235.79	.220E+06	1032.6	3.71	3.55
6.03	236.22	.249E+06	1210.2	3.84	3.43
6.46	236.65	.281E+06	1405.1	3.95	3.34
6.89	237.08	.315E+06	1675.9	4.21	3.13
7.45	237.64	.362E+06	2057.3	4.50	2.93
8.01	238.20	.411E+06	2476.6	4.77	2.77
8.57	238.76	.462E+06	2934.3	5.02	2.63

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0868)	378.96	0.35	10.00	4.63	0.04	0.65
OUTFLOW: ID= 1 (2283)	378.96	0.35	10.42	4.63	0.04	0.65

ROUTE CHN(2281)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	229.76	0.0600	
1.00	229.72	0.0450	Main Channel
11.00	227.25	0.0450	Main Channel
18.00	226.71	0.0450	Main Channel
31.00	226.11	0.0450	Main Channel
48.00	223.46	0.0450	Main Channel
51.00	222.73	0.0450	Main Channel
58.00	221.78	0.0450	Main Channel
61.00	221.60	0.0450	Main Channel
78.00	221.49	0.0450	Main Channel
91.00	220.96	0.0450	Main Channel
98.00	223.04	0.0450	Main Channel
101.00	223.29	0.0450	Main Channel
111.00	227.31	0.0450	Main Channel
118.00	228.24	0.0450	Main Channel
121.00	229.17	0.0450	Main Channel
131.00	229.85	0.0450	Main Channel
148.00	229.42	0.0450	Main Channel
151.00	229.47	0.0450 /0.0600	Main Channel
159.00	228.77	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	221.41	.347E+04	2.3	0.81	25.41
0.90	221.86	.191E+05	19.1	1.23	16.65
1.35	222.31	.406E+05	62.0	1.88	10.92
1.80	222.76	.648E+05	125.6	2.39	8.61
2.24	223.21	.914E+05	208.3	2.81	7.32
2.69	223.65	.121E+06	314.2	3.20	6.41
3.14	224.10	.152E+06	441.3	3.57	5.76
3.59	224.55	.186E+06	589.5	3.90	5.27
4.04	225.00	.222E+06	759.2	4.21	4.88
4.49	225.45	.261E+06	951.1	4.50	4.57
4.94	225.90	.301E+06	1165.7	4.77	4.30
5.39	226.35	.344E+06	1367.0	4.89	4.20
5.84	226.80	.393E+06	1579.2	4.95	4.15
6.28	227.25	.446E+06	1859.5	5.13	4.00
6.81	227.77	.512E+06	2279.1	5.49	3.74
7.33	228.29	.582E+06	2740.3	5.81	3.54
7.85	228.81	.654E+06	3278.6	6.17	3.33
8.37	229.33	.731E+06	3823.6	6.44	3.19
8.89	229.85	.823E+06	3969.1	5.94	3.46

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2283)	378.96	0.35	10.42	4.63	0.07	0.81
OUTFLOW: ID= 1 (2281)	378.96	0.35	10.92	4.63	0.07	0.81

ADD HYD (1061)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2281):	378.96	0.348	10.92	4.63
	+ ID2= 2 (0313):	98.19	0.106	9.33	4.47
	ID = 3 (1061):	477.15	0.449	10.50	4.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1061)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (1061):	477.15	0.449	10.50	4.60
	+ ID2= 2 (0314):	133.93	0.174	9.00	4.80
	ID = 1 (1061):	611.08	0.614	10.00	4.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2279)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	226.10	0.0600	
21.94	226.79	0.0450	Main Channel
36.81	226.67	0.0450	Main Channel
46.71	225.22	0.0450	Main Channel
65.83	218.48	0.0450	Main Channel
74.32	216.26	0.0450	Main Channel
87.79	213.45	0.0450	Main Channel
94.86	212.25	0.0450	Main Channel
115.41	207.17	0.0450	Main Channel
124.63	205.22	0.0450	Main Channel
128.87	204.93	0.0450	Main Channel
138.77	206.07	0.0450	Main Channel
143.01	206.22	0.0450	Main Channel
153.64	207.53	0.0450	Main Channel
167.78	211.22	0.0450	Main Channel
197.62	218.71	0.0450	Main Channel
211.76	222.53	0.0450	Main Channel
211.77	222.70	0.0450	Main Channel
225.21	225.22	0.0450 /0.0600	Main Channel
231.60	225.41	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.13	206.05	.103E+05	18.0	1.59	9.52
2.25	207.18	.390E+05	105.4	2.46	6.17
3.38	208.31	.812E+05	301.0	3.37	4.50
4.51	209.44	.133E+06	605.4	4.15	3.65
5.64	210.56	.193E+06	1023.7	4.81	3.15
6.76	211.69	.263E+06	1565.0	5.41	2.80
7.89	212.82	.342E+06	2224.2	5.91	2.56
9.02	213.94	.433E+06	3031.0	6.37	2.38
10.14	215.07	.533E+06	4014.0	6.84	2.21
11.27	216.20	.644E+06	5170.5	7.30	2.08
12.40	217.33	.764E+06	6539.1	7.78	1.95
13.53	218.45	.894E+06	8097.5	8.24	1.84
14.65	219.58	.103E+07	9900.6	8.73	1.74
15.78	220.71	.118E+07	11903.9	9.20	1.65
16.91	221.83	.133E+07	14108.9	9.65	1.57
18.03	222.96	.149E+07	16521.6	10.08	1.50
19.16	224.09	.166E+07	19030.7	10.43	1.45
20.29	225.22	.184E+07	21773.1	10.78	1.41
21.86	226.79	.212E+07	26294.8	11.30	1.34

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1061)	611.08	0.61	10.00	4.64	0.04	1.59
OUTFLOW: ID= 1 (2279)	611.08	0.61	10.17	4.64	0.04	1.59

ADD HYD (7546)

1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2279):	611.08	0.614	10.17	4.64
	+ ID2= 2 (0310):	125.54	0.160	8.75	4.47
	ID = 3 (7546):	736.62	0.765	9.83	4.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0312)	Area (ha)=	37.68	Curve Number (CN)=	64.0
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	0.94		

Unit Hyd Qpeak (cms)= 0.684

PEAK FLOW (cms)= 0.077 (i)
TIME TO PEAK (hrs)= 7.333
RUNOFF VOLUME (mm)= 4.459
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0317)	Area (ha)=	115.17	Curve Number (CN)=	66.0
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.44		

Unit Hyd Qpeak (cms)= 1.365

PEAK FLOW (cms)= 0.193 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 4.802
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.114

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0321)	Area (ha)=	132.10	Curve Number (CN)=	64.0
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.35		

Unit Hyd Qpeak (cms)= 1.671

PEAK FLOW (cms)= 0.214 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 4.463
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB                 |
| NASHYD   (  0322)|   Area    (ha)=    125.61   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.54

     Unit Hyd Qpeak  (cms)=     1.393

     PEAK FLOW       (cms)=     0.186 (i)
     TIME TO PEAK    (hrs)=     8.333
     RUNOFF VOLUME    (mm)=     4.464
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB                 |
| NASHYD   (  0323)|   Area    (ha)=    122.71   Curve Number   (CN)= 65.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.65

     Unit Hyd Qpeak  (cms)=     1.270

     PEAK FLOW       (cms)=     0.180 (i)
     TIME TO PEAK    (hrs)=     8.417
     RUNOFF VOLUME    (mm)=     4.630
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.110

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN(  2238)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         252.61        0.0600
                   0.01         252.60    0.0450 /0.0450  Main Channel
                   5.66         252.26        0.0450      Main Channel
                  13.47         251.75        0.0450      Main Channel
                  21.28         250.97        0.0450      Main Channel
                  26.28         250.45        0.0450      Main Channel
                  36.91         249.74        0.0450      Main Channel
                  39.14         249.66        0.0450      Main Channel
                  51.19         249.63        0.0450      Main Channel
                  52.60         249.63        0.0450      Main Channel
                  52.61         249.63        0.0450      Main Channel
                  65.41         250.91        0.0450      Main Channel
                  68.23         251.70    0.0450 /0.0600  Main Channel
                  77.45         254.06        0.0600

      <---------------------- TRAVEL TIME TABLE ----------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.15   249.78    .333E+04          1.2          0.56      48.12
        0.29   249.93    .797E+04          4.4          0.88      30.51
        0.44   250.07    .135E+05          9.4          1.12      23.89
        0.59   250.22    .199E+05         16.4          1.32      20.22
        0.74   250.37    .271E+05         25.4          1.50      17.80
        0.88   250.52    .352E+05         36.8          1.67      15.96
        1.03   250.66    .440E+05         50.7          1.84      14.48
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        1.18   250.81    .535E+05         66.9          2.00      13.34
        1.33   250.96    .637E+05         85.8          2.16      12.37
        1.47   251.11    .744E+05        107.9          2.32      11.49
        1.62   251.25    .856E+05        132.4          2.48      10.77
        1.77   251.40    .972E+05        159.3          2.63      10.17
        1.92   251.55    .109E+06        188.8          2.77       9.65
        2.06   251.70    .122E+06        220.7          2.90       9.20
        2.25   251.88    .138E+06        264.0          3.06       8.73
        2.43   252.06    .156E+06        310.5          3.20       8.36
        2.62   252.25    .174E+06        361.6          3.33       8.03
        2.80   252.43    .194E+06        427.8          3.54       7.55
        2.98   252.61    .215E+06        499.8          3.74       7.15

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0323)     122.71     0.18    8.42   4.63      0.02
0.56
  OUTFLOW: ID= 1 (  2238)     122.71     0.17    9.42   4.63      0.02
0.56

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| CALIB                 |
| NASHYD   (  0324)|   Area    (ha)=     98.58   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      1.44

     Unit Hyd Qpeak  (cms)=     1.169

     PEAK FLOW       (cms)=     0.153 (i)
     TIME TO PEAK    (hrs)=     8.250
     RUNOFF VOLUME    (mm)=     4.463
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB                 |
| NASHYD   (  0325)|   Area    (ha)=    246.11   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      2.41

     Unit Hyd Qpeak  (cms)=     1.743

     PEAK FLOW       (cms)=     0.261 (i)
     TIME TO PEAK    (hrs)=     9.333
     RUNOFF VOLUME    (mm)=     4.466
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB                 |
| NASHYD   (  0326)|   Area    (ha)=     72.43   Curve Number   (CN)= 64.0
```



```
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      0.92

     Unit Hyd Qpeak  (cms)=     1.344

     PEAK FLOW       (cms)=     0.150 (i)
     TIME TO PEAK    (hrs)=     7.333
     RUNOFF VOLUME    (mm)=     4.458
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0901)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0325):    246.11      0.261        9.33        4.47
     + ID2= 2 (  0326):     72.43      0.150        7.33        4.46
       ========================================================
       ID = 3 (  0901):    318.54      0.389        8.33        4.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2235)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         247.76        0.0600
                   9.85         245.39        0.0450      Main Channel
                   9.86         245.30        0.0450      Main Channel
                   9.86         245.30        0.0450      Main Channel
                  21.03         244.22        0.0450      Main Channel
                  30.88         244.24        0.0450      Main Channel
                  32.29         244.24        0.0450      Main Channel
                  33.29         244.27        0.0450      Main Channel
                  43.14         244.49        0.0450      Main Channel
                  52.09         243.68        0.0450      Main Channel
                  54.32         243.56        0.0450      Main Channel
                  56.56         243.31        0.0450      Main Channel
                  65.50         242.40        0.0450      Main Channel
                  74.45         246.23        0.0450      Main Channel
                  76.68         247.28        0.0450      Main Channel
                  79.84         248.14        0.0450      Main Channel
                  87.46         250.29    0.0450 /0.0600  Main Channel
                  89.70         250.35        0.0600

      <---------------------- TRAVEL TIME TABLE ----------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.26   242.66    .527E+03          0.2          0.58      36.00
        0.53   242.93    .211E+04          1.6          0.91      22.68
        0.79   243.19    .475E+04          4.6          1.20      17.30
        1.06   243.46    .843E+04          9.9          1.46      14.20
        1.32   243.72    .132E+05         17.3          1.63      12.73
        1.58   243.98    .194E+05         28.9          1.85      11.18
        1.85   244.25    .270E+05         34.6          1.60      12.97
        2.11   244.51    .415E+05         55.3          1.66      12.52
        2.38   244.78    .593E+05         96.0          2.01      10.30
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        2.64   245.04    .782E+05        146.3          2.33       8.91
        2.90   245.30    .982E+05        206.2          2.61       7.94
        3.21   245.61    .122E+06        294.6          3.00       6.92
        3.52   245.92    .147E+06        395.6          3.34       6.20
        3.83   246.23    .173E+06        508.9          3.66       5.66
        4.13   246.53    .199E+06        634.6          3.96       5.23
        4.44   246.84    .226E+06        772.2          4.24       4.89
        4.75   247.15    .254E+06        921.5          4.51       4.60
        5.06   247.46    .283E+06       1079.8          4.75       4.37
        5.36   247.76    .312E+06       1247.8          4.97       4.17

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0901)     318.54     0.39    8.33   4.46      0.29
0.60
  OUTFLOW: ID= 1 (  2235)     318.54     0.38    9.00   4.46      0.29
0.60

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| CALIB                 |
| NASHYD   (  0327)|   Area    (ha)=    258.00   Curve Number   (CN)= 62.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
-------------------   U.H. Tp(hrs)=      2.11

     Unit Hyd Qpeak  (cms)=     2.088

     PEAK FLOW       (cms)=     0.282 (i)
     TIME TO PEAK    (hrs)=     9.167
     RUNOFF VOLUME    (mm)=     4.154
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.099

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  2086)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2235):    318.54      0.382        9.00        4.46
     + ID2= 2 (  0327):    258.00      0.282        9.17        4.15
       ========================================================
       ID = 3 (  2086):    576.54      0.664        9.00        4.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-
--------------------
| ROUTE CHN(  2236)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         247.76        0.0600
                   9.85         245.39        0.0450      Main Channel
                   9.86         245.30        0.0450      Main Channel
```

9.86	245.30	0.0450		Main Channel
21.03	244.22	0.0450		Main Channel
30.88	244.24	0.0450		Main Channel
32.29	244.24	0.0450		Main Channel
33.29	244.27	0.0450		Main Channel
43.14	244.49	0.0450		Main Channel
52.09	243.68	0.0450		Main Channel
54.32	243.56	0.0450		Main Channel
56.56	243.31	0.0450		Main Channel
65.50	242.40	0.0450		Main Channel
74.45	246.23	0.0450		Main Channel
76.68	247.28	0.0450		Main Channel
79.84	248.14	0.0450		Main Channel
87.46	250.29	0.0450	/0.0600	Main Channel
89.70	250.35	0.0600		

<-------------------- TRAVEL TIME TABLE --------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	242.66	.179E+03	0.2	0.39	17.95
0.53	242.93	.717E+03	1.1	0.62	11.31
0.79	243.19	.161E+04	3.1	0.82	8.63
1.06	243.46	.287E+04	6.7	1.00	7.08
1.32	243.72	.450E+04	11.8	1.11	6.35
1.58	243.98	.660E+04	19.7	1.26	5.58
1.85	244.25	.917E+04	23.6	1.09	6.47
2.11	244.51	.141E+05	37.7	1.13	6.25
2.38	244.78	.202E+05	65.5	1.37	5.14
2.64	245.04	.266E+05	99.8	1.59	4.44
2.90	245.30	.334E+05	140.6	1.78	3.96
3.21	245.61	.416E+05	200.8	2.04	3.45
3.52	245.92	.501E+05	269.7	2.28	3.09
3.83	246.23	.588E+05	347.0	2.50	2.82
4.13	246.53	.677E+05	432.7	2.70	2.61
4.44	246.84	.770E+05	526.5	2.89	2.44
4.75	247.15	.864E+05	628.3	3.07	2.29
5.06	247.46	.962E+05	736.2	3.24	2.18
5.36	247.76	.106E+06	850.8	3.39	2.08

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2086)	576.54	0.66	9.00	4.33	0.41	0.49
OUTFLOW: ID= 1 (2236)	576.54	0.66	9.25	4.33	0.41	0.49

-

ADD HYD (0900)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2236):	576.54	0.663	9.25	4.33
+ ID2= 2 (2238):	122.71	0.173	9.42	4.63
ID = 3 (0900):	699.25	0.835	9.25	4.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-

ADD HYD (0900)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2236):	576.54	0.663	9.25	4.33
+ ID2= 2 (2238):	122.71	0.173	9.42	4.63
ID = 3 (0900):	699.25	0.835	9.25	4.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-

ADD HYD (0900)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0900):	699.25	0.835	9.25	4.38
+ ID2= 2 (0324):	98.58	0.153	8.25	4.46
ID = 3 (0900):	923.44	1.164	8.92	4.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-

ROUTE CHN(2271)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	244.27	0.0600	
16.82	242.26	0.0450	Main Channel
25.42	241.17	0.0450	Main Channel
34.85	239.85	0.0450	Main Channel
37.68	239.25	0.0450	Main Channel
52.17	235.24	0.0450	Main Channel
61.61	233.67	0.0450	Main Channel
70.21	233.51	0.0450	Main Channel
73.81	233.42	0.0450	Main Channel
88.26	232.86	0.0450	Main Channel
97.69	232.76	0.0450	Main Channel
106.30	232.92	0.0450	Main Channel
109.90	232.88	0.0450	Main Channel
118.50	237.78	0.0450	Main Channel
122.11	239.19	0.0450	Main Channel
123.52	241.23	0.0450	Main Channel
134.34	249.46	0.0450	Main Channel
141.55	250.03	0.0450	Main Channel
146.55	250.10	0.0450 /0.0600	Main Channel
156.00	250.09	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.84	233.60	.269E+05	28.5	1.18	15.74
1.68	234.44	.758E+05	139.8	2.05	9.03
2.52	235.28	.131E+06	322.3	2.74	6.76
3.36	236.12	.191E+06	576.0	3.35	5.52
4.21	236.96	.255E+06	892.5	3.88	4.77
5.05	237.80	.324E+06	1270.6	4.36	4.25
5.89	238.64	.397E+06	1704.7	4.77	3.88

6.73	239.48	.475E+06	2205.8	5.16	3.59
7.57	240.33	.557E+06	2753.3	5.49	3.37
8.41	241.17	.646E+06	3354.2	5.77	3.21
9.25	242.01	.741E+06	4154.3	6.23	2.97
10.24	243.00	.863E+06	5204.2	6.70	2.76
11.24	243.99	.996E+06	6373.7	7.11	2.60
12.23	244.99	.114E+07	7670.8	7.50	2.47
13.22	245.98	.128E+07	9087.8	7.90	2.35
14.22	246.97	.142E+07	10616.6	8.29	2.23
15.21	247.97	.157E+07	12253.0	8.68	2.13
16.20	248.96	.171E+07	13993.7	9.07	2.04
17.20	249.95	.186E+07	15410.3	9.18	2.02

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0900)	923.44	1.16	8.92	4.40	0.03	1.18
OUTFLOW: ID= 1 (2271)	923.44	1.16	9.25	4.40	0.03	1.18

-

CALIB STANDHYD (0320) ID= 1 DT= 5.0 min	Area (ha)= 51.32	Total Imp(%)= 16.20	Dir. Conn.(%)= 16.20

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.60	41.72
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.35	3.35
Length	(m)=	584.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	19.32	4.55
over (min)		10.00	35.00
Storage Coeff. (min)	=	9.91 (ii)	30.73 (ii)
Unit Hyd. Tpeak (min)	=	10.00	35.00
Unit Hyd. peak (cms)	=	0.11	0.04

TOTALS		
PEAK FLOW	(cms)=	0.45	0.35	0.734 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	7.33	12.63
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.17	0.30

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-

ADD HYD (2018)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2271):	923.44	1.159	9.25	4.40
+ ID2= 2 (0320):	51.32	0.734	5.25	12.63
ID = 3 (2018):	974.76	1.230	8.75	4.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-

ADD HYD (2018)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (2018):	974.76	1.230	8.75	4.83
+ ID2= 2 (0321):	132.10	0.214	8.25	4.46
ID = 1 (2018):	1106.86	1.439	8.67	4.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-

ROUTE CHN(3909)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	243.89	0.0600	
19.44	243.43	0.0450	Main Channel
46.10	240.56	0.0450	Main Channel
49.27	239.77	0.0450	Main Channel
68.66	230.29	0.0450	Main Channel
82.58	224.46	0.0450	Main Channel
91.29	223.76	0.0450	Main Channel
135.99	225.15	0.0450	Main Channel
158.10	228.85	0.0450	Main Channel
180.68	232.76	0.0450	Main Channel
196.10	237.39	0.0450	Main Channel
199.71	237.43	0.0450	Main Channel
218.14	241.13	0.0450	Main Channel
240.73	244.00	0.0450	Main Channel
262.89	243.87	0.0450	Main Channel
268.28	244.24	0.0450	Main Channel
279.96	244.39	0.0450	Main Channel
344.93	245.26	0.0450	Main Channel
374.86	246.48	0.0450 /0.0600	Main Channel
392.88	246.37	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.12	224.88	.142E+05	22.2	0.82	10.67
2.24	226.00	.475E+05	134.7	1.49	5.87
3.36	227.12	.867E+05	334.2	2.02	4.33
4.48	228.24	.131E+06	614.9	2.45	3.56
5.60	229.36	.182E+06	979.7	2.83	3.09
6.72	230.48	.237E+06	1432.4	3.16	2.76
7.84	231.60	.298E+06	1978.1	3.48	2.51
8.96	232.72	.364E+06	2617.8	3.77	2.32
10.08	233.84	.435E+06	3391.3	4.09	2.14
11.20	234.96	.509E+06	4261.9	4.39	1.99
12.32	236.08	.586E+06	5229.4	4.68	1.87
13.44	237.20	.667E+06	6295.2	4.95	1.77

14.56	238.32	.754E+06	7336.8	5.11	1.71	
15.68	239.44	.845E+06	8582.5	5.33	1.64	
16.80	240.56	.942E+06	9891.6	5.51	1.59	
18.28	242.04	.108E+07	11916.1	5.78	1.51	
19.76	243.52	.124E+07	14141.0	5.97	1.46	
21.24	245.00	.145E+07	13985.8	5.05	1.73	
22.72	246.48	.173E+07	16590.4	5.03	1.74	

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2018)	1106.86	1.44	8.67	4.79	0.07	0.82
OUTFLOW: ID= 1 (3909)	1106.86	1.44	8.83	4.79	0.07	0.82

ROUTE CHN(3910)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	243.89	0.0600	
19.44	243.43	0.0450	Main Channel
46.10	240.56	0.0450	Main Channel
49.27	239.77	0.0450	Main Channel
68.66	230.29	0.0450	Main Channel
82.58	224.46	0.0450	Main Channel
91.29	223.76	0.0450	Main Channel
135.99	225.15	0.0450	Main Channel
158.10	228.85	0.0450	Main Channel
180.68	232.76	0.0450	Main Channel
196.10	237.39	0.0450	Main Channel
199.71	237.43	0.0450	Main Channel
218.14	241.13	0.0450	Main Channel
240.73	244.00	0.0450	Main Channel
262.89	243.87	0.0450	Main Channel
268.28	244.24	0.0450	Main Channel
279.96	244.39	0.0450	Main Channel
344.93	245.26	0.0450	Main Channel
374.86	246.48	0.0450 /0.0600	Main Channel
392.88	246.37	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.12	224.88	.157E+05	36.6	1.35	7.17
2.24	226.00	.526E+05	222.0	2.45	3.94
3.36	227.12	.960E+05	550.9	3.33	2.91
4.48	228.24	.146E+06	1013.7	4.04	2.39
5.60	229.36	.201E+06	1614.9	4.66	2.08
6.72	230.48	.263E+06	2361.3	5.22	1.86
7.84	231.60	.330E+06	3260.8	5.73	1.69
8.96	232.72	.403E+06	4315.2	6.21	1.56
10.08	233.84	.481E+06	5590.3	6.74	1.43
11.20	234.96	.563E+06	7025.5	7.24	1.34
12.32	236.08	.649E+06	8620.3	7.71	1.25
13.44	237.20	.739E+06	10377.2	8.16	1.19
14.56	238.32	.834E+06	12094.4	8.42	1.15
15.68	239.44	.936E+06	14147.7	8.78	1.10

16.80	240.56	.104E+07	16305.7	9.08	1.07	
18.28	242.04	.120E+07	19643.0	9.52	1.02	
19.76	243.52	.137E+07	23310.6	9.85	0.98	
21.24	245.00	.161E+07	23054.8	8.32	1.16	
22.72	246.48	.191E+07	27348.4	8.29	1.17	

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3909)	1106.86	1.44	8.83	4.79	0.04	1.35
OUTFLOW: ID= 1 (3910)	1106.86	1.44	8.92	4.79	0.04	1.35

CALIB	
STANDHYD (0319)	Area (ha)= 19.51
ID= 1 DT= 5.0 min	Total Imp(%)= 48.20 Dir. Conn.(%)= 43.70

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.40	10.11
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.37	1.37
Length	(m)=	360.65	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.43
over (min)		10.00	40.00
Storage Coeff. (min)=		9.68 (ii)	35.02 (ii)
Unit Hyd. Tpeak (min)=		10.00	40.00
Unit Hyd. peak (cms)=		0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	0.46 0.10 0.533 (iii)
TIME TO PEAK	(hrs)=	5.25 5.67 5.25
RUNOFF VOLUME	(mm)=	40.00 8.57 22.30
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.20 0.53

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4058)	
IN= 2---> OUT= 1	
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1520	0.7815
	0.0600	0.3405	0.2070	1.0048
	0.0960	0.5191	4.1400	1.1164

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0319)	19.510	0.533	5.25	22.30
OUTFLOW: ID= 1 (4058)	19.510	0.058	8.33	22.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.93
TIME SHIFT OF PEAK FLOW (min)=185.00
MAXIMUM STORAGE USED (ha.m.)= 0.3309

ADD HYD (1057)		
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3910):	1106.86	1.436	8.92	4.79
+ ID2= 2 (4058):	19.51	0.058	8.33	22.23
ID = 3 (1057):	1126.37	1.494	8.92	5.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3911)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	243.89	0.0600	
19.44	243.43	0.0450	Main Channel
46.10	240.56	0.0450	Main Channel
49.27	239.77	0.0450	Main Channel
68.66	230.29	0.0450	Main Channel
82.58	224.46	0.0450	Main Channel
91.29	223.76	0.0450	Main Channel
135.99	225.15	0.0450	Main Channel
158.10	228.85	0.0450	Main Channel
180.68	232.76	0.0450	Main Channel
196.10	237.39	0.0450	Main Channel
199.71	237.43	0.0450	Main Channel
218.14	241.13	0.0450	Main Channel
240.73	244.00	0.0450	Main Channel
262.89	243.87	0.0450	Main Channel
268.28	244.24	0.0450	Main Channel
279.96	244.39	0.0450	Main Channel
344.93	245.26	0.0450	Main Channel
374.86	246.48	0.0450 /0.0600	Main Channel
392.88	246.37	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.12	224.88	.105E+05	26.7	0.99	6.54
2.24	226.00	.350E+05	162.0	1.79	3.60
3.36	227.12	.640E+05	402.0	2.43	2.65
4.48	228.24	.970E+05	739.6	2.95	2.19
5.60	229.36	.134E+06	1178.3	3.40	1.90
6.72	230.48	.175E+06	1723.0	3.81	1.69
7.84	231.60	.220E+06	2379.3	4.18	1.54
8.96	232.72	.269E+06	3148.7	4.53	1.42
10.08	233.84	.321E+06	4079.1	4.92	1.31
11.20	234.96	.375E+06	5126.2	5.29	1.22
12.32	236.08	.432E+06	6289.9	5.63	1.15

13.44	237.20	.492E+06	7571.9	5.95	1.08	
14.56	238.32	.556E+06	8824.8	6.14	1.05	
15.68	239.44	.623E+06	10323.1	6.41	1.01	
16.80	240.56	.694E+06	11897.7	6.63	0.97	
18.28	242.04	.798E+06	14332.9	6.95	0.93	
19.76	243.52	.916E+06	17008.9	7.18	0.90	
21.24	245.00	.107E+07	16822.3	6.07	1.06	
22.72	246.48	.128E+07	19955.2	6.05	1.07	

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1057)	1126.37	1.49	8.92	5.09	0.06	0.99
OUTFLOW: ID= 1 (3911)	1126.37	1.49	9.08	5.09	0.06	0.99

CALIB	
STANDHYD (0318)	Area (ha)= 45.97
ID= 1 DT= 5.0 min	Total Imp(%)= 21.00 Dir. Conn.(%)= 19.70

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.65	36.32
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.40	3.40
Length	(m)=	553.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.74
over (min)		10.00	30.00
Storage Coeff. (min)=		9.53 (ii)	29.90 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.12	0.04

		TOTALS
PEAK FLOW	(cms)=	0.49 0.33 0.770 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	40.00 7.74 14.09
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.18 0.34

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2025)		
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0317):	115.17	0.193	8.25	4.80
+ ID2= 2 (0318):	45.97	0.770	5.25	14.09

ID = 3 (	2025):	161.14	0.826	5.25	7.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2025)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (	2025):	161.14	0.826	5.25	7.45
+ ID2= 2 (	3911):	1126.37	1.493	9.08	5.09
ID = 1 (	2025):	1287.51	1.753	8.58	5.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3912) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	243.89	0.0600	
19.44	243.43	0.0450	Main Channel
46.10	240.56	0.0450	Main Channel
49.27	239.77	0.0450	Main Channel
68.66	230.29	0.0450	Main Channel
82.58	224.46	0.0450	Main Channel
91.29	223.76	0.0450	Main Channel
135.99	225.15	0.0450	Main Channel
158.10	228.85	0.0450	Main Channel
180.68	232.76	0.0450	Main Channel
196.10	237.39	0.0450	Main Channel
199.71	237.43	0.0450	Main Channel
218.14	241.13	0.0450	Main Channel
240.73	244.00	0.0450	Main Channel
262.89	243.87	0.0450	Main Channel
268.28	244.24	0.0450	Main Channel
279.96	244.39	0.0450	Main Channel
344.93	245.26	0.0450	Main Channel
374.86	246.48	0.0450 /0.0600	Main Channel
392.88	246.37	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.12	224.88	.226E+05	34.9	1.29	10.77
2.24	226.00	.754E+05	211.9	2.34	5.93
3.36	227.12	.138E+06	525.7	3.18	4.37
4.48	228.24	.209E+06	967.4	3.86	3.60
5.60	229.36	.289E+06	1541.2	4.45	3.12
6.72	230.48	.377E+06	2253.5	4.98	2.79
7.84	231.60	.474E+06	3111.9	5.47	2.54
8.96	232.72	.578E+06	4118.1	5.93	2.34
10.08	233.84	.690E+06	5335.0	6.44	2.16
11.20	234.96	.808E+06	6704.6	6.91	2.01
12.32	236.08	.931E+06	8226.6	7.36	1.89
13.44	237.20	.106E+07	9903.3	7.79	1.78
14.56	238.32	.120E+07	11542.0	8.03	1.73
15.68	239.44	.134E+07	13501.6	8.38	1.66
16.80	240.56	.150E+07	15561.0	8.67	1.60
18.28	242.04	.172E+07	18746.0	9.09	1.53

19.76	243.52	.197E+07	22246.1	9.40	1.48
21.24	245.00	.231E+07	22001.9	7.94	1.75
22.72	246.48	.275E+07	26099.4	7.91	1.75

channel-> VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (	2025)	1287.51	1.75	8.58	5.39	0.06	1.29
OUTFLOW: ID= 1 (	3912)	1287.51	1.75	8.83	5.39	0.06	1.29

ADD HYD (1813) | 1 + 2 = 3 |

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (	0312):	37.68	0.077	7.33	4.46
+ ID2= 2 (	3912):	1287.51	1.751	8.83	5.39
ID = 3 (	1813):	1325.19	1.818	8.75	5.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3673) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.73	0.0600	
45.28	230.36	0.0450	Main Channel
81.27	231.69	0.0450	Main Channel
118.41	230.09	0.0450	Main Channel
131.28	227.54	0.0450	Main Channel
147.17	223.53	0.0450	Main Channel
162.89	219.22	0.0450	Main Channel
167.13	217.26	0.0450	Main Channel
188.65	210.28	0.0450	Main Channel
217.11	210.46	0.0450	Main Channel
231.43	211.39	0.0450	Main Channel
245.73	212.81	0.0450	Main Channel
281.57	216.34	0.0450	Main Channel
295.85	218.98	0.0450	Main Channel
320.06	224.75	0.0450	Main Channel
345.82	229.81	0.0450	Main Channel
352.89	230.50	0.0450	Main Channel
388.73	231.73	0.0450	Main Channel
436.60	231.46	0.0450 /0.0600	Main Channel
481.74	232.13	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.06	211.34	.471E+05	60.7	1.72	12.92
2.12	212.40	.121E+06	244.6	2.69	8.26
3.18	213.46	.215E+06	552.0	3.42	6.50
4.24	214.52	.329E+06	995.8	4.04	5.50

5.29	215.57	.462E+06	1590.5	4.59	4.85
6.35	216.63	.615E+06	2367.7	5.13	4.33
7.41	217.69	.783E+06	3365.9	5.74	3.88
8.47	218.75	.962E+06	4543.3	6.30	3.53
9.53	219.81	.115E+07	5896.7	6.83	3.26
10.59	220.87	.135E+07	7418.2	7.31	3.04
11.65	221.93	.157E+07	9122.8	7.77	2.86
12.71	222.99	.179E+07	11015.7	8.20	2.71
13.77	224.05	.203E+07	13095.1	8.61	2.58
14.83	225.11	.228E+07	15350.6	8.99	2.47
15.88	226.16	.254E+07	17783.6	9.34	2.38
16.94	227.22	.282E+07	20435.4	9.68	2.30
18.00	228.28	.311E+07	23261.0	9.99	2.23
19.06	229.34	.341E+07	26304.5	10.29	2.16
20.12	230.40	.374E+07	28928.4	10.34	2.15

channel-> VEL		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX (m/s)
INFLOW : ID= 2 (	1813)	1325.19	1.82	8.75	5.36	0.03	1.72
OUTFLOW: ID= 1 (	3673)	1325.19	1.81	9.00	5.36	0.03	1.72

CALIB | STANDHYD (0311) | ID= 1 DT= 5.0 min | Area (ha)= 69.65 | Total Imp(%)= 17.60 | Dir. Conn.(%)= 15.40

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	12.26	57.39	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.76	2.76	
Length	(m)=	681.42	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	4.84	
over (min)		10.00	35.00	
Storage Coeff. (min)=		11.50 (ii)	33.02 (ii)	
Unit Hyd. Tpeak (min)=		10.00	35.00	
Unit Hyd. peak (cms)=		0.10	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.57	0.50	0.983 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	7.82	12.78
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.30

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7547) | 1 + 2 = 3 |

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (	0311):	69.65	0.983	5.25	12.78
+ ID2= 2 (	3673):	1325.19	1.814	9.00	5.36
ID = 3 (	7547):	1394.84	2.102	5.67	5.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1184) | 1 + 2 = 3 |

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (	7546):	736.62	0.765	9.83	4.61
+ ID2= 2 (	7547):	1394.84	2.102	5.67	5.73
ID = 3 (	1184):	2131.46	2.664	8.83	5.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3674) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.73	0.0600	
45.28	230.36	0.0450	Main Channel
81.27	231.69	0.0450	Main Channel
118.41	230.09	0.0450	Main Channel
131.28	227.54	0.0450	Main Channel
147.17	223.53	0.0450	Main Channel
162.89	219.22	0.0450	Main Channel
167.13	217.26	0.0450	Main Channel
188.65	210.28	0.0450	Main Channel
217.11	210.46	0.0450	Main Channel
231.43	211.39	0.0450	Main Channel
245.73	212.81	0.0450	Main Channel
281.57	216.34	0.0450	Main Channel
295.85	218.98	0.0450	Main Channel
320.06	224.75	0.0450	Main Channel
345.82	229.81	0.0450	Main Channel
352.89	230.50	0.0450	Main Channel
388.73	231.73	0.0450	Main Channel
436.60	231.46	0.0450 /0.0600	Main Channel
481.74	232.13	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.06	211.34	.292E+05	50.1	1.42	9.71
2.12	212.40	.752E+05	201.9	2.22	6.21
3.18	213.46	.133E+06	455.7	2.83	4.88
4.24	214.52	.204E+06	822.1	3.34	4.14
5.29	215.57	.287E+06	1313.1	3.79	3.64
6.35	216.63	.382E+06	1954.7	4.24	3.26
7.41	217.69	.486E+06	2778.7	4.74	2.91
8.47	218.75	.597E+06	3750.7	5.20	2.65
9.53	219.81	.715E+06	4868.1	5.64	2.45

10.59	220.87	.840E+06	6124.2	6.04	2.29
11.65	221.93	.972E+06	7531.5	6.41	2.15
12.71	222.99	.111E+07	9094.2	6.77	2.04
13.77	224.05	.126E+07	10810.8	7.11	1.94
14.83	225.11	.141E+07	12672.9	7.42	1.86
15.88	226.16	.158E+07	14681.5	7.71	1.79
16.94	227.22	.175E+07	16870.7	7.99	1.73
18.00	228.28	.193E+07	19203.4	8.25	1.67
19.06	229.34	.212E+07	21716.0	8.49	1.62
20.12	230.40	.232E+07	23882.2	8.53	1.62

channel->		<---- hydrograph ---->				<-pipe / MAX
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (1184)	2131.46	2.66	8.83	5.34	0.06
1.42	OUTFLOW: ID= 1 (3674)	2131.46	2.66	9.08	5.34	0.06
1.42						

ROUTE CHN(3675)|
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.73	0.0600	
45.28	230.36	0.0450	Main Channel
81.27	231.69	0.0450	Main Channel
118.41	230.09	0.0450	Main Channel
131.28	227.54	0.0450	Main Channel
147.17	223.53	0.0450	Main Channel
162.89	219.22	0.0450	Main Channel
167.13	217.26	0.0450	Main Channel
188.65	210.28	0.0450	Main Channel
217.11	210.46	0.0450	Main Channel
231.43	211.39	0.0450	Main Channel
245.73	212.81	0.0450	Main Channel
281.57	216.34	0.0450	Main Channel
295.85	218.98	0.0450	Main Channel
320.06	224.75	0.0450	Main Channel
345.82	229.81	0.0450	Main Channel
352.89	230.50	0.0450	Main Channel
388.73	231.73	0.0450	Main Channel
436.60	231.46	0.0450 /0.0600	Main Channel
481.74	232.13	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.06	211.34	.146E+05	46.5	1.32	5.23
2.12	212.40	.375E+05	187.3	2.06	3.34
3.18	213.46	.666E+05	422.7	2.62	2.63
4.24	214.52	.102E+06	762.5	3.09	2.23
5.29	215.57	.143E+06	1217.9	3.52	1.96
6.35	216.63	.191E+06	1813.0	3.93	1.75
7.41	217.69	.242E+06	2577.2	4.39	1.57
8.47	218.75	.298E+06	3478.8	4.83	1.43
9.53	219.81	.357E+06	4515.1	5.23	1.32
10.59	220.87	.419E+06	5680.1	5.60	1.23
11.65	221.93	.485E+06	6985.3	5.95	1.16

12.71	222.99	.555E+06	8434.7	6.28	1.10
13.77	224.05	.629E+06	10026.9	6.59	1.04
14.83	225.11	.706E+06	11753.9	6.88	1.00
15.88	226.16	.787E+06	13616.9	7.15	0.96
16.94	227.22	.873E+06	15647.3	7.41	0.93
18.00	228.28	.962E+06	17810.9	7.65	0.90
19.06	229.34	.106E+07	20141.3	7.88	0.87
20.12	230.40	.116E+07	22150.4	7.91	0.87

channel->		<---- hydrograph ---->				<-pipe / MAX
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (3674)	2131.46	2.66	9.08	5.34	0.06
1.32	OUTFLOW: ID= 1 (3675)	2131.46	2.66	9.17	5.34	0.06
1.32						

ROUTE CHN(3005)|
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	217.54	0.0600	
102.12	216.80	0.0450	Main Channel
111.43	216.54	0.0450	Main Channel
147.75	209.60	0.0450	Main Channel
180.37	204.90	0.0450	Main Channel
198.28	202.47	0.0450	Main Channel
237.73	199.69	0.0450	Main Channel
262.71	196.17	0.0450	Main Channel
298.51	189.33	0.0450	Main Channel
334.41	189.46	0.0450	Main Channel
355.93	190.69	0.0450	Main Channel
370.21	193.67	0.0450	Main Channel
400.33	198.54	0.0450	Main Channel
432.66	204.10	0.0450	Main Channel
457.53	209.99	0.0450	Main Channel
486.64	214.11	0.0450	Main Channel
514.73	217.06	0.0450	Main Channel
523.13	217.43	0.0450	Main Channel
563.60	217.89	0.0450 /0.0600	Main Channel
615.87	219.51	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.43	190.76	.428E+05	117.6	1.70	6.07
2.86	192.19	.107E+06	472.7	2.73	3.77
4.30	193.63	.184E+06	1042.1	3.51	2.94
5.73	195.06	.274E+06	1823.1	4.11	2.51
7.16	196.49	.379E+06	2842.9	4.64	2.22
8.59	197.92	.500E+06	4110.9	5.08	2.03
10.02	199.35	.638E+06	5690.7	5.51	1.87
11.46	200.79	.795E+06	7441.1	5.79	1.78
12.89	202.22	.976E+06	9562.8	6.05	1.70
14.32	203.65	.118E+07	12364.3	6.47	1.59
15.75	205.08	.140E+07	15705.5	6.93	1.49
17.19	206.52	.164E+07	19533.5	7.38	1.40
18.62	207.95	.189E+07	23815.6	7.80	1.32

20.05	209.38	.215E+07	28566.6	8.21	1.25
21.48	210.81	.243E+07	33779.3	8.60	1.20
22.91	212.24	.272E+07	39411.0	8.96	1.15
24.35	213.68	.303E+07	45569.2	9.30	1.11
25.78	215.11	.335E+07	52068.4	9.60	1.07
27.21	216.54	.370E+07	59069.0	9.88	1.04

channel->		<---- hydrograph ---->				<-pipe / MAX
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (3675)	2131.46	2.66	9.17	5.34	0.03
1.70	OUTFLOW: ID= 1 (3005)	2131.46	2.66	9.25	5.34	0.03
1.70						

ADD HYD (7543)|				
1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3005):	2131.46	2.661	9.25	5.34
+ ID2= 2 (0309):	134.95	0.135	8.75	3.47
ID = 3 (7543):	2266.41	2.796	9.25	5.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB |				
NASHYD (0328)|	Area (ha)=	139.12	Curve Number (CN)=	60.0
ID= 1 DT= 5.0 min |	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.98		

Unit Hyd Qpeak (cms)= 1.200

PEAK FLOW (cms)= 0.148 (i)
TIME TO PEAK (hrs)= 8.917
RUNOFF VOLUME (mm)= 3.865
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.092

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB |				
NASHYD (0329)|	Area (ha)=	219.14	Curve Number (CN)=	65.0
ID= 1 DT= 5.0 min |	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	3.05		

Unit Hyd Qpeak (cms)= 1.227

PEAK FLOW (cms)= 0.198 (i)
TIME TO PEAK (hrs)= 10.083
RUNOFF VOLUME (mm)= 4.633
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.110

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB |				
NASHYD (0330)|	Area (ha)=	23.23	Curve Number (CN)=	50.0
ID= 1 DT= 5.0 min |	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	0.82		

Unit Hyd Qpeak (cms)= 0.484

PEAK FLOW (cms)= 0.031 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 2.698
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.064

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB |				
NASHYD (0331)|	Area (ha)=	159.69	Curve Number (CN)=	58.0
ID= 1 DT= 5.0 min |	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.85		

Unit Hyd Qpeak (cms)= 1.474

PEAK FLOW (cms)= 0.167 (i)
TIME TO PEAK (hrs)= 8.750
RUNOFF VOLUME (mm)= 3.598
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.086

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB |				
NASHYD (0332)|	Area (ha)=	191.39	Curve Number (CN)=	64.0
ID= 1 DT= 5.0 min |	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	2.30		

Unit Hyd Qpeak (cms)= 1.421

PEAK FLOW (cms)= 0.210 (i)
TIME TO PEAK (hrs)= 9.250
RUNOFF VOLUME (mm)= 4.466
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.106

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB |				
NASHYD (0333)|	Area (ha)=	198.86	Curve Number (CN)=	64.0
ID= 1 DT= 5.0 min |	Ia (mm)=	14.40	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	2.09		

Unit Hyd Qpeak (cms)= 1.624

```
     PEAK FLOW      (cms)=     0.235 (i)
     TIME TO PEAK   (hrs)=     9.083
     RUNOFF VOLUME   (mm)=     4.465
     TOTAL RAINFALL  (mm)=    42.000
     RUNOFF COEFFICIENT  =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0334)| Area    (ha)=    217.96   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min | Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.36

     Unit Hyd Qpeak  (cms)=     1.577

     PEAK FLOW      (cms)=     0.235 (i)
     TIME TO PEAK   (hrs)=     9.333
     RUNOFF VOLUME   (mm)=     4.466
     TOTAL RAINFALL  (mm)=    42.000
     RUNOFF COEFFICIENT  =     0.106

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0864)|
|   1 +  2 =  3    |          AREA      QPEAK      TPEAK       R.V.
--------------------          (ha)      (cms)      (hrs)       (mm)
       ID1= 1 (  0333):    198.86      0.235       9.08       4.47
     + ID2= 2 (  0334):    217.96      0.235       9.33       4.47
       ====================================================
       ID = 3 (  0864):    416.82      0.470       9.25       4.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  2284)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <----- DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         225.64       0.0600
                 15.30         225.37       0.0450      Main Channel
                 46.03         224.41       0.0450      Main Channel
                 50.15         224.14       0.0450      Main Channel
                 56.48         223.87       0.0450      Main Channel
                 76.91         219.30       0.0450      Main Channel
                 76.92         219.18       0.0450      Main Channel
                 87.11         216.68       0.0450      Main Channel
                 90.27         216.18       0.0450      Main Channel
                 97.34         214.25       0.0450      Main Channel
                102.44         214.52       0.0450      Main Channel
                107.54         214.60       0.0450      Main Channel
                115.78         215.13       0.0450      Main Channel
                118.02         215.21       0.0450      Main Channel
                125.09         217.28       0.0450      Main Channel
                138.47         220.19       0.0450      Main Channel
                142.60         221.05       0.0450      Main Channel
```



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                148.68         222.59       0.0450      Main Channel
                189.82         223.34    0.0450 /0.0600 Main Channel
                201.00         223.62       0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)        (cms)        (m/s)       (min)
       0.48   214.73    .164E+04          1.8         0.57       15.31
       0.96   215.21    .625E+04         11.5         0.96        9.04
       1.43   215.69    .127E+05         34.1         1.40        6.20
       1.91   216.16    .199E+05         67.0         1.74        4.96
       2.39   216.64    .282E+05        108.7         2.00        4.32
       2.87   217.12    .375E+05        163.5         2.26        3.82
       3.35   217.60    .477E+05        228.9         2.49        3.47
       3.83   218.08    .589E+05        306.3         2.70        3.21
       4.30   218.56    .712E+05        396.7         2.89        2.99
       4.78   219.03    .845E+05        500.9         3.08        2.81
       5.26   219.51    .988E+05        621.1         3.26        2.65
       5.74   219.99    .114E+06        753.1         3.43        2.52
       6.22   220.47    .130E+06        900.6         3.58        2.41
       6.70   220.95    .148E+06       1064.6         3.74        2.31
       7.17   221.43    .166E+06       1249.1         3.90        2.22
       7.65   221.90    .186E+06       1452.2         4.05        2.13
       8.13   222.38    .206E+06       1673.6         4.21        2.06
       8.61   222.86    .229E+06       1755.1         3.98        2.17
       9.09   223.34    .258E+06       1822.5         3.67        2.36

                                     <---- hydrograph ---->   <-pipe /
channel->
                                 AREA     QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL
                                 (ha)     (cms)    (hrs)    (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  0864)     416.82      0.47     9.25    4.47       0.13
0.57
  OUTFLOW: ID= 1 (  2284)     416.82      0.47     9.42    4.47       0.12
0.57

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--------------------
| ROUTE CHN(  2285)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <----- DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         223.04       0.0600
                 14.37         222.48       0.0450      Main Channel
                 24.57         221.59       0.0450      Main Channel
                 45.25         219.63       0.0450      Main Channel
                 55.73         218.43       0.0450      Main Channel
                 60.83         217.53       0.0450      Main Channel
                 65.93         216.38       0.0450      Main Channel
                 83.46         213.24       0.0450      Main Channel
                107.05         209.84       0.0450      Main Channel
                117.49         210.02       0.0450      Main Channel
                138.15         210.13       0.0450      Main Channel
                148.43         209.83       0.0450      Main Channel
                154.51         210.72       0.0450      Main Channel
                158.63         211.01       0.0450      Main Channel
                179.29         215.36       0.0450      Main Channel
                182.46         216.32       0.0450      Main Channel
                189.53         218.84       0.0450      Main Channel
                195.85         220.11       0.0450      Main Channel
                199.98         221.31    0.0450 /0.0600 Main Channel
```



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                209.20         221.19       0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)        (cms)        (m/s)       (min)
       0.57   210.40    .238E+05         16.4         0.89       24.14
       1.15   210.98    .635E+05         74.7         1.52       14.17
       1.72   211.55    .110E+06        172.9         2.03       10.59
       2.30   212.13    .161E+06        307.1         2.46        8.75
       2.87   212.70    .218E+06        476.9         2.83        7.61
       3.44   213.27    .279E+06        683.3         3.16        6.80
       4.02   213.85    .345E+06        930.6         3.48        6.18
       4.59   214.42    .415E+06       1215.8         3.78        5.69
       5.16   214.99    .490E+06       1539.8         4.05        5.30
       5.74   215.57    .569E+06       1906.9         4.32        4.97
       6.31   216.14    .652E+06       2320.0         4.59        4.68
       6.89   216.72    .739E+06       2781.8         4.86        4.43
       7.46   217.29    .828E+06       3289.5         5.12        4.20
       8.03   217.86    .921E+06       3830.8         5.36        4.01
       8.61   218.44    .102E+07       4408.4         5.59        3.85
       9.18   219.01    .112E+07       4985.0         5.75        3.74
       9.76   219.59    .122E+07       5591.6         5.89        3.65
      10.33   220.16    .134E+07       6230.5         6.01        3.58
      10.90   220.73    .146E+07       6943.9         6.15        3.49

                                     <---- hydrograph ---->   <-pipe /
channel->
                                 AREA     QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL
                                 (ha)     (cms)    (hrs)    (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  2284)     416.82      0.47     9.42    4.47       0.02
0.89
  OUTFLOW: ID= 1 (  2285)     416.82      0.47     9.83    4.47       0.02
0.89

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| ADD HYD  (  7544)|
|   1 +  2 =  3    |          AREA      QPEAK      TPEAK       R.V.
--------------------          (ha)      (cms)      (hrs)       (mm)
       ID1= 1 (  2285):    416.82      0.465       9.83       4.47
     + ID2= 2 (  0330):     23.23      0.031       7.25       2.70
       ====================================================
       ID = 3 (  7544):    440.05      0.485       9.67       4.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7544)|
|   3 +  2 =  1    |          AREA      QPEAK      TPEAK       R.V.
--------------------          (ha)      (cms)      (hrs)       (mm)
       ID1= 3 (  7544):    440.05      0.485       9.67       4.37
     + ID2= 2 (  0331):    159.69      0.167       8.75       3.60
       ====================================================
       ID = 1 (  7544):    599.74      0.647       9.42       4.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7544)|
|   1 +  2 =  3    |          AREA      QPEAK      TPEAK       R.V.
--------------------          (ha)      (cms)      (hrs)       (mm)
       ID1= 1 (  7544):    599.74      0.647       9.42       4.17
     + ID2= 2 (  0332):    191.39      0.210       9.25       4.47
       ====================================================
       ID = 3 (  7544):    791.13      0.857       9.42       4.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0807)|
|   1 +  2 =  3    |          AREA      QPEAK      TPEAK       R.V.
--------------------          (ha)      (cms)      (hrs)       (mm)
       ID1= 1 (  0329):    219.14      0.198      10.08       4.63
     + ID2= 2 (  7544):    791.13      0.857       9.42       4.24
       ====================================================
       ID = 3 (  0807):   1010.27      1.054       9.50       4.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2240)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <----- DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         219.21       0.0600
                 18.00         217.88       0.0450      Main Channel
                 46.13         215.30       0.0450      Main Channel
                 59.13         214.63       0.0450      Main Channel
                 69.30         213.63       0.0450      Main Channel
                 75.30         210.03       0.0450      Main Channel
                 79.30         207.94       0.0450      Main Channel
                 85.30         207.22       0.0450      Main Channel
                 89.30         207.48       0.0450      Main Channel
                 94.39         205.09       0.0450      Main Channel
                 99.39         201.71       0.0450      Main Channel
                113.52         200.19       0.0450      Main Channel
                123.52         199.67       0.0450      Main Channel
                149.60         201.06       0.0450      Main Channel
                161.67         202.77       0.0450      Main Channel
                179.67         205.07       0.0450      Main Channel
                199.73         206.49       0.0450      Main Channel
                228.84         210.30       0.0450      Main Channel
                259.91         212.58    0.0450 /0.0600 Main Channel
                265.90         212.81       0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)        (cms)        (m/s)       (min)
       0.68   200.35    .111E+05          7.7         0.89       24.11
       1.36   201.03    .407E+05         45.3         1.43       14.97
       2.04   201.71    .837E+05        128.9         1.98       10.82
       2.72   202.39    .134E+06        263.9         2.53        8.47
       3.40   203.07    .190E+06        440.3         2.99        7.18
       4.08   203.75    .251E+06        658.5         3.38        6.35
       4.76   204.43    .317E+06        921.0         3.74        5.74
```

5.44	205.11	.389E+06	1227.0	4.05	5.29
6.12	205.79	.469E+06	1545.6	4.24	5.06
6.80	206.47	.559E+06	1924.8	4.43	4.84
7.48	207.15	.656E+06	2413.8	4.73	4.53
8.16	207.83	.764E+06	2865.4	4.83	4.44
8.84	208.51	.881E+06	3502.3	5.12	4.19
9.52	209.18	.100E+07	4217.6	5.41	3.97
10.20	209.86	.113E+07	5002.0	5.69	3.77
10.88	210.54	.127E+07	5825.6	5.92	3.62
11.56	211.22	.141E+07	6670.2	6.09	3.52
12.24	211.90	.156E+07	7599.9	6.27	3.42
12.92	212.58	.172E+07	8618.2	6.45	3.33

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0807)	1010.27	1.05	9.50	4.32	0.09	0.89
OUTFLOW: ID= 1 (2240)	1010.27	1.05	9.92	4.32	0.09	0.89

ROUTE CHN(2288) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	206.55	0.0600	
5.00	205.35	0.0450	Main Channel
14.00	203.27	0.0450	Main Channel
15.00	203.10	0.0450	Main Channel
24.00	202.25	0.0450	Main Channel
44.00	199.42	0.0450	Main Channel
54.00	198.54	0.0450	Main Channel
55.00	198.54	0.0450	Main Channel
64.00	197.79	0.0450	Main Channel
65.00	197.45	0.0450	Main Channel
74.00	192.77	0.0450	Main Channel
84.00	191.07	0.0450	Main Channel
85.00	191.01	0.0450	Main Channel
104.06	190.50	0.0450	Main Channel
134.06	191.29	0.0450	Main Channel
154.06	193.20	0.0450	Main Channel
164.06	194.08	0.0450	Main Channel
183.11	198.58	0.0450	Main Channel
184.11	198.63	0.0450 /0.0600	Main Channel
192.11	201.95	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.58	191.08	.796E+04	10.0	0.79	13.30
1.16	191.66	.268E+05	61.4	1.44	7.29
1.74	192.24	.496E+05	154.1	1.96	5.36
2.32	192.82	.758E+05	286.6	2.39	4.41
2.90	193.40	.105E+06	463.5	2.78	3.78
3.48	193.98	.137E+06	680.1	3.13	3.36
4.06	194.56	.171E+06	956.2	3.52	2.99
4.65	195.14	.207E+06	1277.1	3.89	2.70
5.23	195.72	.244E+06	1638.3	4.24	2.48

5.81	196.30	.282E+06	2039.5	4.56	2.31
6.39	196.88	.322E+06	2480.4	4.86	2.16
6.97	197.47	.363E+06	2960.7	5.15	2.04
7.55	198.05	.405E+06	3431.3	5.34	1.97
8.13	198.63	.451E+06	3865.2	5.41	1.94
8.79	199.29	.508E+06	4537.0	5.64	1.87
9.46	199.96	.568E+06	5323.3	5.91	1.78
10.12	200.62	.631E+06	6187.3	6.18	1.70
10.79	201.28	.697E+06	7118.0	6.44	1.63
11.45	201.95	.765E+06	8116.8	6.69	1.57

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2240)	1010.27	1.05	9.92	4.32	0.06	0.79
OUTFLOW: ID= 1 (2288)	1010.27	1.05	10.17	4.32	0.06	0.79

ADD HYD (7542) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2288):	1010.27	1.045	10.17	4.32
+ ID2= 2 (0328):	139.12	0.148	8.92	3.87
ID = 3 (7542):	1149.39	1.187	10.00	4.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1205) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7542):	1149.39	1.187	10.00	4.27
+ ID2= 2 (7543):	2266.41	2.796	9.25	5.23
ID = 3 (1205):	3415.80	3.964	9.50	4.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3006) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	217.54	0.0600	
102.12	216.80	0.0450	Main Channel
111.43	216.54	0.0450	Main Channel
147.75	209.60	0.0450	Main Channel
180.37	204.90	0.0450	Main Channel
198.28	202.47	0.0450	Main Channel
237.73	199.69	0.0450	Main Channel

262.71	196.17	0.0450	Main Channel
298.51	189.33	0.0450	Main Channel
334.41	189.46	0.0450	Main Channel
355.93	190.69	0.0450	Main Channel
370.21	193.67	0.0450	Main Channel
400.33	198.54	0.0450	Main Channel
432.66	204.10	0.0450	Main Channel
457.53	209.99	0.0450	Main Channel
486.64	214.11	0.0450	Main Channel
514.73	217.06	0.0450	Main Channel
523.13	217.43	0.0450	Main Channel
563.60	217.89	0.0450 /0.0600	Main Channel
615.87	219.51	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.43	190.76	.170E+05	114.0	1.65	2.48
2.86	192.19	.424E+05	458.4	2.65	1.54
4.30	193.63	.728E+05	1010.5	3.40	1.20
5.73	195.06	.109E+06	1767.9	3.99	1.02
7.16	196.49	.150E+06	2756.8	4.50	0.91
8.59	197.92	.198E+06	3986.4	4.93	0.83
10.02	199.35	.253E+06	5518.4	5.35	0.76
11.46	200.79	.315E+06	7215.7	5.61	0.73
12.89	202.22	.387E+06	9273.1	5.87	0.70
14.32	203.65	.468E+06	11989.8	6.28	0.65
15.75	205.08	.556E+06	15229.8	6.72	0.61
17.19	206.52	.649E+06	18941.9	7.15	0.57
18.62	207.95	.748E+06	23094.3	7.57	0.54
20.05	209.38	.852E+06	27701.4	7.96	0.51
21.48	210.81	.962E+06	32756.1	8.34	0.49
22.91	212.24	.108E+07	38217.3	8.68	0.47
24.35	213.68	.120E+07	44189.0	9.02	0.45
25.78	215.11	.133E+07	50491.4	9.31	0.44
27.21	216.54	.147E+07	57279.9	9.58	0.43

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1205)	3415.80	3.96	9.50	4.91	0.05	1.65
OUTFLOW: ID= 1 (3006)	3415.80	3.96	9.58	4.91	0.05	1.65

ROUTE CHN(3007) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	217.54	0.0600	
102.12	216.80	0.0450	Main Channel
111.43	216.54	0.0450	Main Channel
147.75	209.60	0.0450	Main Channel
180.37	204.90	0.0450	Main Channel
198.28	202.47	0.0450	Main Channel
237.73	199.69	0.0450	Main Channel
262.71	196.17	0.0450	Main Channel
298.51	189.33	0.0450	Main Channel

334.41	189.46	0.0450	Main Channel
355.93	190.69	0.0450	Main Channel
370.21	193.67	0.0450	Main Channel
400.33	198.54	0.0450	Main Channel
432.66	204.10	0.0450	Main Channel
457.53	209.99	0.0450	Main Channel
486.64	214.11	0.0450	Main Channel
514.73	217.06	0.0450	Main Channel
523.13	217.43	0.0450	Main Channel
563.60	217.89	0.0450 /0.0600	Main Channel
615.87	219.51	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.43	190.76	.249E+05	111.8	1.62	3.70
2.86	192.19	.621E+05	449.6	2.60	2.30
4.30	193.63	.107E+06	991.2	3.33	1.79
5.73	195.06	.159E+06	1734.1	3.91	1.53
7.16	196.49	.220E+06	2704.0	4.41	1.36
8.59	197.92	.290E+06	3910.1	4.83	1.24
10.02	199.35	.370E+06	5412.8	5.25	1.14
11.46	200.79	.462E+06	7077.6	5.50	1.09
12.89	202.22	.567E+06	9095.7	5.76	1.04
14.32	203.65	.686E+06	11760.3	6.15	0.97
15.75	205.08	.814E+06	14938.4	6.59	0.91
17.19	206.52	.951E+06	18579.4	7.02	0.85
18.62	207.95	.110E+07	22652.3	7.42	0.81
20.05	209.38	.125E+07	27171.2	7.81	0.77
21.48	210.81	.141E+07	32129.2	8.18	0.73
22.91	212.24	.158E+07	37485.9	8.52	0.70
24.35	213.68	.176E+07	43343.3	8.85	0.68
25.78	215.11	.195E+07	49525.0	9.13	0.66
27.21	216.54	.215E+07	56183.6	9.40	0.64

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3006)	3415.80	3.96	9.58	4.91	0.05	1.62
OUTFLOW: ID= 1 (3007)	3415.80	3.96	9.58	4.91	0.05	1.62

ROUTE CHN(2513) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	208.14	0.0600	
54.19	206.99	0.0450	Main Channel
84.69	205.46	0.0450	Main Channel
145.90	203.65	0.0450	Main Channel
176.43	195.30	0.0450	Main Channel
200.90	190.05	0.0450	Main Channel
247.67	194.92	0.0450	Main Channel
288.50	194.79	0.0450	Main Channel
359.96	185.37	0.0450	Main Channel
400.68	185.52	0.0450	Main Channel
420.97	183.75	0.0450	Main Channel

451.55	181.78	0.0450		Main Channel
553.30	182.44	0.0450		Main Channel
584.01	188.53	0.0450		Main Channel
624.71	202.08	0.0450		Main Channel
665.26	201.86	0.0450		Main Channel
695.92	200.45	0.0450		Main Channel
741.60	205.69	0.0450		Main Channel
777.20	208.67	0.0450 /0.0600		Main Channel
798.70	207.73	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.39	183.17	.789E+05	246.7	1.98	5.33
2.79	184.57	.203E+06	1053.1	3.29	3.21
4.18	185.96	.361E+06	2182.6	3.83	2.75
5.57	187.35	.558E+06	4291.6	4.87	2.17
6.96	188.74	.772E+06	7014.9	5.75	1.83
8.36	190.14	.999E+06	10342.1	6.55	1.61
9.75	191.53	.125E+07	13822.6	7.01	1.51
11.14	192.92	.153E+07	18008.4	7.45	1.42
12.54	194.32	.184E+07	22952.9	7.89	1.34
13.93	195.71	.220E+07	27941.9	8.04	1.31
15.32	197.10	.258E+07	35994.6	8.82	1.20
16.72	198.50	.298E+07	44895.6	9.55	1.10
18.11	199.89	.338E+07	54625.1	10.24	1.03
19.50	201.28	.379E+07	63119.8	10.54	1.00
20.89	202.67	.426E+07	70015.2	10.40	1.01
22.29	204.07	.477E+07	81638.6	10.83	0.97
23.68	205.46	.532E+07	92005.0	10.94	0.96
25.07	206.85	.592E+07	107749.6	11.53	0.92
26.68	208.46	.667E+07	127449.3	12.09	0.87

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3007)	3415.80	3.96	9.58	4.91	0.02	1.98
OUTFLOW: ID= 1 (2513)	3415.80	3.96	9.67	4.91	0.02	1.98

ROUTE CHN(3843)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	209.39	0.0600	
18.53	209.74	0.0450	Main Channel
100.23	206.35	0.0450	Main Channel
141.38	201.35	0.0450	Main Channel
172.04	197.39	0.0450	Main Channel
182.28	195.96	0.0450	Main Channel
218.03	188.06	0.0450	Main Channel
240.65	183.12	0.0450	Main Channel
264.56	178.01	0.0450	Main Channel
274.77	176.20	0.0450	Main Channel
305.49	175.83	0.0450	Main Channel
315.69	174.72	0.0450	Main Channel
325.90	176.51	0.0450	Main Channel

386.36	176.03	0.0450		Main Channel
428.69	177.12	0.0450		Main Channel
551.62	188.88	0.0450		Main Channel
572.03	192.10	0.0450		Main Channel
582.25	192.85	0.0450		Main Channel
674.59	196.96	0.0450 /0.0600		Main Channel
710.33	194.14	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.71	176.43	.220E+05	37.3	0.81	9.82
3.42	178.14	.150E+06	703.6	2.23	3.56
5.13	179.85	.303E+06	2071.0	3.25	2.44
6.84	181.56	.478E+06	4068.6	4.05	1.96
8.55	183.27	.673E+06	6701.8	4.73	1.67
10.26	184.98	.889E+06	9994.2	5.34	1.48
11.98	186.70	.113E+07	13971.0	5.90	1.34
13.69	188.41	.138E+07	18664.1	6.41	1.24
15.40	190.12	.166E+07	24300.1	6.95	1.14
17.11	191.83	.196E+07	30758.4	7.48	1.06
18.82	193.54	.227E+07	37066.9	7.77	1.02
20.53	195.25	.262E+07	43761.9	7.94	1.00
22.24	196.96	.303E+07	51474.3	8.09	0.98
23.95	198.67	.347E+07	62862.5	8.62	0.92
26.08	200.80	.403E+07	78505.4	9.26	0.86
28.21	202.93	.461E+07	95688.1	9.87	0.80
30.34	205.06	.521E+07	114447.4	10.45	0.76
32.47	207.19	.583E+07	135820.7	11.08	0.72
34.60	209.32	.649E+07	160576.8	11.76	0.67

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2513)	3415.80	3.96	9.67	4.91	0.18	0.81
OUTFLOW: ID= 1 (3843)	3415.80	3.96	9.83	4.91	0.18	0.81

ADD HYD (7540)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0308):	200.88	0.176	9.25	3.47
+ ID2= 2 (3843):	3415.80	3.957	9.83	4.91
ID = 3 (7540):	3616.68	4.131	9.83	4.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1856)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7540):	3616.68	4.131	9.83	4.83
+ ID2= 2 (7541):	11929.86	14.051	17.58	6.93

ID = 3 (1856):	15546.54	15.794	17.33	6.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(4008)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	197.96	0.0600	
52.92	198.61	0.0450	Main Channel
63.41	196.22	0.0450	Main Channel
77.01	192.36	0.0450	Main Channel
92.87	188.53	0.0450	Main Channel
105.55	186.14	0.0450	Main Channel
148.03	175.12	0.0450	Main Channel
158.51	173.35	0.0450	Main Channel
179.40	174.05	0.0450	Main Channel
211.06	174.51	0.0450	Main Channel
232.29	174.66	0.0450	Main Channel
267.11	176.81	0.0450	Main Channel
288.34	177.91	0.0450	Main Channel
327.28	178.33	0.0450	Main Channel
369.39	178.26	0.0450	Main Channel
438.11	177.59	0.0450	Main Channel
462.54	178.24	0.0450	Main Channel
494.38	180.22	0.0450	Main Channel
558.05	188.82	0.0450 /0.0600	Main Channel
580.40	192.50	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.29	174.64	.710E+04	25.3	0.68	4.68
2.58	175.93	.305E+05	232.0	1.46	2.19
3.87	177.22	.604E+05	623.3	1.98	1.61
5.16	178.51	.112E+06	957.4	1.64	1.95
6.45	179.80	.197E+06	2338.1	2.27	1.40
7.73	181.09	.288E+06	4254.1	2.83	1.13
9.02	182.37	.382E+06	6657.5	3.33	0.96
10.31	183.66	.480E+06	9505.4	3.79	0.84
11.60	184.95	.582E+06	12783.0	4.20	0.76
12.89	186.24	.687E+06	16477.9	4.59	0.70
14.18	187.53	.797E+06	20547.1	4.94	0.65
15.47	188.82	.910E+06	25043.5	5.27	0.61
16.87	190.22	.104E+07	30814.3	5.69	0.56
18.27	191.62	.117E+07	37090.4	6.08	0.52
19.67	193.02	.130E+07	43896.4	6.46	0.49
21.06	194.41	.144E+07	51232.0	6.82	0.47
22.46	195.81	.158E+07	59050.4	7.18	0.44
23.86	197.21	.171E+07	67644.7	7.56	0.42
25.26	198.61	.186E+07	76862.6	7.92	0.40

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1856)	15546.54	15.79	17.33	6.44	0.80	0.68
OUTFLOW: ID= 1 (4008)	15546.54	15.79	17.33	6.44	0.80	0.68

ROUTE CHN(3932)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	182.83	0.0600	
19.48	179.52	0.0450	Main Channel
40.16	178.86	0.0450	Main Channel
81.51	177.39	0.0450	Main Channel
91.74	177.01	0.0450	Main Channel
143.47	174.48	0.0450	Main Channel
153.67	170.78	0.0450	Main Channel
164.11	170.57	0.0450	Main Channel
174.31	170.69	0.0450	Main Channel
215.46	171.68	0.0450	Main Channel
225.95	170.72	0.0450	Main Channel
256.83	172.23	0.0450	Main Channel
267.08	171.39	0.0450	Main Channel
287.75	172.26	0.0450	Main Channel
359.98	173.63	0.0450	Main Channel
393.24	173.24	0.0450	Main Channel
461.32	175.15	0.0450	Main Channel
472.14	177.10	0.0450	Main Channel
488.87	179.39	0.0450 /0.0600	Main Channel
501.95	181.65	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.55	171.12	.768E+04	7.9	0.48	16.30
1.11	171.68	.274E+05	41.3	0.71	11.08
1.66	172.23	.589E+05	122.9	0.98	7.99
2.21	172.78	.984E+05	253.6	1.21	6.47
2.76	173.33	.146E+06	422.3	1.36	5.77
3.32	173.89	.211E+06	655.5	1.46	5.37
3.87	174.44	.285E+06	1024.8	1.70	4.63
4.42	174.99	.365E+06	1450.4	1.87	4.19
4.97	175.54	.452E+06	1993.8	2.08	3.78
5.53	176.10	.543E+06	2633.2	2.29	3.43
6.08	176.65	.637E+06	3352.8	2.48	3.17
6.63	177.20	.736E+06	4143.0	2.65	2.96
7.18	177.75	.839E+06	4990.4	2.80	2.80
7.74	178.31	.947E+06	5920.2	2.95	2.67
8.29	178.86	.106E+07	6936.3	3.08	2.55
8.84	179.41	.118E+07	8205.5	3.28	2.39
9.54	180.11	.133E+07	10008.0	3.54	2.22
10.24	180.81	.149E+07	11965.4	3.78	2.08
10.94	181.51	.165E+07	14073.5	4.01	1.96

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (4008)	15546.54	15.79	17.33	6.44	0.68	0.52
OUTFLOW: ID= 1 (3932)	15546.54	15.76	17.42	6.44	0.68	0.52

ROUTE CHN(3908) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	203.80	0.0600	
18.47	202.20	0.0450	Main Channel
49.86	191.51	0.0450	Main Channel
65.14	187.47	0.0450	Main Channel
77.85	185.32	0.0450	Main Channel
95.36	183.97	0.0450	Main Channel
138.17	183.70	0.0450	Main Channel
151.63	180.36	0.0450	Main Channel
178.56	171.36	0.0450	Main Channel
205.16	171.06	0.0450	Main Channel
220.04	169.46	0.0450	Main Channel
234.91	170.91	0.0450	Main Channel
264.66	171.77	0.0450	Main Channel
340.64	172.07	0.0450	Main Channel
388.95	171.63	0.0450	Main Channel
430.15	172.38	0.0450	Main Channel
470.77	172.07	0.0450	Main Channel
561.42	172.19	0.0450	Main Channel
593.00	184.66	0.0450 /0.0600	Main Channel
643.40	192.03	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.17	170.63	.648E+04	6.5	0.49	16.49
2.34	171.80	.382E+05	41.3	0.52	15.42
3.51	172.97	.223E+06	361.8	0.79	10.29
4.68	174.14	.446E+06	1132.4	1.23	6.56
5.85	175.31	.672E+06	2218.7	1.60	5.05
7.02	176.48	.902E+06	3582.3	1.92	4.20
8.18	177.64	.114E+07	5200.3	2.22	3.64
9.35	178.81	.137E+07	7056.9	2.49	3.24
10.52	179.98	.161E+07	9140.8	2.74	2.94
11.69	181.15	.186E+07	11430.9	2.98	2.71
12.86	182.32	.211E+07	13926.6	3.20	2.52
14.03	183.49	.236E+07	16628.8	3.41	2.37
15.20	184.66	.264E+07	18502.5	3.40	2.37
16.37	185.83	.293E+07	21702.1	3.59	2.25
17.60	187.06	.325E+07	25445.3	3.80	2.13
18.83	188.29	.357E+07	29509.3	4.00	2.02
20.05	189.51	.391E+07	33867.6	4.20	1.92
21.28	190.74	.425E+07	38490.7	4.39	1.84
22.51	191.97	.460E+07	43469.3	4.58	1.76

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3932)	15546.54	15.76	17.42	6.44	1.48	0.50
OUTFLOW: ID= 1 (3908)	15546.54	15.74	17.58	6.44	1.47	0.50

ROUTE CHN(3854) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	203.45	0.0600	
65.60	201.88	0.0450	Main Channel
85.75	200.61	0.0450	Main Channel
95.95	196.45	0.0450	Main Channel
109.03	187.11	0.0450	Main Channel
116.11	181.04	0.0450	Main Channel
118.11	180.33	0.0450	Main Channel
126.17	174.09	0.0450	Main Channel
145.35	170.57	0.0450	Main Channel
167.51	168.86	0.0450	Main Channel
177.70	170.42	0.0450	Main Channel
187.79	170.29	0.0450	Main Channel
309.14	170.42	0.0450	Main Channel
390.91	170.86	0.0450	Main Channel
427.89	171.05	0.0450	Main Channel
462.82	171.59	0.0450	Main Channel
513.98	176.55	0.0450	Main Channel
521.07	174.99	0.0450	Main Channel
534.14	174.47	0.0450 /0.0600	Main Channel
554.24	184.11	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.80	169.66	.387E+04	3.8	0.60	17.07
1.60	170.46	.244E+05	16.5	0.42	24.55
2.40	171.26	.146E+06	223.8	0.95	10.86
3.21	172.07	.305E+06	717.0	1.46	7.09
4.01	172.87	.472E+06	1448.3	1.90	5.43
4.81	173.67	.645E+06	2381.0	2.28	4.52
5.61	174.47	.825E+06	3510.1	2.63	3.92
6.41	175.27	.101E+07	4748.1	2.90	3.56
7.22	176.08	.121E+07	6246.6	3.19	3.24
8.02	176.88	.142E+07	7983.1	3.48	2.96
8.82	177.68	.163E+07	9985.4	3.80	2.71
9.63	178.49	.184E+07	12165.3	4.10	2.51
10.43	179.29	.205E+07	14516.7	4.39	2.35
11.23	180.09	.226E+07	17034.2	4.67	2.21
12.04	180.90	.247E+07	19691.3	4.93	2.09
12.84	181.70	.269E+07	22527.2	5.19	1.99
13.64	182.50	.290E+07	25524.1	5.44	1.90
14.45	183.31	.312E+07	28672.3	5.69	1.81
15.25	184.11	.334E+07	31968.6	5.93	1.74

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3908)	15546.54	15.74	17.58	6.44	1.55	0.43
OUTFLOW: ID= 1 (3854)	15546.54	15.65	18.08	6.44	1.54	0.43

ROUTE CHN(3719) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	194.28	0.0600	
45.09	189.30	0.0450	Main Channel
74.37	189.65	0.0450	Main Channel
123.26	175.56	0.0450	Main Channel
163.28	171.79	0.0450	Main Channel
183.28	173.79	0.0450	Main Channel
240.30	173.75	0.0450	Main Channel
253.30	174.21	0.0450	Main Channel
283.31	177.05	0.0450	Main Channel
333.33	175.94	0.0450	Main Channel
353.33	168.57	0.0450	Main Channel
443.36	167.56	0.0450	Main Channel
453.37	166.44	0.0450	Main Channel
523.39	173.14	0.0450	Main Channel
563.40	184.57	0.0450	Main Channel
603.41	192.22	0.0450	Main Channel
613.41	195.72	0.0450	Main Channel
640.47	198.43	0.0450	Main Channel
708.80	198.73	0.0450 /0.0600	Main Channel
738.00	199.19	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.45	167.89	.149E+05	13.9	0.56	17.88
2.90	169.34	.110E+06	216.0	1.18	8.52
4.35	170.79	.235E+06	693.5	1.78	5.64
5.80	172.24	.377E+06	1361.2	2.18	4.62
7.25	173.69	.556E+06	2235.4	2.43	4.14
8.70	175.14	.823E+06	3336.1	2.45	4.11
10.15	176.60	.113E+07	5080.5	2.71	3.72
11.60	178.05	.150E+07	7634.6	3.08	3.27
13.05	179.50	.188E+07	10923.7	3.52	2.86
14.51	180.95	.226E+07	14690.9	3.92	2.57
15.96	182.40	.266E+07	18918.4	4.30	2.34
17.41	183.85	.306E+07	23593.1	4.65	2.16
18.86	185.30	.347E+07	28660.4	4.98	2.02
20.31	186.75	.390E+07	34114.1	5.28	1.90
21.76	188.20	.433E+07	39996.5	5.57	1.81
23.21	189.65	.478E+07	46308.7	5.85	1.72
24.66	191.10	.527E+07	53429.9	6.12	1.64
26.20	192.64	.581E+07	61643.3	6.40	1.57
27.75	194.19	.637E+07	70627.4	6.69	1.50

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3854)	15546.54	15.65	18.08	6.44	1.46	0.57
OUTFLOW: ID= 1 (3719)	15546.54	15.62	18.25	6.44	1.46	0.57

ROUTE CHN(3629) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	193.75	0.0600	
30.76	192.06	0.0450	Main Channel
41.30	189.23	0.0450	Main Channel
51.74	185.75	0.0450	Main Channel
64.46	179.82	0.0450	Main Channel
88.83	173.26	0.0450	Main Channel
111.99	170.95	0.0450	Main Channel
136.38	167.25	0.0450	Main Channel
146.83	166.30	0.0450	Main Channel
159.51	165.78	0.0450	Main Channel
184.82	164.62	0.0450	Main Channel
199.43	167.54	0.0450	Main Channel
220.65	168.59	0.0450	Main Channel
231.13	171.39	0.0450	Main Channel
294.56	183.02	0.0450	Main Channel
305.36	184.45	0.0450	Main Channel
326.29	182.97	0.0450	Main Channel
336.74	183.97	0.0450	Main Channel
368.45	190.58	0.0450 /0.0600	Main Channel
392.88	190.28	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.30	165.92	.116E+05	32.5	1.44	5.93
2.59	167.21	.448E+05	214.2	2.46	3.48
3.89	168.51	.941E+05	566.5	3.09	2.77
5.18	169.80	.160E+06	1238.8	3.98	2.15
6.48	171.10	.235E+06	2160.4	4.73	1.81
7.77	172.39	.321E+06	3284.2	5.26	1.63
9.07	173.69	.420E+06	4752.5	5.82	1.47
10.36	174.98	.528E+06	6627.0	6.45	1.33
11.66	176.28	.644E+06	8813.0	7.04	1.22
12.95	177.57	.768E+06	11319.4	7.58	1.13
14.25	178.87	.900E+06	14156.1	8.09	1.06
15.54	180.16	.104E+07	17359.1	8.59	1.00
16.84	181.46	.119E+07	20977.7	9.09	0.94
18.13	182.75	.134E+07	24944.5	9.58	0.89
19.43	184.05	.151E+07	27478.0	9.38	0.91
20.72	185.34	.170E+07	32096.3	9.73	0.88
22.02	186.64	.189E+07	37681.8	10.23	0.84
23.31	187.93	.210E+07	43679.9	10.71	0.80
24.61	189.23	.231E+07	50120.3	11.17	0.77

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3719)	15546.54	15.62	18.25	6.44	0.62	1.44
OUTFLOW: ID= 1 (3629)	15546.54	15.62	18.42	6.44	0.62	1.44

CALIB NASHYD (0342) ID= 1 DT= 5.0 min	Area (ha)= 185.48 Curve Number (CN)= 58.0 Ia (mm)= 14.40 # of Linear Res.(N)= 1.50 U.H. Tp(hrs)= 2.97

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     Unit Hyd Qpeak  (cms)=     1.066

     PEAK FLOW       (cms)=     0.133 (i)
     TIME TO PEAK    (hrs)=    10.000
     RUNOFF VOLUME    (mm)=     3.600
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.086

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7538)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0342):    185.48      0.133       10.00        3.60
     + ID2= 2 (  3629):  15546.54     15.621       18.42        6.44
       ================================================================
       ID = 3 (  7538):  15732.02     15.689       18.33        6.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0343)|   Area    (ha)=     84.95   Curve Number   (CN)= 55.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.37

     Unit Hyd Qpeak  (cms)=     1.059

     PEAK FLOW       (cms)=     0.099 (i)
     TIME TO PEAK    (hrs)=     8.250
     RUNOFF VOLUME    (mm)=     3.232
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.077

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0346)|   Area    (ha)=     61.82   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     14.40   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.16

     Unit Hyd Qpeak  (cms)=     0.910

     PEAK FLOW       (cms)=     0.099 (i)
     TIME TO PEAK    (hrs)=     7.750
     RUNOFF VOLUME    (mm)=     4.003
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.095

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0345)|   Area    (ha)=    100.73
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|ID= 1 DT= 5.0 min |   Total Imp(%)=     43.00   Dir. Conn.(%)=  38.80
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                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        43.31           57.42
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.30            2.30
     Length            (m)=       819.47           40.00
     Mannings n          =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            5.67
               over (min)          15.00           35.00
     Storage Coeff.  (min)=        13.56 (ii)      34.89 (ii)
     Unit Hyd. Tpeak (min)=        15.00           35.00
     Unit Hyd. peak  (cms)=         0.08            0.03
                                                            *TOTALS*
     PEAK FLOW       (cms)=         2.07            0.58      2.545 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58       5.25
     RUNOFF VOLUME    (mm)=        40.00            8.76      20.88
     TOTAL RAINFALL   (mm)=        42.00           42.00      42.00
     RUNOFF COEFFICIENT   =         0.95            0.21       0.50

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  66.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4061)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------          (cms)        (ha.m.)   |    (cms)          (ha.m.)
                              0.0000        0.0000   |      0.5710
3.9671
                              0.2260        1.5697   |      0.7730
5.1372
                              0.3560        2.5115   |     15.4600
5.7080

                                 AREA        QPEAK        TPEAK       R.V.
                                 (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0345)      100.730       2.545         5.25       20.88
   OUTFLOW: ID= 1 (  4061)      100.730       0.238         8.67       20.86

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.34
                  TIME SHIFT OF PEAK FLOW       (min)=205.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  1.6557

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| CALIB            |
| STANDHYD (  0347)|   Area    (ha)=     26.84
|ID= 1 DT= 5.0 min |   Total Imp(%)=     17.00   Dir. Conn.(%)=  15.20
--------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         4.56           22.28
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         3.45            3.45
     Length            (m)=       423.01           40.00
     Mannings n          =        0.013           0.250
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     Max.Eff.Inten.(mm/hr)=        19.32           5.12
               over (min)          10.00          30.00
     Storage Coeff.  (min)=         8.08 (ii)     27.76 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.13           0.04
                                                            *TOTALS*
     PEAK FLOW       (cms)=         0.22           0.22       0.408 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50       5.25
     RUNOFF VOLUME    (mm)=        40.00           8.05      12.91
     TOTAL RAINFALL   (mm)=        42.00          42.00      42.00
     RUNOFF COEFFICIENT   =         0.95           0.19       0.31

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0348)|   Area    (ha)=     57.65
|ID= 1 DT= 5.0 min |   Total Imp(%)=     54.60   Dir. Conn.(%)=  49.00
--------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        31.48           26.17
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.21            2.21
     Length            (m)=       619.95           40.00
     Mannings n          =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           5.40
               over (min)          10.00          35.00
     Storage Coeff.  (min)=        11.61 (ii)     33.62 (ii)
     Unit Hyd. Tpeak (min)=        10.00          35.00
     Unit Hyd. peak  (cms)=         0.10           0.03
                                                            *TOTALS*
     PEAK FLOW       (cms)=         1.51           0.26       1.718 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.58       5.25
     RUNOFF VOLUME    (mm)=        40.00           8.00      23.68
     TOTAL RAINFALL   (mm)=        42.00          42.00      42.00
     RUNOFF COEFFICIENT   =         0.95           0.19       0.56

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  62.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0349)|   Area    (ha)=     24.90
|ID= 1 DT= 5.0 min |   Total Imp(%)=     33.10   Dir. Conn.(%)=  26.90
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                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         8.24           16.66
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         3.55            3.55
     Length            (m)=       407.43           40.00
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     Mannings n          =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           4.16
               over (min)          10.00          30.00
     Storage Coeff.  (min)=         7.83 (ii)     29.04 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.13           0.04
                                                            *TOTALS*
     PEAK FLOW       (cms)=         0.36           0.13       0.475 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50       5.25
     RUNOFF VOLUME    (mm)=        40.00           6.36      15.41
     TOTAL RAINFALL   (mm)=        42.00          42.00      42.00
     RUNOFF COEFFICIENT   =         0.95           0.15       0.37

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  56.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0350)|   Area    (ha)=    101.05
|ID= 1 DT= 5.0 min |   Total Imp(%)=     41.80   Dir. Conn.(%)=  35.50
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                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        42.24           58.81
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.09            2.09
     Length            (m)=       820.77           40.00
     Mannings n          =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           5.82
               over (min)          15.00          40.00
     Storage Coeff.  (min)=        13.99 (ii)     35.72 (ii)
     Unit Hyd. Tpeak (min)=        15.00          40.00
     Unit Hyd. peak  (cms)=         0.08           0.03
                                                            *TOTALS*
     PEAK FLOW       (cms)=         1.90           0.60       2.360 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.67       5.25
     RUNOFF VOLUME    (mm)=        40.00           8.73      19.83
     TOTAL RAINFALL   (mm)=        42.00          42.00      42.00
     RUNOFF COEFFICIENT   =         0.95           0.21       0.47

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  65.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0860)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0348):     57.65      1.718        5.25       23.68
     + ID2= 2 (  0349):     24.90      0.475        5.25       15.41
       ================================================================
       ID = 3 (  0860):     82.55      2.193        5.25       21.19
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0860)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0860):	82.55	2.193	5.25	21.19
	+ ID2= 2 (0350):	101.05	2.360	5.25	19.83
	ID = 1 (0860):	183.60	4.553	5.25	20.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2242)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	202.59	0.0600	
5.83	201.95	0.0450	Main Channel
16.60	200.82	0.0450	Main Channel
38.56	198.35	0.0450	Main Channel
47.50	197.55	0.0450	Main Channel
60.59	197.13	0.0450	Main Channel
70.44	196.79	0.0450	Main Channel
72.85	196.75	0.0450	Main Channel
82.70	197.54	0.0450	Main Channel
91.65	199.89	0.0450	Main Channel
93.88	200.39	0.0450	Main Channel
97.04	201.37	0.0450	Main Channel
104.66	203.44	0.0450	Main Channel
111.37	204.26	0.0450	Main Channel
115.84	205.33	0.0450	Main Channel
121.22	205.06	0.0450	Main Channel
126.61	204.69	0.0450	Main Channel
131.08	204.83	0.0450	Main Channel
137.79	205.07	0.0450 /0.0600	Main Channel
150.00	205.46	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	197.04	.255E+04	1.1	0.53	38.21
0.58	197.33	.943E+04	6.3	0.82	24.86
0.87	197.62	.207E+05	18.6	1.10	18.51
1.16	197.91	.343E+05	40.1	1.42	14.25
1.45	198.20	.495E+05	68.9	1.70	11.96
1.74	198.49	.661E+05	105.5	1.94	10.44
2.03	198.78	.841E+05	150.1	2.17	9.34
2.32	199.07	.103E+06	202.3	2.38	8.52
2.61	199.36	.124E+06	262.4	2.58	7.87
2.90	199.65	.146E+06	330.6	2.76	7.35
3.20	199.94	.169E+06	407.1	2.93	6.92
3.49	200.23	.194E+06	491.5	3.09	6.57
3.78	200.52	.220E+06	585.7	3.25	6.25
4.07	200.82	.247E+06	689.9	3.40	5.96
4.42	201.17	.282E+06	848.6	3.67	5.53
4.78	201.53	.319E+06	1021.8	3.90	5.20
5.13	201.88	.358E+06	1209.9	4.12	4.93
5.49	202.24	.399E+06	1415.4	4.32	4.70

5.84	202.59	.442E+06	1637.8	4.52	4.49

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0860)	183.60	4.55	5.25	20.44	0.48	0.69
OUTFLOW: ID= 1 (2242)	183.60	3.77	5.33	20.44	0.44	0.65

ADD HYD (1097)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2242):	183.60	3.768	5.33	20.44
	+ ID2= 2 (0347):	26.84	0.408	5.25	12.91
	ID = 3 (1097):	210.44	4.162	5.33	19.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2243)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	202.59	0.0600	
5.83	201.95	0.0450	Main Channel
16.60	200.82	0.0450	Main Channel
38.56	198.35	0.0450	Main Channel
47.50	197.55	0.0450	Main Channel
60.59	197.13	0.0450	Main Channel
70.44	196.79	0.0450	Main Channel
72.85	196.75	0.0450	Main Channel
82.70	197.54	0.0450	Main Channel
91.65	199.89	0.0450	Main Channel
93.88	200.39	0.0450	Main Channel
97.04	201.37	0.0450	Main Channel
104.66	203.44	0.0450	Main Channel
111.37	204.26	0.0450	Main Channel
115.84	205.33	0.0450	Main Channel
121.22	205.06	0.0450	Main Channel
126.61	204.69	0.0450	Main Channel
131.08	204.83	0.0450	Main Channel
137.79	205.07	0.0450 /0.0600	Main Channel
150.00	205.46	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	197.04	.700E+03	1.3	0.64	8.74
0.58	197.33	.259E+04	7.6	0.98	5.69
0.87	197.62	.568E+04	22.3	1.32	4.23
1.16	197.91	.941E+04	48.1	1.71	3.26
1.45	198.20	.136E+05	82.6	2.04	2.73
1.74	198.49	.181E+05	126.5	2.33	2.39

2.03	198.78	.231E+05	179.9	2.61	2.14
2.32	199.07	.283E+05	242.6	2.86	1.95
2.61	199.36	.340E+05	314.6	3.09	1.80
2.90	199.65	.400E+05	396.4	3.31	1.68
3.20	199.94	.464E+05	488.1	3.52	1.58
3.49	200.23	.531E+05	589.3	3.71	1.50
3.78	200.52	.602E+05	702.2	3.89	1.43
4.07	200.82	.677E+05	827.1	4.08	1.36
4.42	201.17	.773E+05	1017.4	4.40	1.27
4.78	201.53	.874E+05	1225.1	4.68	1.19
5.13	201.88	.981E+05	1450.7	4.94	1.13
5.49	202.24	.109E+06	1697.0	5.18	1.07
5.84	202.59	.121E+06	1963.7	5.42	1.03

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1097)	210.44	4.16	5.33	19.48	0.42	0.76
OUTFLOW: ID= 1 (2243)	210.44	4.07	5.42	19.48	0.42	0.75

ROUTE CHN(2244)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	202.59	0.0600	
5.83	201.95	0.0450	Main Channel
16.60	200.82	0.0450	Main Channel
38.56	198.35	0.0450	Main Channel
47.50	197.55	0.0450	Main Channel
60.59	197.13	0.0450	Main Channel
70.44	196.79	0.0450	Main Channel
72.85	196.75	0.0450	Main Channel
82.70	197.54	0.0450	Main Channel
91.65	199.89	0.0450	Main Channel
93.88	200.39	0.0450	Main Channel
97.04	201.37	0.0450	Main Channel
104.66	203.44	0.0450	Main Channel
111.37	204.26	0.0450	Main Channel
115.84	205.33	0.0450	Main Channel
121.22	205.06	0.0450	Main Channel
126.61	204.69	0.0450	Main Channel
131.08	204.83	0.0450	Main Channel
137.79	205.07	0.0450 /0.0600	Main Channel
150.00	205.46	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	197.04	.187E+04	1.6	0.76	19.52
0.58	197.33	.689E+04	9.0	1.17	12.70
0.87	197.62	.151E+05	26.7	1.57	9.46
1.16	197.91	.251E+05	57.4	2.04	7.28
1.45	198.20	.361E+05	98.6	2.43	6.11
1.74	198.49	.483E+05	150.9	2.78	5.33
2.03	198.78	.614E+05	214.6	3.11	4.77
2.32	199.07	.755E+05	289.3	3.41	4.35

2.61	199.36	.906E+05	375.3	3.69	4.02
2.90	199.65	.107E+06	472.8	3.95	3.76
3.20	199.94	.124E+06	582.1	4.19	3.54
3.49	200.23	.142E+06	702.9	4.42	3.36
3.78	200.52	.160E+06	837.6	4.65	3.19
4.07	200.82	.180E+06	986.6	4.87	3.05
4.42	201.17	.206E+06	1213.6	5.25	2.83
4.78	201.53	.233E+06	1461.3	5.58	2.66
5.13	201.88	.261E+06	1730.3	5.89	2.52
5.49	202.24	.291E+06	2024.2	6.18	2.40
5.84	202.59	.323E+06	2342.2	6.46	2.30

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2243)	210.44	4.07	5.42	19.48	0.39	0.86
OUTFLOW: ID= 1 (2244)	210.44	3.72	5.67	19.48	0.37	0.84

ADD HYD (1093)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2244):	210.44	3.717	5.67	19.48
	+ ID2= 2 (0346):	61.82	0.099	7.75	4.00
	ID = 3 (1093):	272.26	3.772	5.67	15.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1093)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (1093):	272.26	3.772	5.67	15.97
	+ ID2= 2 (4061):	100.73	0.238	8.67	20.86
	ID = 1 (1093):	372.99	3.941	5.67	17.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2245)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	202.59	0.0600	
5.83	201.95	0.0450	Main Channel
16.60	200.82	0.0450	Main Channel
38.56	198.35	0.0450	Main Channel
47.50	197.55	0.0450	Main Channel
60.59	197.13	0.0450	Main Channel

70.44	196.79	0.0450		Main Channel
72.85	196.75	0.0450		Main Channel
82.70	197.54	0.0450		Main Channel
91.65	199.89	0.0450		Main Channel
93.88	200.39	0.0450		Main Channel
97.04	201.37	0.0450		Main Channel
104.66	203.44	0.0450		Main Channel
111.37	204.26	0.0450		Main Channel
115.84	205.33	0.0450		Main Channel
121.22	205.06	0.0450		Main Channel
126.61	204.69	0.0450		Main Channel
131.08	204.83	0.0450		Main Channel
137.79	205.07	0.0450 /0.0600		Main Channel
150.00	205.46	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	197.04	.112E+04	1.6	0.74	11.91
0.58	197.33	.412E+04	8.9	1.14	7.75
0.87	197.62	.904E+04	26.1	1.54	5.77
1.16	197.91	.150E+05	56.2	2.00	4.44
1.45	198.20	.216E+05	96.6	2.38	3.73
1.74	198.49	.289E+05	147.9	2.72	3.25
2.03	198.78	.367E+05	210.3	3.05	2.91
2.32	199.07	.452E+05	283.4	3.34	2.65
2.61	199.36	.541E+05	367.7	3.61	2.45
2.90	199.65	.637E+05	463.2	3.87	2.29
3.20	199.94	.739E+05	570.3	4.11	2.16
3.49	200.23	.846E+05	688.7	4.33	2.05
3.78	200.52	.959E+05	820.6	4.55	1.95
4.07	200.82	.108E+06	966.6	4.77	1.86
4.42	201.17	.123E+06	1189.0	5.14	1.73
4.78	201.53	.139E+06	1431.6	5.47	1.62
5.13	201.88	.156E+06	1695.2	5.77	1.54
5.49	202.24	.174E+06	1983.1	6.06	1.46
5.84	202.59	.193E+06	2294.7	6.33	1.40

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1093)	372.99	3.94	5.67	17.29	0.39	0.84
OUTFLOW: ID= 1 (2245)	372.99	3.84	5.83	17.29	0.38	0.83

CALIB			
STANDHYD (0344)	Area (ha)=	60.69	
ID= 1 DT= 5.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)= 47.90

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	32.17	28.52
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.11	2.11
Length (m)=	636.08	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	5.83
over (min)	10.00	35.00

Storage Coeff. (min)=	11.97 (ii)	33.63 (ii)	
Unit Hyd. Tpeak (min)=	10.00	35.00	
Unit Hyd. peak (cms)=	0.10	0.03	
			TOTALS
PEAK FLOW (cms)=	1.55	0.30	1.799 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	8.74	23.71
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.21	0.56

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4062)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3840	2.7000
	0.1520	1.2461	0.5210	3.3986
	0.2400	1.8126	10.4200	3.7762

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0344)	60.690	1.799	5.25	23.71
OUTFLOW: ID= 1 (4062)	60.690	0.142	8.67	23.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.90
TIME SHIFT OF PEAK FLOW (min)=205.00
MAXIMUM STORAGE USED (ha.m.)= 1.1646

ADD HYD (1091)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2245):	372.99	3.844	5.83	17.29
+ ID2= 2 (4062):	60.69	0.142	8.67	23.68
ID = 3 (1091):	433.68	3.955	5.83	18.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2246)				
IN= 2---> OUT= 1	Routing time step (min)'= 5.00			
<------ DATA FOR SECTION (1.1) ------>				
Distance	Elevation	Manning		
0.00	202.59	0.0600		
5.83	201.95	0.0450	Main Channel	
16.60	200.82	0.0450	Main Channel	

38.56	198.35	0.0450		Main Channel
47.50	197.55	0.0450		Main Channel
60.59	197.13	0.0450		Main Channel
70.44	196.79	0.0450		Main Channel
72.85	196.75	0.0450		Main Channel
82.70	197.54	0.0450		Main Channel
91.65	199.89	0.0450		Main Channel
93.88	200.39	0.0450		Main Channel
97.04	201.37	0.0450		Main Channel
104.66	203.44	0.0450		Main Channel
111.37	204.26	0.0450		Main Channel
115.84	205.33	0.0450		Main Channel
121.22	205.06	0.0450		Main Channel
126.61	204.69	0.0450		Main Channel
131.08	204.83	0.0450		Main Channel
137.79	205.07	0.0450 /0.0600		Main Channel
150.00	205.46	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	197.04	.146E+04	1.9	0.89	13.02
0.58	197.33	.539E+04	10.6	1.37	8.47
0.87	197.62	.118E+05	31.3	1.84	6.31
1.16	197.91	.196E+05	67.3	2.39	4.86
1.45	198.20	.283E+05	115.6	2.85	4.07
1.74	198.49	.378E+05	176.9	3.26	3.56
2.03	198.78	.480E+05	251.6	3.64	3.18
2.32	199.07	.591E+05	339.2	4.00	2.90
2.61	199.36	.708E+05	440.0	4.32	2.68
2.90	199.65	.834E+05	554.4	4.63	2.51
3.20	199.94	.966E+05	682.5	4.92	2.36
3.49	200.23	.111E+06	824.1	5.18	2.24
3.78	200.52	.125E+06	982.0	5.45	2.13
4.07	200.82	.141E+06	1156.7	5.71	2.03
4.42	201.17	.161E+06	1422.8	6.15	1.89
4.78	201.53	.182E+06	1713.2	6.55	1.77
5.13	201.88	.204E+06	2028.6	6.91	1.68
5.49	202.24	.228E+06	2373.2	7.25	1.60
5.84	202.59	.252E+06	2746.0	7.57	1.53

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1091)	433.68	3.95	5.83	18.18	0.36	0.97
OUTFLOW: ID= 1 (2246)	433.68	3.85	6.08	18.18	0.36	0.97

ADD HYD (7539)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2246):	433.68	3.848	6.08	18.18
+ ID2= 2 (0343):	84.95	0.099	8.25	3.23
ID = 3 (7539):	518.63	3.913	6.08	15.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0340)	Area (ha)=	12.00	
ID= 1 DT= 5.0 min	Total Imp(%)=	40.10	Dir. Conn.(%)= 36.10

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.81	7.19
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	1.71	1.71
Length (m)=	282.84	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	5.60
over (min)	10.00	35.00
Storage Coeff. (min)=	7.83 (ii)	31.27 (ii)
Unit Hyd. Tpeak (min)=	10.00	35.00
Unit Hyd. peak (cms)=	0.13	0.03
		TOTALS
PEAK FLOW (cms)=	0.23	0.07	0.294 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	8.70	20.00
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.21	0.48

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 66.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4060)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.5500	0.2516
	0.0500	0.1139	0.8400	0.3060
	0.2300	0.1734	8.4000	0.3400

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0340)	12.000	0.294	5.25	20.00
OUTFLOW: ID= 1 (4060)	12.000	0.104	6.33	19.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.38
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.1318

ADD HYD (1306)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4060):	12.00	0.104	6.33	19.95

+ ID2= 2 (	7538):	15732.02	15.689	18.33	6.41
ID = 3 (	1306):	15744.02	15.702	18.33	6.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1306)
3 + 2 = 1

		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (	1306):	15744.02	15.702	18.33	6.42
+ ID2= 2 (	7539):	518.63	3.913	6.08	15.73
ID = 1 (	1306):	16262.65	15.984	18.33	6.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3631)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	193.75	0.0600	
30.76	192.06	0.0450	Main Channel
41.30	189.23	0.0450	Main Channel
51.74	185.75	0.0450	Main Channel
64.46	179.82	0.0450	Main Channel
88.83	173.26	0.0450	Main Channel
111.99	170.95	0.0450	Main Channel
136.38	167.25	0.0450	Main Channel
146.83	166.30	0.0450	Main Channel
159.51	165.78	0.0450	Main Channel
184.82	164.62	0.0450	Main Channel
199.43	167.54	0.0450	Main Channel
220.65	168.59	0.0450	Main Channel
231.13	171.39	0.0450	Main Channel
294.56	183.02	0.0450	Main Channel
305.36	184.45	0.0450	Main Channel
326.29	182.97	0.0450	Main Channel
336.74	183.97	0.0450	Main Channel
368.45	190.58	0.0450 /0.0600	Main Channel
392.88	190.28	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.30	165.92	.630E+04	19.2	0.85	5.46
2.59	167.21	.243E+05	126.6	1.45	3.20
3.89	168.51	.512E+05	335.0	1.83	2.55
5.18	169.80	.870E+05	732.5	2.35	1.98
6.48	171.10	.128E+06	1277.5	2.80	1.67
7.77	172.39	.174E+06	1942.0	3.11	1.50
9.07	173.69	.228E+06	2810.3	3.44	1.35
10.36	174.98	.287E+06	3918.8	3.82	1.22
11.66	176.28	.350E+06	5211.4	4.16	1.12
12.95	177.57	.418E+06	6693.5	4.48	1.04
14.25	178.87	.489E+06	8371.0	4.78	0.97
15.54	180.16	.565E+06	10265.0	5.08	0.92
16.84	181.46	.645E+06	12404.8	5.38	0.87
18.13	182.75	.728E+06	14750.5	5.66	0.82

19.43	184.05	.819E+06	16248.6	5.54	0.84
20.72	185.34	.923E+06	18979.6	5.75	0.81
22.02	186.64	.103E+07	22282.4	6.05	0.77
23.31	187.93	.114E+07	25829.3	6.33	0.74
24.61	189.23	.125E+07	29637.8	6.61	0.71

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1306)	16262.65	15.98	18.33	6.72	1.08	0.85
OUTFLOW: ID= 1 (3631)	16262.65	15.98	18.33	6.72	1.07	0.85

ROUTE CHN(3436)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	179.86	0.0600	
8.25	180.01	0.0450	Main Channel
24.90	181.63	0.0450	Main Channel
38.53	179.27	0.0450	Main Channel
70.32	179.40	0.0450	Main Channel
81.50	177.66	0.0450	Main Channel
91.37	174.11	0.0450	Main Channel
103.70	171.59	0.0450	Main Channel
212.78	170.81	0.0450	Main Channel
225.01	165.83	0.0450	Main Channel
237.88	165.18	0.0450	Main Channel
289.15	162.47	0.0450	Main Channel
301.95	161.61	0.0450	Main Channel
339.83	165.26	0.0450	Main Channel
354.26	165.32	0.0450	Main Channel
366.44	167.88	0.0450	Main Channel
388.55	175.96	0.0450	Main Channel
431.17	189.17	0.0450	Main Channel
452.73	192.76	0.0450 /0.0600	Main Channel
484.53	192.48	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.54	163.15	.179E+05	32.8	1.06	9.08
3.08	164.69	.751E+05	220.1	1.70	5.69
4.62	166.23	.178E+06	692.9	2.25	4.29
6.16	167.77	.303E+06	1589.6	3.04	3.18
7.70	169.31	.437E+06	2810.4	3.73	2.59
9.24	170.85	.577E+06	4226.5	4.24	2.28
10.78	172.39	.800E+06	5183.2	3.75	2.57
12.32	173.93	.105E+07	7979.3	4.38	2.20
13.86	175.47	.132E+07	11331.7	4.98	1.94
15.40	177.01	.159E+07	15163.8	5.53	1.75
16.94	178.55	.187E+07	19349.6	6.00	1.61
18.48	180.09	.218E+07	22777.8	6.06	1.59
20.02	181.63	.252E+07	28228.0	6.47	1.49
21.87	183.48	.296E+07	36140.9	7.06	1.37
23.73	185.34	.341E+07	44907.6	7.62	1.27
25.58	187.19	.386E+07	54492.8	8.16	1.18

27.44	189.05	.432E+07	64871.7	8.68	1.11
29.29	190.90	.479E+07	75535.7	9.12	1.06
31.15	192.76	.527E+07	86936.9	9.54	1.01

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3631)	16262.65	15.98	18.33	6.72	0.75	1.06
OUTFLOW: ID= 1 (3436)	16262.65	15.98	18.50	6.72	0.75	1.06

CALIB
STANDHYD (0341) | Area (ha)= 22.14
ID= 1 DT= 5.0 min | Total Imp(%)= 48.80 Dir. Conn.(%)= 43.20

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	10.80	11.34	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	1.99	1.99	
Length	(m)=	384.19	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	19.32	5.84	
over (min)		10.00	35.00	
Storage Coeff. (min)	=	9.00 (ii)	31.03 (ii)	
Unit Hyd. Tpeak (min)	=	10.00	35.00	
Unit Hyd. peak (cms)	=	0.12	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.51	0.12	0.615 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	8.74	22.25
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.21	0.53

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1121)
1 + 2 = 3

		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (	0341):	22.14	0.615	5.25	22.25
+ ID2= 2 (	3436):	16262.65	15.977	18.50	6.72
ID = 3 (	1121):	16284.79	15.977	18.50	6.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3124)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	182.55	0.0600	
23.12	179.61	0.0450	Main Channel
52.68	181.93	0.0450	Main Channel
67.46	181.95	0.0450	Main Channel
118.26	177.87	0.0450	Main Channel
172.59	171.39	0.0450	Main Channel
185.68	168.21	0.0450	Main Channel
213.33	161.98	0.0450	Main Channel
294.82	161.81	0.0450	Main Channel
335.57	161.53	0.0450	Main Channel
402.13	161.32	0.0450	Main Channel
464.38	158.48	0.0450	Main Channel
477.24	158.92	0.0450	Main Channel
526.63	177.19	0.0450	Main Channel
544.38	181.85	0.0450	Main Channel
577.96	183.18	0.0450	Main Channel
601.33	188.97	0.0450	Main Channel
661.90	189.29	0.0450	Main Channel
712.26	187.56	0.0450 /0.0600	Main Channel
740.00	188.09	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.56	160.05	.305E+05	68.8	1.50	7.39
3.13	161.61	.111E+06	272.4	1.63	6.78
4.69	163.17	.380E+06	1463.5	2.56	4.33
6.25	164.74	.678E+06	3737.8	3.67	3.02
7.82	166.30	.987E+06	6816.9	4.59	2.41
9.38	167.86	.131E+07	10630.9	5.41	2.05
10.94	169.43	.164E+07	15149.5	6.14	1.81
12.51	170.99	.198E+07	20340.6	6.82	1.63
14.07	172.55	.234E+07	25978.4	7.38	1.50
15.63	174.12	.272E+07	32204.8	7.89	1.41
17.20	175.68	.311E+07	39102.0	8.37	1.32
18.76	177.24	.352E+07	46678.1	8.83	1.26
20.32	178.81	.395E+07	54541.6	9.19	1.21
21.89	180.37	.441E+07	62982.8	9.50	1.17
23.45	181.93	.493E+07	72121.8	9.74	1.14
25.29	183.77	.562E+07	83134.2	9.84	1.13
27.13	185.61	.633E+07	99616.5	10.47	1.06
28.97	187.45	.706E+07	117436.8	11.07	1.00
30.81	189.29	.785E+07	122411.3	10.37	1.07

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1121)	16284.79	15.98	18.50	6.74	0.36	1.50
OUTFLOW: ID= 1 (3124)	16284.79	15.97	18.67	6.74	0.36	1.50

ROUTE CHN(3028)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<-------- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	187.65	0.0600	
44.02	181.02	0.0450	Main Channel
64.73	179.74	0.0450	Main Channel
106.14	169.01	0.0450	Main Channel
147.55	166.42	0.0450	Main Channel
209.67	166.10	0.0450	Main Channel
271.79	165.70	0.0450	Main Channel
313.20	165.87	0.0450	Main Channel
416.73	163.19	0.0450	Main Channel
478.84	159.23	0.0450	Main Channel
561.67	158.82	0.0450	Main Channel
576.53	157.39	0.0450	Main Channel
674.61	155.33	0.0450	Main Channel
723.46	157.31	0.0450	Main Channel
768.91	158.31	0.0450	Main Channel
820.74	187.18	0.0450	Main Channel
851.84	189.23	0.0450	Main Channel
918.89	187.24	0.0450	Main Channel
976.23	187.29	0.0450 /0.0600	Main Channel
1005.00	188.30	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.74	157.08	.432E+05	130.7	1.19	5.51
3.49	158.82	.165E+06	872.7	2.08	3.15
5.23	160.56	.365E+06	2476.1	2.67	2.45
6.97	162.31	.591E+06	5205.9	3.47	1.89
8.72	164.05	.842E+06	8570.4	4.01	1.64
10.46	165.79	.114E+07	12080.7	4.18	1.57
12.20	167.54	.156E+07	17178.4	4.32	1.52
13.95	169.28	.202E+07	25677.1	4.99	1.31
15.69	171.02	.250E+07	36052.3	5.68	1.15
17.43	172.76	.298E+07	47824.7	6.33	1.04
19.17	174.51	.346E+07	60931.6	6.93	0.95
20.92	176.25	.395E+07	75324.0	7.50	0.88
22.66	177.99	.445E+07	90962.5	8.04	0.82
24.40	179.74	.496E+07	107815.3	8.56	0.77
26.30	181.64	.553E+07	128311.3	9.14	0.72
28.20	183.54	.611E+07	150344.4	9.69	0.68
30.10	185.43	.670E+07	173881.4	10.21	0.64
32.00	187.33	.731E+07	188873.7	10.17	0.65
33.90	189.23	.802E+07	203735.1	10.00	0.66

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3124)	16284.79	15.97	18.67	6.74	0.21	1.19
OUTFLOW: ID= 1 (3028)	16284.79	15.97	18.75	6.74	0.21	1.19

CALIB			
NASHYD (0339)	Area (ha)=	153.35	Curve Number (CN)= 50.0
ID= 1 DT= 5.0 min	Ia (mm)=	14.40	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.72	

Unit Hyd Qpeak (cms)=	1.522		
PEAK FLOW (cms)=	0.127 (i)		
TIME TO PEAK (hrs)=	8.583		
RUNOFF VOLUME (mm)=	2.703		
TOTAL RAINFALL (mm)=	42.000		
RUNOFF COEFFICIENT =	0.064		

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7536)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3028):	16284.79	15.969	18.75	6.74
	+ ID2= 2 (0339):	153.35	0.127	8.58	2.70
	ID = 3 (7536):	16438.14	15.991	18.67	6.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (0337)	Area (ha)=	170.07	
ID= 1 DT= 5.0 min	Total Imp(%)=	25.40	Dir. Conn.(%)= 19.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.20	126.87
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.91	2.91
Length	(m)=	1064.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.95
over (min)		15.00	40.00
Storage Coeff. (min)=		14.80 (ii)	35.79 (ii)
Unit Hyd. Tpeak (min)=		15.00	40.00
Unit Hyd. peak (cms)=		0.08	0.03
			TOTALS
PEAK FLOW (cms)=		1.78	1.09 2.609 (iii)
TIME TO PEAK (hrs)=		5.25	5.67 5.33
RUNOFF VOLUME (mm)=		40.00	7.66 14.06
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.18 0.33

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 62.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0338)	Area (ha)=	222.37	
ID= 1 DT= 5.0 min	Total Imp(%)=	51.40	Dir. Conn.(%)= 45.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	114.30	108.07
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.93	1.93
Length	(m)=	1217.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.54
over (min)		20.00	40.00
Storage Coeff. (min)=		18.14 (ii)	39.39 (ii)
Unit Hyd. Tpeak (min)=		20.00	40.00
Unit Hyd. peak (cms)=		0.06	0.03
			TOTALS
PEAK FLOW (cms)=		5.25	1.19 6.162 (iii)
TIME TO PEAK (hrs)=		5.25	5.67 5.25
RUNOFF VOLUME (mm)=		40.00	9.73 23.59
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.23 0.56

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 68.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4063)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		15.8200	4.3502
	5.3700	2.3315		20.6800	5.1179
	9.6300	3.2129		206.8000	5.6866

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0338)	222.370	6.162	5.25	23.59
OUTFLOW: ID= 1 (4063)	222.370	3.755	5.83	23.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 60.94
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 1.6324

ROUTE CHN(2263)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<-------- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	192.62	0.0600	
9.54	192.33	0.0450	Main Channel
20.32	191.65	0.0450	Main Channel
24.45	190.72	0.0450	Main Channel
30.77	188.69	0.0450	Main Channel
35.24	187.57	0.0450	Main Channel
41.57	185.63	0.0450	Main Channel

51.06	183.24	0.0450	Main Channel
73.73	181.02	0.0450	Main Channel
101.44	179.60	0.0450	Main Channel
127.14	178.26	0.0450	Main Channel
142.04	178.20	0.0450	Main Channel
148.37	179.17	0.0450	Main Channel
159.16	181.65	0.0450	Main Channel
168.65	184.55	0.0450	Main Channel
180.55	188.03	0.0450	Main Channel
185.94	188.00	0.0450	Main Channel
191.32	190.55	0.0450	Main Channel
219.03	191.33	0.0450 /0.0600	Main Channel
240.70	191.38	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.69	178.89	.118E+05	23.7	1.56	8.26
1.38	179.58	.332E+05	100.3	2.33	5.51
2.07	180.27	.634E+05	242.4	2.95	4.36
2.77	180.96	.102E+06	463.6	3.50	3.68
3.46	181.66	.149E+06	796.2	4.13	3.11
4.15	182.35	.200E+06	1225.2	4.72	2.73
4.84	183.04	.257E+06	1747.5	5.25	2.45
5.53	183.73	.318E+06	2399.7	5.83	2.21
6.22	184.42	.381E+06	3161.5	6.40	2.01
6.91	185.11	.448E+06	4016.6	6.92	1.86
7.60	185.80	.517E+06	4969.1	7.42	1.73
8.30	186.49	.589E+06	6024.7	7.90	1.63
8.99	187.19	.663E+06	7175.4	8.36	1.54
9.68	187.88	.739E+06	8413.8	8.79	1.46
10.37	188.57	.819E+06	9684.8	9.13	1.41
11.06	189.26	.902E+06	11107.1	9.51	1.35
11.75	189.95	.988E+06	12675.6	9.91	1.30
12.44	190.64	.108E+07	14176.7	10.18	1.26
13.13	191.33	.117E+07	14865.3	9.78	1.32

<---- hydrograph ----> <-pipe /

channel->	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4063)	222.37	3.76	5.83	23.59	0.11	1.56
OUTFLOW: ID= 1 (2263)	222.37	3.72	6.00	23.59	0.11	1.56

ROUTE CHN(2264)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<-------- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	192.62	0.0600	
9.54	192.33	0.0450	Main Channel
20.32	191.65	0.0450	Main Channel
24.45	190.72	0.0450	Main Channel
30.77	188.69	0.0450	Main Channel
35.24	187.57	0.0450	Main Channel
41.57	185.63	0.0450	Main Channel
51.06	183.24	0.0450	Main Channel
73.73	181.02	0.0450	Main Channel

101.44	179.60	0.0450		Main Channel
127.14	178.26	0.0450		Main Channel
142.04	178.20	0.0450		Main Channel
148.37	179.17	0.0450		Main Channel
159.16	181.65	0.0450		Main Channel
168.65	184.55	0.0450		Main Channel
180.55	188.03	0.0450		Main Channel
185.94	188.90	0.0450		Main Channel
191.32	190.55	0.0450		Main Channel
219.03	191.33	0.0450	/0.0600	Main Channel
240.70	191.38	0.0600		

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.69	178.89	.251E+05	26.5	1.74	15.76
1.38	179.58	.707E+05	112.0	2.61	10.51
2.07	180.27	.135E+06	270.9	3.30	8.31
2.77	180.96	.218E+06	518.1	3.91	7.02
3.46	181.66	.317E+06	889.8	4.62	5.94
4.15	182.35	.427E+06	1369.2	5.28	5.20
4.84	183.04	.547E+06	1952.9	5.87	4.67
5.53	183.73	.677E+06	2681.8	6.52	4.21
6.22	184.42	.813E+06	3533.1	7.15	3.83
6.91	185.11	.954E+06	4488.8	7.74	3.54
7.60	185.80	.110E+07	5553.2	8.29	3.31
8.30	186.49	.125E+07	6732.9	8.83	3.10
8.99	187.19	.141E+07	8018.8	9.34	2.94
9.68	187.88	.158E+07	9402.9	9.82	2.79
10.37	188.57	.174E+07	10823.3	10.20	2.69
11.06	189.26	.192E+07	12412.7	10.62	2.58
11.75	189.95	.210E+07	14165.7	11.07	2.48
12.44	190.64	.229E+07	15843.2	11.37	2.41
13.13	191.33	.250E+07	16612.7	10.93	2.51

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2263)	222.37	3.72	6.00	23.59	0.10	1.74
OUTFLOW: ID= 1 (2264)	222.37	3.61	6.25	23.59	0.09	1.74

ADD HYD (7537)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2264):	222.37	3.605	6.25	23.59
+ ID2= 2 (0337):	170.07	2.609	5.33	14.06
ID = 3 (7537):	392.44	5.039	5.83	19.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1312)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7536):	16438.14	15.991	18.67	6.70
+ ID2= 2 (7537):	392.44	5.039	5.83	19.46
ID = 3 (1312):	16830.58	15.995	18.67	7.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3031)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	187.65	0.0600	
44.02	181.02	0.0450	Main Channel
64.73	179.74	0.0450	Main Channel
106.14	169.01	0.0450	Main Channel
147.55	166.42	0.0450	Main Channel
209.67	166.10	0.0450	Main Channel
271.79	165.70	0.0450	Main Channel
313.20	165.87	0.0450	Main Channel
416.73	163.19	0.0450	Main Channel
478.84	159.23	0.0450	Main Channel
561.67	158.82	0.0450	Main Channel
576.53	157.39	0.0450	Main Channel
674.61	155.33	0.0450	Main Channel
723.46	157.31	0.0450	Main Channel
768.91	158.31	0.0450	Main Channel
820.74	187.18	0.0450	Main Channel
851.84	189.23	0.0450	Main Channel
918.89	187.24	0.0450	Main Channel
976.23	187.29	0.0450	/0.0600 Main Channel
1005.00	188.30	0.0600	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.74	157.08	.385E+05	117.9	1.07	5.44
3.49	158.82	.147E+06	786.9	1.88	3.11
5.23	160.56	.324E+06	2232.6	2.41	2.42
6.97	162.31	.526E+06	4694.0	3.12	1.87
8.72	164.05	.749E+06	7727.6	3.61	1.62
10.46	165.79	.101E+07	10892.8	3.77	1.55
12.20	167.54	.139E+07	15489.3	3.90	1.50
13.95	169.28	.180E+07	23152.3	4.50	1.30
15.69	171.02	.222E+07	32507.3	5.12	1.14
17.43	172.76	.265E+07	43122.1	5.70	1.02
19.17	174.51	.308E+07	54940.2	6.25	0.93
20.92	176.25	.352E+07	67917.3	6.76	0.86
22.66	177.99	.396E+07	82018.2	7.25	0.80
24.40	179.74	.441E+07	97213.8	7.71	0.76
26.30	181.64	.492E+07	115694.4	8.24	0.71
28.20	183.54	.543E+07	135561.0	8.73	0.67
30.10	185.43	.596E+07	156783.6	9.21	0.63
32.00	187.33	.650E+07	170301.6	9.17	0.64
33.90	189.23	.713E+07	183701.8	9.01	0.65

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

INFLOW : ID= 2 (1312)	16830.58	15.99	18.67	7.00	0.24	1.07
OUTFLOW: ID= 1 (3031)	16830.58	15.99	18.75	7.00	0.24	1.07

ROUTE CHN(2832)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	171.25	0.0600	
6.00	171.83	0.0450	Main Channel
10.00	170.26	0.0450	Main Channel
42.17	163.50	0.0450	Main Channel
76.35	155.80	0.0450	Main Channel
106.46	155.41	0.0450	Main Channel
187.01	155.55	0.0450	Main Channel
197.11	155.04	0.0450	Main Channel
207.11	153.23	0.0450	Main Channel
217.18	152.51	0.0450	Main Channel
224.18	154.17	0.0450	Main Channel
227.35	154.20	0.0450	Main Channel
237.35	160.90	0.0450	Main Channel
256.40	162.94	0.0450	Main Channel
297.58	166.00	0.0450	Main Channel
337.81	167.09	0.0450	Main Channel
347.91	168.35	0.0450	Main Channel
368.01	176.56	0.0450	Main Channel
398.14	182.20	0.0450	/0.0600 Main Channel
463.35	185.12	0.0600	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.99	153.50	.450E+04	10.7	1.25	7.01
1.97	154.48	.156E+05	57.9	1.96	4.48
2.96	155.47	.329E+05	100.8	1.61	5.44
3.94	156.45	.110E+06	474.1	2.27	3.86
4.93	157.44	.193E+06	1181.3	3.22	2.72
5.92	158.43	.279E+06	2131.7	4.02	2.18
6.90	159.41	.368E+06	3303.8	4.72	1.86
7.89	160.40	.460E+06	4684.9	5.35	1.64
8.87	161.38	.556E+06	6196.3	5.86	1.50
9.86	162.37	.658E+06	7841.8	6.27	1.40
10.85	163.36	.768E+06	9658.7	6.62	1.32
11.83	164.34	.886E+06	11643.6	6.91	1.27
12.82	165.33	.101E+07	13883.6	7.20	1.22
13.81	166.32	.115E+07	16121.6	7.36	1.19
14.79	167.30	.131E+07	18431.0	7.42	1.18
15.78	168.29	.147E+07	21936.6	7.83	1.12
16.76	169.27	.165E+07	25968.9	8.30	1.06
17.75	170.26	.182E+07	30316.4	8.75	1.00
18.74	171.25	.200E+07	35266.3	9.27	0.95

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3031)	16830.58	15.99	18.75	7.00	1.10	1.30

OUTFLOW: ID= 1 (2832)	16830.58	15.99	18.92	7.00	1.09	1.30

ROUTE CHN(2833)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	171.25	0.0600	
6.00	171.83	0.0450	Main Channel
10.00	170.26	0.0450	Main Channel
42.17	163.50	0.0450	Main Channel
76.35	155.80	0.0450	Main Channel
106.46	155.41	0.0450	Main Channel
187.01	155.55	0.0450	Main Channel
197.11	155.04	0.0450	Main Channel
207.11	153.23	0.0450	Main Channel
217.18	152.51	0.0450	Main Channel
224.18	154.17	0.0450	Main Channel
227.35	154.20	0.0450	Main Channel
237.35	160.90	0.0450	Main Channel
256.40	162.94	0.0450	Main Channel
297.58	166.00	0.0450	Main Channel
337.81	167.09	0.0450	Main Channel
347.91	168.35	0.0450	Main Channel
368.01	176.56	0.0450	Main Channel
398.14	182.20	0.0450	/0.0600 Main Channel
463.35	185.12	0.0600	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.99	153.50	.262E+04	8.5	0.99	5.13
1.97	154.48	.905E+04	46.0	1.56	3.28
2.96	155.47	.192E+05	80.1	1.28	3.98
3.94	156.45	.639E+05	376.6	1.80	2.83
4.93	157.44	.112E+06	938.5	2.56	1.99
5.92	158.43	.162E+06	1693.5	3.19	1.60
6.90	159.41	.214E+06	2624.7	3.75	1.36
7.89	160.40	.268E+06	3721.9	4.25	1.20
8.87	161.38	.324E+06	4922.6	4.66	1.10
9.86	162.37	.383E+06	6229.8	4.98	1.02
10.85	163.36	.447E+06	7673.2	5.26	0.97
11.83	164.34	.516E+06	9250.1	5.49	0.93
12.82	165.33	.590E+06	11029.6	5.72	0.89
13.81	166.32	.670E+06	12807.6	5.85	0.87
14.79	167.30	.760E+06	14642.3	5.89	0.87
15.78	168.29	.858E+06	17427.2	6.22	0.82
16.76	169.27	.958E+06	20630.6	6.59	0.77
17.75	170.26	.106E+07	24084.4	6.95	0.73
18.74	171.25	.116E+07	28016.8	7.36	0.69

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2832)	16830.58	15.99	18.92	7.00	1.18	1.07
OUTFLOW: ID= 1 (2833)	16830.58	15.99	18.92	7.00	1.18	

1.07

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| CALIB            |
| STANDHYD (  0335)|   Area    (ha)=    158.18
|ID= 1 DT= 5.0 min |   Total Imp(%)=     37.20   Dir. Conn.(%)=  33.80
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         58.84           99.34
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          3.03            3.03
     Length            (m)=       1026.90           40.00
     Mannings n            =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32            3.14
               over (min)           15.00           40.00
     Storage Coeff.  (min)=         14.30 (ii)      39.19 (ii)
     Unit Hyd. Tpeak (min)=         15.00           40.00
     Unit Hyd. peak  (cms)=          0.08            0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=          2.83            0.52          3.210 (iii)
     TIME TO PEAK    (hrs)=          5.25            5.67          5.25
     RUNOFF VOLUME    (mm)=         40.00            4.99         16.82
     TOTAL RAINFALL   (mm)=         42.00           42.00         42.00
     RUNOFF COEFFICIENT   =          0.95            0.12          0.40


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  50.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0336)|   Area    (ha)=    150.65
|ID= 1 DT= 5.0 min |   Total Imp(%)=     51.00   Dir. Conn.(%)=  45.90
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         76.83           73.82
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          2.03            2.03
     Length            (m)=       1002.16           40.00
     Mannings n            =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32            6.64
               over (min)           15.00           40.00
     Storage Coeff.  (min)=         15.91 (ii)      36.71 (ii)
     Unit Hyd. Tpeak (min)=         15.00           40.00
     Unit Hyd. peak  (cms)=          0.07            0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=          3.63            0.85          4.288 (iii)
     TIME TO PEAK    (hrs)=          5.25            5.67          5.25
     RUNOFF VOLUME    (mm)=         40.00            9.97         23.75
     TOTAL RAINFALL   (mm)=         42.00           42.00         42.00
     RUNOFF COEFFICIENT   =          0.95            0.24          0.57


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0940)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2833):  16830.58     15.987       18.92        7.00
     + ID2= 2 (  0335):    158.18      3.210        5.25       16.82
       ================================================================
       ID = 3 (  0940):  16988.76     15.987       18.92        7.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0940)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  0940):  16988.76     15.987       18.92        7.09
     + ID2= 2 (  0336):    150.65      4.288        5.25       23.75
       ================================================================
       ID = 1 (  0940):  17139.41     15.987       18.92        7.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2517)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         180.93        0.0600
                 47.44         181.21        0.0450      Main Channel
                 87.69         180.48        0.0450      Main Channel
                127.91         174.94        0.0450      Main Channel
                139.97         169.26        0.0450      Main Channel
                188.43         152.18        0.0450      Main Channel
                236.74         150.84        0.0450      Main Channel
                289.03         150.50        0.0450      Main Channel
                329.49         151.30        0.0450      Main Channel
                460.41         151.07        0.0450      Main Channel
                530.75         150.30        0.0450      Main Channel
                571.06         147.09        0.0450      Main Channel
                611.22         152.96        0.0450      Main Channel
                665.92         156.11        0.0450      Main Channel
                714.84         157.76        0.0450      Main Channel
                831.16         160.48        0.0450      Main Channel
                898.99         163.52        0.0450      Main Channel
                948.96         169.47        0.0450      Main Channel
                984.65         178.46    0.0450 /0.0600  Main Channel
                998.93         180.01        0.0600

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
            (m)      (m)     (cu.m.)          (cms)          (m/s)       (min)
           1.74   148.83    .134E+05          47.7           1.62        4.67
           3.49   150.58    .551E+05         238.0           1.96        3.86
           5.23   152.32    .311E+06        1695.6           2.47        3.06
```



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           6.97   154.06    .652E+06        5564.7           3.87        1.95
           8.72   155.81    .102E+07       11143.6           4.96        1.53
          10.46   157.55    .142E+07       18072.4           5.77        1.31
          12.20   159.29    .187E+07       26207.4           6.35        1.19
          13.94   161.03    .239E+07       36584.6           6.95        1.09
          15.69   162.78    .294E+07       49713.6           7.66        0.99
          17.43   164.52    .353E+07       65505.9           8.42        0.90
          19.17   166.26    .414E+07       83768.5           9.19        0.82
          20.92   168.01    .476E+07      103946.6           9.92        0.76
          22.66   169.75    .539E+07      126161.8          10.62        0.71
          24.40   171.49    .604E+07      150969.4          11.35        0.67
          26.15   173.24    .669E+07      177613.9          12.05        0.63
          27.89   174.98    .736E+07      206026.4          12.72        0.59
          29.63   176.72    .803E+07      234837.3          13.28        0.57
          31.37   178.46    .872E+07      265410.1          13.82        0.55
          34.12   181.21    .985E+07      320674.4          14.77        0.51

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0940)   17139.41    15.99   18.92   7.23      0.58
1.62
   OUTFLOW: ID= 1 (  2517)   17139.41    15.99   19.00   7.23      0.58
1.62


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| ROUTE CHN(  2343)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         173.83        0.0600
                 58.00         172.66        0.0500      Main Channel
                 98.00         169.77        0.0500      Main Channel
                108.00         165.15        0.0500      Main Channel
                128.00         158.49        0.0500      Main Channel
                168.00         156.04        0.0500      Main Channel
                188.00         156.27        0.0500      Main Channel
                260.10         155.18        0.0500      Main Channel
                293.27         146.66        0.0500      Main Channel
                319.90         149.69        0.0500      Main Channel
                354.08         144.07        0.0500      Main Channel
                369.62         145.92        0.0500      Main Channel
                402.76         146.06        0.0500      Main Channel
                411.14         147.26        0.0500      Main Channel
                560.32         146.26        0.0500      Main Channel
                568.98         149.21        0.0500      Main Channel
                611.77         170.50        0.0500      Main Channel
                637.18         173.05        0.0500      Main Channel
                670.72         175.89    0.0500 /0.0600  Main Channel
                692.24         175.44        0.0600

          <---------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
            (m)      (m)     (cu.m.)          (cms)          (m/s)       (min)
           1.61   145.68    .178E+05          13.5           0.73       21.95
           3.21   147.28    .188E+06         146.9           0.75       21.34
           4.82   148.89    .578E+06         869.1           1.44       11.08
           6.42   150.49    .102E+07        2111.3           1.99        8.02
           8.03   152.10    .147E+07        3835.2           2.49        6.40
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           9.64   153.71    .194E+07        5963.2           2.93        5.43
          11.24   155.31    .243E+07        8332.5           3.27        4.86
          12.85   156.92    .303E+07       10072.3           3.18        5.01
          14.46   158.53    .371E+07       13536.0           3.48        4.57
          16.06   160.13    .442E+07       17908.2           3.87        4.12
          17.67   161.74    .515E+07       22776.1           4.23        3.77
          19.27   163.34    .588E+07       28123.2           4.56        3.49
          20.88   164.95    .663E+07       33936.5           4.89        3.26
          22.49   166.56    .739E+07       40256.6           5.20        3.06
          24.09   168.16    .816E+07       47030.5           5.50        2.89
          25.70   169.77    .894E+07       54242.3           5.79        2.75
          27.74   171.81    .998E+07       63646.4           6.09        2.61
          29.78   173.85    .111E+08       73369.7           6.29        2.53
          31.82   175.89    .124E+08       83953.1           6.45        2.47

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2517)   17139.41    15.99   19.00   7.23      1.64
0.73
   OUTFLOW: ID= 1 (  2343)   17139.41    15.95   19.33   7.23      1.63
0.73


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--------------------
| ADD HYD  (  1073)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2343):  17139.41     15.954       19.33        7.23
     + ID2= 2 (  7532):  24860.09     13.950       14.25        5.77
       ================================================================
       ID = 3 (  1073):  41999.50     28.030       15.17        6.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3035)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         166.29        0.0600
                 77.75         166.42        0.0500      Main Channel
                102.38         166.01        0.0500      Main Channel
                174.15         164.88        0.0500      Main Channel
                241.40         141.63        0.0500      Main Channel
                258.15         142.28        0.0500      Main Channel
                292.79         141.35        0.0500      Main Channel
                310.12         138.10        0.0500      Main Channel
                335.72         138.87        0.0500      Main Channel
                352.24         141.70        0.0500      Main Channel
                412.80         142.81        0.0500      Main Channel
                452.44         144.78        0.0500      Main Channel
                524.17         144.68        0.0500      Main Channel
                606.12         145.40        0.0500      Main Channel
                647.26         148.62        0.0500      Main Channel
                677.93         152.38        0.0500      Main Channel
                688.17         153.51        0.0500      Main Channel
```

722.89	155.65	0.0500	Main Channel	
774.53	164.75	0.0500 /0.0600	Main Channel	
810.46	165.37	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.48	139.58	.205E+05	36.8	1.04	9.31
2.96	141.06	.600E+05	171.9	1.66	5.82
4.44	142.54	.143E+06	355.0	1.45	6.69
5.92	144.02	.302E+06	1053.6	2.03	4.77
7.40	145.50	.542E+06	1850.9	1.98	4.88
8.88	146.98	.876E+06	3962.0	2.63	3.69
10.36	148.46	.123E+07	6718.9	3.17	3.05
11.84	149.94	.160E+07	10159.1	3.68	2.63
13.33	151.43	.199E+07	14202.9	4.15	2.33
14.81	152.91	.239E+07	18814.1	4.58	2.12
16.29	154.39	.281E+07	23796.3	4.93	1.96
17.77	155.87	.325E+07	29321.5	5.25	1.84
19.25	157.35	.370E+07	35913.8	5.64	1.72
20.73	158.83	.417E+07	43085.7	6.00	1.61
22.21	160.31	.465E+07	50831.0	6.35	1.52
23.69	161.79	.513E+07	59145.6	6.69	1.45
25.17	163.27	.563E+07	68026.6	7.01	1.38
26.65	164.75	.615E+07	77472.6	7.32	1.32
28.32	166.42	.680E+07	84478.8	7.21	1.34

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1073)	41999.50	28.03	15.17	6.37	1.13	1.04
OUTFLOW: ID= 1 (3035)	41999.50	28.01	15.17	6.37	1.12	1.04

ROUTE CHN(3036)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	166.29	0.0600	
77.75	166.42	0.0500	Main Channel
102.38	166.01	0.0500	Main Channel
174.15	164.88	0.0500	Main Channel
241.40	141.63	0.0500	Main Channel
258.15	142.28	0.0500	Main Channel
292.79	141.35	0.0500	Main Channel
310.12	138.10	0.0500	Main Channel
335.72	138.87	0.0500	Main Channel
352.24	141.70	0.0500	Main Channel
412.80	142.81	0.0500	Main Channel
452.44	144.78	0.0500	Main Channel
524.17	144.68	0.0500	Main Channel
606.12	145.40	0.0500	Main Channel
647.26	148.62	0.0500	Main Channel
677.93	152.38	0.0500	Main Channel
688.17	153.51	0.0500	Main Channel
722.89	155.65	0.0500	Main Channel
774.53	164.75	0.0500 /0.0600	Main Channel

810.46	165.37	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.48	139.58	.910E+04	21.4	0.60	7.10
2.96	141.06	.266E+05	99.9	0.97	4.44
4.44	142.54	.632E+05	206.4	0.84	5.10
5.92	144.02	.134E+06	612.6	1.18	3.64
7.40	145.50	.240E+06	1076.2	1.15	3.72
8.88	146.98	.388E+06	2303.6	1.53	2.81
10.36	148.46	.545E+06	3906.6	1.84	2.33
11.84	149.94	.710E+06	5906.9	2.14	2.00
13.33	151.43	.881E+06	8258.1	2.41	1.78
14.81	152.91	.106E+07	10939.2	2.66	1.61
16.29	154.39	.124E+07	13836.0	2.86	1.50
17.77	155.87	.144E+07	17048.6	3.05	1.41
19.25	157.35	.164E+07	20881.5	3.28	1.31
20.73	158.83	.185E+07	25051.5	3.49	1.23
22.21	160.31	.206E+07	29554.9	3.69	1.16
23.69	161.79	.228E+07	34389.3	3.89	1.10
25.17	163.27	.250E+07	39553.0	4.08	1.05
26.65	164.75	.272E+07	45045.3	4.26	1.01
28.32	166.42	.301E+07	49118.9	4.19	1.02

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3035)	41999.50	28.01	15.17	6.37	1.61	0.62
OUTFLOW: ID= 1 (3036)	41999.50	28.01	15.25	6.37	1.60	0.62

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	
STANDHYD (0444)	Area (ha)= 15.71
ID= 1 DT= 5.0 min	Total Imp(%)= 46.72 Dir. Conn.(%)= 41.36

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.34	8.37
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.87	3.87
Length	(m)=	323.63	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	13.10
over (min)		5.00	20.00
Storage Coeff. (min)=		6.65 (ii)	19.70 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.18	0.06

		TOTALS
PEAK FLOW	(cms)=	0.35	0.25	0.592 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	18.80	27.57
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.45	0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 86.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4084)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.1600	0.2999
	0.4300	0.1657	1.5000	0.3551
	0.7300	0.2289	15.0000	0.3946

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0444)	15.710	0.592	5.25	27.57
OUTFLOW: ID= 1 (4084)	15.710	0.349	5.50	27.56

PEAK FLOW REDUCTION [Qout/Qin](%)= 58.93
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1345

CALIB	
STANDHYD (0445)	Area (ha)= 93.72
ID= 1 DT= 5.0 min	Total Imp(%)= 41.04 Dir. Conn.(%)= 38.08

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.46	55.26
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	5.03	5.03
Length	(m)=	790.44	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.97
over (min)		10.00	30.00
Storage Coeff. (min)=		10.50 (ii)	26.03 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	1.91	0.75	2.583 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.64	21.82
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.25	0.52

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1236)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3036):	41999.50	28.006	15.25	6.37
+ ID2= 2 (4084):	15.71	0.349	5.50	27.56
ID = 3 (1236):	42015.21	28.007	15.25	6.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1236)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1236):	42015.21	28.007	15.25	6.37
+ ID2= 2 (0445):	93.72	2.583	5.25	21.82
ID = 1 (1236):	42108.93	28.007	15.25	6.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2878)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	164.42	0.0600	
78.78	163.88	0.0500	Main Channel
121.21	152.48	0.0500	Main Channel
135.35	149.20	0.0500	Main Channel
163.73	145.12	0.0500	Main Channel
192.74	145.25	0.0500	Main Channel
245.07	144.34	0.0500	Main Channel
263.53	142.48	0.0500	Main Channel
277.75	139.29	0.0500	Main Channel
301.11	139.07	0.0500	Main Channel
449.00	138.72	0.0500	Main Channel
463.14	136.66	0.0500	Main Channel
526.26	139.26	0.0500	Main Channel
606.29	145.61	0.0500	Main Channel
634.57	151.00	0.0500	Main Channel
662.86	158.94	0.0500	Main Channel
681.24	162.31	0.0500	Main Channel
705.38	159.72	0.0500	Main Channel
723.12	162.10	0.0500 /0.0600	Main Channel
749.99	163.79	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
1.32	137.98	.155E+05	14.4	0.53	17.89
2.64	139.30	.966E+05	92.0	0.54	17.50
3.96	140.62	.293E+06	550.1	1.07	8.86
5.27	141.93	.505E+06	1297.0	1.47	6.49
6.59	143.25	.736E+06	2290.0	1.78	5.36
7.91	144.57	.989E+06	3462.2	2.00	4.76
9.23	145.89	.130E+07	4732.7	2.08	4.59
10.55	147.21	.165E+07	6833.4	2.37	4.02
11.87	148.53	.200E+07	9258.4	2.64	3.61
13.18	149.84	.237E+07	12024.2	2.90	3.29

14.50	151.16	.275E+07	15131.8	3.14	3.03
15.82	152.48	.314E+07	18581.9	3.38	2.81
17.44	154.10	.362E+07	23397.1	3.69	2.58
19.05	155.71	.411E+07	28672.0	3.98	2.39
20.67	157.33	.462E+07	34400.5	4.25	2.24
22.28	158.94	.514E+07	40577.1	4.51	2.11
23.90	160.56	.567E+07	46313.4	4.67	2.04
25.51	162.17	.624E+07	51915.2	4.75	2.00
27.13	163.79	.684E+07	59978.3	5.01	1.90

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1236)	42108.93	28.01	15.25	6.41	1.55	0.53
OUTFLOW: ID= 1 (2878)	42108.93	27.87	15.58	6.41	1.55	0.53

ROUTE CHN(2538)	
IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	161.58	0.0600	
37.06	161.08	0.0500	Main Channel
71.38	159.76	0.0500	Main Channel
85.24	156.87	0.0500	Main Channel
135.97	140.16	0.0500	Main Channel
187.27	137.93	0.0500	Main Channel
212.94	135.57	0.0500	Main Channel
238.57	135.45	0.0500	Main Channel
310.44	136.88	0.0500	Main Channel
343.32	140.11	0.0500	Main Channel
404.88	140.80	0.0500	Main Channel
443.40	141.67	0.0500	Main Channel
487.50	141.48	0.0500	Main Channel
529.57	140.85	0.0500	Main Channel
559.65	144.85	0.0500	Main Channel
575.65	151.51	0.0500	Main Channel
599.78	158.35	0.0500	Main Channel
609.87	159.78	0.0500	Main Channel
649.96	160.20	0.0500 /0.0600	Main Channel
710.09	159.56	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.22	136.67	.577E+05	49.5	0.68	19.43
2.43	137.88	.172E+06	250.0	1.15	11.45
3.65	139.10	.318E+06	584.8	1.45	9.05
4.86	140.31	.503E+06	1052.0	1.65	7.97
6.08	141.53	.777E+06	1580.7	1.60	8.19
7.29	142.74	.117E+07	2843.6	1.92	6.84
8.51	143.96	.157E+07	4571.9	2.29	5.72
9.72	145.17	.199E+07	6645.6	2.63	4.98
10.94	146.39	.241E+07	9077.2	2.96	4.42
12.16	147.61	.284E+07	11811.7	3.27	4.01
13.37	148.82	.328E+07	14836.8	3.56	3.68
14.59	150.04	.372E+07	18143.1	3.84	3.42

15.80	151.25	.417E+07	21722.6	4.10	3.20
17.02	152.47	.462E+07	25537.0	4.35	3.02
18.23	153.68	.509E+07	29604.7	4.58	2.86
19.45	154.90	.556E+07	33931.1	4.80	2.73
20.66	156.11	.604E+07	38513.5	5.02	2.61
21.88	157.33	.652E+07	43308.0	5.23	2.51
23.09	158.54	.702E+07	48246.6	5.41	2.42

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2878)	42108.93	27.87	15.58	6.41	0.68	0.68
OUTFLOW: ID= 1 (2538)	42108.93	27.74	15.92	6.41	0.68	0.68

ROUTE CHN(3736)	
IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	151.65	0.0600	
3.60	152.04	0.0500	Main Channel
30.87	141.98	0.0500	Main Channel
83.40	139.13	0.0500	Main Channel
150.31	135.82	0.0500	Main Channel
176.60	135.79	0.0500	Main Channel
199.30	136.12	0.0500	Main Channel
269.59	135.15	0.0500	Main Channel
332.73	135.59	0.0500	Main Channel
352.80	134.06	0.0500	Main Channel
362.80	135.87	0.0500	Main Channel
382.87	137.24	0.0500	Main Channel
402.87	136.81	0.0500	Main Channel
433.87	143.40	0.0500	Main Channel
452.92	150.75	0.0500	Main Channel
473.92	158.13	0.0500	Main Channel
482.92	158.70	0.0500	Main Channel
503.98	158.77	0.0500	Main Channel
564.05	159.88	0.0500 /0.0600	Main Channel
583.14	159.25	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.32	135.38	.941E+04	7.4	0.34	21.20
2.64	136.70	.115E+06	216.7	0.81	8.81
3.96	138.02	.273E+06	793.9	1.25	5.73
5.28	139.34	.453E+06	1729.0	1.63	4.37
6.60	140.66	.652E+06	2986.1	1.96	3.64
7.92	141.98	.867E+06	4557.0	2.25	3.17
9.30	143.36	.110E+07	6731.1	2.61	2.73
10.67	144.73	.135E+07	9278.9	2.95	2.42
12.05	146.11	.159E+07	12158.1	3.27	2.18
13.43	147.49	.184E+07	15355.8	3.57	2.00
14.80	148.86	.210E+07	18862.9	3.85	1.85
16.18	150.24	.236E+07	22671.8	4.12	1.73
17.56	151.62	.262E+07	26769.0	4.38	1.63
18.94	153.00	.289E+07	31173.8	4.62	1.55

20.31	154.37	.316E+07	35876.1	4.86	1.47
21.69	155.75	.344E+07	40859.8	5.09	1.40
23.07	157.13	.372E+07	46118.6	5.32	1.34
24.44	158.50	.399E+07	51300.4	5.50	1.30
25.82	159.88	.431E+07	51954.5	5.17	1.38

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2538)	42108.93	27.74	15.92	6.41	1.45	0.36
OUTFLOW: ID= 1 (3736)	42108.93	27.65	16.33	6.41	1.45	0.36

CALIB	
STANDHYD (0442) |	Area (ha)= 145.31
ID= 1 DT= 5.0 min |	Total Imp(%)= 22.88 Dir. Conn.(%)= 22.08

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.25	112.06
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	5.16	5.16
Length	(m)=	984.24	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.63
over (min)		10.00	30.00
Storage Coeff. (min)=		11.89 (ii)	26.03 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.10	0.04

		TOTALS
PEAK FLOW	(cms)=	1.71 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	19.20
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.46

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7629) |	Area (ha)= 0.21
ID= 1 DT= 5.0 min |	Total Imp(%)= 22.88 Dir. Conn.(%)= 22.08

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.05	0.16
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	5.16	5.16
Length	(m)=	37.42	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.63

over (min)	5.00	20.00
Storage Coeff. (min)=	1.67 (ii)	15.82 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.32	0.07

				TOTALS
PEAK FLOW	(cms)=	0.00	0.00	0.006 (iii)
TIME TO PEAK	(hrs)=	4.58	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	13.30	19.14
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.32	0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7630) |	Area (ha)= 0.10
ID= 1 DT= 5.0 min |	Total Imp(%)= 22.88 Dir. Conn.(%)= 22.08

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.02	0.08
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	5.16	5.16
Length	(m)=	25.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.63
over (min)		5.00	20.00
Storage Coeff. (min)=		1.34 (ii)	15.49 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.33	0.07

				TOTALS
PEAK FLOW	(cms)=	0.00	0.00	0.003 (iii)
TIME TO PEAK	(hrs)=	4.58	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	13.30	18.35
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.32	0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7575) |				
1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3736):	42108.93	27.651	16.33	6.41
+ ID2= 2 (0442):	145.31	3.395	5.25	19.20
ID = 3 (7575):	42254.24	27.651	16.33	6.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7575)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  7575):  42254.24     27.651       16.33        6.45
     + ID2= 2 (  7629):      0.21      0.006        5.25       19.14
       ========================================================
       ID = 1 (  7575):  42254.45     27.651       16.33        6.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7575)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7575):  42254.45     27.651       16.33        6.45
     + ID2= 2 (  7630):      0.10      0.003        5.25       18.35
       ========================================================
       ID = 3 (  7575):  42254.55     27.651       16.33        6.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD (  0443)|   Area    (ha)=    205.18
|ID= 1 DT= 5.0 min |   Total Imp(%)=     48.00   Dir. Conn.(%)=  45.28
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                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        98.49          106.69
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         4.50            4.50
     Length            (m)=      1169.56           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            7.94
               over (min)          15.00           30.00
     Storage Coeff.  (min)=        13.73 (ii)      28.97 (ii)
     Unit Hyd. Tpeak (min)=        15.00           30.00
     Unit Hyd. peak  (cms)=         0.08            0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         4.92            1.62          6.355 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.50           5.25
     RUNOFF VOLUME    (mm)=        40.00           12.09          24.73
     TOTAL RAINFALL   (mm)=        42.00           42.00          42.00
     RUNOFF COEFFICIENT   =         0.95            0.29           0.59


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD (  0446)|   Area    (ha)=    205.31
|ID= 1 DT= 5.0 min |   Total Imp(%)=     52.48   Dir. Conn.(%)=  47.52
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                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       107.75           97.56
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         3.95            3.95
     Length            (m)=      1169.93           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           11.89
               over (min)          15.00           30.00
     Storage Coeff.  (min)=        14.28 (ii)      27.77 (ii)
     Unit Hyd. Tpeak (min)=        15.00           30.00
     Unit Hyd. peak  (cms)=         0.08            0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         5.16            2.26          7.217 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.50           5.25
     RUNOFF VOLUME    (mm)=        40.00           16.95          27.90
     TOTAL RAINFALL   (mm)=        42.00           42.00          42.00
     RUNOFF COEFFICIENT   =         0.95            0.40           0.66


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4085)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------           (cms)        (ha.m.)   |    (cms)          (ha.m.)
                               0.0000        0.0000   |     13.0800
4.3058
                               3.2500        2.2527   |     17.7700
5.1327
                               7.0500        3.1937   |    177.7000
5.7030

                                  AREA        QPEAK        TPEAK       R.V.
                                   (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0446)      205.310        7.217         5.25      27.90
   OUTFLOW: ID= 1 (  4085)      205.310        3.443         5.92      27.90

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 47.71
                TIME SHIFT OF PEAK FLOW          (min)= 40.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  2.3008

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| ROUTE CHN(  2862)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
               351.60        166.36        0.0600
               356.39        166.15        0.0500      Main Channel
               359.21        166.04        0.0500      Main Channel
               365.80        165.74        0.0500      Main Channel
               374.44        165.43        0.0500      Main Channel
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               382.06        165.17        0.0500      Main Channel
               389.03        164.92        0.0500      Main Channel
               391.19        164.08        0.0500      Main Channel
               397.29        161.70        0.0500      Main Channel
               399.91        160.64        0.0500      Main Channel
               404.91        160.74        0.0500      Main Channel
               410.79        160.97        0.0500      Main Channel
               412.52        161.01        0.0500      Main Channel
               427.75        161.13        0.0500      Main Channel
               432.54        161.14        0.0500      Main Channel
               435.37        161.17        0.0500      Main Channel
               441.96        161.85        0.0500      Main Channel
               442.99        161.93        0.0500      Main Channel
               443.42        162.14    0.0500 /0.0600  Main Channel
               450.60        166.34        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.25   160.89    .183E+04          0.6         0.43      51.59
        0.50   161.14    .749E+04          2.6         0.47      47.14
        0.75   161.39    .202E+05         12.4         0.83      27.00
        1.00   161.64    .339E+05         28.1         1.11      20.07
        1.25   161.89    .486E+05         48.9         1.35      16.56
        1.50   162.14    .643E+05         76.0         1.59      14.09
        1.82   162.46    .851E+05        119.5         1.88      11.86
        2.15   162.79    .106E+06        170.9         2.15      10.38
        2.47   163.11    .128E+06        229.7         2.40       9.32
        2.79   163.43    .151E+06        295.7         2.63       8.51
        3.12   163.76    .174E+06        368.7         2.84       7.87
        3.44   164.08    .198E+06        448.7         3.04       7.35
        3.76   164.40    .222E+06        535.4         3.23       6.92
        4.08   164.72    .247E+06        628.9         3.41       6.55
        4.41   165.05    .273E+06        703.9         3.46       6.47
        4.73   165.37    .302E+06        754.3         3.34       6.68
        5.05   165.69    .336E+06        825.1         3.29       6.79
        5.38   166.02    .374E+06        923.8         3.32       6.74
        5.70   166.34    .414E+06       1084.5         3.51       6.37

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  4085)     205.31     3.44    5.92  27.90      0.52
0.49
  OUTFLOW: ID= 1 (  2862)     205.31     2.96    6.83  27.90      0.51
0.48


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| ROUTE CHN(  2547)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
               433.38        158.91        0.0600
               437.77        158.23        0.0500      Main Channel
               443.65        157.47        0.0500      Main Channel
               446.09        156.96        0.0500      Main Channel
               453.93        154.85        0.0500      Main Channel
               454.40        154.74        0.0500      Main Channel
               462.71        152.47        0.0500      Main Channel
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               464.20        152.02        0.0500      Main Channel
               471.02        151.82        0.0500      Main Channel
               474.48        151.98        0.0500      Main Channel
               484.75        152.29        0.0500      Main Channel
               487.65        152.40        0.0500      Main Channel
               495.96        152.63        0.0500      Main Channel
               499.92        152.69        0.0500      Main Channel
               504.27        152.77        0.0500      Main Channel
               505.30        152.76        0.0500      Main Channel
               512.59        155.27        0.0500      Main Channel
               515.58        156.15        0.0500      Main Channel
               520.90        158.10    0.0500 /0.0600  Main Channel
               525.85        159.79        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.35   152.17    .281E+04          2.5         0.75      18.68
        0.71   152.53    .977E+04         13.9         1.20      11.74
        1.06   152.88    .212E+05         38.5         1.54       9.17
        1.41   153.23    .348E+05         85.0         2.06       6.82
        1.77   153.59    .491E+05        145.8         2.51       5.61
        2.12   153.94    .641E+05        220.3         2.91       4.85
        2.47   154.29    .797E+05        307.7         3.26       4.32
        2.83   154.65    .961E+05        408.0         3.59       3.93
        3.18   155.00    .113E+06        520.7         3.89       3.62
        3.53   155.35    .131E+06        646.1         4.17       3.38
        3.88   155.70    .149E+06        783.4         4.43       3.18
        4.24   156.06    .169E+06        933.8         4.68       3.01
        4.59   156.41    .189E+06       1098.8         4.92       2.86
        4.94   156.76    .209E+06       1277.5         5.15       2.73
        5.30   157.12    .231E+06       1467.5         5.37       2.62
        5.65   157.47    .253E+06       1668.6         5.57       2.53
        6.13   157.95    .285E+06       1998.7         5.93       2.37
        6.61   158.43    .318E+06       2375.2         6.31       2.23
        7.09   158.91    .354E+06       2792.1         6.67       2.11

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2862)     205.31     2.96    6.83  27.90      0.37
0.77
  OUTFLOW: ID= 1 (  2547)     205.31     2.92    7.17  27.90      0.37
0.76


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| ROUTE CHN(  3607)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
             <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
               124.90        153.51        0.0600
               127.94        152.86        0.0500      Main Channel
               134.91        151.61        0.0500      Main Channel
               144.93        148.29        0.0500      Main Channel
               146.86        147.53        0.0500      Main Channel
               154.95        144.19        0.0500      Main Channel
               156.32        143.84        0.0500      Main Channel
               164.97        142.06        0.0500      Main Channel
               174.98        140.77        0.0500      Main Channel
```

185.00	140.22	0.0500	Main Channel
194.17	141.62	0.0500	Main Channel
195.02	141.79	0.0500	Main Channel
203.63	144.38	0.0500	Main Channel
205.04	144.94	0.0500	Main Channel
213.09	147.64	0.0500	Main Channel
215.05	148.33	0.0500	Main Channel
222.55	149.88	0.0500	Main Channel
232.01	152.18	0.0500	Main Channel
235.09	152.45	0.0500 /0.0600	Main Channel
241.47	153.31	0.0600	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.67	140.89	.254E+04	6.5	1.18	6.56
1.34	141.56	.879E+04	36.9	1.95	3.97
2.01	142.23	.178E+05	100.4	2.61	2.95
2.68	142.90	.287E+05	200.1	3.23	2.39
3.35	143.57	.413E+05	334.8	3.76	2.06
4.02	144.24	.555E+05	509.5	4.25	1.82
4.69	144.91	.711E+05	732.7	4.78	1.62
5.36	145.58	.877E+05	992.4	5.24	1.47
6.03	146.25	.105E+06	1291.3	5.67	1.36
6.70	146.92	.124E+06	1630.3	6.08	1.27
7.37	147.59	.144E+06	2010.7	6.45	1.20
8.04	148.26	.166E+06	2433.9	6.82	1.13
8.71	148.93	.188E+06	2870.3	7.08	1.09
9.38	149.60	.212E+06	3354.0	7.33	1.05
10.05	150.27	.238E+06	3898.2	7.60	1.02
10.72	150.94	.265E+06	4501.7	7.87	0.98
11.39	151.61	.294E+06	5160.7	8.15	0.95
12.24	152.46	.333E+06	6102.2	8.50	0.91
13.09	153.31	.376E+06	7377.8	9.09	0.85

channel->		<---- hydrograph ---->			<-pipe /
VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)	(ha)	(cms)	(hrs)	(mm)	(m)
INFLOW : ID= 2 (2547)	205.31	2.92	7.17	27.90	0.30
1.18					
OUTFLOW: ID= 1 (3607)	205.31	2.91	7.33	27.90	0.30
1.18					

CALIB	
STANDHYD (7631)	Area (ha)= 6.01
ID= 1 DT= 5.0 min	Total Imp(%)= 48.00 Dir. Conn.(%)= 45.28

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.88	3.13
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	4.50	4.50
Length (m)=	200.17	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	7.94
over (min)	5.00	25.00
Storage Coeff. (min)=	4.76 (ii)	20.00 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.22	0.05

				TOTALS
PEAK FLOW (cms)=	0.15	0.05		0.197 (iii)
TIME TO PEAK (hrs)=	5.25	5.42		5.25
RUNOFF VOLUME (mm)=	40.00	12.09		24.72
TOTAL RAINFALL (mm)=	42.00	42.00		42.00
RUNOFF COEFFICIENT =	0.95	0.29		0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7632)	Area (ha)= 0.70
ID= 1 DT= 5.0 min	Total Imp(%)= 48.00 Dir. Conn.(%)= 45.28

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.34	0.36
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	4.50	4.50
Length (m)=	68.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	7.94
over (min)	5.00	20.00
Storage Coeff. (min)=	2.50 (ii)	17.74 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.29	0.06

				TOTALS
PEAK FLOW (cms)=	0.02	0.01		0.023 (iii)
TIME TO PEAK (hrs)=	4.83	5.33		5.25
RUNOFF VOLUME (mm)=	40.00	12.09		24.71
TOTAL RAINFALL (mm)=	42.00	42.00		42.00
RUNOFF COEFFICIENT =	0.95	0.29		0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7634)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3607):	205.31	2.912	7.33	27.90
+ ID2= 2 (0443):	205.18	6.355	5.25	24.73
ID = 3 (7574):	410.49	7.128	5.25	26.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7574)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7574):	410.49	7.128	5.25	26.31
+ ID2= 2 (7631):	6.01	0.197	5.25	24.72
ID = 1 (7574):	416.50	7.325	5.25	26.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7574)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7574):	416.50	7.325	5.25	26.29
+ ID2= 2 (7632):	0.70	0.023	5.25	24.71
ID = 3 (7574):	417.20	7.349	5.25	26.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1109)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7574):	417.20	7.349	5.25	26.29
+ ID2= 2 (7575):	42254.55	27.651	16.33	6.45
ID = 3 (1109):	42671.75	27.799	16.25	6.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (7278)	Area (ha)= 88.17 Curve Number (CN)= 83.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.71

Unit Hyd Qpeak (cms)= 0.880

PEAK FLOW (cms)= 0.337 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 12.176
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.290

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (7283)	Area (ha)= 78.78 Curve Number (CN)= 87.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.98

Unit Hyd Qpeak (cms)= 0.679

PEAK FLOW (cms)= 0.325 (i)
TIME TO PEAK (hrs)= 8.417
RUNOFF VOLUME (mm)= 14.628
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.348

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (7287)	Area (ha)= 38.86 Curve Number (CN)= 83.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.95

Unit Hyd Qpeak (cms)= 0.698

PEAK FLOW (cms)= 0.222 (i)
TIME TO PEAK (hrs)= 7.167
RUNOFF VOLUME (mm)= 12.161
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.290

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (7292)	Area (ha)= 9.03 Curve Number (CN)= 77.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 0.41

Unit Hyd Qpeak (cms)= 0.376

PEAK FLOW (cms)= 0.064 (i)
TIME TO PEAK (hrs)= 5.917
RUNOFF VOLUME (mm)= 9.421
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (7296)	Area (ha)= 32.26 Curve Number (CN)= 87.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.01

Unit Hyd Qpeak (cms)= 0.545

PEAK FLOW (cms)= 0.215 (i)
TIME TO PEAK (hrs)= 7.250
RUNOFF VOLUME (mm)= 14.609
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.348

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (7300)	Area	(ha)=	53.98	Curve Number	(CN)= 87.0
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		1.45		

Unit Hyd Qpeak (cms)= 0.636

PEAK FLOW (cms)= 0.280 (i)
TIME TO PEAK (hrs)= 7.750
RUNOFF VOLUME (mm)= 14.621
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.348

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (7303)	Area	(ha)=	87.75	Curve Number	(CN)= 87.0
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		2.16		

Unit Hyd Qpeak (cms)= 0.694

PEAK FLOW (cms)= 0.338 (i)
TIME TO PEAK (hrs)= 8.667
RUNOFF VOLUME (mm)= 14.629
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.348

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7298)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7300):	53.98	0.280	7.75	14.62
+ ID2= 2 (7303):	87.75	0.338	8.67	14.63
ID = 3 (7298):	141.73	0.613	8.25	14.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (7297)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	220.03	0.0600	
9.40	219.94	0.0600	Main Channel
29.15	219.67	0.0600	Main Channel
40.79	219.51	0.0600	Main Channel
61.72	219.21	0.0600	Main Channel
82.64	218.88	0.0600	Main Channel
93.11	218.66	0.0600	Main Channel
103.57	218.38	0.0600	Main Channel
104.71	218.40	0.0600	Main Channel
114.03	218.48	0.0600	Main Channel
119.82	218.65	0.0600	Main Channel

124.49	218.80	0.0600	Main Channel
135.00	219.10	0.0600	Main Channel
165.16	219.94	0.0600	Main Channel
176.81	220.03	0.0600	Main Channel
180.27	220.03	0.0600	Main Channel
187.27	219.99	0.0600	Main Channel
203.01	219.97	0.0600	Main Channel
208.20	219.94	0.0600 /0.0600	Main Channel
211.52	219.95	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	218.46	.157E+03	0.1	0.16	39.41
0.16	218.54	.628E+03	0.5	0.29	21.88
0.24	218.62	.128E+04	1.3	0.39	16.29
0.32	218.70	.211E+04	2.6	0.46	13.54
0.40	218.78	.313E+04	4.4	0.53	11.82
0.48	218.86	.434E+04	6.8	0.59	10.60
0.56	218.94	.578E+04	9.8	0.64	9.78
0.65	219.03	.745E+04	13.7	0.69	9.09
0.73	219.11	.936E+04	18.4	0.74	8.49
0.81	219.19	.115E+05	24.1	0.79	7.97
0.89	219.27	.139E+05	30.8	0.83	7.54
0.97	219.35	.166E+05	38.6	0.88	7.16
1.05	219.43	.195E+05	47.6	0.92	6.82
1.13	219.51	.227E+05	58.0	0.97	6.51
1.21	219.59	.261E+05	69.8	1.01	6.24
1.29	219.67	.298E+05	83.0	1.05	5.99
1.38	219.76	.344E+05	103.1	1.13	5.57
1.48	219.86	.394E+05	125.5	1.20	5.24
1.57	219.95	.448E+05	148.2	1.25	5.04

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7298)	141.73	0.61	8.25	14.63	0.17	0.30
OUTFLOW: ID= 1 (7297)	141.73	0.61	8.50	14.63	0.17	0.30

ROUTE CHN (7294)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	213.02	0.0600	
8.96	212.89	0.0600	Main Channel
24.61	212.67	0.0600	Main Channel
35.05	212.18	0.0600	Main Channel
47.94	211.29	0.0600	Main Channel
54.49	211.05	0.0600	Main Channel
59.60	210.89	0.0600	Main Channel
67.27	210.64	0.0600	Main Channel
71.26	210.53	0.0600	Main Channel
73.92	210.32	0.0600	Main Channel
82.92	210.19	0.0600	Main Channel
93.36	210.93	0.0600	Main Channel
106.25	211.51	0.0600	Main Channel

112.79	211.72	0.0600	Main Channel
117.91	211.86	0.0600	Main Channel
125.58	212.08	0.0600	Main Channel
129.57	212.18	0.0600	Main Channel
132.23	212.26	0.0600	Main Channel
141.23	212.50	0.0600 /0.0600	Main Channel
151.13	212.83	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	210.33	.422E+03	0.2	0.27	33.90
0.27	210.46	.138E+04	1.2	0.49	18.64
0.41	210.60	.263E+04	3.0	0.62	14.84
0.54	210.73	.435E+04	5.7	0.72	12.75
0.68	210.87	.653E+04	9.7	0.82	11.19
0.82	211.01	.918E+04	15.1	0.90	10.13
0.95	211.14	.124E+05	22.2	0.99	9.27
1.09	211.28	.160E+05	31.4	1.07	8.53
1.22	211.41	.202E+05	43.2	1.17	7.79
1.36	211.55	.247E+05	57.0	1.27	7.22
1.49	211.68	.296E+05	72.6	1.34	6.81
1.63	211.82	.351E+05	90.3	1.41	6.47
1.77	211.96	.410E+05	110.7	1.48	6.17
1.90	212.09	.474E+05	134.0	1.55	5.90
2.04	212.23	.544E+05	159.7	1.61	5.68
2.17	212.36	.619E+05	188.2	1.67	5.48
2.31	212.50	.700E+05	220.1	1.72	5.30
2.47	212.66	.807E+05	271.7	1.85	4.95
2.64	212.83	.924E+05	334.3	1.99	4.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7297)	141.73	0.61	8.50	14.63	0.19	0.33
OUTFLOW: ID= 1 (7294)	141.73	0.61	8.83	14.63	0.19	0.33

ROUTE CHN (7293)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	208.87	0.0600	
1.63	208.89	0.0600	Main Channel
11.91	208.73	0.0600	Main Channel
17.18	208.84	0.0600	Main Channel
24.96	208.75	0.0600	Main Channel
32.74	208.76	0.0600	Main Channel
38.02	208.53	0.0600	Main Channel
48.29	207.29	0.0600	Main Channel
51.07	206.83	0.0600	Main Channel
63.85	205.03	0.0600	Main Channel
64.13	205.03	0.0600	Main Channel
65.60	205.00	0.0600	Main Channel
77.18	204.77	0.0600	Main Channel
79.40	204.87	0.0600	Main Channel
90.24	205.36	0.0600	Main Channel

94.96	205.40	0.0600	Main Channel
103.29	207.17	0.0600	Main Channel
110.51	209.65	0.0600 /0.0600	Main Channel
116.35	210.52	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	204.98	.410E+03	0.6	0.37	11.65
0.42	205.19	.151E+04	3.8	0.66	6.59
0.63	205.40	.298E+04	9.4	0.83	5.25
0.83	205.60	.487E+04	20.3	1.08	4.01
1.04	205.81	.690E+04	34.6	1.31	3.32
1.25	206.02	.906E+04	52.3	1.50	2.89
1.46	206.23	.114E+05	73.2	1.68	2.58
1.67	206.44	.138E+05	97.5	1.84	2.36
1.88	206.65	.163E+05	125.1	1.99	2.18
2.08	206.85	.190E+05	156.0	2.13	2.03
2.29	207.06	.219E+05	190.8	2.27	1.91
2.50	207.27	.248E+05	229.5	2.41	1.80
2.71	207.48	.279E+05	271.0	2.53	1.71
2.92	207.69	.310E+05	315.9	2.65	1.64
3.13	207.90	.343E+05	364.5	2.76	1.57
3.33	208.10	.378E+05	416.8	2.87	1.51
3.54	208.31	.413E+05	472.8	2.98	1.46
3.75	208.52	.450E+05	532.7	3.08	1.41
3.96	208.73	.489E+05	582.4	3.10	1.40

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7294)	141.73	0.61	8.83	14.63	0.21	0.37
OUTFLOW: ID= 1 (7293)	141.73	0.60	9.08	14.63	0.21	0.37

ADD HYD (7586)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7293):	141.73	0.604	9.08	14.63
+ ID2= 2 (7296):	32.26	0.215	7.25	14.61
ID = 3 (7586):	173.99	0.779	8.58	14.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (7307)	Area	(ha)=	46.46	Curve Number	(CN)= 80.0
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.	(N)= 1.50
	U.H. Tp(hrs)=		1.55		

Unit Hyd Qpeak (cms)= 0.512

PEAK FLOW (cms)= 0.167 (i)
TIME TO PEAK (hrs)= 8.083

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     RUNOFF VOLUME    (mm)=    10.711
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.255

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  7308)|   Area    (ha)=     45.11   Curve Number   (CN)= 87.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.60

     Unit Hyd Qpeak  (cms)=     0.481

     PEAK FLOW       (cms)=     0.218 (i)
     TIME TO PEAK    (hrs)=     8.083
     RUNOFF VOLUME    (mm)=    14.624
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.348

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  7311)|   Area    (ha)=     70.73   Curve Number   (CN)= 73.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.75

     Unit Hyd Qpeak  (cms)=     0.690

     PEAK FLOW       (cms)=     0.176 (i)
     TIME TO PEAK    (hrs)=     8.333
     RUNOFF VOLUME    (mm)=     8.123
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.193

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  7313)|   Area    (ha)=     22.43   Curve Number   (CN)= 81.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      0.70

     Unit Hyd Qpeak  (cms)=     0.547

     PEAK FLOW       (cms)=     0.142 (i)
     TIME TO PEAK    (hrs)=     6.417
     RUNOFF VOLUME    (mm)=    11.143
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  7318)|   Area    (ha)=     55.21   Curve Number   (CN)= 89.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
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--------------------   U.H. Tp(hrs)=      1.51

     Unit Hyd Qpeak  (cms)=     0.624

     PEAK FLOW       (cms)=     0.308 (i)
     TIME TO PEAK    (hrs)=     7.750
     RUNOFF VOLUME    (mm)=    16.136
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.384

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7321)|   Area    (ha)=    134.85
|ID= 1 DT= 5.0 min |   Total Imp(%)=     85.90   Dir. Conn.(%)=  85.80
--------------------

                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       115.84          19.01
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         1.71           1.71
     Length            (m)=       948.16          40.00
     Mannings n            =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          11.09
               over (min)          15.00          35.00
     Storage Coeff.  (min)=        16.19 (ii)     34.02 (ii)
     Unit Hyd. Tpeak (min)=        15.00          35.00
     Unit Hyd. peak  (cms)=         0.07           0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=         6.07           0.38           6.396 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.58           5.25
     RUNOFF VOLUME    (mm)=        40.00          17.56          36.81
     TOTAL RAINFALL   (mm)=        42.00          42.00          42.00
     RUNOFF COEFFICIENT   =         0.95           0.42           0.88

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7320)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      1.9000
6.0069
                             0.8100        3.2282   |      2.5000
7.3553
                             1.2300        4.3315   |     25.0000
8.1726

                                 AREA        QPEAK        TPEAK        R.V.
                                 (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  7321)      134.850        6.396         5.25       36.81
   OUTFLOW: ID= 1 (  7320)      134.850        0.939         7.50       36.81

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.68
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               TIME SHIFT OF PEAK FLOW        (min)=135.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  3.5663

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| CALIB            |
| STANDHYD (  7324)|   Area    (ha)=     64.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=     72.80   Dir. Conn.(%)=  72.00
--------------------

                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        46.79          17.48
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         2.62           2.62
     Length            (m)=       654.57          40.00
     Mannings n            =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          11.49
               over (min)          10.00          30.00
     Storage Coeff.  (min)=        11.40 (ii)     26.87 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.10           0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=         2.47           0.40           2.843 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50           5.25
     RUNOFF VOLUME    (mm)=        40.00          17.84          33.80
     TOTAL RAINFALL   (mm)=        42.00          42.00          42.00
     RUNOFF COEFFICIENT   =         0.95           0.42           0.80

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7327)|   Area    (ha)=     48.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=     85.50   Dir. Conn.(%)=  85.40
--------------------

                             IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        41.60           7.06
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         1.65           1.65
     Length            (m)=       569.56          40.00
     Mannings n            =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          11.09
               over (min)          10.00          35.00
     Storage Coeff.  (min)=        12.05 (ii)     30.07 (ii)
     Unit Hyd. Tpeak (min)=        10.00          35.00
     Unit Hyd. peak  (cms)=         0.10           0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=         2.22           0.15           2.347 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50           5.25
     RUNOFF VOLUME    (mm)=        40.00          17.56          36.72
     TOTAL RAINFALL   (mm)=        42.00          42.00          42.00
     RUNOFF COEFFICIENT   =         0.95           0.42           0.87

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7326)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      3.3300
1.4075
                             1.1700        0.8997   |      4.3800
1.6034
                             2.0300        1.1135   |     43.8000
1.7816

                                 AREA        QPEAK        TPEAK        R.V.
                                 (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  7327)       48.660       2.347         5.25       36.72
   OUTFLOW: ID= 1 (  7326)       48.660       1.040         5.67       36.72

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.34
                  TIME SHIFT OF PEAK FLOW        (min)= 25.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8002

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| ROUTE CHN(  7325)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------

              <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation        Manning
                63.25         240.45         0.0600
                70.74         240.18         0.0600      Main Channel
                73.56         240.08         0.0600      Main Channel
                82.04         239.79         0.0600      Main Channel
                83.87         239.73         0.0600      Main Channel
                84.48         239.72         0.0600      Main Channel
                94.18         239.55         0.0600      Main Channel
                98.22         239.53         0.0600      Main Channel
               104.49         239.51         0.0600      Main Channel
               111.97         239.61         0.0600      Main Channel
               114.79         239.63         0.0600      Main Channel
               123.27         239.79         0.0600      Main Channel
               125.71         239.83         0.0600      Main Channel
               135.41         239.98         0.0600      Main Channel
               139.46         240.06         0.0600      Main Channel
               145.72         240.16         0.0600      Main Channel
               153.20         240.27         0.0600      Main Channel
               156.02         240.31         0.0600      Main Channel
               164.50         240.39    0.0600 /0.0600   Main Channel
               166.33         240.41         0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.04   239.55    .398E+03          0.0          0.12     165.05
       0.09   239.60    .125E+04          0.2          0.20      96.97
       0.13   239.64    .244E+04          0.5          0.26      76.03
       0.18   239.69    .392E+04          1.1          0.31      61.98
       0.22   239.73    .564E+04          1.8          0.36      53.50
       0.26   239.77    .759E+04          2.7          0.42      46.84
       0.31   239.82    .973E+04          3.8          0.46      42.22
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0.35	239.86	.121E+05	5.2	0.50	38.80
0.39	239.90	.146E+05	6.8	0.54	36.08
0.44	239.95	.174E+05	8.6	0.58	33.83
0.48	239.99	.204E+05	10.6	0.61	31.87
0.53	240.04	.235E+05	13.0	0.65	30.06
0.57	240.08	.269E+05	15.7	0.68	28.58
0.63	240.14	.313E+05	19.5	0.73	26.73
0.68	240.19	.361E+05	23.8	0.77	25.26
0.74	240.25	.413E+05	28.6	0.81	24.04
0.79	240.30	.468E+05	33.9	0.85	23.00
0.85	240.36	.526E+05	39.2	0.87	22.36
0.90	240.41	.590E+05	45.8	0.91	21.47

channel->		<---- hydrograph ---->			<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
		(ha)	(cms)	(hrs)	(mm)	(m)	
(m/s)							
	INFLOW : ID= 2 (7326)	48.66	1.04	5.67	36.72	0.17	
0.31							
	OUTFLOW: ID= 1 (7325)	48.66	0.85	6.75	36.70	0.16	
0.29							

CALIB					
STANDHYD (7328)	Area (ha)=	11.60			
ID= 1 DT= 5.0 min	Total Imp(%)=	58.50	Dir. Conn.(%)=	58.50	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.79	4.81
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.16	2.16
Length	(m)=	278.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.96
over (min)		5.00	25.00
Storage Coeff. (min)=		7.23 (ii)	23.93 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.17	0.05
PEAK FLOW (cms)=		0.36	0.11 *TOTALS* 0.470 (iii)
TIME TO PEAK (hrs)=		5.25	5.42 5.25
RUNOFF VOLUME (mm)=		40.00	17.47 30.65
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.42 0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (7329)	Area (ha)=	21.04			
ID= 1 DT= 5.0 min	Total Imp(%)=	78.60	Dir. Conn.(%)=	78.60	

		IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	16.54	4.50	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.40	2.40	
Length	(m)=	374.52	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	10.96	
over (min)		10.00	25.00	
Storage Coeff. (min)=		8.37 (ii)	24.55 (ii)	
Unit Hyd. Tpeak (min)=		10.00	25.00	
Unit Hyd. peak (cms)=		0.12	0.05	
PEAK FLOW (cms)=		0.89	0.10	*TOTALS* 0.985 (iii)
TIME TO PEAK (hrs)=		5.25	5.42	5.25
RUNOFF VOLUME (mm)=		40.00	17.47	35.18
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.95	0.42	0.84

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7323)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (7325):	48.66	0.848	6.75	36.70	
+ ID2= 2 (7328):	11.60	0.470	5.25	30.65	
ID = 3 (7323):	60.26	0.963	6.25	35.54	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7323)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 3 (7323):	60.26	0.963	6.25	35.54	
+ ID2= 2 (7329):	21.04	0.985	5.25	35.18	
ID = 1 (7323):	81.30	1.863	5.25	35.44	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (7322)		
IN= 2---> OUT= 1	Routing time step (min)'= 5.00	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
71.15	232.45	0.0600	
79.88	232.21	0.0600	Main Channel
82.66	232.14	0.0600	Main Channel
84.77	231.96	0.0600	Main Channel
94.16	231.74	0.0600	Main Channel

105.00	231.61	0.0600 Main Channel
105.67	231.57	0.0600 Main Channel
106.54	231.56	0.0600 Main Channel
117.17	231.34	0.0600 Main Channel
125.23	232.01	0.0600 /0.0600 Main Channel
128.67	232.41	0.0600

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	231.40	.112E+03	0.0	0.14	146.61
0.11	231.45	.447E+03	0.1	0.21	92.36
0.17	231.51	.101E+04	0.2	0.28	70.48
0.22	231.56	.179E+04	0.5	0.34	58.54
0.28	231.62	.278E+04	0.9	0.40	49.24
0.33	231.67	.403E+04	1.5	0.43	46.35
0.39	231.73	.564E+04	2.2	0.46	42.90
0.45	231.79	.755E+04	3.3	0.52	38.26
0.50	231.84	.967E+04	4.7	0.57	34.59
0.56	231.90	.120E+05	6.3	0.62	31.78
0.61	231.95	.145E+05	8.2	0.67	29.52
0.67	232.01	.172E+05	10.6	0.73	27.04
0.73	232.07	.200E+05	13.5	0.80	24.73
0.78	232.12	.229E+05	16.7	0.86	22.90
0.84	232.18	.259E+05	20.3	0.93	21.28
0.90	232.24	.291E+05	24.3	0.99	19.96
0.96	232.30	.325E+05	28.7	1.05	18.87
1.01	232.35	.360E+05	33.4	1.10	17.97
1.07	232.41	.398E+05	38.6	1.15	17.19

channel->		<---- hydrograph ---->			<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
		(ha)	(cms)	(hrs)	(mm)	(m)	
(m/s)							
	INFLOW : ID= 2 (7323)	81.30	1.86	5.25	35.44	0.37	
0.45							
	OUTFLOW: ID= 1 (7322)	81.30	1.33	5.42	35.43	0.32	
0.42							

ADD HYD (7319)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (7320):	134.85	0.939	7.50	36.81	
+ ID2= 2 (7322):	81.30	1.327	5.42	35.43	
ID = 3 (7319):	216.15	2.138	6.42	36.29	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7319)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 3 (7319):	216.15	2.138	6.42	36.29	
+ ID2= 2 (7324):	64.27	2.843	5.25	33.80	

ID = 1 (7319):	280.42	4.688	5.25	35.72	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (7316)		
IN= 2---> OUT= 1	Routing time step (min)'= 5.00	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
53.06	224.61	0.0600	
56.09	224.52	0.0600	Main Channel
64.34	223.10	0.0600	Main Channel
66.15	222.87	0.0600	Main Channel
75.61	222.25	0.0600	Main Channel
76.21	222.22	0.0600	Main Channel
81.14	222.15	0.0600	Main Channel
86.27	222.12	0.0600	Main Channel
96.33	222.36	0.0600	Main Channel
106.38	222.63	0.0600	Main Channel
120.72	223.16	0.0600	Main Channel
126.50	223.37	0.0600	Main Channel
132.00	223.48	0.0600	Main Channel
136.56	223.63	0.0600	Main Channel
143.28	223.70	0.0600	Main Channel
146.62	223.77	0.0600	Main Channel
156.68	224.02	0.0600	Main Channel
177.11	224.39	0.0600	Main Channel
186.85	224.58	0.0600 /0.0600	Main Channel
192.91	224.74	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	222.24	.173E+04	0.3	0.25	100.98
0.25	222.37	.526E+04	1.4	0.41	61.68
0.37	222.49	.100E+05	3.5	0.53	47.42
0.49	222.61	.160E+05	6.7	0.63	39.72
0.61	222.73	.230E+05	11.2	0.73	34.20
0.74	222.86	.310E+05	17.0	0.82	30.35
0.86	222.98	.399E+05	24.4	0.92	27.27
0.98	223.10	.496E+05	33.2	1.00	24.91
1.12	223.24	.613E+05	45.2	1.11	22.63
1.25	223.37	.740E+05	59.0	1.20	20.92
1.39	223.51	.880E+05	73.4	1.25	19.96
1.53	223.65	.103E+06	90.6	1.32	18.98
1.67	223.79	.120E+06	108.0	1.35	18.56
1.80	223.92	.139E+06	130.8	1.42	17.68
1.94	224.06	.159E+06	155.8	1.47	16.98
2.08	224.20	.180E+06	182.3	1.52	16.47
2.22	224.34	.203E+06	212.2	1.57	15.98
2.35	224.47	.228E+06	245.9	1.62	15.48
2.49	224.61	.255E+06	286.1	1.68	14.86

channel->		<---- hydrograph ---->			<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
		(ha)	(cms)	(hrs)	(mm)	(m)	
(m/s)							
	INFLOW : ID= 2 (7319)	280.42	4.69	5.25	35.72	0.41	
0.56							
	OUTFLOW: ID= 1 (7316)	280.42	3.43	5.58	35.72	0.36	
0.52							

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| ADD HYD  (  7587)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7316):    280.42      3.428        5.58       35.72
     + ID2= 2 (  7318):     55.21      0.308        7.75       16.14
       =========================================================
       ID = 3 (  7587):    335.63      3.611        5.58       32.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  7337)|   Area    (ha)=     68.13   Curve Number   (CN)= 80.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.69

     Unit Hyd Qpeak  (cms)=     0.688

     PEAK FLOW       (cms)=     0.231 (i)
     TIME TO PEAK    (hrs)=     8.250
     RUNOFF VOLUME    (mm)=    10.713
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.255

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  7345)|   Area    (ha)=    111.62   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.59

     Unit Hyd Qpeak  (cms)=     0.736

     PEAK FLOW       (cms)=     0.221 (i)
     TIME TO PEAK    (hrs)=     9.250
     RUNOFF VOLUME    (mm)=     8.773
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.209

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7338)|   Area    (ha)=     21.05
|ID= 1 DT= 5.0 min |   Total Imp(%)=     87.80   Dir. Conn.(%)=  87.50
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        18.48          2.57
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         2.14          2.14
     Length            (m)=       374.61         40.00
     Mannings n          =         0.013         0.250
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```
     Max.Eff.Inten.(mm/hr)=        19.32          11.41
               over (min)         10.00          30.00
     Storage Coeff.  (min)=         8.67 (ii)     25.15 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.12           0.04
                                                                 *TOTALS*
     PEAK FLOW       (cms)=         0.99           0.06            1.043 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.42             5.25
     RUNOFF VOLUME    (mm)=        40.00          17.78            37.22
     TOTAL RAINFALL   (mm)=        42.00          42.00            42.00
     RUNOFF COEFFICIENT   =         0.95           0.42             0.89


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7342)|   Area    (ha)=     25.06
|ID= 1 DT= 5.0 min |   Total Imp(%)=     78.50   Dir. Conn.(%)=  78.50
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        19.67          5.39
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         1.35          1.35
     Length            (m)=       408.74         40.00
     Mannings n          =         0.013         0.250

     Max.Eff.Inten.(mm/hr)=        19.32          10.96
               over (min)         10.00          30.00
     Storage Coeff.  (min)=        10.49 (ii)     29.72 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.11           0.04
                                                                 *TOTALS*
     PEAK FLOW       (cms)=         1.05           0.11            1.156 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50             5.25
     RUNOFF VOLUME    (mm)=        40.00          17.47            35.16
     TOTAL RAINFALL   (mm)=        42.00          42.00            42.00
     RUNOFF COEFFICIENT   =         0.95           0.42             0.84


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7341)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW      STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      0.4300
1.1889
                             0.1800        0.6896   |      0.5600
1.4267
                             0.2800        0.8877   |      5.6000
1.5852
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                                AREA        QPEAK        TPEAK        R.V.
                                (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  7342)      25.060      1.156         5.25       35.16
   OUTFLOW: ID= 1 (  7341)      25.060      0.164         7.42       35.12

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.21
                  TIME SHIFT OF PEAK FLOW         (min)=130.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6297

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| CALIB            |
| STANDHYD (  7344)|   Area    (ha)=     94.32
|ID= 1 DT= 5.0 min |   Total Imp(%)=     49.70   Dir. Conn.(%)=  45.30
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        46.88         47.44
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         2.31          2.31
     Length            (m)=       792.97         40.00
     Mannings n          =         0.013         0.250

     Max.Eff.Inten.(mm/hr)=        19.32         12.56
               over (min)         15.00         30.00
     Storage Coeff.  (min)=        13.29 (ii)    28.79 (ii)
     Unit Hyd. Tpeak (min)=        15.00         30.00
     Unit Hyd. peak  (cms)=         0.08          0.04
                                                                *TOTALS*
     PEAK FLOW       (cms)=         2.27          1.18            3.346 (iii)
     TIME TO PEAK    (hrs)=         5.25          5.50             5.25
     RUNOFF VOLUME    (mm)=        40.00         18.55            28.27
     TOTAL RAINFALL   (mm)=        42.00         42.00            42.00
     RUNOFF COEFFICIENT   =         0.95          0.44             0.67


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7343)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW      STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      6.8000
1.5531
                             2.4800        0.7970   |      8.8500
1.8392
                             4.2400        1.1342   |     88.5000
2.0436

                                AREA        QPEAK        TPEAK        R.V.
                                (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  7344)      94.320      3.346         5.25       28.27
   OUTFLOW: ID= 1 (  7343)      94.320      2.230         5.67       28.26

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 66.63
                  TIME SHIFT OF PEAK FLOW         (min)= 25.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7179
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| ADD HYD  (  7340)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7341):     25.06      0.164        7.42       35.12
     + ID2= 2 (  7343):     94.32      2.230        5.67       28.26
       =========================================================
       ID = 3 (  7340):    119.38      2.372        5.67       29.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  7339)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  57.53         237.70       0.0600
                  67.68         237.47       0.0600      Main Channel
                  82.76         237.00       0.0600      Main Channel
                  87.96         236.83       0.0600      Main Channel
                  94.98         236.80       0.0600      Main Channel
                  98.11         236.65       0.0600      Main Channel
                 107.20         235.40       0.0600      Main Channel
                 108.25         235.27       0.0600      Main Channel
                 113.38         236.03       0.0600      Main Channel
                 118.39         236.82       0.0600      Main Channel
                 119.42         236.84       0.0600      Main Channel
                 128.53         237.35       0.0600      Main Channel
                 131.63         237.35       0.0600      Main Channel
                 138.68         237.40       0.0600      Main Channel
                 143.85         237.39       0.0600      Main Channel
                 148.82         237.40       0.0600      Main Channel
                 158.96         237.45       0.0600      Main Channel
                 168.29         237.54       0.0600      Main Channel
                 169.11         237.54    0.0600 /0.0600  Main Channel
                 180.51         237.73       0.0600

      <--------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)      (cu.m.)        (cms)        (m/s)      (min)
       0.12   235.39    .105E+03          0.0          0.15     101.18
       0.25   235.52    .414E+03          0.1          0.24      63.17
       0.37   235.64    .922E+03          0.3          0.32      48.25
       0.49   235.76    .163E+04          0.7          0.39      39.88
       0.62   235.89    .253E+04          1.2          0.45      34.40
       0.74   236.01    .364E+04          2.0          0.51      30.49
       0.86   236.13    .494E+04          3.0          0.56      27.48
       0.99   236.26    .643E+04          4.3          0.61      25.12
       1.11   236.38    .811E+04          5.8          0.67      23.21
       1.24   236.51    .999E+04          7.7          0.71      21.64
       1.36   236.63    .121E+05          9.9          0.76      20.31
       1.48   236.75    .144E+05         12.0          0.77      19.95
       1.61   236.88    .175E+05         12.6          0.67      23.13
       1.73   237.00    .217E+05         16.2          0.69      22.36
       1.85   237.12    .266E+05         21.6          0.75      20.51
       1.99   237.26    .330E+05         28.8          0.81      19.04
       2.13   237.40    .406E+05         30.2          0.69      22.42
       2.27   237.54    .527E+05         38.6          0.68      22.75
       2.41   237.68    .673E+05         55.9          0.77      20.05
```

			<---- hydrograph ---->			<-pipe /
channel->						
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7340)	119.38	2.37	5.67	29.70	0.79	0.53
OUTFLOW: ID= 1 (7339)	119.38	2.13	6.08	29.70	0.76	0.51

ADD HYD (7336)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7338):	21.05	1.043	5.25	37.22
+ ID2= 2 (7339):	119.38	2.128	6.08	29.70
ID = 3 (7336):	140.43	2.447	6.08	30.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7335)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
118.08	233.24	0.0600	
124.18	233.14	0.0600	Main Channel
130.30	232.99	0.0600	Main Channel
141.58	232.62	0.0600	Main Channel
154.73	232.19	0.0600	Main Channel
158.99	232.09	0.0600	Main Channel
166.95	232.05	0.0600	Main Channel
176.40	232.32	0.0600	Main Channel
179.17	232.41	0.0600	Main Channel
185.67	232.61	0.0600	Main Channel
191.38	232.78	0.0600	Main Channel
193.81	232.82	0.0600	Main Channel
203.60	232.86	0.0600	Main Channel
215.82	232.86	0.0600	Main Channel
228.63	232.97	0.0600	Main Channel
246.04	233.21	0.0600	Main Channel
252.47	233.31	0.0600	Main Channel
263.45	233.46	0.0600	Main Channel
267.59	233.50	0.0600 /0.0600	Main Channel
270.72	233.52	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	232.11	.278E+03	0.1	0.15	80.37
0.12	232.17	.847E+03	0.3	0.25	48.38
0.18	232.23	.161E+04	0.7	0.33	36.97
0.24	232.29	.254E+04	1.4	0.40	30.75
0.29	232.34	.363E+04	2.3	0.46	26.73
0.35	232.40	.489E+04	3.4	0.52	23.84
0.41	232.46	.630E+04	4.8	0.57	21.71

0.47	232.52	.788E+04	6.6	0.61	20.04
0.53	232.58	.961E+04	8.6	0.66	18.67
0.59	232.64	.115E+05	10.9	0.70	17.53
0.65	232.70	.136E+05	13.7	0.74	16.56
0.71	232.76	.158E+05	16.7	0.78	15.72
0.76	232.81	.182E+05	20.0	0.81	15.13
0.82	232.87	.211E+05	20.1	0.70	17.51
0.88	232.93	.249E+05	24.8	0.74	16.74
0.94	232.99	.291E+05	30.4	0.77	15.93
1.02	233.07	.355E+05	40.7	0.85	14.56
1.11	233.16	.425E+05	52.4	0.91	13.52
1.19	233.24	.502E+05	66.0	0.97	12.68

			<---- hydrograph ---->			<-pipe /
channel->						
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7336)	140.43	2.45	6.08	30.83	0.30	0.47
OUTFLOW: ID= 1 (7335)	140.43	2.38	6.33	30.83	0.30	0.47

ROUTE CHN(7334)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.90	0.0600	
9.34	230.83	0.0600	Main Channel
17.40	230.69	0.0600	Main Channel
28.42	230.25	0.0600	Main Channel
40.88	229.62	0.0600	Main Channel
47.50	229.38	0.0600	Main Channel
52.62	229.14	0.0600	Main Channel
64.36	228.70	0.0600	Main Channel
76.11	227.77	0.0600	Main Channel
85.66	227.08	0.0600	Main Channel
99.59	226.55	0.0600	Main Channel
104.74	226.67	0.0600	Main Channel
111.33	227.12	0.0600	Main Channel
121.88	228.76	0.0600	Main Channel
123.82	229.05	0.0600	Main Channel
134.82	230.64	0.0600	Main Channel
142.90	230.99	0.0600	Main Channel
161.98	231.24	0.0600	Main Channel
170.04	231.32	0.0600 /0.0600	Main Channel
178.03	231.19	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	226.79	.157E+04	0.7	0.36	40.01
0.49	227.04	.540E+04	3.5	0.56	25.50
0.73	227.28	.110E+05	9.9	0.77	18.56
0.97	227.52	.177E+05	19.6	0.95	15.01
1.22	227.77	.254E+05	32.8	1.11	12.90
1.46	228.01	.341E+05	49.7	1.25	11.42
1.70	228.25	.437E+05	70.5	1.38	10.34
1.95	228.50	.544E+05	95.4	1.50	9.50
2.19	228.74	.660E+05	123.7	1.61	8.89

2.44	228.99	.791E+05	153.3	1.66	8.60
2.68	229.23	.938E+05	189.5	1.73	8.25
2.92	229.47	.110E+06	232.1	1.81	7.90
3.17	229.72	.128E+06	281.2	1.88	7.59
3.41	229.96	.147E+06	339.3	1.97	7.24
3.65	230.20	.168E+06	404.3	2.06	6.93
3.90	230.45	.190E+06	474.0	2.14	6.69
4.14	230.69	.214E+06	548.7	2.20	6.50
4.38	230.93	.241E+06	641.9	2.28	6.26
4.70	231.25	.282E+06	735.2	2.24	6.39

			<---- hydrograph ---->			<-pipe /
channel->						
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7335)	140.43	2.38	6.33	30.83	0.39	0.46
OUTFLOW: ID= 1 (7334)	140.43	2.24	6.67	30.83	0.38	0.45

ADD HYD (7333)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7334):	140.43	2.241	6.67	30.83
+ ID2= 2 (7337):	68.13	0.231	8.25	10.71
ID = 3 (7333):	208.56	2.438	6.67	24.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7333)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7333):	208.56	2.438	6.67	24.26
+ ID2= 2 (7345):	111.62	0.221	9.25	8.77
ID = 1 (7333):	320.18	2.603	6.75	18.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7330)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	223.58	0.0600	
11.35	223.53	0.0600	Main Channel
14.23	223.50	0.0600	Main Channel
25.02	223.45	0.0600	Main Channel
58.24	223.10	0.0600	Main Channel
87.58	222.72	0.0600	Main Channel
102.24	222.43	0.0600	Main Channel

107.03	222.32	0.0600	Main Channel
116.91	221.25	0.0600	Main Channel
120.70	220.90	0.0600	Main Channel
131.58	220.99	0.0600	Main Channel
146.25	221.23	0.0600	Main Channel
148.04	221.30	0.0600	Main Channel
160.92	222.12	0.0600	Main Channel
161.70	222.18	0.0600	Main Channel
189.04	223.43	0.0600	Main Channel
204.93	223.57	0.0600	Main Channel
216.38	223.63	0.0600	Main Channel
230.05	224.12	0.0600 /0.0600	Main Channel
233.82	224.22	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	221.04	.170E+04	0.3	0.26	93.00
0.27	221.17	.570E+04	1.6	0.42	57.80
0.41	221.31	.115E+05	4.5	0.57	42.50
0.55	221.45	.182E+05	9.0	0.72	33.53
0.68	221.58	.255E+05	15.0	0.85	28.43
0.82	221.72	.336E+05	22.3	0.97	25.07
0.96	221.86	.423E+05	31.1	1.07	22.64
1.09	221.99	.516E+05	41.4	1.16	20.79
1.23	222.13	.617E+05	53.3	1.25	19.30
1.37	222.27	.725E+05	66.4	1.33	18.18
1.51	222.41	.842E+05	78.8	1.36	17.82
1.64	222.54	.978E+05	91.8	1.36	17.75
1.78	222.68	.113E+06	107.8	1.38	17.51
1.92	222.82	.131E+06	125.1	1.39	17.45
2.05	222.95	.151E+06	145.6	1.40	17.32
2.19	223.09	.174E+06	170.5	1.42	17.04
2.33	223.23	.200E+06	198.2	1.44	16.84
2.46	223.36	.229E+06	231.0	1.46	16.54
2.60	223.50	.262E+06	257.9	1.43	16.94

			<---- hydrograph ---->			<-pipe /
channel->						
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7333)	320.18	2.60	6.75	18.86	0.32	0.46
OUTFLOW: ID= 1 (7330)	320.18	2.32	7.58	18.86	0.31	0.45

CALIB NASHYD (7346) | ID= 1 DT= 5.0 min	Area (ha)= 95.48	Curve Number (CN)= 66.0
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.37	

Unit Hyd Qpeak (cms)= 1.190

PEAK FLOW (cms)= 0.218 (i)
TIME TO PEAK (hrs)= 7.833
RUNOFF VOLUME (mm)= 6.280
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.150

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7332)|   Area    (ha)=    152.44
|ID= 1 DT= 5.0 min |   Total Imp(%)=     24.50   Dir. Conn.(%)=  24.20
--------------------

                           IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       37.35         115.09
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        2.49           2.49
     Length            (m)=     1008.10          40.00
     Mannings n            =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.32           6.59
               over (min)         15.00          35.00
     Storage Coeff.  (min)=       15.00 (ii)     34.62 (ii)
     Unit Hyd. Tpeak (min)=       15.00          35.00
     Unit Hyd. peak  (cms)=        0.08           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.94           1.32       3.032 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.58        5.33
     RUNOFF VOLUME    (mm)=       40.00          10.49       17.63
     TOTAL RAINFALL   (mm)=       42.00          42.00       42.00
     RUNOFF COEFFICIENT   =        0.95           0.25        0.42


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  73.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7588)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7330):    320.18      2.318        7.58       18.86
     + ID2= 2 (  7332):    152.44      3.032        5.33       17.63
       ==========================================================
       ID = 3 (  7588):    472.62      3.446        5.33       18.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7588)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  7588):    472.62      3.446        5.33       18.46
     + ID2= 2 (  7346):     95.48      0.218        7.83        6.28
       ==========================================================
       ID = 1 (  7588):    568.10      3.543        5.33       16.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7315)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7587):    335.63      3.611        5.58       32.50
     + ID2= 2 (  7588):    568.10      3.543        5.33       16.42
       ==========================================================
       ID = 3 (  7315):    903.73      7.053        5.42       22.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  7314)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         218.03        0.0600
                69.96         217.16        0.0600      Main Channel
               236.14         217.10        0.0600      Main Channel
               254.98         216.12        0.0600      Main Channel
               477.28         215.27        0.0600      Main Channel
               591.41         214.78        0.0600      Main Channel
               665.43         210.25        0.0600      Main Channel
               721.13         211.58        0.0600      Main Channel
               765.60         215.53        0.0600      Main Channel
               831.99         217.21        0.0600      Main Channel
               939.44         217.85        0.0600      Main Channel
              1010.62         218.05        0.0600      Main Channel
              1128.46         219.54        0.0600      Main Channel
              1138.90         218.37        0.0600      Main Channel
              1191.63         219.89        0.0600      Main Channel
              1287.34         219.55        0.0600      Main Channel
              1336.12         220.86        0.0600      Main Channel
              1403.42         221.24        0.0600      Main Channel
              1487.54         221.65     0.0600 /0.0600  Main Channel
              1568.28         221.71        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV       VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)          (cms)        (m/s)      (min)
       0.40   210.65    .225E+04          1.2         0.26       30.00
       0.81   211.06    .898E+04          7.9         0.42       18.90
       1.21   211.46    .202E+05         23.4         0.55       14.42
       1.61   211.86    .354E+05         52.2         0.70       11.29
       2.01   212.26    .527E+05         93.7         0.84        9.38
       2.42   212.67    .722E+05        147.1         0.97        8.18
       2.82   213.07    .939E+05        213.2         1.08        7.34
       3.22   213.47    .118E+06        292.5         1.18        6.70
       3.63   213.88    .144E+06        385.8         1.28        6.20
       4.03   214.28    .172E+06        493.6         1.37        5.79
       4.43   214.68    .202E+06        616.7         1.45        5.45
       4.84   215.09    .239E+06        631.1         1.26        6.31
       5.24   215.49    .295E+06        703.7         1.14        6.98
       5.64   215.89    .372E+06        851.0         1.09        7.29
       6.04   216.29    .471E+06       1135.3         1.15        6.91
       6.45   216.70    .577E+06       1549.9         1.28        6.21
       6.85   217.10    .688E+06       2021.8         1.40        5.67
       7.25   217.50    .837E+06       2507.0         1.42        5.57
       7.72   217.97    .104E+07       3110.7         1.43        5.55

                                      <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
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                           (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  7315)     903.73     7.05    5.42  22.39      0.75
0.39
   OUTFLOW: ID= 1 (  7314)     903.73     6.66    6.42  22.39      0.73
0.38


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| ADD HYD  (  7312)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7313):     22.43      0.142        6.42       11.14
     + ID2= 2 (  7314):    903.73      6.658        6.42       22.39
       ==========================================================
       ID = 3 (  7312):    926.16      6.800        6.42       22.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  7347)|   Area    (ha)=    127.24   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.59

     Unit Hyd Qpeak  (cms)=     0.839

     PEAK FLOW       (cms)=     0.216 (i)
     TIME TO PEAK    (hrs)=     9.333
     RUNOFF VOLUME    (mm)=     7.540
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7310)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7312):    926.16      6.800        6.42       22.12
     + ID2= 2 (  7347):    127.24      0.216        9.33        7.54
       ==========================================================
       ID = 3 (  7310):   1053.40      6.943        6.50       20.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  7309)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------

              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         218.03        0.0600
                69.96         217.16        0.0600      Main Channel
               236.14         217.10        0.0600      Main Channel
               254.98         216.12        0.0600      Main Channel
```



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               477.28         215.27        0.0600      Main Channel
               591.41         214.78        0.0600      Main Channel
               665.43         210.25        0.0600      Main Channel
               721.13         211.58        0.0600      Main Channel
               765.60         215.53        0.0600      Main Channel
               831.99         217.21        0.0600      Main Channel
               939.44         217.85        0.0600      Main Channel
              1010.62         218.05        0.0600      Main Channel
              1128.46         219.54        0.0600      Main Channel
              1138.90         218.37        0.0600      Main Channel
              1191.63         219.89        0.0600      Main Channel
              1287.34         219.55        0.0600      Main Channel
              1336.12         220.86        0.0600      Main Channel
              1403.42         221.24        0.0600      Main Channel
              1487.54         221.65     0.0600 /0.0600  Main Channel
              1568.28         221.71        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV       VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)          (cms)        (m/s)      (min)
       0.40   210.65    .434E+04          1.5         0.31       49.75
       0.81   211.06    .174E+05          9.2         0.49       31.34
       1.21   211.46    .390E+05         27.2         0.64       23.92
       1.61   211.86    .683E+05         60.8         0.82       18.72
       2.01   212.26    .102E+06        109.1         0.98       15.56
       2.42   212.67    .140E+06        171.4         1.13       13.57
       2.82   213.07    .181E+06        248.4         1.26       12.17
       3.22   213.47    .227E+06        340.8         1.38       11.12
       3.63   213.88    .277E+06        449.4         1.49       10.28
       4.03   214.28    .331E+06        575.0         1.59        9.61
       4.43   214.68    .390E+06        718.4         1.69        9.04
       4.84   215.09    .461E+06        735.2         1.46       10.46
       5.24   215.49    .569E+06        819.8         1.32       11.57
       5.64   215.89    .719E+06        991.3         1.27       12.08
       6.04   216.29    .910E+06       1322.5         1.33       11.46
       6.45   216.70    .112E+07       1805.5         1.49       10.30
       6.85   217.10    .133E+07       2355.2         1.63        9.41
       7.25   217.50    .162E+07       2920.4         1.66        9.23
       7.72   217.97    .200E+07       3623.6         1.66        9.21

                                      <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  7310)    1053.40     6.94    6.50  20.36      0.69
0.42
   OUTFLOW: ID= 1 (  7309)    1053.40     6.69    7.33  20.36      0.67
0.41


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| ADD HYD  (  7306)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7308):     45.11      0.218        8.08       14.62
     + ID2= 2 (  7309):   1053.40      6.691        7.33       20.36
       ==========================================================
       ID = 3 (  7306):   1098.51      6.905        7.33       20.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD  (  7306)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  7306):   1098.51      6.905        7.33       20.12
     + ID2= 2 (  7311):     70.73      0.176        8.33        8.12
       ==========================================================
       ID = 1 (  7306):   1169.24      7.071        7.33       19.39

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  7305)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         215.98        0.0600
                80.47         215.84        0.0600      Main Channel
               141.67         213.57        0.0600      Main Channel
               192.00         212.13        0.0600      Main Channel
               365.50         209.22        0.0600      Main Channel
               412.55         210.80        0.0600      Main Channel
               526.61         210.28        0.0600      Main Channel
               573.77         210.83        0.0600      Main Channel
               711.77         210.83        0.0600      Main Channel
               833.53         210.76        0.0600      Main Channel
               882.24         211.76        0.0600      Main Channel
               953.97         210.75        0.0600      Main Channel
              1044.59         212.52        0.0600      Main Channel
              1120.08         212.75        0.0600      Main Channel
              1198.82         211.49        0.0600      Main Channel
              1231.29         206.35        0.0600      Main Channel
              1247.53         207.29        0.0600      Main Channel
              1320.58         206.98        0.0600      Main Channel
              1361.17         212.75    0.0600 /0.0600  Main Channel
              1521.00         215.01        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.43   206.78    .191E+04           0.8          0.37       40.25
       0.85   207.21    .130E+05           5.1          0.35       42.28
       1.28   207.63    .498E+05          38.8          0.69       21.41
       1.71   208.06    .897E+05          99.6          0.99       15.01
       2.13   208.49    .132E+06         182.5          1.23       12.03
       2.56   208.91    .176E+06         286.0          1.45       10.25
       2.99   209.34    .223E+06         388.8          1.55        9.55
       3.41   209.77    .283E+06         480.0          1.51        9.81
       3.84   210.19    .359E+06         618.8          1.53        9.67
       4.27   210.62    .468E+06         686.6          1.31       11.37
       4.69   211.05    .695E+06         811.1          1.04       14.27
       5.12   211.47    .101E+07        1389.2          1.23       12.10
       5.55   211.90    .137E+07        2126.8          1.39       10.70
       5.98   212.33    .176E+07        3084.6          1.56        9.49
       6.40   212.75    .218E+07        4092.8          1.67        8.87
       6.97   213.32    .279E+07        6090.3          1.94        7.64
       7.53   213.88    .344E+07        8467.4          2.20        6.76
       8.10   214.45    .411E+07       11224.4          2.43        6.10
       8.66   215.01    .481E+07       14328.6          2.66        5.59
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                                  <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  7306)    1169.24     7.07    7.33  19.39      0.88
0.36
   OUTFLOW: ID= 1 (  7305)    1169.24     6.76    8.17  19.39      0.87
0.36


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| ROUTE CHN(  7304)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         210.27        0.0600
                30.04         210.11        0.0600      Main Channel
               142.37         208.66        0.0600      Main Channel
               168.82         208.83        0.0600      Main Channel
               227.83         207.85        0.0600      Main Channel
               245.39         205.01        0.0600      Main Channel
               255.84         203.99        0.0600      Main Channel
               286.76         204.00        0.0600      Main Channel
               328.48         203.14        0.0600      Main Channel
               369.80         202.91        0.0600      Main Channel
               380.08         203.90        0.0600      Main Channel
               400.78         208.08        0.0600      Main Channel
               430.93         208.40        0.0600      Main Channel
               474.35         209.22        0.0600      Main Channel
               495.30         209.16        0.0600      Main Channel
               624.09         210.82        0.0600      Main Channel
               637.64         210.59        0.0600      Main Channel
               678.75         211.68        0.0600      Main Channel
               713.43         212.46    0.0600 /0.0600  Main Channel
               806.15         212.39        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.48   203.39    .475E+04           7.3          0.41       10.90
       0.96   203.87    .140E+05          34.0          0.65        6.88
       1.44   204.35    .291E+05          87.4          0.80        5.55
       1.92   204.83    .463E+05         182.4          1.05        4.23
       2.40   205.31    .643E+05         306.5          1.28        3.50
       2.87   205.78    .831E+05         458.0          1.48        3.02
       3.35   206.26    .102E+06         634.8          1.66        2.69
       3.83   206.74    .123E+06         836.3          1.83        2.44
       4.31   207.22    .143E+06        1062.0          1.98        2.25
       4.79   207.70    .165E+06        1311.7          2.13        2.09
       5.27   208.18    .188E+06        1454.1          2.07        2.15
       5.75   208.66    .218E+06        1557.1          1.91        2.34
       6.23   209.14    .260E+06        1790.6          1.84        2.42
       6.77   209.68    .322E+06        2193.9          1.82        2.45
       7.31   210.22    .397E+06        2799.2          1.89        2.37
       7.86   210.77    .485E+06        3479.0          1.92        2.32
       8.40   211.31    .589E+06        4460.1          2.06        2.17
       8.94   211.85    .678E+06        5596.0          2.21        2.02
       9.49   212.40    .779E+06        6844.8          2.35        1.90

                                  <---- hydrograph ---->   <-pipe /
channel->
```



```
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  7305)    1169.24     6.76    8.17  19.39      0.45
0.41
   OUTFLOW: ID= 1 (  7304)    1169.24     6.74    8.33  19.39      0.44
0.41


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--------------------
| ADD HYD  (  7585)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7304):   1169.24      6.739        8.33       19.39
     + ID2= 2 (  7307):     46.46      0.167        8.08       10.71
       ==========================================================
       ID = 3 (  7585):   1215.70      6.905        8.33       19.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  7291)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7585):   1215.70      6.905        8.33       19.06
     + ID2= 2 (  7586):    173.99      0.779        8.58       14.62
       ==========================================================
       ID = 3 (  7291):   1389.69      7.682        8.33       18.51

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  7290)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         210.27        0.0600
                30.04         210.11        0.0600      Main Channel
               142.37         208.66        0.0600      Main Channel
               168.82         208.83        0.0600      Main Channel
               227.83         207.85        0.0600      Main Channel
               245.39         205.01        0.0600      Main Channel
               255.84         203.99        0.0600      Main Channel
               286.76         204.00        0.0600      Main Channel
               328.48         203.14        0.0600      Main Channel
               369.80         202.91        0.0600      Main Channel
               380.08         203.90        0.0600      Main Channel
               400.78         208.08        0.0600      Main Channel
               430.93         208.40        0.0600      Main Channel
               474.35         209.22        0.0600      Main Channel
               495.30         209.16        0.0600      Main Channel
               624.09         210.82        0.0600      Main Channel
               637.64         210.59        0.0600      Main Channel
               678.75         211.68        0.0600      Main Channel
               713.43         212.46    0.0600 /0.0600  Main Channel
               806.15         212.39        0.0600
```



```
     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.48   203.39    .864E+04           8.5          0.48       16.92
       0.96   203.87    .255E+05          39.9          0.76       10.68
       1.44   204.35    .530E+05         102.4          0.94        8.62
       1.92   204.83    .842E+05         213.6          1.24        6.57
       2.40   205.31    .117E+06         359.1          1.49        5.43
       2.87   205.78    .151E+06         536.6          1.73        4.69
       3.35   206.26    .186E+06         743.8          1.94        4.18
       3.83   206.74    .223E+06         979.8          2.14        3.79
       4.31   207.22    .261E+06        1244.3          2.32        3.49
       4.79   207.70    .300E+06        1536.8          2.49        3.25
       5.27   208.18    .342E+06        1703.6          2.43        3.34
       5.75   208.66    .397E+06        1824.3          2.24        3.63
       6.23   209.14    .473E+06        2097.9          2.16        3.76
       6.77   209.68    .586E+06        2570.3          2.13        3.80
       7.31   210.22    .723E+06        3279.5          2.21        3.67
       7.86   210.77    .882E+06        4075.9          2.25        3.60
       8.40   211.31    .105E+07        5225.4          2.41        3.36
       8.94   211.85    .123E+07        6556.2          2.59        3.13
       9.49   212.40    .142E+07        8019.3          2.75        2.95

                                  <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  7291)    1389.69     7.68    8.33  18.51      0.43
0.48
   OUTFLOW: ID= 1 (  7290)    1389.69     7.62    8.67  18.51      0.43
0.48


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| CALIB            |
| NASHYD   (  7348)|   Area    (ha)=     36.39   Curve Number   (CN)= 78.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.44

     Unit Hyd Qpeak  (cms)=     0.431

     PEAK FLOW       (cms)=     0.127 (i)
     TIME TO PEAK    (hrs)=     7.833
     RUNOFF VOLUME    (mm)=     9.869
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.235

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  7289)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7290):   1389.69      7.624        8.67       18.51
     + ID2= 2 (  7292):      9.03      0.064        5.92        9.42
       ==========================================================
       ID = 3 (  7289):   1398.72      7.649        8.67       18.45
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7289)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (7289):		1398.72	7.649	8.67	18.45
+ ID2= 2 (7348):		36.39	0.127	7.83	9.87
ID = 1 (7289):		1435.11	7.772	8.67	18.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7288)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	210.27	0.0600	
30.04	210.11	0.0600	Main Channel
142.37	208.66	0.0600	Main Channel
168.82	208.83	0.0600	Main Channel
227.83	207.85	0.0600	Main Channel
245.39	205.01	0.0600	Main Channel
255.84	203.99	0.0600	Main Channel
286.76	204.00	0.0600	Main Channel
328.48	203.14	0.0600	Main Channel
369.80	202.91	0.0600	Main Channel
380.08	203.90	0.0600	Main Channel
400.78	208.08	0.0600	Main Channel
430.93	208.40	0.0600	Main Channel
474.35	209.22	0.0600	Main Channel
495.30	209.16	0.0600	Main Channel
624.09	210.82	0.0600	Main Channel
637.64	210.59	0.0600	Main Channel
678.75	211.68	0.0600	Main Channel
713.43	212.46	0.0600 /0.0600	Main Channel
806.15	212.39	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.48	203.39	.732E+04	8.2	0.46	14.86
0.96	203.87	.217E+05	38.5	0.73	9.38
1.44	204.35	.449E+05	98.9	0.91	7.57
1.92	204.83	.714E+05	206.2	1.19	5.77
2.40	205.31	.992E+05	346.7	1.44	4.77
2.87	205.78	.128E+06	518.0	1.67	4.12
3.35	206.26	.158E+06	718.0	1.88	3.67
3.83	206.74	.189E+06	945.9	2.06	3.33
4.31	207.22	.221E+06	1201.1	2.24	3.07
4.79	207.70	.254E+06	1483.5	2.41	2.86
5.27	208.18	.290E+06	1644.5	2.34	2.94
5.75	208.66	.337E+06	1761.1	2.16	3.18
6.23	209.14	.401E+06	2025.2	2.08	3.30
6.77	209.68	.497E+06	2481.2	2.06	3.34
7.31	210.22	.613E+06	3165.8	2.13	3.23
7.86	210.77	.747E+06	3934.7	2.17	3.17
8.40	211.31	.894E+06	5044.3	2.33	2.95
8.94	211.85	.105E+07	6329.0	2.50	2.75

9.49	212.40	.120E+07	7741.4	2.66	2.59

<---- hydrograph ----> <-pipe / channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7289)	1435.11	7.77	8.67	18.23	0.45	0.46
OUTFLOW: ID= 1 (7288)	1435.11	7.73	8.92	18.23	0.45	0.46

ADD HYD (7286)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7287):		38.86	0.222	7.17	12.16
+ ID2= 2 (7288):		1435.11	7.727	8.92	18.23
ID = 3 (7286):		1473.97	7.900	8.83	18.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7285)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	208.47	0.0600	
131.48	207.78	0.0600	Main Channel
207.74	207.24	0.0600	Main Channel
291.67	206.73	0.0600	Main Channel
339.37	207.14	0.0600	Main Channel
495.02	205.99	0.0600	Main Channel
660.08	204.25	0.0600	Main Channel
781.97	203.89	0.0600	Main Channel
836.50	201.54	0.0600	Main Channel
865.51	199.68	0.0600	Main Channel
924.29	202.28	0.0600	Main Channel
1069.05	206.52	0.0600	Main Channel
1190.27	207.82	0.0600	Main Channel
1248.50	208.00	0.0600	Main Channel
1335.11	207.73	0.0600	Main Channel
1380.74	207.22	0.0600	Main Channel
1496.99	207.78	0.0600	Main Channel
1631.82	210.11	0.0600	Main Channel
1770.08	211.70	0.0600 /0.0600	Main Channel
1816.44	211.40	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.63	200.31	.570E+04	2.5	0.32	38.63
1.26	200.94	.228E+05	15.6	0.52	24.33
1.89	201.57	.513E+05	46.0	0.67	18.61
2.52	202.20	.925E+05	98.1	0.80	15.71
3.15	202.83	.149E+06	177.3	0.90	13.97
3.78	203.46	.222E+06	295.6	1.00	12.51

4.41	204.09	.317E+06	395.9	0.94	13.34
5.04	204.72	.481E+06	621.9	0.97	12.90
5.67	205.35	.686E+06	991.1	1.09	11.54
6.30	205.98	.930E+06	1479.5	1.20	10.47
6.93	206.61	.122E+07	2053.0	1.27	9.89
7.56	207.24	.159E+07	2567.3	1.21	10.35
8.20	207.88	.213E+07	3428.7	1.21	10.33
8.83	208.51	.283E+07	5038.3	1.34	9.35
9.47	209.15	.357E+07	7169.5	1.51	8.30
10.11	209.79	.434E+07	9640.3	1.67	7.50
10.75	210.43	.512E+07	12389.1	1.82	6.89
11.38	211.06	.593E+07	15405.4	1.95	6.41
12.02	211.70	.677E+07	18733.4	2.08	6.02

<---- hydrograph ----> <-pipe / channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7286)	1473.97	7.90	8.83	18.07	0.89	0.38
OUTFLOW: ID= 1 (7285)	1473.97	7.71	9.42	18.07	0.88	0.38

ROUTE CHN(7284)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	204.33	0.0600	
125.37	203.80	0.0600	Main Channel
155.71	203.42	0.0600	Main Channel
247.34	204.25	0.0600	Main Channel
277.73	202.51	0.0600	Main Channel
328.64	203.47	0.0600	Main Channel
373.21	197.29	0.0600	Main Channel
409.78	196.51	0.0600	Main Channel
501.09	196.73	0.0600	Main Channel
531.65	198.60	0.0600	Main Channel
602.80	201.97	0.0600	Main Channel
641.21	203.14	0.0600	Main Channel
694.08	203.90	0.0600	Main Channel
856.49	202.30	0.0600	Main Channel
979.56	202.48	0.0600	Main Channel
1081.21	201.59	0.0600	Main Channel
1127.71	202.02	0.0600	Main Channel
1155.32	200.66	0.0600	Main Channel
1178.68	201.68	0.0600 /0.0600	Main Channel
1273.57	203.15	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	196.85	.123E+05	9.6	0.39	21.41
0.69	197.20	.334E+05	44.7	0.68	12.45
1.03	197.54	.576E+05	104.7	0.92	9.16
1.38	197.89	.833E+05	186.7	1.14	7.43
1.72	198.23	.110E+06	288.3	1.32	6.38
2.07	198.58	.139E+06	409.2	1.49	5.66
2.41	198.92	.169E+06	546.4	1.64	5.15
2.76	199.27	.201E+06	702.5	1.77	4.76

3.10	199.61	.234E+06	878.0	1.90	4.45
3.45	199.96	.269E+06	1073.4	2.02	4.18
3.79	200.30	.306E+06	1289.0	2.13	3.96
4.14	200.65	.345E+06	1525.2	2.24	3.77
4.48	200.99	.386E+06	1722.9	2.26	3.74
4.83	201.34	.432E+06	1950.3	2.29	3.69
5.17	201.68	.483E+06	2121.1	2.23	3.79
5.54	202.05	.554E+06	2220.6	2.03	4.16
5.91	202.42	.646E+06	2315.9	1.82	4.65
6.27	202.78	.777E+06	2723.3	1.78	4.75
6.64	203.15	.927E+06	3358.3	1.84	4.60

<---- hydrograph ----> <-pipe / channel->

VEL	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7285)	1473.97	7.71	9.42	18.07	0.28	0.39
OUTFLOW: ID= 1 (7284)	1473.97	7.63	9.75	18.07	0.27	0.39

ADD HYD (7282)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7283):		78.78	0.325	8.42	14.63
+ ID2= 2 (7284):		1473.97	7.627	9.75	18.07
ID = 3 (7282):		1552.75	7.934	9.75	17.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7281)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---------- DATA FOR SECTION (1.1) ---------->

Distance	Elevation	Manning	
0.00	204.33	0.0600	
125.37	203.80	0.0600	Main Channel
155.71	203.42	0.0600	Main Channel
247.34	204.25	0.0600	Main Channel
277.73	202.51	0.0600	Main Channel
328.64	203.47	0.0600	Main Channel
373.21	197.29	0.0600	Main Channel
409.78	196.51	0.0600	Main Channel
501.09	196.73	0.0600	Main Channel
531.65	198.60	0.0600	Main Channel
602.80	201.97	0.0600	Main Channel
641.21	203.14	0.0600	Main Channel
694.08	203.90	0.0600	Main Channel
856.49	202.30	0.0600	Main Channel
979.56	202.48	0.0600	Main Channel
1081.21	201.59	0.0600	Main Channel
1127.71	202.02	0.0600	Main Channel
1155.32	200.66	0.0600	Main Channel
1178.68	201.68	0.0600 /0.0600	Main Channel
1273.57	203.15	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	196.85	.725E+04	4.7	0.19	25.68
0.69	197.20	.196E+05	21.9	0.33	14.93
1.03	197.54	.338E+05	51.3	0.45	10.99
1.38	197.89	.489E+05	91.5	0.56	8.92
1.72	198.23	.649E+05	141.3	0.65	7.65
2.07	198.58	.817E+05	200.5	0.73	6.79
2.41	198.92	.993E+05	267.8	0.80	6.18
2.76	199.27	.118E+06	344.3	0.87	5.71
3.10	199.61	.138E+06	430.3	0.93	5.33
3.45	199.96	.158E+06	526.1	0.99	5.02
3.79	200.30	.180E+06	631.8	1.05	4.75
4.14	200.65	.203E+06	747.5	1.10	4.52
4.48	200.99	.227E+06	844.4	1.11	4.48
4.83	201.34	.254E+06	955.9	1.12	4.43
5.17	201.68	.284E+06	1039.6	1.09	4.55
5.54	202.05	.326E+06	1088.4	1.00	4.98
5.91	202.42	.380E+06	1135.0	0.89	5.57
6.27	202.78	.457E+06	1334.7	0.87	5.70
6.64	203.15	.545E+06	1646.0	0.90	5.52

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7282)	1552.75	7.93	9.75	17.90	0.41	0.21
OUTFLOW: ID= 1 (7281)	1552.75	7.82	10.08	17.90	0.41	0.21

ROUTE CHN(7280)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	203.30	0.0600	
61.48	202.91	0.0600	Main Channel
151.55	202.24	0.0600	Main Channel
228.24	202.38	0.0600	Main Channel
239.03	200.85	0.0600	Main Channel
249.99	201.13	0.0600	Main Channel
279.31	200.77	0.0600	Main Channel
293.27	200.56	0.0600	Main Channel
304.23	201.74	0.0600	Main Channel
421.04	200.96	0.0600	Main Channel
451.27	200.35	0.0600	Main Channel
528.10	197.79	0.0600	Main Channel
542.20	196.17	0.0600	Main Channel
572.47	195.83	0.0600	Main Channel
673.29	194.35	0.0600	Main Channel
733.80	194.72	0.0600	Main Channel
789.49	196.81	0.0600	Main Channel
804.59	198.34	0.0600	Main Channel
844.95	200.66	0.0600 /0.0600	Main Channel
855.43	203.07	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	194.80	.239E+05	9.1	0.39	43.81
0.90	195.25	.775E+05	50.2	0.67	25.72
1.35	195.70	.151E+06	127.2	0.87	19.78
1.80	196.15	.246E+06	243.1	1.03	16.83
2.25	196.60	.356E+06	430.9	1.25	13.78
2.70	197.05	.474E+06	672.2	1.47	11.76
3.15	197.51	.596E+06	963.9	1.67	10.31
3.61	197.96	.723E+06	1289.3	1.85	9.34
4.06	198.41	.857E+06	1639.4	1.98	8.71
4.51	198.86	.100E+07	2025.0	2.10	8.23
4.96	199.31	.115E+07	2459.1	2.21	7.81
5.41	199.76	.132E+07	2943.6	2.32	7.45
5.86	200.21	.149E+07	3480.6	2.42	7.13
6.31	200.66	.167E+07	3988.3	2.47	6.99
6.79	201.14	.190E+07	4295.7	2.34	7.38
7.27	201.62	.218E+07	4889.1	2.32	7.43
7.76	202.11	.249E+07	5939.6	2.47	6.98
8.24	202.59	.283E+07	6754.3	2.47	6.98
8.72	203.07	.322E+07	8225.9	2.65	6.52

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7281)	1552.75	7.82	10.08	17.90	0.39	0.39
OUTFLOW: ID= 1 (7280)	1552.75	7.52	11.00	17.90	0.37	0.39

ROUTE CHN(7279)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	198.60	0.0600	
43.67	198.45	0.0600	Main Channel
87.27	197.78	0.0600	Main Channel
98.04	197.49	0.0600	Main Channel
106.99	196.43	0.0600	Main Channel
120.01	192.34	0.0600	Main Channel
142.04	191.21	0.0600	Main Channel
157.29	191.23	0.0600	Main Channel
174.83	191.38	0.0600	Main Channel
196.39	191.31	0.0600	Main Channel
208.57	190.64	0.0600	Main Channel
229.20	191.93	0.0600	Main Channel
272.77	191.69	0.0600	Main Channel
285.54	191.72	0.0600	Main Channel
295.39	192.68	0.0600	Main Channel
303.94	194.82	0.0600	Main Channel
310.64	196.65	0.0600	Main Channel
316.97	198.12	0.0600	Main Channel
328.18	198.23	0.0600 /0.0600	Main Channel
360.92	198.35	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	191.04	.298E+04	0.9	0.35	52.76
0.79	191.43	.205E+05	7.0	0.38	48.98
1.19	191.83	.641E+05	33.5	0.58	31.83
1.59	192.23	.134E+06	100.4	0.83	22.31
1.98	192.62	.210E+06	205.8	1.08	17.03
2.38	193.02	.288E+06	343.7	1.32	13.97
2.78	193.42	.367E+06	509.5	1.54	12.01
3.17	193.81	.448E+06	701.1	1.73	10.64
3.57	194.21	.529E+06	917.3	1.92	9.62
3.97	194.61	.612E+06	1156.9	2.09	8.82
4.36	195.00	.696E+06	1419.6	2.26	8.18
4.76	195.40	.782E+06	1704.8	2.41	7.64
5.16	195.80	.868E+06	2011.5	2.56	7.19
5.55	196.19	.956E+06	2339.5	2.71	6.81
5.95	196.59	.105E+07	2681.5	2.84	6.50
6.35	196.99	.114E+07	3032.1	2.95	6.24
6.74	197.38	.123E+07	3403.1	3.06	6.02
7.14	197.78	.133E+07	3709.2	3.10	5.96
7.71	198.35	.149E+07	4267.6	3.18	5.81

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7280)	1552.75	7.52	11.00	17.90	0.80	0.38
OUTFLOW: ID= 1 (7279)	1552.75	7.24	11.92	17.90	0.80	0.38

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7276)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	198.60	0.0600	
43.67	198.45	0.0600	Main Channel
87.27	197.78	0.0600	Main Channel
98.04	197.49	0.0600	Main Channel
106.99	196.43	0.0600	Main Channel
120.01	192.34	0.0600	Main Channel
142.04	191.21	0.0600	Main Channel
157.29	191.23	0.0600	Main Channel
174.83	191.38	0.0600	Main Channel
196.39	191.31	0.0600	Main Channel
208.57	190.64	0.0600	Main Channel
229.20	191.93	0.0600	Main Channel
272.77	191.69	0.0600	Main Channel
285.54	191.72	0.0600	Main Channel
295.39	192.68	0.0600	Main Channel
303.94	194.82	0.0600	Main Channel
310.64	196.65	0.0600	Main Channel
316.97	198.12	0.0600	Main Channel
328.18	198.23	0.0600 /0.0600	Main Channel
360.92	198.35	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	191.04	.211E+04	0.8	0.28	46.14

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.79	191.43	.145E+05	5.7	0.31	42.84
1.19	191.83	.454E+05	27.2	0.47	27.84
1.59	192.23	.953E+05	81.4	0.67	19.51
1.98	192.62	.149E+06	166.8	0.88	14.89
2.38	193.02	.204E+06	278.6	1.07	12.22
2.78	193.42	.260E+06	413.1	1.24	10.51
3.17	193.81	.317E+06	568.4	1.41	9.31
3.57	194.21	.375E+06	743.6	1.55	8.41
3.97	194.61	.434E+06	937.9	1.70	7.71
4.36	195.00	.494E+06	1150.9	1.83	7.15
4.76	195.40	.554E+06	1382.0	1.96	6.68
5.16	195.80	.616E+06	1630.7	2.08	6.29
5.55	196.19	.678E+06	1896.7	2.20	5.96
5.95	196.59	.741E+06	2173.9	2.30	5.68
6.35	196.99	.806E+06	2458.1	2.39	5.46
6.74	197.38	.872E+06	2758.9	2.48	5.27
7.14	197.78	.940E+06	3007.0	2.51	5.21
7.71	198.35	.105E+07	3459.7	2.58	5.08

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7279)	1552.75	7.24	11.92	17.90	0.82	0.31
OUTFLOW: ID= 1 (7276)	1552.75	7.06	12.58	17.90	0.82	0.31

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ADD HYD (7584)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7276):	1552.75	7.055	12.58	17.90
	+ ID2= 2 (7278):	88.17	0.337	8.25	12.18
	ID = 3 (7584):	1640.92	7.261	12.58	17.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (7351) ID= 1 DT= 5.0 min	Area (ha)= 56.36	Curve Number (CN)= 80.0
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.37	

Unit Hyd Qpeak (cms)= 0.702

PEAK FLOW (cms)= 0.221 (i)
TIME TO PEAK (hrs)= 7.667
RUNOFF VOLUME (mm)= 10.709
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.255

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (7356)	Area (ha)=	37.99	Curve Number (CN)=	87.0	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	0.84			

Unit Hyd Qpeak (cms)= 0.772

PEAK FLOW (cms)= 0.284 (i)
TIME TO PEAK (hrs)= 6.667
RUNOFF VOLUME (mm)= 14.600
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.348

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (7361)	Area (ha)=	148.89	Curve Number (CN)=	72.0	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	3.12			

Unit Hyd Qpeak (cms)= 0.815

PEAK FLOW (cms)= 0.225 (i)
TIME TO PEAK (hrs)= 9.833
RUNOFF VOLUME (mm)= 7.827
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (7364)	Area (ha)=	125.59	Curve Number (CN)=	76.0	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	2.45			

Unit Hyd Qpeak (cms)= 0.875

PEAK FLOW (cms)= 0.271 (i)
TIME TO PEAK (hrs)= 9.250
RUNOFF VOLUME (mm)= 9.121
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.217

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7358)

1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7361):		148.89	0.225	9.83	7.83
+ ID2= 2 (7364):		125.59	0.271	9.25	9.12
ID = 3 (7358):		274.48	0.494	9.42	8.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7617)

1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7356):		37.99	0.284	6.67	14.60
+ ID2= 2 (7357):		274.48	0.491	9.92	8.42
ID = 3 (7617):		312.47	0.684	8.33	9.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (7365)	Area (ha)=	72.49	Curve Number (CN)=	89.0	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.62			

Unit Hyd Qpeak (cms)= 0.764

PEAK FLOW (cms)= 0.384 (i)
TIME TO PEAK (hrs)= 8.000
RUNOFF VOLUME (mm)= 16.137
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.384

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7354)

1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7365):		72.49	0.384	8.00	16.14
+ ID2= 2 (7617):		312.47	0.684	8.33	9.17
ID = 3 (7354):		384.96	1.068	8.25	10.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (7353) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	195.36	0.0600	
10.20	195.41	0.0600	Main Channel
28.69	195.05	0.0600	Main Channel
32.10	194.99	0.0600	Main Channel
41.32	194.79	0.0600	Main Channel
51.60	194.55	0.0600	Main Channel
71.03	193.81	0.0600	Main Channel
76.15	193.59	0.0600	Main Channel
84.47	193.28	0.0600	Main Channel
92.53	192.64	0.0600	Main Channel
96.66	192.62	0.0600	Main Channel
102.74	192.63	0.0600	Main Channel
113.18	192.81	0.0600	Main Channel
123.38	193.10	0.0600	Main Channel

ROUTE CHN (7353) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	195.36	0.0600	
10.20	195.41	0.0600	Main Channel
28.69	195.05	0.0600	Main Channel
32.10	194.99	0.0600	Main Channel
41.32	194.79	0.0600	Main Channel
51.60	194.55	0.0600	Main Channel
71.03	193.81	0.0600	Main Channel
76.15	193.59	0.0600	Main Channel
84.47	193.28	0.0600	Main Channel
92.53	192.64	0.0600	Main Channel
96.66	192.62	0.0600	Main Channel
102.74	192.63	0.0600	Main Channel
113.18	192.81	0.0600	Main Channel
123.38	193.10	0.0600	Main Channel
135.60	194.06	0.0600	Main Channel
143.85	194.53	0.0600	Main Channel
162.29	195.65	0.0600	Main Channel
164.29	195.78	0.0600	Main Channel
174.54	196.30	0.0600 /0.0600	Main Channel
187.17	196.32	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	192.76	.910E+03	0.6	0.29	25.88
0.29	192.91	.243E+04	2.4	0.44	16.86
0.43	193.05	.440E+04	5.6	0.57	13.17
0.57	193.19	.677E+04	10.5	0.69	10.79
0.72	193.34	.940E+04	16.8	0.80	9.32
0.86	193.48	.124E+05	24.5	0.89	8.42
1.00	193.62	.157E+05	33.9	0.97	7.72
1.15	193.77	.194E+05	45.2	1.05	7.13
1.29	193.91	.234E+05	58.4	1.12	6.67
1.43	194.05	.277E+05	73.5	1.19	6.28
1.58	194.20	.325E+05	90.5	1.25	5.98
1.72	194.34	.376E+05	109.8	1.31	5.71
1.86	194.48	.432E+05	131.5	1.36	5.47
2.01	194.62	.491E+05	154.8	1.41	5.29
2.15	194.77	.556E+05	180.2	1.45	5.15
2.29	194.91	.627E+05	208.3	1.49	5.02
2.44	195.05	.703E+05	239.1	1.52	4.90
2.59	195.21	.792E+05	286.0	1.62	4.61
2.74	195.36	.888E+05	337.2	1.70	4.39

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7358)	274.48	0.49	9.42	8.42	0.12	0.29
OUTFLOW: ID= 1 (7357)	274.48	0.49	9.92	8.42	0.12	0.29

135.60	194.06	0.0600	Main Channel
143.85	194.53	0.0600	Main Channel
162.29	195.65	0.0600	Main Channel
164.29	195.78	0.0600	Main Channel
174.54	196.30	0.0600 /0.0600	Main Channel
187.17	196.32	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	192.76	.955E+03	0.6	0.28	28.20
0.29	192.91	.255E+04	2.3	0.43	18.37
0.43	193.05	.462E+04	5.4	0.55	14.35
0.57	193.19	.711E+04	10.1	0.67	11.76
0.72	193.34	.987E+04	16.2	0.77	10.15
0.86	193.48	.130E+05	23.6	0.85	9.18
1.00	193.62	.165E+05	32.6	0.93	8.41
1.15	193.77	.203E+05	43.6	1.01	7.78
1.29	193.91	.245E+05	56.3	1.08	7.27
1.43	194.05	.291E+05	70.9	1.14	6.85
1.58	194.20	.341E+05	87.2	1.20	6.52
1.72	194.34	.395E+05	105.8	1.26	6.23
1.86	194.48	.454E+05	126.8	1.31	5.96
2.01	194.62	.516E+05	149.2	1.36	5.76
2.15	194.77	.584E+05	173.7	1.40	5.61
2.29	194.91	.658E+05	200.7	1.43	5.47
2.44	195.05	.738E+05	230.5	1.47	5.34
2.59	195.21	.832E+05	275.7	1.56	5.03
2.74	195.36	.932E+05	325.0	1.64	4.78

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7354)	384.96	1.07	8.25	10.48	0.18	0.31
OUTFLOW: ID= 1 (7353)	384.96	1.06	8.58	10.48	0.18	0.31

ROUTE CHN (7352) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	195.36	0.0600	
10.20	195.41	0.0600	Main Channel
28.69	195.05	0.0600	Main Channel
32.10	194.99	0.0600	Main Channel
41.32	194.79	0.0600	Main Channel
51.60	194.55	0.0600	Main Channel
71.03	193.81	0.0600	Main Channel
76.15	193.59	0.0600	Main Channel
84.47	193.28	0.0600	Main Channel
92.53	192.64	0.0600	Main Channel
96.66	192.62	0.0600	Main Channel
102.74	192.63	0.0600	Main Channel
113.18	192.81	0.0600	Main Channel
123.38	193.10	0.0600	Main Channel
135.60	194.06	0.0600	Main Channel
143.85	194.53	0.0600	Main Channel

162.29	195.65	0.0600	Main Channel
164.29	195.78	0.0600	Main Channel
174.54	196.30	0.0600 /0.0600	Main Channel
187.17	196.32	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	192.76	.987E+03	0.5	0.27	30.20
0.29	192.91	.264E+04	2.2	0.41	19.68
0.43	193.05	.477E+04	5.2	0.53	15.37
0.57	193.19	.734E+04	9.7	0.64	12.59
0.72	193.34	.102E+05	15.6	0.74	10.87
0.86	193.48	.134E+05	22.7	0.82	9.83
1.00	193.62	.170E+05	31.5	0.90	9.01
1.15	193.77	.210E+05	42.0	0.97	8.33
1.29	193.91	.253E+05	54.2	1.04	7.79
1.43	194.05	.301E+05	68.3	1.10	7.34
1.58	194.20	.352E+05	84.1	1.16	6.98
1.72	194.34	.408E+05	102.0	1.21	6.67
1.86	194.48	.468E+05	122.2	1.27	6.38
2.01	194.62	.533E+05	143.9	1.31	6.17
2.15	194.77	.604E+05	167.4	1.35	6.01
2.29	194.91	.680E+05	193.5	1.38	5.86
2.44	195.05	.763E+05	222.2	1.42	5.72
2.59	195.21	.859E+05	265.8	1.50	5.39
2.74	195.36	.963E+05	313.3	1.58	5.12

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7353)	384.96	1.06	8.58	10.48	0.19	0.30
OUTFLOW: ID= 1 (7352)	384.96	1.05	9.00	10.48	0.19	0.30

ROUTE CHN(7349)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	191.24	0.0600	
20.68	191.01	0.0600	Main Channel
27.96	190.89	0.0600	Main Channel
48.39	190.20	0.0600	Main Channel
58.62	189.26	0.0600	Main Channel
69.11	188.17	0.0600	Main Channel
74.21	187.76	0.0600	Main Channel
79.30	186.95	0.0600	Main Channel
89.55	186.77	0.0600	Main Channel
110.21	186.87	0.0600	Main Channel
114.34	187.14	0.0600	Main Channel
120.42	187.41	0.0600	Main Channel
127.70	187.88	0.0600	Main Channel
130.70	188.01	0.0600	Main Channel
141.14	189.18	0.0600	Main Channel
142.14	189.46	0.0600	Main Channel
151.36	190.41	0.0600	Main Channel
161.60	190.39	0.0600	Main Channel

192.48	191.14	0.0600 /0.0600	Main Channel
195.72	191.15	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	187.00	.481E+04	1.7	0.32	48.36
0.46	187.23	.123E+05	7.2	0.53	28.67
0.69	187.46	.211E+05	15.9	0.69	22.10
0.92	187.69	.311E+05	28.3	0.83	18.32
1.14	187.92	.422E+05	43.5	0.94	16.18
1.37	188.14	.547E+05	62.5	1.05	14.59
1.60	188.37	.683E+05	86.5	1.16	13.16
1.83	188.60	.827E+05	114.3	1.27	12.06
2.06	188.83	.981E+05	146.0	1.36	11.20
2.29	189.06	.114E+06	181.7	1.46	10.49
2.52	189.29	.131E+06	222.3	1.55	9.85
2.75	189.52	.149E+06	266.9	1.64	9.32
2.97	189.75	.168E+06	313.6	1.71	8.92
3.20	189.97	.188E+06	364.8	1.78	8.57
3.43	190.20	.208E+06	420.2	1.85	8.26
3.66	190.43	.231E+06	440.8	1.75	8.73
3.89	190.66	.258E+06	488.8	1.74	8.80
4.12	190.89	.289E+06	547.5	1.74	8.79
4.38	191.15	.328E+06	643.7	1.80	8.50

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7352)	384.96	1.05	9.00	10.48	0.14	0.32
OUTFLOW: ID= 1 (7349)	384.96	1.01	10.00	10.48	0.14	0.32

ADD HYD (7583)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7349):	384.96	1.011	10.00	10.48
	+ ID2= 2 (7351):	56.36	0.221	7.67	10.71
	ID = 3 (7583):	441.32	1.192	9.67	10.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7275)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7583):	441.32	1.192	9.67	10.51
	+ ID2= 2 (7584):	1640.92	7.261	12.58	17.59
	ID = 3 (7275):	2082.24	8.235	12.42	16.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7274)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	193.71	0.0600	
107.05	190.83	0.0600	Main Channel
143.70	189.48	0.0600	Main Channel
205.39	186.27	0.0600	Main Channel
244.89	186.30	0.0600	Main Channel
309.82	185.90	0.0600	Main Channel
340.72	187.61	0.0600	Main Channel
427.08	186.25	0.0600	Main Channel
488.98	186.08	0.0600	Main Channel
537.85	186.67	0.0600	Main Channel
586.00	193.28	0.0600	Main Channel
741.12	193.59	0.0600	Main Channel
858.10	193.27	0.0600	Main Channel
892.52	193.56	0.0600	Main Channel
1047.13	193.95	0.0600	Main Channel
1087.95	193.37	0.0600	Main Channel
1200.07	194.51	0.0600	Main Channel
1312.53	194.85	0.0600	Main Channel
1377.69	195.59	0.0600 /0.0600	Main Channel
1437.63	195.70	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	186.30	.300E+05	7.5	0.30	66.21
0.80	186.70	.140E+06	79.3	0.68	29.45
1.19	187.09	.277E+06	223.5	0.97	20.66
1.59	187.49	.435E+06	433.7	1.19	16.70
1.99	187.89	.609E+06	732.6	1.44	13.85
2.39	188.29	.788E+06	1106.8	1.68	11.87
2.78	188.68	.973E+06	1543.9	1.90	10.50
3.18	189.08	.116E+07	2041.4	2.10	9.49
3.58	189.48	.136E+07	2597.5	2.29	8.71
4.00	189.90	.157E+07	3287.8	2.50	7.97
4.43	190.33	.179E+07	4047.2	2.70	7.38
4.85	190.75	.202E+07	4876.1	2.89	6.91
5.27	191.17	.226E+07	5779.2	3.06	6.51
5.70	191.60	.250E+07	6755.7	3.23	6.17
6.12	192.02	.276E+07	7806.5	3.39	5.89
6.54	192.44	.302E+07	8932.7	3.54	5.64
6.96	192.86	.330E+07	10135.7	3.68	5.42
7.39	193.29	.358E+07	11228.3	3.75	5.32
7.81	193.71	.399E+07	8860.1	2.65	7.51

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7275)	2082.24	8.23	12.42	16.09	0.40	0.30
OUTFLOW: ID= 1 (7274)	2082.24	7.81	13.58	16.09	0.40	0.30

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7272)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	190.38	0.0600	
54.53	190.04	0.0600	Main Channel
127.60	190.01	0.0600	Main Channel
200.66	190.18	0.0600	Main Channel
305.38	189.60	0.0600	Main Channel
347.11	187.45	0.0600	Main Channel
389.02	183.38	0.0600	Main Channel
420.39	182.39	0.0600	Main Channel
493.03	180.46	0.0600	Main Channel
554.20	178.48	0.0600	Main Channel
564.28	182.48	0.0600	Main Channel
574.52	187.70	0.0600	Main Channel
605.02	186.18	0.0600	Main Channel
647.00	188.64	0.0600	Main Channel
686.72	190.16	0.0600	Main Channel
768.15	189.86	0.0600	Main Channel
839.56	189.00	0.0600	Main Channel
921.37	189.36	0.0600	Main Channel
981.41	189.76	0.0600 /0.0600	Main Channel
1021.26	189.87	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.59	179.07	.561E+04	3.3	0.57	27.93
1.19	179.67	.224E+05	21.3	0.90	17.60
1.78	180.26	.505E+05	62.7	1.18	13.43
2.37	180.85	.903E+05	133.2	1.41	11.29
2.97	181.45	.143E+06	243.1	1.62	9.83
3.56	182.04	.210E+06	401.1	1.82	8.72
4.16	182.64	.290E+06	617.7	2.03	7.82
4.75	183.23	.381E+06	898.9	2.24	7.07
5.34	183.82	.482E+06	1277.1	2.52	6.30
5.94	184.42	.588E+06	1728.1	2.80	5.67
6.53	185.01	.697E+06	2238.9	3.06	5.19
7.12	185.60	.810E+06	2809.1	3.30	4.81
7.72	186.20	.928E+06	3431.2	3.52	4.51
8.31	186.79	.106E+07	3906.4	3.52	4.51
8.91	187.39	.120E+07	4484.4	3.56	4.46
9.50	187.98	.136E+07	5186.1	3.62	4.38
10.09	188.57	.154E+07	6056.3	3.75	4.23
10.69	189.17	.173E+07	6382.0	3.51	4.52
11.28	189.76	.201E+07	6220.1	2.94	5.39

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7274)	2082.24	7.81	13.58	16.09	0.74	0.63
OUTFLOW: ID= 1 (7272)	2082.24	7.76	14.00	16.09	0.74	0.62

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

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| ROUTE CHN(  7271)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	185.14	0.0600	
100.01	185.08	0.0600	Main Channel
107.08	184.02	0.0600	Main Channel
124.41	184.69	0.0600	Main Channel
212.30	183.87	0.0600	Main Channel
246.80	184.03	0.0600	Main Channel
283.60	184.13	0.0600	Main Channel
294.01	182.29	0.0600	Main Channel
324.23	175.32	0.0600	Main Channel
348.41	173.46	0.0600	Main Channel
375.63	175.62	0.0600	Main Channel
413.34	175.92	0.0600	Main Channel
456.53	176.15	0.0600	Main Channel
466.82	176.82	0.0600	Main Channel
516.04	181.66	0.0600	Main Channel
524.12	181.48	0.0600	Main Channel
548.69	184.13	0.0600	Main Channel
569.29	183.63	0.0600	Main Channel
617.82	185.65	0.0600 /0.0600	Main Channel
652.75	185.59	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.62	174.08	.247E+04	2.0	0.40	20.91
1.24	174.70	.986E+04	12.5	0.63	13.17
1.86	175.32	.222E+05	36.8	0.83	10.05
2.48	175.94	.416E+05	65.6	0.79	10.57
3.11	176.57	.826E+05	157.4	0.95	8.74
3.73	177.19	.129E+06	316.1	1.22	6.80
4.35	177.81	.178E+06	521.7	1.46	5.69
4.97	178.43	.230E+06	771.5	1.67	4.98
5.59	179.05	.285E+06	1064.4	1.86	4.47
6.21	179.67	.343E+06	1400.5	2.04	4.08
6.83	180.29	.403E+06	1779.7	2.20	3.78
7.45	180.91	.467E+06	2202.6	2.36	3.53
8.08	181.54	.533E+06	2645.7	2.48	3.36
8.70	182.16	.604E+06	3121.4	2.58	3.23
9.32	182.78	.679E+06	3694.0	2.72	3.06
9.94	183.40	.756E+06	4313.6	2.85	2.92
10.56	184.02	.841E+06	4265.0	2.53	3.29
11.38	184.84	.102E+07	4589.9	2.24	3.71
12.19	185.65	.126E+07	6095.0	2.42	3.43

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	7272)	2082.24	7.76	14.00	16.09	0.96	0.50
OUTFLOW: ID= 1 (	7271)	2082.24	7.74	14.17	16.09	0.96	0.50

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

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| CALIB              |
| NASHYD   (  7366)|   Area    (ha)=    135.28   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.01

     Unit Hyd Qpeak  (cms)=     1.149

     PEAK FLOW       (cms)=     0.438 (i)
     TIME TO PEAK    (hrs)=     8.500
     RUNOFF VOLUME    (mm)=    11.661
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  7368)|   Area    (ha)=     56.19   Curve Number   (CN)= 86.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.24

     Unit Hyd Qpeak  (cms)=     0.428

     PEAK FLOW       (cms)=     0.200 (i)
     TIME TO PEAK    (hrs)=     8.750
     RUNOFF VOLUME    (mm)=    13.952
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.332

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7270)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7271):   2082.24      7.741       14.17       16.09
     + ID2= 2 (  7366):    135.28      0.438        8.50       11.66
       ==========================================================
       ID = 3 (  7270):   2217.52      7.982       14.08       15.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7270)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  7270):   2217.52      7.982       14.08       15.82
     + ID2= 2 (  7368):     56.19      0.200        8.75       13.95
       ==========================================================
       ID = 1 (  7270):   2273.71      8.106       14.08       15.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  7269)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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| ROUTE CHN(  7269)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	185.14	0.0600	
100.01	185.08	0.0600	Main Channel
107.08	184.02	0.0600	Main Channel
124.41	184.69	0.0600	Main Channel
212.30	183.87	0.0600	Main Channel
246.80	184.03	0.0600	Main Channel
283.60	184.13	0.0600	Main Channel
294.01	182.29	0.0600	Main Channel
324.23	175.32	0.0600	Main Channel
348.41	173.46	0.0600	Main Channel
375.63	175.62	0.0600	Main Channel
413.34	175.92	0.0600	Main Channel
456.53	176.15	0.0600	Main Channel
466.82	176.82	0.0600	Main Channel
516.04	181.66	0.0600	Main Channel
524.12	181.48	0.0600	Main Channel
548.69	184.13	0.0600	Main Channel
569.29	183.63	0.0600	Main Channel
617.82	185.65	0.0600 /0.0600	Main Channel
652.75	185.59	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.62	174.08	.389E+04	2.8	0.57	22.92
1.24	174.70	.156E+05	18.0	0.91	14.44
1.86	175.32	.350E+05	53.0	1.19	11.01
2.48	175.94	.656E+05	94.4	1.13	11.58
3.11	176.57	.130E+06	226.6	1.37	9.58
3.73	177.19	.204E+06	454.9	1.76	7.46
4.35	177.81	.281E+06	750.9	2.10	6.24
4.97	178.43	.363E+06	1110.3	2.41	5.46
5.59	179.05	.450E+06	1531.9	2.68	4.90
6.21	179.67	.541E+06	2015.6	2.93	4.47
6.83	180.29	.636E+06	2561.4	3.17	4.14
7.45	180.91	.736E+06	3169.9	3.39	3.87
8.08	181.54	.841E+06	3807.7	3.57	3.68
8.70	182.16	.953E+06	4492.2	3.71	3.54
9.32	182.78	.107E+07	5316.4	3.91	3.36
9.94	183.40	.119E+07	6208.1	4.10	3.20
10.56	184.02	.133E+07	6138.2	3.64	3.60
11.38	184.84	.161E+07	6605.8	3.23	4.07
12.19	185.65	.198E+07	8771.8	3.49	3.76

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	7270)	2273.71	8.11	14.08	15.77	0.84	0.66
OUTFLOW: ID= 1 (	7269)	2273.71	8.08	14.33	15.77	0.83	0.66

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

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| CALIB              |
| NASHYD   (  7367)|   Area    (ha)=     22.70   Curve Number   (CN)= 81.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
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--------------------   U.H. Tp(hrs)=      0.81

     Unit Hyd Qpeak  (cms)=     0.478

     PEAK FLOW       (cms)=     0.131 (i)
     TIME TO PEAK    (hrs)=     6.667
     RUNOFF VOLUME    (mm)=    11.151
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.265

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD (  7370)|   Area    (ha)=     45.99
|ID= 1 DT= 5.0 min |   Total Imp(%)=     60.70   Dir. Conn.(%)=  54.90
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	27.92	18.07
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.68	2.68
Length	(m)=	553.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	13.91
over (min)		10.00	25.00
Storage Coeff. (min)=		10.24 (ii)	24.47 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.11	0.05

				TOTALS
PEAK FLOW	(cms)=	1.35	0.53	1.856 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	19.23	30.63
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.46	0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7369)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |    (cms)          (ha.m.)
                             0.0000       0.0000    |      3.4000
0.9228
                             1.2800       0.5055    |      4.4000
1.0580
                             2.1500       0.7112    |     44.0000
1.1756
```

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7370)	45.990	1.856	5.25	30.63
OUTFLOW: ID= 1 (	7369)	45.990	1.128	5.50	30.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 60.75

ADD HYD (7268)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7269):	2273.71	8.077	14.33	15.77
+ ID2= 2 (7367):	22.70	0.131	6.67	11.15
ID = 3 (7268):	2296.41	8.090	14.33	15.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7268)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7268):	2296.41	8.090	14.33	15.73
+ ID2= 2 (7369):	45.99	1.128	5.50	30.63
ID = 1 (7268):	2342.40	8.102	14.33	16.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (7373) | Area (ha)= 25.64
ID= 1 DT= 5.0 min | Total Imp(%)= 65.50 Dir. Conn.(%)= 61.30

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	16.79	8.85
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.77	2.77
Length (m)=	413.44	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	12.91
over (min)	10.00	25.00
Storage Coeff. (min)=	8.51 (ii)	23.03 (ii)
Unit Hyd. Tpeak (min)=	10.00	25.00
Unit Hyd. peak (cms)=	0.12	0.05

		TOTALS
PEAK FLOW	(cms)= 0.84	0.24 1.074 (iii)
TIME TO PEAK	(hrs)= 5.25	5.42 5.25
RUNOFF VOLUME	(mm)= 40.00	18.19 31.56
TOTAL RAINFALL	(mm)= 42.00	42.00 42.00
RUNOFF COEFFICIENT	= 0.95	0.43 0.75

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7372)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4340
0.9824			
	0.1830	0.4576	0.5710
1.2112			
	0.2800	0.6729	5.7100
1.3458			

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7373)	25.640	1.074	5.25	31.56
OUTFLOW: ID= 1 (7372)	25.640	0.211	6.83	31.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.61
TIME SHIFT OF PEAK FLOW (min)= 95.00
MAXIMUM STORAGE USED (ha.m.)= 0.5191

ADD HYD (7267)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7268):	2342.40	8.102	14.33	16.02
+ ID2= 2 (7372):	25.64	0.211	6.83	31.53
ID = 3 (7267):	2368.04	8.197	14.25	16.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7266)
IN= 2---> OUT= 1 Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	184.22	0.0600	
98.44	181.53	0.0600	Main Channel
148.72	182.90	0.0600	Main Channel
219.30	181.13	0.0600	Main Channel
269.65	181.07	0.0600	Main Channel
318.77	179.22	0.0600	Main Channel
414.21	177.17	0.0600	Main Channel
452.36	176.99	0.0600	Main Channel
471.43	171.61	0.0600	Main Channel
490.48	167.62	0.0600	Main Channel
557.08	168.43	0.0600	Main Channel
604.43	173.72	0.0600	Main Channel
641.56	177.35	0.0600	Main Channel
738.01	178.84	0.0600	Main Channel
833.62	180.51	0.0600	Main Channel
919.29	182.57	0.0600	Main Channel
957.52	183.67	0.0600	Main Channel
1003.67	183.18	0.0600	Main Channel
1052.95	184.52	0.0600 /0.0600	Main Channel
1074.01	184.51	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.85	168.47	.315E+05	22.1	0.70	23.78
1.70	169.32	.971E+05	130.1	1.35	12.43
2.55	170.17	.173E+06	310.8	1.81	9.25
3.40	171.02	.258E+06	562.0	2.19	7.65
4.24	171.86	.353E+06	886.6	2.52	6.64
5.09	172.71	.458E+06	1288.7	2.83	5.92
5.94	173.56	.572E+06	1767.5	3.11	5.39
6.79	174.41	.695E+06	2318.7	3.36	4.99
7.64	175.26	.828E+06	2952.4	3.59	4.67
8.49	176.11	.971E+06	3674.5	3.81	4.40
9.34	176.96	.112E+07	4488.8	4.02	4.17
10.19	177.81	.133E+07	4442.3	3.36	4.99
11.04	178.66	.161E+07	5083.1	3.17	5.29
11.88	179.50	.198E+07	6247.2	3.18	5.27
12.73	180.35	.240E+07	7873.8	3.29	5.09
13.58	181.20	.289E+07	9469.8	3.29	5.09
14.43	182.05	.348E+07	12011.5	3.47	4.83
15.28	182.90	.418E+07	15058.4	3.62	4.63
16.90	184.52	.578E+07	22642.4	3.94	4.26

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7267)	2368.04	8.20	14.25	16.19	0.32	0.70
OUTFLOW: ID= 1 (7266)	2368.04	8.15	14.75	16.19	0.31	0.70

CALIB
NASHYD (7371) | Area (ha)= 22.37 Curve Number (CN)= 82.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 0.48

Unit Hyd Qpeak (cms)= 0.796

PEAK FLOW	(cms)=	0.183 (i)
TIME TO PEAK	(hrs)=	6.250
RUNOFF VOLUME	(mm)=	11.599
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.276

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (7374) | Area (ha)= 38.55
ID= 1 DT= 5.0 min | Total Imp(%)= 52.40 Dir. Conn.(%)= 47.40

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	20.20	18.35
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	3.54	3.54
Length (m)=	506.95	40.00
Mannings n =	0.013	0.250

		TOTALS
Max.Eff.Inten.(mm/hr)=	19.32	11.67
over (min)	10.00	25.00
Storage Coeff. (min)=	8.94 (ii)	22.98 (ii)
Unit Hyd. Tpeak (min)=	10.00	25.00
Unit Hyd. peak (cms)=	0.12	0.05
PEAK FLOW (cms)=	0.98	0.45 1.407 (iii)
TIME TO PEAK (hrs)=	5.25	5.42 5.25
RUNOFF VOLUME (mm)=	40.00	16.61 27.70
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.95	0.40 0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7265)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7266):	2368.04	8.149	14.75	16.19
+ ID2= 2 (7371):	22.37	0.183	6.25	11.60
ID = 3 (7265):	2390.41	8.151	14.75	16.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7265)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7265):	2390.41	8.151	14.75	16.14
+ ID2= 2 (7374):	38.55	1.407	5.25	27.70
ID = 1 (7265):	2428.96	8.151	14.75	16.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7264)
IN= 2---> OUT= 1 Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	174.50	0.0600	
12.18	172.73	0.0600	Main Channel
21.13	174.56	0.0600	Main Channel
34.21	172.06	0.0600	Main Channel
45.44	171.11	0.0600	Main Channel
78.64	170.27	0.0600	Main Channel
111.84	169.79	0.0600	Main Channel
155.83	167.46	0.0600	Main Channel
222.39	163.13	0.0600	Main Channel
238.99	164.21	0.0600	Main Channel
300.07	164.07	0.0600	Main Channel

333.28	164.78	0.0600		Main Channel
344.23	167.16	0.0600		Main Channel
377.40	172.96	0.0600		Main Channel
399.41	173.86	0.0600		Main Channel
499.02	175.14	0.0600		Main Channel
549.73	177.37	0.0600		Main Channel
632.09	178.99	0.0600		Main Channel
669.35	180.16	0.0600 /0.0600		Main Channel
761.44	179.18	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.88	164.01	.853E+04	5.3	0.45	26.58
1.76	164.89	.755E+05	68.2	0.65	18.45
2.64	165.77	.168E+06	239.7	1.02	11.70
3.52	166.65	.272E+06	497.5	1.31	9.12
4.40	167.53	.387E+06	837.5	1.55	7.71
5.28	168.41	.515E+06	1254.2	1.75	6.85
6.15	169.28	.657E+06	1761.9	1.93	6.21
7.03	170.16	.814E+06	2268.6	2.00	5.98
7.91	171.04	.100E+07	2913.2	2.09	5.74
8.79	171.92	.121E+07	3844.1	2.28	5.24
9.67	172.80	.142E+07	4947.2	2.49	4.80
10.55	173.68	.165E+07	6052.0	2.63	4.55
11.43	174.56	.191E+07	6905.3	2.59	4.62
12.36	175.49	.224E+07	8263.9	2.65	4.52
13.30	176.43	.259E+07	10178.1	2.82	4.24
14.23	177.36	.295E+07	12291.9	2.99	4.00
15.16	178.29	.333E+07	14233.7	3.07	3.90
16.10	179.23	.375E+07	16503.7	3.16	3.78
17.03	180.16	.422E+07	19261.6	3.28	3.65

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7265)	2428.96	8.15	14.75	16.33	0.92	0.46
OUTFLOW: ID= 1 (7264)	2428.96	8.09	15.17	16.33	0.92	0.46

CALIB STANDHYD (7377) ID= 1 DT= 5.0 min	Area (ha)= 47.09	Total Imp(%)= 61.10	Dir. Conn.(%)= 54.20

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.77	18.32
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.74	2.74
Length	(m)=	560.30	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.47
over (min)		10.00	25.00
Storage Coeff. (min)=		10.25 (ii)	24.16 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.11	0.05
			TOTALS
PEAK FLOW (cms)=		1.37	0.56 1.903 (iii)

TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	40.00	19.56	30.64
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.47	0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7376) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	3.4300	0.9206
	1.2300	0.5175	4.4600	1.0831
	2.1300	0.7040	44.6000	1.2034

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7377)	47.090	1.903	5.25	30.64
OUTFLOW: ID= 1 (7376)	47.090	1.122	5.58	30.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 58.93
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.4724

ADD HYD (7263) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7264):	2428.96	8.095	15.17	16.33
+ ID2= 2 (7376):	47.09	1.122	5.58	30.64
ID = 3 (7263):	2476.05	8.102	15.17	16.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7262) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	173.63	0.0600	
51.54	171.93	0.0600	Main Channel
89.42	170.83	0.0600	Main Channel
215.17	170.02	0.0600	Main Channel
240.42	167.45	0.0600	Main Channel
372.23	163.93	0.0600	Main Channel
391.46	161.72	0.0600	Main Channel
416.49	161.68	0.0600	Main Channel

441.53	167.03	0.0600		Main Channel
454.34	169.45	0.0600		Main Channel
581.02	172.09	0.0600		Main Channel
604.64	172.37	0.0600		Main Channel
617.46	171.74	0.0600		Main Channel
718.62	174.98	0.0600		Main Channel
755.86	177.58	0.0600		Main Channel
780.07	176.78	0.0600		Main Channel
856.80	175.93	0.0600		Main Channel
869.03	174.97	0.0600		Main Channel
906.95	175.08	0.0600 /0.0600		Main Channel
952.07	174.56	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.83	162.51	.697E+04	21.7	0.88	5.34
1.66	163.34	.167E+05	77.8	1.32	3.58
2.50	164.18	.293E+05	159.4	1.54	3.06
3.33	165.01	.487E+05	279.6	1.62	2.90
4.16	165.84	.764E+05	484.6	1.79	2.63
4.99	166.67	.112E+06	790.1	1.99	2.37
5.82	167.50	.156E+06	1216.8	2.20	2.14
6.65	168.33	.206E+06	1847.9	2.54	1.86
7.49	169.17	.258E+06	2596.7	2.84	1.66
8.32	170.00	.315E+06	3289.1	2.95	1.60
9.15	170.83	.397E+06	3493.0	2.49	1.89
9.98	171.66	.506E+06	4893.7	2.73	1.72
10.83	172.51	.638E+06	6369.9	2.82	1.67
11.67	173.35	.789E+06	8636.6	3.09	1.52
12.51	174.19	.951E+06	11273.2	3.35	1.41
13.36	175.04	.112E+07	13960.6	3.51	1.34
14.20	175.88	.132E+07	17318.4	3.72	1.27
15.04	176.72	.152E+07	20381.1	3.78	1.25
15.89	177.57	.175E+07	24665.7	3.99	1.18

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7263)	2476.05	8.10	15.17	16.60	0.31	0.88
OUTFLOW: ID= 1 (7262)	2476.05	8.10	15.25	16.60	0.31	0.88

ROUTE CHN(7261) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	173.63	0.0600	
51.54	171.93	0.0600	Main Channel
89.42	170.83	0.0600	Main Channel
215.17	170.02	0.0600	Main Channel
240.42	167.45	0.0600	Main Channel
372.23	163.93	0.0600	Main Channel
391.46	161.72	0.0600	Main Channel
416.49	161.68	0.0600	Main Channel
441.53	167.03	0.0600	Main Channel
454.34	169.45	0.0600	Main Channel

581.02	172.09	0.0600		Main Channel
604.64	172.37	0.0600		Main Channel
617.46	171.74	0.0600		Main Channel
718.62	174.98	0.0600		Main Channel
755.86	177.58	0.0600		Main Channel
780.07	176.78	0.0600		Main Channel
856.80	175.93	0.0600		Main Channel
869.03	174.97	0.0600		Main Channel
906.95	175.08	0.0600 /0.0600		Main Channel
952.07	174.56	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.83	162.51	.132E+05	10.1	0.41	21.69
1.66	163.34	.315E+05	36.2	0.61	14.53
2.50	164.18	.553E+05	74.1	0.72	12.43
3.33	165.01	.920E+05	130.0	0.75	11.79
4.16	165.84	.144E+06	225.4	0.83	10.66
4.99	166.67	.212E+06	367.5	0.92	9.62
5.82	167.50	.295E+06	565.9	1.02	8.70
6.65	168.33	.389E+06	859.4	1.18	7.54
7.49	169.17	.488E+06	1207.7	1.32	6.73
8.32	170.00	.596E+06	1529.7	1.37	6.49
9.15	170.83	.750E+06	1624.6	1.16	7.69
9.98	171.66	.956E+06	2276.0	1.27	7.00
10.83	172.51	.121E+07	2962.6	1.31	6.78
11.67	173.35	.149E+07	4016.8	1.44	6.19
12.51	174.19	.180E+07	5243.0	1.56	5.71
13.36	175.04	.212E+07	6493.0	1.63	5.44
14.20	175.88	.249E+07	8054.6	1.73	5.15
15.04	176.72	.288E+07	9479.1	1.76	5.06
15.89	177.57	.330E+07	11471.8	1.86	4.79

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7262)	2476.05	8.10	15.25	16.60	0.67	0.41
OUTFLOW: ID= 1 (7261)	2476.05	8.02	15.33	16.60	0.66	0.41

CALIB STANDHYD (7375) ID= 1 DT= 5.0 min	Area (ha)= 30.05	Total Imp(%)= 42.30	Dir. Conn.(%)= 41.70

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.71	17.34
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.20	3.20
Length	(m)=	447.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.71
over (min)		10.00	25.00
Storage Coeff. (min)=		8.55 (ii)	24.82 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05
			TOTALS

PEAK FLOW	(cms)=	0.67	0.31	0.962 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	13.74	24.69
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.33	0.59

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7260)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7261):		2476.05	8.019	15.33	16.60
+ ID2= 2 (7375):		30.05	0.962	5.25	24.69
ID = 3 (7260):		2506.10	8.019	15.33	16.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7259)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	168.67	0.0600	
3.00	168.38	0.0600	Main Channel
28.24	164.54	0.0600	Main Channel
37.34	161.66	0.0600	Main Channel
46.43	160.60	0.0600	Main Channel
53.43	161.15	0.0600	Main Channel
101.90	164.66	0.0600	Main Channel
110.97	165.31	0.0600	Main Channel
130.09	166.31	0.0600	Main Channel
148.31	166.87	0.0600	Main Channel
184.69	168.57	0.0600	Main Channel
203.81	169.24	0.0600	Main Channel
214.87	169.84	0.0600	Main Channel
255.28	171.11	0.0600	Main Channel
286.60	171.77	0.0600	Main Channel
325.84	171.21	0.0600	Main Channel
356.65	171.74	0.0600	Main Channel
397.84	171.03	0.0600	Main Channel
465.98	171.03	0.0600 /0.0600	Main Channel
520.29	172.50	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.39	160.99	.849E+03	1.1	0.65	13.24
0.79	161.39	.341E+04	6.8	1.02	8.40
1.18	161.78	.773E+04	20.4	1.35	6.32
1.58	162.18	.135E+05	44.1	1.68	5.10
1.97	162.57	.206E+05	78.7	1.96	4.37
2.36	162.96	.291E+05	125.5	2.21	3.86
2.76	163.36	.389E+05	185.9	2.45	3.49

3.15	163.75	.501E+05	261.2	2.68	3.20
3.55	164.15	.627E+05	352.5	2.89	2.96
3.94	164.54	.766E+05	461.1	3.09	2.77
4.33	164.93	.919E+05	593.5	3.31	2.58
4.79	165.39	.112E+06	770.5	3.53	2.42
5.25	165.85	.134E+06	967.5	3.69	2.32
5.71	166.31	.160E+06	1199.7	3.85	2.22
6.17	166.77	.189E+06	1428.9	3.89	2.20
6.63	167.23	.221E+06	1739.9	4.03	2.12
7.09	167.69	.257E+06	2106.7	4.21	2.03
7.55	168.15	.296E+06	2523.0	4.38	1.96
8.01	168.61	.338E+06	2994.1	4.55	1.88

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7260)	2506.10	8.02	15.33	16.70	0.82	1.04
OUTFLOW: ID= 1 (7259)	2506.10	8.01	15.75	16.70	0.82	1.04

CALIB
STANDHYD (7378) | Area (ha)= 23.22
ID= 1 DT= 5.0 min | Total Imp(%)= 52.20 Dir. Conn.(%)= 47.80

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	12.12	11.10	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.16	3.16	
Length	(m)=	393.45	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	11.44	
over (min)		10.00	25.00	
Storage Coeff. (min)=		7.94 (ii)	22.59 (ii)	
Unit Hyd. Tpeak (min)=		10.00	25.00	
Unit Hyd. peak (cms)=		0.13	0.05	

				TOTALS
PEAK FLOW	(cms)=	0.60	0.27	0.850 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	16.46	27.71
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.39	0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7580)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7259):		2506.10	8.010	15.75	16.70

+ ID2= 2 (7378):		23.22	0.850	5.25	27.71
ID = 3 (7580):		2529.32	8.010	15.75	16.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (7404) | Area (ha)= 187.77 Curve Number (CN)= 86.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.98

Unit Hyd Qpeak (cms)= 1.076

PEAK FLOW	(cms)=	0.529	(i)
TIME TO PEAK	(hrs)=	9.583	
RUNOFF VOLUME	(mm)=	13.955	
TOTAL RAINFALL	(mm)=	42.000	
RUNOFF COEFFICIENT	=	0.332	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (7409) | Area (ha)= 143.85 Curve Number (CN)= 86.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.48

Unit Hyd Qpeak (cms)= 0.990

PEAK FLOW	(cms)=	0.472	(i)
TIME TO PEAK	(hrs)=	9.083	
RUNOFF VOLUME	(mm)=	13.954	
TOTAL RAINFALL	(mm)=	42.000	
RUNOFF COEFFICIENT	=	0.332	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (7414) | Area (ha)= 44.87 Curve Number (CN)= 86.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 0.79

Unit Hyd Qpeak (cms)= 0.970

PEAK FLOW	(cms)=	0.332	(i)
TIME TO PEAK	(hrs)=	6.583	
RUNOFF VOLUME	(mm)=	13.921	
TOTAL RAINFALL	(mm)=	42.000	
RUNOFF COEFFICIENT	=	0.331	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (7417) | Area (ha)= 90.03 Curve Number (CN)= 89.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50

U.H. Tp(hrs)= 1.52

Unit Hyd Qpeak (cms)= 1.011

PEAK FLOW	(cms)=	0.500	(i)
TIME TO PEAK	(hrs)=	7.833	
RUNOFF VOLUME	(mm)=	16.136	
TOTAL RAINFALL	(mm)=	42.000	
RUNOFF COEFFICIENT	=	0.384	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (7419) | Area (ha)= 51.22
ID= 1 DT= 5.0 min | Total Imp(%)= 75.90 Dir. Conn.(%)= 75.70

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	38.88	12.34	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	1.31	1.31	
Length	(m)=	584.35	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	11.11	
over (min)		15.00	35.00	
Storage Coeff. (min)=		13.11 (ii)	32.41 (ii)	
Unit Hyd. Tpeak (min)=		15.00	35.00	
Unit Hyd. peak (cms)=		0.08	0.03	

				TOTALS
PEAK FLOW	(cms)=	2.06	0.25	2.278 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	17.58	34.55
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.42	0.82

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(7418)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel

739.23	232.86	0.0600		Main Channel
759.44	232.76	0.0600		Main Channel
799.56	233.26	0.0600		Main Channel
859.79	233.36	0.0600		Main Channel
906.16	233.77	0.0600		Main Channel
940.38	234.79	0.0600 /0.0600		Main Channel
960.79	235.04	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.125E+04	0.4	0.32	55.12
0.43	231.12	.501E+04	2.4	0.50	34.72
0.64	231.33	.113E+05	7.1	0.66	26.50
0.86	231.55	.201E+05	15.3	0.80	21.87
1.07	231.76	.313E+05	27.7	0.92	18.85
1.29	231.98	.453E+05	43.0	0.99	17.53
1.50	232.19	.662E+05	55.3	0.87	19.94
1.72	232.41	.112E+06	80.6	0.75	23.21
1.93	232.62	.184E+06	152.1	0.86	20.20
2.15	232.84	.275E+06	254.6	0.97	18.01
2.36	233.05	.383E+06	418.6	1.14	15.27
2.58	233.27	.499E+06	620.1	1.30	13.41
2.79	233.48	.631E+06	831.7	1.38	12.64
3.01	233.70	.774E+06	1122.6	1.52	11.49
3.22	233.91	.926E+06	1446.6	1.63	10.67
3.44	234.13	.109E+07	1792.6	1.72	10.14
3.65	234.34	.127E+07	2189.3	1.80	9.67
3.98	234.67	.156E+07	3042.9	2.04	8.55
4.30	234.99	.187E+07	4039.2	2.26	7.72

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7419)	51.22	2.28	5.25	34.55	0.42	0.48
OUTFLOW: ID= 1 (7418)	51.22	1.81	5.42	34.55	0.37	0.43

ROUTE CHN(7415) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel

846.93	228.42	0.0600		Main Channel
904.88	228.21	0.0600		Main Channel
958.92	229.00	0.0600		Main Channel
983.38	229.86	0.0600 /0.0600		Main Channel
999.71	230.75	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7418)	51.22	1.81	5.42	34.55	0.43	0.31
OUTFLOW: ID= 1 (7415)	51.22	1.42	5.67	34.54	0.38	0.28

ADD HYD (7413) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7414):	44.87	0.332	6.58	13.92
+ ID2= 2 (7415):	51.22	1.424	5.67	34.54
ID = 3 (7413):	96.09	1.704	5.75	24.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7413) | 3 + 2 = 1 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7413):	96.09	1.704	5.75	24.91
+ ID2= 2 (7417):	90.03	0.500	7.83	16.14
ID = 1 (7413):	186.12	2.044	5.92	20.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7412) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	226.82	0.0600	
43.14	226.56	0.0600	Main Channel
89.81	224.99	0.0600	Main Channel
136.51	223.60	0.0600	Main Channel
243.29	222.28	0.0600	Main Channel
309.83	221.58	0.0600	Main Channel
369.88	221.12	0.0600	Main Channel
398.99	221.11	0.0600	Main Channel
454.22	222.47	0.0600	Main Channel
487.93	222.65	0.0600	Main Channel
565.36	222.35	0.0600	Main Channel
611.50	222.96	0.0600	Main Channel
665.04	223.29	0.0600	Main Channel
749.02	224.23	0.0600	Main Channel
796.58	224.29	0.0600	Main Channel
837.37	225.13	0.0600	Main Channel
879.77	224.88	0.0600	Main Channel
942.47	224.96	0.0600	Main Channel
973.07	225.21	0.0600 /0.0600	Main Channel
1025.91	225.30	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	221.33	.586E+04	3.2	0.32	30.87
0.43	221.54	.166E+05	13.2	0.48	20.88
0.65	221.76	.317E+05	32.7	0.62	16.15
0.86	221.97	.505E+05	62.3	0.74	13.51
1.08	222.19	.732E+05	103.4	0.84	11.80
1.29	222.40	.998E+05	150.4	0.90	11.06
1.51	222.62	.137E+06	194.9	0.85	11.75
1.72	222.83	.187E+06	299.7	0.96	10.40
1.94	223.05	.241E+06	429.2	1.06	9.37
2.16	223.27	.302E+06	578.9	1.14	8.69
2.37	223.48	.368E+06	767.8	1.24	8.00
2.59	223.70	.440E+06	991.3	1.35	7.39
2.80	223.91	.514E+06	1249.3	1.45	6.86
3.02	224.13	.592E+06	1536.2	1.55	6.43
3.23	224.34	.676E+06	1788.8	1.58	6.30
3.45	224.56	.766E+06	2163.9	1.69	5.90
3.66	224.77	.857E+06	2570.6	1.79	5.56
3.88	224.99	.955E+06	2814.6	1.76	5.65
4.19	225.30	.112E+07	3486.3	1.86	5.34

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7413)	186.12	2.04	5.92	20.67	0.14	0.32
OUTFLOW: ID= 1 (7412)	186.12	1.89	6.67	20.67	0.13	0.32

ROUTE CHN(7411) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	226.82	0.0600	
43.14	226.56	0.0600	Main Channel
89.81	224.99	0.0600	Main Channel
136.51	223.60	0.0600	Main Channel
243.29	222.28	0.0600	Main Channel
309.83	221.58	0.0600	Main Channel
369.88	221.12	0.0600	Main Channel
398.99	221.11	0.0600	Main Channel
454.22	222.47	0.0600	Main Channel
487.93	222.65	0.0600	Main Channel
565.36	222.35	0.0600	Main Channel
611.50	222.96	0.0600	Main Channel
665.04	223.29	0.0600	Main Channel
749.02	224.23	0.0600	Main Channel
796.58	224.29	0.0600	Main Channel
837.37	225.13	0.0600	Main Channel
879.77	224.88	0.0600	Main Channel
942.47	224.96	0.0600	Main Channel
973.07	225.21	0.0600 /0.0600	Main Channel
1025.91	225.30	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	221.33	.488E+04	4.2	0.43	19.32
0.43	221.54	.138E+05	17.6	0.63	13.06
0.65	221.76	.263E+05	43.4	0.82	10.11
0.86	221.97	.420E+05	82.9	0.98	8.45
1.08	222.19	.609E+05	137.5	1.12	7.38
1.29	222.40	.830E+05	200.0	1.20	6.92
1.51	222.62	.114E+06	259.2	1.12	7.35
1.72	222.83	.156E+06	398.4	1.27	6.51
1.94	223.05	.201E+06	570.7	1.41	5.86
2.16	223.27	.251E+06	769.7	1.52	5.44
2.37	223.48	.306E+06	1020.8	1.65	5.00
2.59	223.70	.366E+06	1317.9	1.79	4.62
2.80	223.91	.428E+06	1661.0	1.93	4.29
3.02	224.13	.493E+06	2042.4	2.06	4.02
3.23	224.34	.562E+06	2378.2	2.10	3.94
3.45	224.56	.637E+06	2876.9	2.24	3.69
3.66	224.77	.713E+06	3417.7	2.38	3.48
3.88	224.99	.794E+06	3742.1	2.34	3.54
4.19	225.30	.930E+06	4635.1	2.47	3.34

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7412)	186.12	1.89	6.67	20.67	0.10	0.43
OUTFLOW: ID= 1 (7411)	186.12	1.85	7.00	20.67	0.09	0.43

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| ROUTE CHN(  7410)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         220.20        0.0600
                132.41         218.50        0.0600      Main Channel
                203.91         218.34        0.0600      Main Channel
                285.35         218.27        0.0600      Main Channel
                333.61         218.64        0.0600      Main Channel
                468.62         217.46        0.0600      Main Channel
                570.83         218.16        0.0600      Main Channel
                614.65         217.64        0.0600      Main Channel
                636.56         218.05        0.0600      Main Channel
                691.34         216.51        0.0600      Main Channel
                713.25         215.99        0.0600      Main Channel
                757.07         214.47        0.0600      Main Channel
                822.80         216.75        0.0600      Main Channel
                866.41         217.51        0.0600      Main Channel
                961.10         218.24        0.0600      Main Channel
               1083.34         218.48        0.0600      Main Channel
               1138.84         218.66        0.0600      Main Channel
               1203.09         218.80        0.0600      Main Channel
               1287.26         220.04    0.0600 /0.0600  Main Channel
               1308.00         221.10        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.30   214.77    .269E+04          0.8          0.32      54.40
       0.59   215.06    .108E+05          5.2          0.51      34.27
       0.89   215.36    .242E+05         15.4          0.67      26.15
       1.19   215.66    .430E+05         33.2          0.81      21.59
       1.49   215.96    .672E+05         60.2          0.95      18.60
       1.78   216.25    .972E+05         96.5          1.05      16.79
       2.08   216.55    .134E+06        146.0          1.15      15.28
       2.38   216.85    .177E+06        208.9          1.25      14.11
       2.68   217.15    .228E+06        284.6          1.32      13.35
       2.97   217.44    .288E+06        380.7          1.40      12.60
       3.27   217.74    .370E+06        415.5          1.19      14.84
       3.57   218.04    .502E+06        527.3          1.11      15.86
       3.87   218.34    .683E+06        688.9          1.06      16.52
       4.18   218.65    .975E+06       1033.1          1.12      15.73
       4.49   218.96    .133E+07       1610.0          1.28      13.75
       4.80   219.27    .170E+07       2366.3          1.47      11.98
       5.11   219.58    .209E+07       3249.0          1.64      10.72
       5.42   219.89    .249E+07       4255.5          1.80       9.76
       5.73   220.20    .291E+07       5413.9          1.96       8.95

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  7411)     186.12     1.85    7.00  20.67      0.37
0.35
   OUTFLOW: ID= 1 (  7410)     186.12     1.66    8.00  20.67      0.35
0.35


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-
```



```
--------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7409):    143.85      0.472        9.08       13.95
     + ID2= 2 (  7410):    186.12      1.660        8.00       20.67
       ================================================================
       ID = 3 (  7408):    329.97      2.114        8.08       17.74

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  7407)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         214.65        0.0600
                102.97         214.21        0.0600      Main Channel
                133.31         214.84        0.0600      Main Channel
                204.08         214.28        0.0600      Main Channel
                254.39         213.56        0.0600      Main Channel
                284.61         213.65        0.0600      Main Channel
                366.58         212.51        0.0600      Main Channel
                436.24         211.56        0.0600      Main Channel
                510.74         210.64        0.0600      Main Channel
                559.63         209.74        0.0600      Main Channel
                629.69         209.82        0.0600      Main Channel
                676.44         211.24        0.0600      Main Channel
                720.34         210.70        0.0600      Main Channel
                951.23         211.47        0.0600      Main Channel
               1116.84         213.76        0.0600      Main Channel
               1246.91         214.80        0.0600      Main Channel
               1340.99         214.76        0.0600      Main Channel
               1442.23         214.99        0.0600      Main Channel
               1505.41         216.01    0.0600 /0.0600  Main Channel
               1596.52         216.29        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.26   210.00    .115E+05          6.0          0.34      32.08
       0.51   210.25    .285E+05         23.5          0.54      20.28
       0.77   210.51    .493E+05         51.8          0.70      15.89
       1.02   210.76    .745E+05         83.8          0.75      14.82
       1.28   211.02    .116E+06        123.5          0.71      15.66
       1.53   211.27    .179E+06        203.2          0.75      14.67
       1.79   211.53    .260E+06        336.0          0.86      12.89
       2.04   211.78    .350E+06        527.6          1.00      11.06
       2.30   212.04    .447E+06        758.7          1.13       9.82
       2.55   212.29    .550E+06       1029.2          1.24       8.91
       2.81   212.55    .659E+06       1339.9          1.35       8.20
       3.06   212.80    .775E+06       1691.9          1.45       7.63
       3.32   213.06    .897E+06       2085.6          1.54       7.16
       3.57   213.31    .102E+07       2521.9          1.63       6.77
       3.83   213.57    .116E+07       2996.9          1.71       6.44
       4.08   213.82    .130E+07       3444.8          1.75       6.31
       4.34   214.08    .146E+07       4002.7          1.82       6.07
       4.59   214.33    .162E+07       4604.7          1.88       5.87
       4.85   214.59    .181E+07       5234.6          1.92       5.76

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
```



```
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  7408)     329.97     2.11    8.08  17.74      0.09
0.34
   OUTFLOW: ID= 1 (  7407)     329.97     2.05    8.67  17.74      0.09
0.34


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-
--------------------
| ROUTE CHN(  7406)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         214.65        0.0600
                102.97         214.21        0.0600      Main Channel
                133.31         214.84        0.0600      Main Channel
                204.08         214.28        0.0600      Main Channel
                254.39         213.56        0.0600      Main Channel
                284.61         213.65        0.0600      Main Channel
                366.58         212.51        0.0600      Main Channel
                436.24         211.56        0.0600      Main Channel
                510.74         210.64        0.0600      Main Channel
                559.63         209.74        0.0600      Main Channel
                629.69         209.82        0.0600      Main Channel
                676.44         211.24        0.0600      Main Channel
                720.34         210.70        0.0600      Main Channel
                951.23         211.47        0.0600      Main Channel
               1116.84         213.76        0.0600      Main Channel
               1246.91         214.80        0.0600      Main Channel
               1340.99         214.76        0.0600      Main Channel
               1442.23         214.99        0.0600      Main Channel
               1505.41         216.01    0.0600 /0.0600  Main Channel
               1596.52         216.29        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.26   210.00    .124E+05          5.7          0.33      36.34
       0.51   210.25    .307E+05         22.3          0.52      22.98
       0.77   210.51    .531E+05         49.2          0.66      18.00
       1.02   210.76    .802E+05         79.6          0.71      16.79
       1.28   211.02    .125E+06        117.3          0.67      17.74
       1.53   211.27    .192E+06        193.0          0.72      16.62
       1.79   211.53    .280E+06        319.1          0.81      14.60
       2.04   211.78    .377E+06        501.1          0.95      12.53
       2.30   212.04    .481E+06        720.5          1.07      11.13
       2.55   212.29    .592E+06        977.5          1.18      10.09
       2.81   212.55    .709E+06       1272.5          1.28       9.29
       3.06   212.80    .834E+06       1606.8          1.38       8.65
       3.32   213.06    .965E+06       1980.7          1.46       8.12
       3.57   213.31    .110E+07       2395.0          1.55       7.67
       3.83   213.57    .125E+07       2846.1          1.63       7.30
       4.08   213.82    .140E+07       3271.5          1.66       7.15
       4.34   214.08    .157E+07       3801.4          1.73       6.88
       4.59   214.33    .175E+07       4373.0          1.79       6.66
       4.85   214.59    .194E+07       4971.3          1.82       6.52

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
```



```
(m/s)
   INFLOW : ID= 2 (  7407)     329.97     2.05    8.67  17.74      0.09
0.33
   OUTFLOW: ID= 1 (  7406)     329.97     1.98    9.42  17.74      0.09
0.33


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-
--------------------
| ROUTE CHN(  7405)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         211.47        0.0600
                 83.44         209.87        0.0600      Main Channel
                283.48         208.57        0.0600      Main Channel
                327.85         208.05        0.0600      Main Channel
                384.22         207.93        0.0600      Main Channel
                444.42         208.11        0.0600      Main Channel
                486.53         207.66        0.0600      Main Channel
                527.62         207.78        0.0600      Main Channel
                588.10         207.28        0.0600      Main Channel
                656.43         206.15        0.0600      Main Channel
                713.17         204.54        0.0600      Main Channel
                762.81         205.96        0.0600      Main Channel
                874.24         207.81        0.0600      Main Channel
                973.24         209.03        0.0600      Main Channel
               1072.32         209.43        0.0600      Main Channel
               1112.49         208.63        0.0600      Main Channel
               1195.93         209.44        0.0600      Main Channel
               1531.42         209.23        0.0600      Main Channel
               1577.56         209.73    0.0600 /0.0600  Main Channel
               1710.94         210.25        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.29   204.83    .201E+04          0.9          0.31      36.68
       0.58   205.12    .803E+04          5.8          0.50      23.11
       0.86   205.40    .181E+05         17.1          0.65      17.63
       1.15   205.69    .321E+05         36.8          0.79      14.56
       1.44   205.98    .502E+05         66.5          0.91      12.58
       1.73   206.27    .732E+05        104.7          0.99      11.65
       2.01   206.55    .103E+06        158.0          1.06      10.85
       2.30   206.84    .139E+06        231.2          1.14      10.05
       2.59   207.13    .183E+06        326.8          1.23       9.33
       2.88   207.42    .234E+06        439.6          1.30       8.86
       3.17   207.71    .295E+06        554.9          1.30       8.85
       3.45   207.99    .376E+06        672.5          1.23       9.32
       3.74   208.28    .489E+06        900.1          1.27       9.06
       4.03   208.57    .614E+06       1249.5          1.40       8.19
       4.37   208.91    .778E+06       1715.4          1.52       7.56
       4.70   209.24    .976E+06       2183.0          1.54       7.45
       5.04   209.58    .127E+07       2554.4          1.39       8.30
       5.37   209.91    .162E+07       3701.6          1.58       7.28
       5.71   210.25    .199E+07       5088.4          1.77       6.51

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  7406)     329.97     1.98    9.42  17.74      0.35
```

0.34
OUTFLOW: ID= 1 (7405) 329.97 1.93 10.00 17.74 0.35
0.34

ADD HYD (7403)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	ID1= 1 (7404):	(ha)	(cms)	(hrs)	(mm)
	+ ID2= 2 (7405):	187.77	0.529	9.58	13.96
	ID = 3 (7403):	329.97	1.932	10.00	17.74
		517.74	2.459	9.92	16.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7402)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	211.47	0.0600	
83.44	209.87	0.0600	Main Channel
283.48	208.57	0.0600	Main Channel
327.85	208.05	0.0600	Main Channel
384.22	207.93	0.0600	Main Channel
444.42	208.11	0.0600	Main Channel
486.53	207.66	0.0600	Main Channel
527.62	207.78	0.0600	Main Channel
588.10	207.28	0.0600	Main Channel
656.43	206.15	0.0600	Main Channel
713.17	204.54	0.0600	Main Channel
762.81	205.96	0.0600	Main Channel
874.24	207.81	0.0600	Main Channel
973.24	209.03	0.0600	Main Channel
1072.32	209.43	0.0600	Main Channel
1112.49	208.63	0.0600	Main Channel
1195.93	209.44	0.0600	Main Channel
1531.42	209.23	0.0600	Main Channel
1577.56	209.73	0.0600 /0.0600	Main Channel
1710.94	210.25	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	204.83	.126E+04	0.8	0.28	25.72
0.58	205.12	.505E+04	5.2	0.45	16.20
0.86	205.40	.114E+05	15.3	0.58	12.37
1.15	205.69	.202E+05	33.0	0.71	10.21
1.44	205.98	.315E+05	59.6	0.82	8.82
1.73	206.27	.460E+05	93.9	0.88	8.17
2.01	206.55	.647E+05	141.6	0.95	7.61
2.30	206.84	.877E+05	207.2	1.03	7.05
2.59	207.13	.115E+06	292.9	1.11	6.54
2.88	207.42	.147E+06	394.1	1.16	6.21
3.17	207.71	.185E+06	497.4	1.16	6.21
3.45	207.99	.237E+06	602.8	1.11	6.54
3.74	208.28	.308E+06	806.9	1.14	6.35
4.03	208.57	.386E+06	1120.1	1.26	5.74
4.37	208.91	.489E+06	1537.7	1.36	5.30

4.70	209.24	.613E+06	1956.9	1.38	5.22
5.04	209.58	.800E+06	2289.8	1.24	5.82
5.37	209.91	.102E+07	3318.3	1.42	5.10
5.71	210.25	.125E+07	4561.5	1.58	4.56

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7403)	517.74	2.46	9.92	16.37	0.40	0.33
OUTFLOW: ID= 1 (7402)	517.74	2.44	10.25	16.37	0.39	0.33

ROUTE CHN(7401)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	208.26	0.0600	
139.71	206.42	0.0600	Main Channel
183.44	205.68	0.0600	Main Channel
245.64	204.76	0.0600	Main Channel
307.66	204.45	0.0600	Main Channel
390.19	203.84	0.0600	Main Channel
431.59	202.96	0.0600	Main Channel
493.68	202.77	0.0600	Main Channel
504.12	201.47	0.0600	Main Channel
514.35	202.07	0.0600	Main Channel
576.66	199.99	0.0600	Main Channel
639.41	201.91	0.0600	Main Channel
701.39	202.37	0.0600	Main Channel
753.01	202.82	0.0600	Main Channel
840.09	202.33	0.0600	Main Channel
898.65	202.77	0.0600	Main Channel
941.54	202.33	0.0600	Main Channel
1026.32	204.83	0.0600	Main Channel
1068.74	204.07	0.0600 /0.0600	Main Channel
1184.74	205.43	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	200.26	.259E+04	0.7	0.31	60.89
0.54	200.53	.104E+05	4.5	0.49	38.36
0.82	200.81	.233E+05	13.3	0.64	29.27
1.09	201.08	.415E+05	28.6	0.77	24.16
1.36	201.35	.648E+05	51.9	0.90	20.82
1.63	201.62	.936E+05	82.8	0.99	18.85
1.90	201.89	.130E+06	124.2	1.07	17.39
2.18	202.17	.176E+06	169.7	1.08	17.30
2.45	202.44	.238E+06	215.6	1.01	18.42
2.72	202.71	.341E+06	287.7	0.94	19.76
2.99	202.98	.488E+06	442.4	1.01	18.40
3.26	203.25	.654E+06	700.5	1.20	15.56
3.54	203.53	.826E+06	1007.9	1.36	13.66
3.81	203.80	.101E+07	1363.0	1.52	12.29
4.08	204.07	.119E+07	1733.9	1.63	11.47
4.42	204.41	.146E+07	2232.0	1.71	10.88
4.76	204.75	.176E+07	2792.4	1.77	10.53

5.10	205.09	.211E+07	3615.2	1.92	9.72
5.44	205.43	.247E+07	4565.7	2.06	9.03

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7402)	517.74	2.44	10.25	16.37	0.40	0.37
OUTFLOW: ID= 1 (7401)	517.74	2.34	11.08	16.37	0.39	0.36

ROUTE CHN(7400)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	207.12	0.0600	
38.85	206.77	0.0600	Main Channel
167.45	207.16	0.0600	Main Channel
233.12	205.94	0.0600	Main Channel
274.10	205.96	0.0600	Main Channel
351.00	204.80	0.0600	Main Channel
421.37	203.35	0.0600	Main Channel
572.97	199.60	0.0600	Main Channel
631.04	197.50	0.0600	Main Channel
662.58	195.44	0.0600	Main Channel
695.07	195.48	0.0600	Main Channel
719.44	197.94	0.0600	Main Channel
819.94	199.64	0.0600	Main Channel
851.36	200.80	0.0600	Main Channel
882.52	200.62	0.0600	Main Channel
1030.68	200.82	0.0600	Main Channel
1061.15	199.87	0.0600	Main Channel
1223.91	199.28	0.0600	Main Channel
1340.97	200.54	0.0600 /0.0600	Main Channel
1396.94	201.93	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.57	196.01	.882E+04	6.8	0.32	21.52
1.13	196.57	.212E+05	24.6	0.47	14.34
1.70	197.14	.369E+05	53.9	0.60	11.42
2.27	197.71	.560E+05	94.3	0.69	9.90
2.83	198.27	.809E+05	138.3	0.70	9.74
3.40	198.84	.117E+06	205.2	0.72	9.46
3.97	199.41	.165E+06	274.6	0.68	10.00
4.53	199.97	.257E+06	386.3	0.61	11.10
5.10	200.54	.386E+06	666.2	0.70	9.66
5.76	201.20	.597E+06	1112.3	0.76	8.95
6.42	201.86	.837E+06	1885.6	0.92	7.40
7.09	202.53	.109E+07	2837.3	1.07	6.39
7.75	203.19	.135E+07	3954.2	1.20	5.68
8.41	203.85	.161E+07	5216.8	1.32	5.15
9.07	204.51	.189E+07	6629.0	1.43	4.75
9.73	205.17	.217E+07	8161.4	1.54	4.43
10.40	205.84	.247E+07	9822.1	1.63	4.19
11.06	206.50	.278E+07	11464.7	1.68	4.05
11.72	207.16	.312E+07	13538.3	1.77	3.85

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7401)	517.74	2.34	11.08	16.37	0.19	0.32
OUTFLOW: ID= 1 (7400)	517.74	2.32	11.50	16.37	0.19	0.32

ROUTE CHN(7397)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	201.24	0.0600	
82.94	200.61	0.0600	Main Channel
133.10	199.07	0.0600	Main Channel
227.02	197.97	0.0600	Main Channel
328.00	196.05	0.0600	Main Channel
371.02	194.51	0.0600	Main Channel
405.29	194.92	0.0600	Main Channel
559.65	194.92	0.0600	Main Channel
569.88	195.80	0.0600	Main Channel
618.81	192.48	0.0600	Main Channel
672.09	189.83	0.0600	Main Channel
733.28	192.00	0.0600	Main Channel
825.18	191.15	0.0600	Main Channel
930.59	192.19	0.0600	Main Channel
990.22	193.88	0.0600	Main Channel
1051.30	196.78	0.0600	Main Channel
1076.16	199.10	0.0600	Main Channel
1115.92	199.08	0.0600	Main Channel
1234.59	199.87	0.0600 /0.0600	Main Channel
1256.87	200.39	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	190.37	.468E+04	4.7	0.67	16.45
1.09	190.92	.187E+05	30.1	1.06	10.36
1.63	191.46	.488E+05	75.9	1.02	10.72
2.17	192.00	.125E+06	232.0	1.22	8.99
2.72	192.55	.235E+06	605.9	1.69	6.47
3.26	193.09	.356E+06	1146.7	2.11	5.18
3.80	193.63	.487E+06	1837.1	2.48	4.42
4.35	194.18	.627E+06	2691.7	2.82	3.88
4.89	194.72	.776E+06	3587.6	3.04	3.60
5.44	195.27	.981E+06	4105.8	2.75	3.98
5.98	195.81	.122E+07	5688.6	3.06	3.58
6.52	196.35	.148E+07	7546.8	3.36	3.26
7.07	196.90	.174E+07	9624.3	3.62	3.02
7.61	197.44	.202E+07	11985.9	3.89	2.82
8.15	197.98	.232E+07	14593.8	4.13	2.65
8.70	198.53	.263E+07	17263.1	4.32	2.54
9.24	199.07	.295E+07	20211.3	4.49	2.43
9.90	199.73	.340E+07	23339.3	4.50	2.43
10.56	200.39	.390E+07	28701.6	4.83	2.26

<---- hydrograph ----> <-pipe /

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channel->                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                                    (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  7400)     517.74     2.32   11.50  16.37      0.27
0.67
   OUTFLOW: ID= 1 (  7397)     517.74     2.31   11.75  16.37      0.26
0.67


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| CALIB            |
| STANDHYD (  7399)|   Area    (ha)=     77.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=     82.70   Dir. Conn.(%)=  81.80
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        63.76          13.34
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         2.73           2.73
     Length            (m)=       716.94          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          11.42
               over (min)          10.00          30.00
     Storage Coeff.  (min)=        11.90 (ii)     27.21 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.10           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         3.37           0.30           3.645 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50           5.25
     RUNOFF VOLUME    (mm)=        40.00          17.37          35.88
     TOTAL RAINFALL   (mm)=        42.00          42.00          42.00
     RUNOFF COEFFICIENT   =         0.95           0.41           0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7397):    517.74      2.306       11.75       16.37
     + ID2= 2 (  7399):     77.10      3.645        5.25       35.88
       ========================================================
       ID = 3 (  7581):    594.84      3.648        5.25       18.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  7427)|   Area    (ha)=     68.57   Curve Number   (CN)= 86.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.04
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     Unit Hyd Qpeak  (cms)=     1.126

     PEAK FLOW       (cms)=     0.427 (i)
     TIME TO PEAK    (hrs)=     7.250
     RUNOFF VOLUME    (mm)=    13.934
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.332

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7433)|   Area    (ha)=    114.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=     55.40   Dir. Conn.(%)=  55.40
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        63.43          51.06
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         2.21           2.21
     Length            (m)=       873.65          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          10.96
               over (min)          15.00          35.00
     Storage Coeff.  (min)=        14.27 (ii)     30.85 (ii)
     Unit Hyd. Tpeak (min)=        15.00          35.00
     Unit Hyd. peak  (cms)=         0.08           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         3.35           1.05           4.265 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50           5.25
     RUNOFF VOLUME    (mm)=        40.00          17.47          29.95
     TOTAL RAINFALL   (mm)=        42.00          42.00          42.00
     RUNOFF COEFFICIENT   =         0.95           0.42           0.71


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7432)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
-------------------           (cms)        (ha.m.)   |    (cms)          (ha.m.)
                              0.0000        0.0000   |      8.2500
2.5200
                              3.0200        1.4957   |     10.7300
2.9264
                              5.1400        1.9510   |    107.3000
3.2516

                                  AREA        QPEAK        TPEAK        R.V.
                                  (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  7433)     114.490        4.265         5.25       29.95
   OUTFLOW: ID= 1 (  7432)     114.490        2.376         5.75       29.95

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.71
                TIME SHIFT OF PEAK FLOW          (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.1771
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| CALIB            |
| STANDHYD (  7431)|   Area    (ha)=    168.53
|ID= 1 DT= 5.0 min |   Total Imp(%)=     22.90   Dir. Conn.(%)=  22.60
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        38.59          129.94
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         1.71           1.71
     Length            (m)=      1059.97          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          11.03
               over (min)          15.00          40.00
     Storage Coeff.  (min)=        17.31 (ii)     35.17 (ii)
     Unit Hyd. Tpeak (min)=        15.00          40.00
     Unit Hyd. peak  (cms)=         0.07           0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=         1.99           2.53           4.146 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.67           5.33
     RUNOFF VOLUME    (mm)=        40.00          17.52          22.60
     TOTAL RAINFALL   (mm)=        42.00          42.00          42.00
     RUNOFF COEFFICIENT   =         0.95           0.42           0.54


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7430)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7431):    168.53      4.146        5.33       22.60
     + ID2= 2 (  7432):    114.49      2.376        5.75       29.95
       ========================================================
       ID = 3 (  7430):    283.02      6.312        5.42       25.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  7429)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         199.98        0.0600
                12.77         199.93        0.0600      Main Channel
                20.39         199.83        0.0600      Main Channel
                25.78         199.72        0.0600      Main Channel
                34.33         199.43        0.0600      Main Channel
                48.27         198.98        0.0600      Main Channel
                60.01         198.63        0.0600      Main Channel
                76.18         198.18        0.0600      Main Channel
                77.18         198.17        0.0600      Main Channel
                87.95         198.31        0.0600      Main Channel
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                95.57         198.52        0.0600      Main Channel
               104.12         198.67        0.0600      Main Channel
               109.50         198.70        0.0600      Main Channel
               112.66         198.77        0.0600      Main Channel
               120.28         198.88        0.0600      Main Channel
               146.93         199.39        0.0600      Main Channel
               164.10         199.70        0.0600      Main Channel
               173.95         199.87        0.0600      Main Channel
               182.49         199.98    0.0600 /0.0600  Main Channel
               185.70         200.01        0.0600

          <-------------------- TRAVEL TIME TABLE ---------------------->
           DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
            (m)      (m)    (cu.m.)          (cms)        (m/s)      (min)
           0.09   198.26   .283E+03           0.1          0.18      49.26
           0.18   198.36   .105E+04           0.6          0.29      30.25
           0.28   198.45   .216E+04           1.6          0.39      22.69
           0.37   198.54   .361E+04           3.2          0.46      18.93
           0.46   198.63   .544E+04           5.4          0.52      16.78
           0.55   198.72   .775E+04           8.3          0.56      15.57
           0.64   198.82   .105E+05          12.6          0.63      13.98
           0.74   198.91   .138E+05          17.9          0.69      12.81
           0.83   199.00   .174E+05          24.7          0.75      11.75
           0.92   199.09   .214E+05          32.8          0.81      10.88
           1.01   199.19   .258E+05          42.3          0.86      10.17
           1.10   199.28   .306E+05          53.3          0.92       9.57
           1.20   199.37   .357E+05          65.7          0.97       9.05
           1.29   199.46   .412E+05          79.7          1.02       8.62
           1.38   199.55   .471E+05          95.4          1.07       8.23
           1.47   199.65   .533E+05         112.8          1.11       7.88
           1.57   199.74   .600E+05         131.7          1.16       7.59
           1.66   199.83   .671E+05         151.7          1.19       7.37
           1.81   199.98   .800E+05         192.2          1.27       6.94

                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                             (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  7430)     283.02     6.31    5.42  25.58      0.49
0.54
   OUTFLOW: ID= 1 (  7429)     283.02     5.90    5.67  25.57      0.48
0.53


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| ROUTE CHN(  7428)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         199.98        0.0600
                12.77         199.93        0.0600      Main Channel
                20.39         199.83        0.0600      Main Channel
                25.78         199.72        0.0600      Main Channel
                34.33         199.43        0.0600      Main Channel
                48.27         198.98        0.0600      Main Channel
                60.01         198.63        0.0600      Main Channel
                76.18         198.18        0.0600      Main Channel
                77.18         198.17        0.0600      Main Channel
                87.95         198.31        0.0600      Main Channel
                95.57         198.52        0.0600      Main Channel
               104.12         198.67        0.0600      Main Channel
```

109.50	198.70	0.0600		Main Channel
112.66	198.77	0.0600		Main Channel
120.28	198.88	0.0600		Main Channel
146.93	199.39	0.0600		Main Channel
164.10	199.70	0.0600		Main Channel
173.95	199.87	0.0600		Main Channel
182.49	199.98	0.0600	/0.0600	Main Channel
185.70	200.01	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	198.26	.447E+03	0.1	0.14	96.98
0.18	198.36	.165E+04	0.5	0.23	59.55
0.28	198.45	.341E+04	1.3	0.31	44.67
0.37	198.54	.569E+04	2.5	0.37	37.27
0.46	198.63	.858E+04	4.3	0.42	33.03
0.55	198.72	.122E+05	6.6	0.45	30.65
0.64	198.82	.166E+05	10.1	0.50	27.53
0.74	198.91	.217E+05	14.4	0.55	25.22
0.83	199.00	.275E+05	19.8	0.60	23.13
0.92	199.09	.338E+05	26.3	0.65	21.42
1.01	199.19	.407E+05	33.9	0.69	20.02
1.10	199.28	.482E+05	42.7	0.74	18.84
1.20	199.37	.563E+05	52.7	0.78	17.83
1.29	199.46	.650E+05	63.9	0.82	16.96
1.38	199.55	.743E+05	76.4	0.85	16.20
1.47	199.65	.842E+05	90.4	0.89	15.52
1.57	199.74	.946E+05	105.5	0.93	14.95
1.66	199.83	.106E+06	121.6	0.95	14.51
1.81	199.98	.126E+06	154.0	1.01	13.66

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7429)	283.02	5.90	5.67	25.57	0.52	0.44
OUTFLOW: ID= 1 (7428)	283.02	5.17	6.17	25.57	0.49	0.43

ROUTE CHN(7425)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	193.99	0.0600	
10.30	193.81	0.0600	Main Channel
27.80	193.56	0.0600	Main Channel
62.86	193.25	0.0600	Main Channel
109.73	192.92	0.0600	Main Channel
121.95	192.61	0.0600	Main Channel
128.65	192.33	0.0600	Main Channel
145.32	191.77	0.0600	Main Channel
168.70	190.92	0.0600	Main Channel
174.53	191.30	0.0600	Main Channel
180.37	191.61	0.0600	Main Channel
192.03	191.37	0.0600	Main Channel
203.70	192.87	0.0600	Main Channel
213.14	193.02	0.0600	Main Channel

227.04	192.96	0.0600		Main Channel
238.71	192.99	0.0600		Main Channel
252.61	193.20	0.0600		Main Channel
285.38	194.41	0.0600		Main Channel
291.21	194.57	0.0600	/0.0600	Main Channel
324.00	195.18	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	191.07	.341E+03	0.1	0.23	48.64
0.31	191.23	.136E+04	0.7	0.36	30.64
0.47	191.38	.308E+04	2.1	0.46	24.11
0.62	191.54	.606E+04	4.5	0.49	22.47
0.78	191.69	.105E+05	9.6	0.61	18.28
0.93	191.85	.157E+05	17.2	0.73	15.13
1.09	192.00	.214E+05	27.0	0.84	13.18
1.24	192.16	.277E+05	39.1	0.94	11.81
1.40	192.31	.346E+05	53.5	1.03	10.78
1.55	192.47	.421E+05	70.9	1.12	9.91
1.71	192.62	.501E+05	90.7	1.20	9.22
1.86	192.78	.588E+05	111.5	1.26	8.79
2.02	192.94	.683E+05	131.1	1.28	8.68
2.17	193.09	.821E+05	130.6	1.06	10.48
2.33	193.25	.100E+06	161.9	1.07	10.31
2.48	193.40	.121E+06	205.6	1.13	9.80
2.64	193.56	.144E+06	257.3	1.19	9.32
2.86	193.77	.179E+06	361.4	1.34	8.26
3.07	193.99	.217E+06	482.4	1.47	7.51

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7428)	283.02	5.17	6.17	25.57	0.64	0.51
OUTFLOW: ID= 1 (7425)	283.02	4.91	6.50	25.57	0.63	0.50

ADD HYD (7618)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7425):	283.02	4.911	6.50	25.57
+ ID2= 2 (7427):	68.57	0.427	7.25	13.93
ID = 3 (7618):	351.59	5.325	6.58	23.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (7435)	Area (ha)=	100.66	
ID= 1 DT= 5.0 min	Total Imp(%)=	66.10	Dir. Conn.(%)= 66.10

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	66.54	34.12
Dep. Storage	(mm)=	2.00	5.00

Average Slope (%)=	2.43	2.43	
Length (m)=	819.19	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	10.96	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.34 (ii)	29.46 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.08	0.04	
			TOTALS
PEAK FLOW (cms)=	3.53	0.73	4.189 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	40.00	17.47	32.36
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.42	0.77

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7434)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.4710	4.5935
	0.6230	2.5140	1.9360	5.5867
	0.9480	3.3830	19.3600	6.2074

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7435)	100.660	4.189	5.25	32.36
OUTFLOW: ID= 1 (7434)	100.660	0.580	7.58	32.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.86
TIME SHIFT OF PEAK FLOW (min)=140.00
MAXIMUM STORAGE USED (ha.m.)= 2.3425

ADD HYD (7424)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7434):	100.66	0.580	7.58	32.35
+ ID2= 2 (7618):	351.59	5.325	6.58	23.30
ID = 3 (7424):	452.25	5.883	6.58	25.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7423)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	193.99	0.0600	
10.30	193.81	0.0600	Main Channel
27.80	193.56	0.0600	Main Channel
62.86	193.25	0.0600	Main Channel
109.73	192.92	0.0600	Main Channel
121.95	192.61	0.0600	Main Channel
128.65	192.33	0.0600	Main Channel
145.32	191.77	0.0600	Main Channel
168.70	190.92	0.0600	Main Channel
174.53	191.30	0.0600	Main Channel
180.37	191.61	0.0600	Main Channel
192.03	191.37	0.0600	Main Channel
203.70	192.87	0.0600	Main Channel
213.14	193.02	0.0600	Main Channel
227.04	192.96	0.0600	Main Channel
238.71	192.99	0.0600	Main Channel
252.61	193.20	0.0600	Main Channel
285.38	194.41	0.0600	Main Channel
291.21	194.57	0.0600	/0.0600 Main Channel
324.00	195.18	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.16	191.07	.236E+03	0.1	0.19	39.41
0.31	191.23	.943E+03	0.6	0.31	24.83
0.47	191.38	.213E+04	1.8	0.39	19.53
0.62	191.54	.419E+04	3.8	0.42	18.20
0.78	191.69	.727E+04	8.2	0.52	14.81
0.93	191.85	.108E+05	14.7	0.62	12.26
1.09	192.00	.148E+05	23.1	0.72	10.68
1.24	192.16	.191E+05	33.3	0.80	9.57
1.40	192.31	.239E+05	45.6	0.88	8.74
1.55	192.47	.291E+05	60.4	0.95	8.03
1.71	192.62	.346E+05	77.3	1.02	7.47
1.86	192.78	.406E+05	95.0	1.07	7.12
2.02	192.94	.472E+05	111.8	1.09	7.03
2.17	193.09	.567E+05	111.4	0.90	8.49
2.33	193.25	.692E+05	138.0	0.92	8.35
2.48	193.40	.835E+05	175.3	0.96	7.94
2.64	193.56	.994E+05	219.3	1.01	7.56
2.86	193.77	.124E+06	308.1	1.14	6.70
3.07	193.99	.150E+06	411.2	1.26	6.08

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7424)	452.25	5.88	6.58	25.32	0.69	0.46
OUTFLOW: ID= 1 (7423)	452.25	5.76	6.83	25.32	0.69	0.46

ROUTE CHN(7420)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	192.27	0.0600	
15.24	192.34	0.0600	Main Channel
45.34	192.21	0.0600	Main Channel
78.45	191.69	0.0600	Main Channel
115.66	191.38	0.0600	Main Channel
175.98	191.09	0.0600	Main Channel
218.14	190.59	0.0600	Main Channel
246.20	189.71	0.0600	Main Channel
292.49	187.96	0.0600	Main Channel
306.61	187.55	0.0600	Main Channel
316.67	187.36	0.0600	Main Channel
346.78	188.49	0.0600	Main Channel
356.78	189.25	0.0600	Main Channel
387.07	190.72	0.0600	Main Channel
437.33	191.17	0.0600	Main Channel
457.42	191.57	0.0600	Main Channel
475.55	191.69	0.0600	Main Channel
487.55	191.90	0.0600	Main Channel
513.65	192.65	0.0600 /0.0600	Main Channel
560.00	193.38	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	187.62	.144E+04	0.8	0.30	30.88
0.51	187.87	.532E+04	4.6	0.49	19.27
0.76	188.13	.114E+05	13.0	0.64	14.58
1.02	188.38	.194E+05	26.9	0.78	12.02
1.27	188.64	.293E+05	47.7	0.91	10.22
1.53	188.89	.406E+05	75.7	1.05	8.94
1.78	189.15	.534E+05	110.8	1.16	8.03
2.04	189.40	.677E+05	152.5	1.26	7.39
2.29	189.66	.836E+05	202.1	1.36	6.89
2.55	189.91	.101E+06	259.6	1.44	6.51
2.80	190.17	.121E+06	326.9	1.52	6.17
3.06	190.42	.143E+06	404.9	1.59	5.87
3.31	190.68	.166E+06	486.1	1.64	5.70
3.57	190.93	.194E+06	540.6	1.56	5.99
3.82	191.19	.230E+06	607.8	1.48	6.30
4.08	191.44	.275E+06	720.1	1.47	6.36
4.33	191.70	.328E+06	873.8	1.50	6.25
4.59	191.95	.387E+06	1097.7	1.59	5.87
4.84	192.21	.449E+06	1358.1	1.70	5.52

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7423)	452.25	5.76	6.83	25.32	0.54	0.50
OUTFLOW: ID= 1 (7420)	452.25	5.63	7.08	25.32	0.54	0.50

CALIB	STANDHYD (7422)	ID= 1 DT= 5.0 min

Area (ha)= 104.61
Total Imp(%)= 45.50 Dir. Conn.(%)= 45.40

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	47.60	57.01

Dep. Storage (mm)=	2.00	5.00	
Average Slope (%)=	2.16	2.16	
Length (m)=	835.10	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	11.00	
over (min)	15.00	35.00	
Storage Coeff. (min)=	13.98 (ii)	30.66 (ii)	
Unit Hyd. Tpeak (min)=	15.00	35.00	
Unit Hyd. peak (cms)=	0.08	0.04	
			TOTALS
PEAK FLOW (cms)=	2.51	1.18	3.538 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	40.00	17.50	27.71
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.42	0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7582)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7420):	452.25	5.629	7.08	25.32
+ ID2= 2 (7422):	104.61	3.538	5.25	27.71
ID = 3 (7582):	556.86	6.487	7.00	25.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7396)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7581):	594.84	3.648	5.25	18.90
+ ID2= 2 (7582):	556.86	6.487	7.00	25.77
ID = 3 (7396):	1151.70	7.868	5.25	22.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7395)	IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	201.24	0.0600	
82.94	200.61	0.0600	Main Channel
133.10	199.07	0.0600	Main Channel
227.02	197.97	0.0600	Main Channel
328.00	196.05	0.0600	Main Channel
371.02	194.51	0.0600	Main Channel

405.29	194.92	0.0600	Main Channel
559.65	194.92	0.0600	Main Channel
569.88	195.80	0.0600	Main Channel
618.81	192.48	0.0600	Main Channel
672.09	189.83	0.0600	Main Channel
733.28	192.00	0.0600	Main Channel
825.18	191.15	0.0600	Main Channel
930.59	192.19	0.0600	Main Channel
990.22	193.88	0.0600	Main Channel
1051.30	196.78	0.0600	Main Channel
1076.16	199.10	0.0600	Main Channel
1115.92	199.08	0.0600	Main Channel
1234.59	199.87	0.0600 /0.0600	Main Channel
1256.87	200.39	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	190.37	.767E+04	3.0	0.42	42.81
1.09	190.92	.307E+05	19.0	0.66	26.97
1.63	191.46	.799E+05	47.7	0.64	27.89
2.17	192.00	.205E+06	145.9	0.77	23.39
2.72	192.55	.385E+06	381.1	1.06	16.84
3.26	193.09	.583E+06	721.4	1.33	13.47
3.80	193.63	.797E+06	1155.7	1.56	11.49
4.35	194.18	.103E+07	1693.3	1.77	10.10
4.89	194.72	.127E+07	2256.8	1.91	9.38
5.44	195.27	.161E+07	2582.8	1.73	10.36
5.98	195.81	.200E+07	3578.5	1.92	9.32
6.52	196.35	.242E+07	4747.4	2.11	8.48
7.07	196.90	.285E+07	6054.3	2.28	7.86
7.61	197.44	.331E+07	7539.9	2.45	7.33
8.15	197.98	.379E+07	9180.4	2.60	6.89
8.70	198.53	.430E+07	10859.5	2.72	6.60
9.24	199.07	.483E+07	12714.1	2.83	6.34
9.90	199.73	.557E+07	14681.8	2.83	6.32
10.56	200.39	.638E+07	18055.0	3.04	5.89

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7396)	1151.70	7.87	5.25	22.22	0.71	0.47
OUTFLOW: ID= 1 (7395)	1151.70	7.10	7.33	22.22	0.68	0.46

ROUTE CHN(7393)	IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	190.51	0.0600	
102.59	189.67	0.0600	Main Channel
143.82	189.50	0.0600	Main Channel
246.45	188.43	0.0600	Main Channel
288.96	187.95	0.0600	Main Channel
361.80	186.65	0.0600	Main Channel
397.89	185.48	0.0600	Main Channel
470.12	184.13	0.0600	Main Channel

506.80	182.82	0.0600	Main Channel
518.46	181.46	0.0600	Main Channel
542.98	182.23	0.0600	Main Channel
615.32	182.92	0.0600	Main Channel
708.57	186.12	0.0600	Main Channel
793.56	187.61	0.0600	Main Channel
878.72	189.40	0.0600	Main Channel
942.59	190.95	0.0600	Main Channel
1015.83	193.42	0.0600	Main Channel
1048.90	194.78	0.0600	Main Channel
1101.93	196.12	0.0600 /0.0600	Main Channel
1165.73	196.50	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	181.93	.397E+04	1.7	0.38	38.78
0.95	182.41	.169E+05	9.9	0.51	28.45
1.42	182.88	.492E+05	36.3	0.65	22.63
1.89	183.35	.100E+06	100.0	0.88	16.67
2.36	183.82	.162E+06	198.1	1.07	13.64
2.84	184.30	.236E+06	328.9	1.23	11.94
3.31	184.77	.325E+06	496.0	1.34	10.91
3.78	185.24	.430E+06	713.9	1.46	10.03
4.26	185.72	.550E+06	997.9	1.59	9.19
4.73	186.19	.683E+06	1344.5	1.73	8.47
5.20	186.66	.832E+06	1725.1	1.82	8.04
5.68	187.14	.100E+07	2147.3	1.89	7.76
6.15	187.61	.119E+07	2656.4	1.96	7.47
6.62	188.08	.140E+07	3256.5	2.04	7.18
7.09	188.55	.164E+07	3914.6	2.10	6.98
7.57	189.03	.190E+07	4680.2	2.16	6.78
8.04	189.50	.220E+07	5575.2	2.23	6.57
8.55	190.01	.255E+07	6932.4	2.39	6.13
9.05	190.51	.294E+07	8454.1	2.52	5.80

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7395)	1151.70	7.10	7.33	22.22	0.78	0.46
OUTFLOW: ID= 1 (7393)	1151.70	6.92	7.67	22.22	0.77	0.45

CALIB	NASHYD (7436)	ID= 1 DT= 5.0 min

Area (ha)= 119.96 Curve Number (CN)= 86.0
Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.04

Unit Hyd Qpeak (cms)= 1.004

PEAK FLOW	(cms)=	0.461 (i)
TIME TO PEAK	(hrs)=	8.500
RUNOFF VOLUME	(mm)=	13.951
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.332

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7392)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7393):		1151.70	6.917	7.67	22.22
+ ID2= 2 (7436):		119.96	0.461	8.50	13.95
ID = 3 (7392):		1271.66	7.361	7.75	21.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7391) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	188.08	0.0600	
24.02	188.29	0.0600	Main Channel
111.07	187.27	0.0600	Main Channel
190.82	186.69	0.0600	Main Channel
240.89	184.43	0.0600	Main Channel
262.54	181.95	0.0600	Main Channel
310.33	180.54	0.0600	Main Channel
407.06	179.26	0.0600	Main Channel
417.88	178.61	0.0600	Main Channel
443.99	181.71	0.0600	Main Channel
465.09	181.80	0.0600	Main Channel
488.97	184.79	0.0600	Main Channel
525.10	184.58	0.0600	Main Channel
596.82	184.93	0.0600	Main Channel
656.86	186.29	0.0600	Main Channel
721.42	187.38	0.0600	Main Channel
764.39	188.96	0.0600	Main Channel
788.28	188.97	0.0600	Main Channel
847.81	190.37	0.0600 /0.0600	Main Channel
981.69	190.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.48	179.09	.244E+04	1.2	0.40	35.12
0.96	179.57	.122E+05	7.3	0.50	27.83
1.44	180.05	.376E+05	30.6	0.68	20.49
1.92	180.53	.794E+05	81.5	0.87	16.22
2.41	181.02	.134E+06	175.1	1.10	12.71
2.89	181.50	.196E+06	303.8	1.31	10.75
3.37	181.98	.270E+06	449.5	1.40	10.03
3.85	182.46	.355E+06	688.7	1.63	8.59
4.33	182.94	.442E+06	970.3	1.85	7.60
4.81	183.42	.533E+06	1293.3	2.04	6.87
5.29	183.90	.627E+06	1656.8	2.22	6.31
5.77	184.38	.725E+06	2060.5	2.39	5.86
6.25	184.86	.839E+06	2062.0	2.07	6.78
6.74	185.35	.992E+06	2527.5	2.15	6.54
7.22	185.83	.116E+07	3107.3	2.26	6.21
7.70	186.31	.134E+07	3762.5	2.37	5.93
8.18	186.79	.153E+07	4399.0	2.42	5.80
8.66	187.27	.176E+07	4936.6	2.37	5.93
9.47	188.08	.220E+07	6888.0	2.63	5.33

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7392)	1271.66	7.36	7.75	21.44	0.96	0.50
OUTFLOW: ID= 1 (7391)	1271.66	7.24	8.08	21.44	0.95	0.50

CALIB | NASHYD (7437) | ID= 1 DT= 5.0 min | Area (ha)= 31.24 Curve Number (CN)= 85.0 | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50 | U.H. Tp(hrs)= 0.82

Unit Hyd Qpeak (cms)= 0.650

PEAK FLOW (cms)= 0.215 (i)
TIME TO PEAK (hrs)= 6.667
RUNOFF VOLUME (mm)= 13.293
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.317

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7619)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7391):		1271.66	7.242	8.08	21.44
+ ID2= 2 (7437):		31.24	0.215	6.67	13.29
ID = 3 (7619):		1302.90	7.426	8.08	21.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | NASHYD (7439) | ID= 1 DT= 5.0 min | Area (ha)= 117.95 Curve Number (CN)= 90.0 | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50 | U.H. Tp(hrs)= 2.51

Unit Hyd Qpeak (cms)= 0.802

PEAK FLOW (cms)= 0.469 (i)
TIME TO PEAK (hrs)= 9.083
RUNOFF VOLUME (mm)= 16.995
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.405

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7390)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7439):		117.95	0.469	9.08	17.00
+ ID2= 2 (7619):		1302.90	7.426	8.08	21.24
ID = 3 (7390):		1420.85	7.881	8.08	20.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7389) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
539.36	183.94	0.0600	
541.59	183.35	0.0600	Main Channel
549.84	182.21	0.0600	Main Channel
566.70	177.85	0.0600	Main Channel
571.17	176.89	0.0600	Main Channel
573.17	176.78	0.0600	Main Channel
581.71	175.86	0.0600	Main Channel
598.49	175.32	0.0600	Main Channel
613.51	175.12	0.0600	Main Channel
623.96	174.55	0.0600	Main Channel
631.24	175.16	0.0600	Main Channel
644.89	175.64	0.0600	Main Channel
650.27	176.07	0.0600	Main Channel
655.66	176.29	0.0600	Main Channel
676.58	179.47	0.0600	Main Channel
687.07	180.71	0.0600	Main Channel
696.55	182.00	0.0600	Main Channel
708.41	182.78	0.0600	Main Channel
718.89	183.28	0.0600 /0.0600	Main Channel
729.38	183.61	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	175.00	.209E+04	1.0	0.32	35.64
0.90	175.45	.107E+05	6.7	0.43	26.62
1.35	175.90	.283E+05	26.0	0.63	18.11
1.80	176.35	.506E+05	61.4	0.83	13.73
2.25	176.80	.759E+05	113.7	1.02	11.12
2.70	177.25	.103E+06	181.8	1.20	9.48
3.15	177.70	.133E+06	265.3	1.36	8.33
3.60	178.15	.163E+06	363.3	1.51	7.49
4.06	178.61	.195E+06	475.4	1.66	6.85
4.51	179.06	.229E+06	601.4	1.79	6.34
4.96	179.51	.264E+06	741.2	1.91	5.94
5.41	179.96	.301E+06	891.9	2.02	5.62
5.86	180.41	.339E+06	1057.2	2.12	5.34
6.31	180.86	.379E+06	1238.4	2.22	5.10
6.76	181.31	.420E+06	1436.7	2.33	4.88
7.21	181.76	.464E+06	1650.2	2.42	4.68
7.66	182.21	.508E+06	1866.5	2.50	4.54
8.11	182.66	.556E+06	2100.0	2.57	4.41
8.81	183.36	.637E+06	2488.1	2.66	4.26

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7390)	1420.85	7.88	8.08	20.89	0.93	0.43
OUTFLOW: ID= 1 (7389)	1420.85	7.76	8.50	20.89	0.92	0.43

CALIB | STANDHYD (7440) | ID= 1 DT= 5.0 min | Area (ha)= 70.62 | Total Imp(%)= 60.50 Dir. Conn.(%)= 60.40

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	42.73	27.89
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.22	2.22
Length (m)=	686.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.01
over (min)	10.00	30.00
Storage Coeff. (min)=	12.33 (ii)	28.86 (ii)
Unit Hyd. Tpeak (min)=	10.00	30.00
Unit Hyd. peak (cms)=	0.10	0.04

		TOTALS
PEAK FLOW (cms)=	2.27	2.820 (iii)
TIME TO PEAK (hrs)=	5.25	5.25
RUNOFF VOLUME (mm)=	17.51	31.09
TOTAL RAINFALL (mm)=	42.00	42.00
RUNOFF COEFFICIENT =	0.42	0.74

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7388)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)

ID1= 1 (	7389):	1420.85	7.762	8.50	20.89
+ ID2= 2 (	7438):	25.11	0.146	6.33	9.84
ID = 3 (	7388):	1445.96	7.860	8.50	20.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7388)

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (7388):	1445.96	7.860	8.50	20.70
+ ID2= 2 (7440):	70.62	2.820	5.25	31.09
ID = 1 (7388):	1516.58	8.137	8.33	21.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7387)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
539.36	183.94	0.0600	
541.59	183.35	0.0600	Main Channel
549.84	182.21	0.0600	Main Channel
566.70	177.85	0.0600	Main Channel
571.17	176.89	0.0600	Main Channel
573.17	176.78	0.0600	Main Channel
581.71	175.86	0.0600	Main Channel
598.49	175.32	0.0600	Main Channel
613.51	175.12	0.0600	Main Channel
623.96	174.55	0.0600	Main Channel
631.24	175.16	0.0600	Main Channel
644.89	175.64	0.0600	Main Channel
650.27	176.07	0.0600	Main Channel
655.66	176.29	0.0600	Main Channel
676.58	179.47	0.0600	Main Channel
687.07	180.71	0.0600	Main Channel
696.55	182.00	0.0600	Main Channel
708.41	182.78	0.0600	Main Channel
718.89	183.28	0.0600 /0.0600	Main Channel
729.38	183.61	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	175.00	.138E+04	1.5	0.48	15.78
0.90	175.45	.707E+04	10.0	0.64	11.79
1.35	175.90	.187E+05	38.8	0.93	8.02
1.80	176.35	.334E+05	91.6	1.23	6.08
2.25	176.80	.501E+05	169.7	1.52	4.92
2.70	177.25	.684E+05	271.4	1.79	4.20
3.15	177.70	.876E+05	396.0	2.03	3.69
3.60	178.15	.108E+06	542.3	2.26	3.32
4.06	178.61	.129E+06	709.6	2.47	3.03
4.51	179.06	.151E+06	897.8	2.67	2.81
4.96	179.51	.174E+06	1106.4	2.85	2.63
5.41	179.96	.199E+06	1331.4	3.01	2.49
5.86	180.41	.224E+06	1578.2	3.17	2.37

6.31	180.86	.250E+06	1848.6	3.32	2.26
6.76	181.31	.278E+06	2144.5	3.47	2.16
7.21	181.76	.306E+06	2463.3	3.62	2.07
7.66	182.21	.336E+06	2786.2	3.73	2.01
8.11	182.66	.367E+06	3134.8	3.84	1.95
8.81	183.36	.421E+06	3714.0	3.97	1.89

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7388)	1516.58	8.14	8.33	21.18	0.80	0.59
OUTFLOW: ID= 1 (7387)	1516.58	8.10	8.42	21.18	0.80	0.59

CALIB
STANDHYD (7443) | Area (ha)= 113.91
ID= 1 DT= 5.0 min | Total Imp(%)= 34.50 Dir. Conn.(%)= 34.20

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	39.30	74.61
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.54	1.54
Length	(m)=	871.44	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.04
over (min)		15.00	35.00
Storage Coeff. (min)=		15.88 (ii)	34.31 (ii)
Unit Hyd. Tpeak (min)=		15.00	35.00
Unit Hyd. peak (cms)=		0.07	0.03
			TOTALS
PEAK FLOW	(cms)=	2.05	1.49 3.329 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58 5.33
RUNOFF VOLUME	(mm)=	40.00	17.53 25.22
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.42 0.60

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7442)
IN= 2---> OUT= 1 |
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.6410	3.7689
0.6960	1.5883	2.1600	4.8458
1.0570	2.4498	21.6000	5.3842

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7443)	113.910	3.329	5.33	25.22
OUTFLOW: ID= 1 (7442)	113.910	0.767	7.50	25.21

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.03
TIME SHIFT OF PEAK FLOW (min)=130.00
MAXIMUM STORAGE USED (ha.m.)= 1.7570

ADD HYD (7386)
1 + 2 = 3 |

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7387):	1516.58	8.103	8.42	21.18
+ ID2= 2 (7442):	113.91	0.767	7.50	25.21
ID = 3 (7386):	1630.49	8.846	8.42	21.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7385)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	184.47	0.0600	
106.89	183.39	0.0600	Main Channel
165.64	183.34	0.0600	Main Channel
320.71	181.97	0.0600	Main Channel
394.79	180.83	0.0600	Main Channel
579.78	180.09	0.0600	Main Channel
592.02	179.86	0.0600	Main Channel
603.92	181.29	0.0600	Main Channel
655.85	180.86	0.0600	Main Channel
676.11	179.26	0.0600	Main Channel
716.69	178.53	0.0600	Main Channel
747.21	172.21	0.0600	Main Channel
808.25	171.23	0.0600	Main Channel
818.31	172.61	0.0600	Main Channel
828.51	177.09	0.0600	Main Channel
879.61	180.11	0.0600	Main Channel
1185.68	181.64	0.0600	Main Channel
1350.19	182.04	0.0600	Main Channel
1391.11	182.62	0.0600 /0.0600	Main Channel
1449.55	182.17	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.57	171.80	.477E+04	5.4	0.48	14.73
1.14	172.37	.188E+05	36.2	0.81	8.65
1.71	172.94	.364E+05	103.7	1.21	5.84
2.28	173.51	.550E+05	199.2	1.53	4.60
2.85	174.08	.746E+05	319.9	1.81	3.89
3.42	174.65	.952E+05	464.7	2.06	3.41
3.99	175.22	.117E+06	633.0	2.29	3.07
4.56	175.79	.139E+06	824.6	2.50	2.81
5.13	176.36	.163E+06	1039.2	2.70	2.61
5.69	176.92	.187E+06	1277.2	2.88	2.44

6.26	177.49	.213E+06	1491.9	2.96	2.38
6.83	178.06	.242E+06	1721.4	3.01	2.34
7.40	178.63	.274E+06	1941.1	2.99	2.35
7.97	179.20	.313E+06	2057.2	2.77	2.54
8.54	179.77	.361E+06	2432.7	2.85	2.47
9.11	180.34	.420E+06	2221.9	2.24	3.15
9.68	180.91	.534E+06	2287.5	1.81	3.89
10.25	181.48	.705E+06	3001.8	1.80	3.91
10.82	182.05	.924E+06	3960.9	1.81	3.89

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7386)	1630.49	8.85	8.42	21.46	0.63	0.50
OUTFLOW: ID= 1 (7385)	1630.49	8.80	8.67	21.46	0.63	0.50

CALIB
STANDHYD (7445) | Area (ha)= 92.44
ID= 1 DT= 5.0 min | Total Imp(%)= 92.40 Dir. Conn.(%)= 92.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	85.41	7.03
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.20	2.20
Length	(m)=	785.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	NaN
over (min)		15.00	20.00
Storage Coeff. (min)=		13.40 (ii)	18.28 (ii)
Unit Hyd. Tpeak (min)=		15.00	20.00
Unit Hyd. peak (cms)=		0.08	0.06
			TOTALS
PEAK FLOW	(cms)=	4.53	0.17 4.698 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33 5.25
RUNOFF VOLUME	(mm)=	40.00	16.73 38.23
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.40 0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7444)
IN= 2---> OUT= 1 |
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	1.3640	4.0770
0.5780	2.1633	1.7960	

4.9923 0.8790 2.9122 | 17.9600
5.5470

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7445)	92.440	4.698	5.25	38.23
OUTFLOW: ID= 1 (7444)	92.440	0.717	7.33	38.22

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.26
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 2.5091

CALIB
STANDHYD (7441) | Area (ha)= 27.76
ID= 1 DT= 5.0 min | Total Imp(%)= 34.40 Dir. Conn.(%)= 34.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.55	18.21
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.69	2.69
Length	(m)=	430.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.53
over (min)		10.00	25.00
Storage Coeff. (min)=		8.79 (ii)	24.68 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05
			TOTALS
PEAK FLOW	(cms)=	0.51	0.40 0.889 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42 5.25
RUNOFF VOLUME	(mm)=	40.00	16.75 24.72
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.40 0.59

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7384)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7385):	1630.49	8.804	8.67	21.46
+ ID2= 2 (7441):	27.76	0.889	5.25	24.72
ID = 3 (7384):	1658.25	8.880	8.58	21.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7384)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (7384):	1658.25	8.880	8.58	21.52
+ ID2= 2 (7444):	92.44	0.717	7.33	38.22
ID = 1 (7384):	1750.69	9.555	8.58	22.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (7447) | Area (ha)= 91.56
ID= 1 DT= 5.0 min | Total Imp(%)= 66.90 Dir. Conn.(%)= 60.90

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	61.25	30.31
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.41	2.41
Length	(m)=	781.28	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.55
over (min)		15.00	30.00
Storage Coeff. (min)=		13.00 (ii)	27.43 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW	(cms)=	2.96	0.88 3.776 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42 5.25
RUNOFF VOLUME	(mm)=	40.00	19.60 32.02
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.47 0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (7449) | Area (ha)= 18.50
ID= 1 DT= 5.0 min | Total Imp(%)= 90.40 Dir. Conn.(%)= 90.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.72	1.78
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.93	1.93
Length	(m)=	351.19	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.65
over (min)		10.00	30.00
Storage Coeff. (min)=		8.60 (ii)	26.77 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.12	0.04
			TOTALS
PEAK FLOW	(cms)=	0.90	0.03 0.928 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	40.00	15.38 37.64
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.37 0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7448)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.9900	0.6945
0.1800	0.4630	1.4300	0.7862
0.4700	0.5460	14.3000	0.8736

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7449)	18.500	0.928	5.25	37.64
OUTFLOW: ID= 1 (7448)	18.500	0.178	6.50	37.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.22
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.4585

ADD HYD (7383)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7384):	1750.69	9.555	8.58	22.40
+ ID2= 2 (7447):	91.56	3.776	5.25	32.02
ID = 3 (7383):	1842.25	9.911	8.33	22.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7383)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7383):	1842.25	9.911	8.33	22.88
+ ID2= 2 (7448):	18.50	0.178	6.50	37.60
ID = 1 (7383):	1860.75	10.076	8.33	23.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7382)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	178.57	0.0600	
61.93	179.54	0.0600	Main Channel
132.63	177.97	0.0600	Main Channel
205.10	179.56	0.0600	Main Channel
254.62	178.49	0.0600	Main Channel
370.44	178.36	0.0600	Main Channel
522.58	178.15	0.0600	Main Channel
660.24	176.33	0.0600	Main Channel
706.93	173.96	0.0600	Main Channel
732.92	174.00	0.0600	Main Channel
753.61	169.36	0.0600	Main Channel
846.83	168.63	0.0600	Main Channel
891.29	176.10	0.0600	Main Channel
909.06	177.04	0.0600	Main Channel
967.04	175.28	0.0600	Main Channel
1034.16	176.57	0.0600	Main Channel
1168.31	176.74	0.0600	Main Channel
1188.90	176.06	0.0600	Main Channel
1268.94	175.40	0.0600 /0.0600	Main Channel
1323.47	175.34	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	169.19	.204E+05	12.6	0.59	26.98
1.13	169.76	.722E+05	84.8	1.13	14.19
1.69	170.32	.129E+06	214.2	1.59	10.02
2.26	170.89	.188E+06	390.0	1.98	8.05
2.82	171.45	.251E+06	609.2	2.32	6.88
3.38	172.01	.317E+06	870.2	2.63	6.08
3.95	172.58	.387E+06	1172.3	2.90	5.50
4.51	173.14	.459E+06	1515.1	3.16	5.05
5.08	173.71	.535E+06	1898.8	3.40	4.69
5.64	174.27	.622E+06	2095.2	3.23	4.95
6.21	174.84	.723E+06	2557.4	3.39	4.71
6.77	175.40	.834E+06	2987.8	3.43	4.65
7.33	175.96	.102E+07	2933.6	2.76	5.78
7.93	176.56	.128E+07	3526.7	2.64	6.04
8.52	177.15	.166E+07	4267.6	2.46	6.48
9.12	177.75	.209E+07	5988.7	2.75	5.80
9.71	178.34	.255E+07	7252.2	2.72	5.87
10.31	178.94	.320E+07	9340.1	2.80	5.70
10.90	179.53	.391E+07	12473.0	3.05	5.23

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7383)	1860.75	10.08	8.33	23.03	0.45	0.59
OUTFLOW: ID= 1 (7382)	1860.75	9.91	8.83	23.03	0.44	0.59

CALIB
NASHYD (7446) | Area (ha)= 31.37 Curve Number (CN)= 82.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 0.84

Unit Hyd Qpeak (cms)= 0.638

PEAK FLOW (cms)= 0.185 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 11.638
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.277

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7381)| 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7382):		1860.75	9.907	8.83	23.03
+	ID2= 2 (7446):		31.37	0.185	6.75	11.64
	ID = 3 (7381):		1892.12	10.043	8.83	22.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (7450) / ID= 1 DT= 5.0 min	Area (ha)= 25.37 / Total Imp(%)= 59.30	Dir. Conn.(%)= 56.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.04	10.33
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.74	2.74
Length	(m)=	411.26	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.60
over (min)		10.00	25.00
Storage Coeff. (min)=		8.51 (ii)	24.27 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05
			TOTALS
PEAK FLOW	(cms)=	0.76	0.23 0.979 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42 5.25
RUNOFF VOLUME	(mm)=	40.00	15.70 29.31
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.37 0.70

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (7452) / ID= 1 DT= 5.0 min	Area (ha)= 26.88 / Total Imp(%)= 59.30	Dir. Conn.(%)= 53.10

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.94	10.94

		IMPERVIOUS	PERVIOUS (i)
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.55	2.55
Length	(m)=	423.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.00
over (min)		10.00	25.00
Storage Coeff. (min)=		8.85 (ii)	23.26 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05
			TOTALS
PEAK FLOW	(cms)=	0.77	0.33 1.078 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42 5.25
RUNOFF VOLUME	(mm)=	40.00	19.29 30.28
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.46 0.72

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (7454) / ID= 1 DT= 5.0 min	Area (ha)= 28.66 / Total Imp(%)= 57.90	Dir. Conn.(%)= 52.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.59	12.07
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.59	2.59
Length	(m)=	437.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	13.77
over (min)		10.00	25.00
Storage Coeff. (min)=		8.98 (ii)	23.41 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05
			TOTALS
PEAK FLOW	(cms)=	0.80	0.35 1.137 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42 5.25
RUNOFF VOLUME	(mm)=	40.00	19.15 29.99
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.46 0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7453)| IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW
STORAGE	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	2.1100	

0.5150 0.7900 0.2709 | 2.7300
0.6019 1.3300 0.3879 | 27.3000
0.6688

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7454)		28.660	1.137	5.25	29.99
OUTFLOW: ID= 1 (7453)		28.660	0.733	5.50	29.99

PEAK FLOW REDUCTION [Qout/Qin](%)= 64.50
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.2516

ADD HYD (7380)| 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7381):		1892.12	10.043	8.83	22.84
+	ID2= 2 (7450):		25.37	0.979	5.25	29.31
	ID = 3 (7380):		1917.49	10.103	8.75	22.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7380)| 3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 3 (7380):		1917.49	10.103	8.75	22.92
+	ID2= 2 (7452):		26.88	1.078	5.25	30.28
	ID = 1 (7380):		1944.37	10.171	8.75	23.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7380)| 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7380):		1944.37	10.171	8.75	23.02
+	ID2= 2 (7453):		28.66	0.733	5.50	29.99
	ID = 3 (7380):		1973.03	10.351	8.58	23.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7379)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning
0.00	171.53	0.0600

31.59	171.40	0.0600	Main Channel
92.77	170.08	0.0600	Main Channel
146.60	171.30	0.0600	Main Channel
180.95	170.11	0.0600	Main Channel
370.06	170.36	0.0600	Main Channel
448.21	170.20	0.0600	Main Channel
520.23	168.82	0.0600	Main Channel
583.59	168.48	0.0600	Main Channel
607.44	162.64	0.0600	Main Channel
645.97	160.23	0.0600	Main Channel
662.51	161.95	0.0600	Main Channel
677.75	167.79	0.0600	Main Channel
710.48	168.62	0.0600	Main Channel
803.08	167.45	0.0600	Main Channel
827.72	167.84	0.0600	Main Channel
891.64	167.76	0.0600	Main Channel
906.55	166.82	0.0600	Main Channel
1009.80	167.37	0.0600 /0.0600	Main Channel
1052.87	167.54	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	160.61	.938E+03	1.1	0.60	14.36
0.75	160.98	.375E+04	6.9	0.96	9.05
1.13	161.36	.844E+04	20.4	1.25	6.90
1.50	161.73	.150E+05	43.9	1.52	5.70
1.88	162.11	.234E+05	80.6	1.79	4.84
2.25	162.48	.333E+05	131.8	2.06	4.21
2.63	162.86	.443E+05	201.7	2.36	3.66
3.01	163.24	.559E+05	288.8	2.68	3.23
3.38	163.61	.680E+05	389.3	2.97	2.91
3.76	163.99	.806E+05	503.1	3.24	2.67
4.13	164.36	.937E+05	630.0	3.49	2.48
4.51	164.74	.107E+06	770.0	3.72	2.32
4.89	165.12	.121E+06	923.2	3.95	2.19
5.26	165.49	.136E+06	1089.6	4.16	2.08
5.64	165.87	.151E+06	1269.3	4.36	1.98
6.01	166.24	.167E+06	1462.5	4.56	1.90
6.39	166.62	.183E+06	1669.3	4.74	1.82
6.76	166.99	.201E+06	1526.8	3.95	2.19
7.14	167.37	.232E+06	1397.2	3.12	2.77

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7380)		1973.03	10.35	8.58	23.13	0.85	1.02
OUTFLOW: ID= 1 (7379)		1973.03	10.34	8.75	23.13	0.85	1.02

CALIB / STANDHYD (7451) / ID= 1 DT= 5.0 min	Area (ha)= 19.56 / Total Imp(%)= 60.60	Dir. Conn.(%)= 55.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.85	7.71
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.94	2.94

Length (m)=	361.11	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	11.74	
over (min)	10.00	25.00	
Storage Coeff. (min)=	7.71 (ii)	22.52 (ii)	
Unit Hyd. Tpeak (min)=	10.00	25.00	
Unit Hyd. peak (cms)=	0.13	0.05	
			TOTALS
PEAK FLOW (cms)=	0.58	0.19	0.762 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	40.00	16.29	29.40
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.39	0.70

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (7455)| Area (ha)= 10.42
ID= 1 DT= 5.0 min | Total Imp(%)= 32.20 Dir. Conn.(%)= 30.50

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.36	7.06
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	4.17	4.17
Length (m)=	263.57	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.15
over (min)	5.00	25.00
Storage Coeff. (min)=	5.75 (ii)	20.49 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.20	0.05

			TOTALS
PEAK FLOW (cms)=	0.17	0.14	0.301 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	40.00	13.91	21.87
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.33	0.52

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7579)|
1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7379):	1973.03	10.342	8.75	23.13
+ ID2= 2 (7451):	19.56	0.762	5.25	29.40
ID = 3 (7579):	1992.59	10.390	8.67	23.19

ADD HYD (7256)|
1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7258):	4532.33	13.330	14.58	19.62
+ ID2= 2 (7456):	10.46	0.465	5.25	33.15
ID = 3 (7256):	4542.79	13.330	14.58	19.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (7457)| Area (ha)= 6.84 Curve Number (CN)= 68.7
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.33

Unit Hyd Qpeak (cms)= 0.792

PEAK FLOW	(cms)=	0.065 (i)
TIME TO PEAK	(hrs)=	5.333
RUNOFF VOLUME	(mm)=	6.937
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.165

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (7458)| Area (ha)= 41.70
ID= 1 DT= 5.0 min | Total Imp(%)= 69.84 Dir. Conn.(%)= 69.60

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	29.12	12.58
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.97	2.97
Length (m)=	527.26	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.39
over (min)	10.00	25.00
Storage Coeff. (min)=	9.65 (ii)	24.59 (ii)
Unit Hyd. Tpeak (min)=	10.00	25.00
Unit Hyd. peak (cms)=	0.11	0.05

			TOTALS
PEAK FLOW (cms)=	1.55	0.30	1.835 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	40.00	17.67	33.21
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.42	0.79

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7579)|
3 + 2 = 1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7579):	1992.59	10.390	8.67	23.19
+ ID2= 2 (7455):	10.42	0.301	5.25	21.87
ID = 1 (7579):	2003.01	10.414	8.67	23.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7258)|
1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7579):	2003.01	10.414	8.67	23.18
+ ID2= 2 (7580):	2529.32	8.010	15.75	16.80
ID = 3 (7258):	4532.33	13.330	14.58	19.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (7456)| Area (ha)= 10.46
ID= 1 DT= 5.0 min | Total Imp(%)= 71.80 Dir. Conn.(%)= 66.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	7.51	2.95
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.40	2.40
Length (m)=	264.07	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	15.01
over (min)	5.00	25.00
Storage Coeff. (min)=	6.79 (ii)	21.06 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.18	0.05

			TOTALS
PEAK FLOW (cms)=	0.37	0.10	0.465 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	40.00	19.86	33.15
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.47	0.79

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (7459)| Area (ha)= 18.01
ID= 1 DT= 5.0 min | Total Imp(%)= 55.84 Dir. Conn.(%)= 50.56

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.06	7.95
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	3.86	3.86
Length (m)=	346.51	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.45
over (min)	5.00	20.00
Storage Coeff. (min)=	6.93 (ii)	19.86 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.17	0.06

			TOTALS
PEAK FLOW (cms)=	0.49	0.24	0.726 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	40.00	19.02	29.63
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.45	0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7255)|
1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7256):	4542.79	13.330	14.58	19.65
+ ID2= 2 (7457):	6.84	0.065	5.33	6.94
ID = 3 (7255):	4549.63	13.384	5.33	19.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7255)|
3 + 2 = 1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7255):	4549.63	13.384	5.33	19.63
+ ID2= 2 (7458):	41.70	1.835	5.25	33.21
ID = 1 (7255):	4591.33	15.045	5.33	19.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7255)|
1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7255):	4591.33	15.045	5.33	19.75

+ ID2= 2 (7459):	18.01	0.726	5.25	29.63
ID = 3 (7255):	4609.34	15.658	5.25	19.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7254)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	165.42	0.0600	
137.69	163.02	0.0500	Main Channel
239.93	163.57	0.0500	Main Channel
314.67	164.26	0.0500	Main Channel
421.12	162.89	0.0500	Main Channel
453.16	157.30	0.0500	Main Channel
474.44	153.68	0.0500	Main Channel
506.50	151.64	0.0500	Main Channel
516.98	152.76	0.0500	Main Channel
577.64	152.81	0.0500	Main Channel
623.66	156.30	0.0500	Main Channel
655.45	162.83	0.0500	Main Channel
740.92	163.75	0.0500	Main Channel
804.79	162.96	0.0500	Main Channel
900.70	164.61	0.0500	Main Channel
964.45	165.87	0.0500	Main Channel
1028.36	166.69	0.0500	Main Channel
1050.05	168.69	0.0500	Main Channel
1177.64	169.78	0.0500 /0.0600	Main Channel
1210.70	170.31	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.70	152.34	.518E+04	5.5	0.89	15.66
1.40	153.04	.338E+05	40.6	1.01	13.88
2.11	153.75	.965E+05	205.6	1.79	7.82
2.81	154.45	.169E+06	484.7	2.41	5.80
3.51	155.15	.249E+06	867.0	2.92	4.78
4.21	155.85	.337E+06	1352.3	3.37	4.15
4.91	156.55	.432E+06	1957.3	3.80	3.68
5.61	157.25	.533E+06	2693.7	4.24	3.30
6.32	157.96	.638E+06	3535.4	4.65	3.01
7.02	158.66	.747E+06	4480.9	5.03	2.78
7.72	159.36	.861E+06	5530.1	5.38	2.60
8.42	160.06	.979E+06	6683.4	5.72	2.44
9.12	160.76	.110E+07	7941.7	6.04	2.31
9.82	161.46	.123E+07	9306.0	6.35	2.20
10.53	162.17	.136E+07	10777.4	6.64	2.10
11.23	162.87	.150E+07	12242.1	6.86	2.04
11.93	163.57	.172E+07	10008.3	4.87	2.87
12.86	164.50	.229E+07	11673.0	4.27	3.28
13.78	165.42	.299E+07	16548.1	4.65	3.01

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7255)	4609.34	15.66	5.25	19.79	0.90	0.92

OUTFLOW: ID= 1 (7254)	4609.34	14.52	5.58	19.79	0.88	0.92

CALIB			
STANDHYD (7460)	Area (ha)=	16.97	
ID= 1 DT= 5.0 min	Total Imp(%)=	37.84	Dir. Conn.(%)= 34.48

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.42	10.55
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.76	2.76
Length	(m)=	336.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	12.24
over (min)		10.00	25.00
Storage Coeff. (min)=		7.53 (ii)	22.38 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.13	0.05

		TOTALS
PEAK FLOW	(cms)=	0.577 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	25.75
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.61

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7253)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7254):	4609.34	14.525	5.58	19.79
+ ID2= 2 (7460):	16.97	0.577	5.25	25.75
ID = 3 (7253):	4626.31	14.886	5.58	19.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7252)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	163.65	0.0600	
21.75	162.41	0.0500	Main Channel
130.05	163.62	0.0500	Main Channel
282.23	162.59	0.0500	Main Channel
314.69	147.60	0.0500	Main Channel
347.04	144.86	0.0500	Main Channel
379.47	145.56	0.0500	Main Channel

401.02	148.35	0.0500	Main Channel
487.41	149.76	0.0500	Main Channel
530.69	151.76	0.0500	Main Channel
563.19	152.36	0.0500	Main Channel
650.13	166.14	0.0500	Main Channel
671.74	166.09	0.0500	Main Channel
725.74	168.20	0.0500	Main Channel
747.35	167.71	0.0500	Main Channel
758.13	166.30	0.0500	Main Channel
855.40	168.04	0.0500	Main Channel
963.47	168.25	0.0500	Main Channel
1115.78	169.54	0.0500 /0.0600	Main Channel
1154.73	169.25	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.25	146.11	.430E+05	47.3	1.19	15.15
2.50	147.36	.129E+06	229.0	1.92	9.42
3.75	148.61	.246E+06	537.2	2.37	7.62
5.00	149.86	.441E+06	993.6	2.44	7.40
6.25	151.11	.706E+06	1980.8	3.02	6.00
7.50	152.36	.102E+07	3131.9	3.34	5.41
8.75	153.61	.138E+07	5040.8	3.98	4.55
10.01	154.87	.175E+07	7323.1	4.55	3.98
11.26	156.12	.214E+07	9965.7	5.06	3.57
12.51	157.37	.254E+07	12960.8	5.54	3.26
13.76	158.62	.295E+07	16303.9	5.99	3.02
15.01	159.87	.339E+07	19992.8	6.41	2.82
16.26	161.12	.383E+07	24026.9	6.81	2.66
17.51	162.37	.429E+07	28406.9	7.19	2.52
18.76	163.62	.493E+07	27116.0	5.97	3.03
20.24	165.10	.596E+07	35243.7	6.42	2.82
21.72	166.58	.702E+07	42189.6	6.53	2.77
23.20	168.06	.825E+07	47034.8	6.19	2.93
24.68	169.54	.991E+07	52524.4	5.76	3.14

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7253)	4626.31	14.89	5.58	19.81	0.39	1.19
OUTFLOW: ID= 1 (7252)	4626.31	14.44	6.00	19.81	0.38	1.19

ROUTE CHN(7250)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	163.56	0.0600	
32.89	162.97	0.0500	Main Channel
77.33	158.14	0.0500	Main Channel
154.54	156.75	0.0500	Main Channel
189.58	156.86	0.0500	Main Channel
262.28	158.47	0.0500	Main Channel
319.94	142.34	0.0500	Main Channel
419.26	141.64	0.0500	Main Channel
474.50	139.36	0.0500	Main Channel

485.27	143.63	0.0500	Main Channel
540.53	143.23	0.0500	Main Channel
570.62	141.77	0.0500	Main Channel
684.27	142.16	0.0500	Main Channel
716.37	143.28	0.0500	Main Channel
738.10	147.48	0.0500	Main Channel
770.50	161.77	0.0500	Main Channel
781.28	165.01	0.0500	Main Channel
824.60	165.48	0.0500	Main Channel
954.19	163.79	0.0500 /0.0600	Main Channel
966.02	162.14	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.34	140.70	.202E+05	26.3	1.09	12.80
2.68	142.04	.984E+05	116.0	0.99	14.14
4.02	143.38	.445E+06	972.2	1.83	7.63
5.37	144.73	.898E+06	2895.0	2.70	5.17
6.71	146.07	.137E+07	5728.0	3.51	3.98
8.05	147.41	.185E+07	9307.9	4.21	3.32
9.39	148.75	.235E+07	13633.7	4.87	2.87
10.73	150.09	.285E+07	18619.1	5.47	2.55
12.07	151.43	.336E+07	24230.1	6.04	2.31
13.41	152.77	.388E+07	30443.2	6.57	2.13
14.76	154.12	.441E+07	37240.3	7.07	1.97
16.10	155.46	.495E+07	44606.9	7.55	1.85
17.44	156.80	.550E+07	51291.5	7.81	1.79
18.78	158.14	.617E+07	51866.8	7.04	1.98
20.25	159.61	.702E+07	62983.9	7.52	1.86
21.72	161.08	.789E+07	75987.1	8.06	1.73
23.18	162.54	.879E+07	89971.3	8.58	1.63
24.65	164.01	.973E+07	103397.0	8.90	1.57
26.12	165.48	.108E+08	106811.4	8.28	1.69

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7252)	4626.31	14.44	6.00	19.81	0.74	1.09
OUTFLOW: ID= 1 (7250)	4626.31	14.28	6.42	19.81	0.73	1.09

CALIB			
NASHYD (7461)	Area (ha)=	62.72	Curve Number (CN)= 80.0
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	1.61	

Unit Hyd Qpeak (cms)= 1.488

PEAK FLOW	(cms)=	0.405 (i)
TIME TO PEAK	(hrs)=	7.250
RUNOFF VOLUME	(mm)=	10.740
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7577)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7250):   4626.31     14.280        6.42       19.81
     + ID2= 2 (  7461):     62.72      0.405        7.25       10.74
       ==========================================================
       ID = 3 (  7577):   4689.03     14.631        6.42       19.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  7464)|   Area    (ha)=      8.51   Curve Number   (CN)= 81.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      1.22

     Unit Hyd Qpeak  (cms)=     0.266

     PEAK FLOW       (cms)=     0.070 (i)
     TIME TO PEAK    (hrs)=     6.667
     RUNOFF VOLUME    (mm)=    11.559
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  7602)|   Area    (ha)=      0.56   Curve Number   (CN)= 80.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      1.61

     Unit Hyd Qpeak  (cms)=     0.013

     PEAK FLOW       (cms)=     0.004 (i)
     TIME TO PEAK    (hrs)=     7.250
     RUNOFF VOLUME    (mm)=    10.734
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  7613)|   Area    (ha)=      2.20   Curve Number   (CN)= 80.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      1.61

     Unit Hyd Qpeak  (cms)=     0.052

     PEAK FLOW       (cms)=     0.014 (i)
     TIME TO PEAK    (hrs)=     7.250
     RUNOFF VOLUME    (mm)=    10.739
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.256

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| NASHYD   (  7614)|   Area    (ha)=      2.40   Curve Number   (CN)= 81.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      1.22

     Unit Hyd Qpeak  (cms)=     0.075

     PEAK FLOW       (cms)=     0.020 (i)
     TIME TO PEAK    (hrs)=     6.667
     RUNOFF VOLUME    (mm)=    11.558
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  7615)|   Area    (ha)=     28.92   Curve Number   (CN)= 81.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      1.22

     Unit Hyd Qpeak  (cms)=     0.905

     PEAK FLOW       (cms)=     0.238 (i)
     TIME TO PEAK    (hrs)=     6.667
     RUNOFF VOLUME    (mm)=    11.559
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7472)|   Area    (ha)=     90.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=     74.00   Dir. Conn.(%)=  74.00
--------------------

                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        66.85          23.49
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         2.33           2.33
     Length            (m)=       776.06          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          11.02
               over (min)          15.00          30.00
     Storage Coeff.  (min)=        13.08 (ii)     29.37 (ii)
     Unit Hyd. Tpeak (min)=        15.00          30.00
     Unit Hyd. peak  (cms)=         0.08           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         3.55           0.50      4.007 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50       5.25
     RUNOFF VOLUME    (mm)=        40.00          17.57      34.17
     TOTAL RAINFALL   (mm)=        42.00          42.00      42.00
     RUNOFF COEFFICIENT   =         0.95           0.42       0.81

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.1    Ia = Dep. Storage  (Above)
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     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7471)|   Area    (ha)=     81.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=     60.32   Dir. Conn.(%)=  60.32
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                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        49.32          32.44
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         3.23           3.23
     Length            (m)=       738.29          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          11.24
               over (min)          10.00          30.00
     Storage Coeff.  (min)=        11.51 (ii)     26.16 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.10           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         2.63           0.72      3.297 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50       5.25
     RUNOFF VOLUME    (mm)=        40.00          17.57      31.10
     TOTAL RAINFALL   (mm)=        42.00          42.00      42.00
     RUNOFF COEFFICIENT   =         0.95           0.42       0.74

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.1    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7470)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7471):     81.76      3.297        5.25       31.10
     + ID2= 2 (  7472):     90.34      4.007        5.25       34.17
       ==========================================================
       ID = 3 (  7470):    172.10      7.304        5.25       32.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR(  7469)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------          (cms)        (ha.m.)   |    (cms)          (ha.m.)
                              0.0000        0.0000   |     11.9730
3.0919
                              4.2620        1.8069   |     15.6850
3.6139
                              7.3650        2.3289   |    156.8500
4.0154
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                                  AREA        QPEAK        TPEAK        R.V.
                                   (ha)        (cms)        (hrs)        (mm)
  INFLOW : ID= 2 (  7470)      172.100        7.304         5.25       32.71
  OUTFLOW: ID= 1 (  7469)      172.100        4.558         5.58       32.71

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 62.41
                TIME SHIFT OF PEAK FLOW         (min)= 20.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  1.8607

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| ROUTE CHN(  7468)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00        173.19        0.0600
                48.25        173.27        0.0500      Main Channel
                57.90        173.32        0.0500      Main Channel
                67.55        173.33        0.0500      Main Channel
                77.20        173.29        0.0500      Main Channel
                86.85        173.12        0.0500      Main Channel
                96.50        172.99        0.0500      Main Channel
               115.80        172.83        0.0500      Main Channel
               125.45        172.28        0.0500      Main Channel
               135.10        171.61        0.0500      Main Channel
               144.75        170.45        0.0500      Main Channel
               154.40        170.60        0.0500      Main Channel
               164.05        170.78        0.0500      Main Channel
               183.35        171.22        0.0500      Main Channel
               202.65        171.58        0.0500      Main Channel
               221.95        172.11        0.0500      Main Channel
               231.60        172.40        0.0500      Main Channel
               241.25        172.66        0.0500      Main Channel
               250.90        172.90    0.0500 /0.0600  Main Channel
               260.54        172.84        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.14   170.60    .742E+03          0.3          0.33       48.48
       0.29   170.74    .285E+04          1.6          0.54       29.65
       0.43   170.89    .613E+04          4.6          0.72       22.22
       0.57   171.03    .104E+05          9.5          0.88       18.27
       0.72   171.17    .158E+05         16.7          1.02       15.77
       0.86   171.32    .222E+05         26.1          1.13       14.17
       1.01   171.46    .298E+05         38.4          1.24       12.96
       1.15   171.60    .387E+05         54.1          1.35       11.92
       1.29   171.75    .487E+05         74.0          1.46       10.96
       1.44   171.89    .596E+05         97.6          1.57       10.18
       1.58   172.04    .716E+05        125.1          1.68        9.54
       1.72   172.18    .846E+05        157.1          1.79        8.97
       1.87   172.32    .985E+05        193.6          1.89        8.48
       2.01   172.47    .113E+06        233.8          1.98        8.09
       2.15   172.61    .129E+06        278.4          2.07        7.75
       2.30   172.75    .147E+06        327.6          2.15        7.46
       2.44   172.90    .165E+06        370.5          2.16        7.44
       2.66   173.12    .200E+06        458.3          2.21        7.27
       2.88   173.33    .243E+06        548.1          2.17        7.39

                                  <---- hydrograph ---->   <-pipe /
channel->
                          AREA    QPEAK    TPEAK    R.V.   MAX DEPTH  MAX
VEL
                          (ha)    (cms)    (hrs)    (mm)     (m)
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(m/s)
   INFLOW : ID= 2 (  7469)     172.10     4.56    5.58  32.71      0.43
0.72
   OUTFLOW: ID= 1 (  7468)     172.10     4.15    5.83  32.71      0.41
0.69


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| CALIB            |
| STANDHYD (  7473)|   Area    (ha)=     91.74
|ID= 1 DT= 5.0 min |   Total Imp(%)=     38.16   Dir. Conn.(%)=  37.28
--------------------                        IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         35.01          56.73
     Dep. Storage     (mm)=          2.00           5.00
     Average Slope     (%)=          3.63           3.63
     Length            (m)=        782.05          40.00
     Mannings n            =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         19.32          11.50
           over (min)             10.00          30.00
     Storage Coeff.  (min)=         11.51 (ii)     25.52 (ii)
     Unit Hyd. Tpeak (min)=         10.00          30.00
     Unit Hyd. peak  (cms)=          0.10           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=          1.83           1.30          3.027 (iii)
     TIME TO PEAK    (hrs)=          5.25           5.42           5.25
     RUNOFF VOLUME    (mm)=         40.00          17.75          26.05
     TOTAL RAINFALL   (mm)=         42.00          42.00          42.00
     RUNOFF COEFFICIENT   =          0.95           0.42           0.62

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.1     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7620)|   Area    (ha)=      0.94
|ID= 1 DT= 5.0 min |   Total Imp(%)=     38.16   Dir. Conn.(%)=  37.28
--------------------                        IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          0.36           0.58
     Dep. Storage     (mm)=          2.00           5.00
     Average Slope     (%)=          3.63           3.63
     Length            (m)=         79.16          40.00
     Mannings n            =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         19.32          11.50
           over (min)              5.00          20.00
     Storage Coeff.  (min)=          2.91 (ii)     16.93 (ii)
     Unit Hyd. Tpeak (min)=          5.00          20.00
     Unit Hyd. peak  (cms)=          0.28           0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=          0.02           0.02          0.034 (iii)
     TIME TO PEAK    (hrs)=          4.92           5.33           5.25
     RUNOFF VOLUME    (mm)=         40.00          17.75          26.04
     TOTAL RAINFALL   (mm)=         42.00          42.00          42.00
     RUNOFF COEFFICIENT   =          0.95           0.42           0.62
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.1     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7621)|   Area    (ha)=      0.37
|ID= 1 DT= 5.0 min |   Total Imp(%)=     38.16   Dir. Conn.(%)=  37.28
--------------------                        IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          0.14           0.23
     Dep. Storage     (mm)=          2.00           5.00
     Average Slope     (%)=          3.63           3.63
     Length            (m)=         49.67          40.00
     Mannings n            =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         19.32          11.50
           over (min)              5.00          20.00
     Storage Coeff.  (min)=          2.20 (ii)     16.22 (ii)
     Unit Hyd. Tpeak (min)=          5.00          20.00
     Unit Hyd. peak  (cms)=          0.30           0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=          0.01           0.01          0.013 (iii)
     TIME TO PEAK    (hrs)=          4.75           5.33           5.25
     RUNOFF VOLUME    (mm)=         40.00          17.75          26.02
     TOTAL RAINFALL   (mm)=         42.00          42.00          42.00
     RUNOFF COEFFICIENT   =          0.95           0.42           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.1     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7467)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7468):    172.10      4.151        5.83       32.71
     + ID2= 2 (  7473):     91.74      3.027        5.25       26.05
       ================================================================
       ID = 3 (  7467):    263.84      6.109        5.33       30.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7467)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  7467):    263.84      6.109        5.33       30.39
     + ID2= 2 (  7620):      0.94      0.034        5.25       26.04
       ================================================================
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```
       ID = 1 (  7467):    264.78      6.132        5.33       30.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7467)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7467):    264.78      6.132        5.33       30.38
     + ID2= 2 (  7621):      0.37      0.013        5.25       26.02
       ================================================================
       ID = 3 (  7467):    265.15      6.141        5.33       30.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  7466)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         173.19        0.0600
                48.25         173.27        0.0500      Main Channel
                57.90         173.32        0.0500      Main Channel
                67.55         173.33        0.0500      Main Channel
                77.20         173.29        0.0500      Main Channel
                86.85         173.12        0.0500      Main Channel
                96.50         172.99        0.0500      Main Channel
               115.80         172.83        0.0500      Main Channel
               125.45         172.28        0.0500      Main Channel
               135.10         171.61        0.0500      Main Channel
               144.75         170.45        0.0500      Main Channel
               154.40         170.60        0.0500      Main Channel
               164.05         170.78        0.0500      Main Channel
               183.35         171.22        0.0500      Main Channel
               202.65         171.58        0.0500      Main Channel
               221.95         172.11        0.0500      Main Channel
               231.60         172.40        0.0500      Main Channel
               241.25         172.66        0.0500      Main Channel
               250.90         172.90    0.0500 /0.0600  Main Channel
               260.54         172.84        0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)          (cms)         (m/s)      (min)
       0.14   170.60    .959E+03           0.3           0.33      62.66
       0.29   170.74    .368E+04           1.6           0.54      38.32
       0.43   170.89    .792E+04           4.6           0.72      28.72
       0.57   171.03    .135E+05           9.5           0.88      23.61
       0.72   171.17    .204E+05          16.7           1.02      20.38
       0.86   171.32    .287E+05          26.1           1.13      18.32
       1.01   171.46    .386E+05          38.4           1.24      16.75
       1.15   171.60    .500E+05          54.1           1.34      15.41
       1.29   171.75    .629E+05          74.0           1.46      14.16
       1.44   171.89    .770E+05          97.6           1.57      13.16
       1.58   172.04    .925E+05         125.1           1.68      12.33
       1.72   172.18    .109E+06         157.1           1.79      11.60
       1.87   172.32    .127E+06         193.5           1.89      10.96
       2.01   172.47    .147E+06         233.7           1.98      10.45
       2.15   172.61    .167E+06         278.4           2.07      10.01
       2.30   172.75    .189E+06         327.5           2.15       9.64
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       2.44   172.90    .214E+06         370.4           2.16       9.61
       2.66   173.12    .258E+06         458.1           2.21       9.39
       2.88   173.33    .314E+06         547.9           2.17       9.56

                                    <---- hydrograph ---->   <-pipe /
channel->
                                  AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                  (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  7467)     265.15     6.14    5.33  30.37      0.48
0.76
   OUTFLOW: ID= 1 (  7466)     265.15     5.59    5.92  30.37      0.46
0.75


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| CALIB            |
| STANDHYD (  7475)|   Area    (ha)=     88.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=     20.56   Dir. Conn.(%)=  19.84
--------------------                        IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         18.15          70.13
     Dep. Storage     (mm)=          2.00           5.00
     Average Slope     (%)=          4.40           4.40
     Length            (m)=        767.16          40.00
     Mannings n            =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         19.32          10.24
           over (min)             10.00          25.00
     Storage Coeff.  (min)=         10.74 (ii)     24.60 (ii)
     Unit Hyd. Tpeak (min)=         10.00          25.00
     Unit Hyd. peak  (cms)=          0.11           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=          0.94           1.46          2.317 (iii)
     TIME TO PEAK    (hrs)=          5.25           5.42           5.25
     RUNOFF VOLUME    (mm)=         40.00          15.83          20.62
     TOTAL RAINFALL   (mm)=         42.00          42.00          42.00
     RUNOFF COEFFICIENT   =          0.95           0.38           0.49

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.5     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7478)|   Area    (ha)=     37.97
|ID= 1 DT= 5.0 min |   Total Imp(%)=     40.48   Dir. Conn.(%)=  40.24
--------------------                        IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         15.37          22.60
     Dep. Storage     (mm)=          2.00           5.00
     Average Slope     (%)=          3.32           3.32
     Length            (m)=        503.12          40.00
     Mannings n            =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         19.32          10.52
```

over (min)		10.00	25.00
Storage Coeff. (min)=		9.07 (ii)	23.99 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05
			TOTALS
PEAK FLOW	(cms)=	0.82	0.49	1.282 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	16.35	25.87
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.39	0.62

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (7480) | Area (ha)= 4.85
ID= 1 DT= 5.0 min | Total Imp(%)= 71.04 Dir. Conn.(%)= 71.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.45	1.40
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.59	3.59
Length	(m)=	179.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.24
over (min)		5.00	20.00
Storage Coeff. (min)=		4.78 (ii)	18.97 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.22	0.06
			TOTALS
PEAK FLOW	(cms)=	0.18	0.04	0.220 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	17.57	33.50
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.42	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.1 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7479)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW	STORAGE		OUTFLOW	
(cms)	(ha.m.)		(cms)	(ha.m.)
0.0000	0.0000		0.3500	0.1285
0.1300	0.0800		0.4600	0.1454
0.2200	0.1018		4.6000	0.1616

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7480)	4.850	0.220	5.25	33.50
OUTFLOW: ID= 1 (7479)	4.850	0.109	5.42	33.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.70
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0673

CALIB
STANDHYD (7481) | Area (ha)= 28.15
ID= 1 DT= 5.0 min | Total Imp(%)= 64.32 Dir. Conn.(%)= 64.32

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.11	10.04
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.96	2.96
Length	(m)=	433.21	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.23
over (min)		10.00	25.00
Storage Coeff. (min)=		8.58 (ii)	24.20 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05
			TOTALS
PEAK FLOW	(cms)=	0.97	0.22	1.175 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	16.30	31.54
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.39	0.75

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7477)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7478):	37.97	1.282	5.25	25.87
+ ID2= 2 (7479):	4.85	0.109	5.42	33.47
ID = 3 (7477):	42.82	1.388	5.25	26.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7477)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7477):	42.82	1.388	5.25	26.73
+ ID2= 2 (7481):	28.15	1.175	5.25	31.54

ID = 1 (7477): 70.97 2.562 5.25 28.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7476)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	168.54	0.0600	
16.36	168.08	0.0500	Main Channel
26.96	167.78	0.0500	Main Channel
37.00	166.88	0.0500	Main Channel
48.16	167.05	0.0500	Main Channel
58.76	166.96	0.0500	Main Channel
79.96	166.90	0.0500	Main Channel
90.56	166.86	0.0500	Main Channel
97.25	166.50	0.0500	Main Channel
103.29	165.99	0.0500	Main Channel
111.77	165.62	0.0500	Main Channel
127.38	163.06	0.0500	Main Channel
132.97	162.52	0.0500	Main Channel
143.57	163.76	0.0500	Main Channel
164.77	166.25	0.0500	Main Channel
168.71	166.61	0.0500	Main Channel
175.37	166.96	0.0500	Main Channel
185.07	166.99	0.0500	Main Channel
196.57	167.73	0.0500 /0.0600	Main Channel
201.42	168.32	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	162.81	.731E+03	0.5	0.63	24.50
0.58	163.10	.292E+04	3.2	1.01	15.29
0.87	163.39	.637E+04	9.3	1.36	11.35
1.16	163.68	.109E+05	19.5	1.65	9.34
1.45	163.97	.167E+05	34.4	1.91	8.06
1.74	164.26	.235E+05	54.7	2.15	7.16
2.03	164.55	.315E+05	81.0	2.38	6.48
2.32	164.84	.406E+05	113.8	2.59	5.94
2.60	165.12	.508E+05	153.8	2.79	5.51
2.89	165.41	.622E+05	201.4	2.99	5.14
3.18	165.70	.747E+05	252.8	3.12	4.93
3.47	165.99	.894E+05	305.2	3.15	4.88
3.76	166.28	.106E+06	380.7	3.32	4.64
4.05	166.57	.124E+06	463.9	3.44	4.47
4.34	166.86	.145E+06	546.2	3.48	4.43
4.63	167.15	.180E+06	522.1	2.68	5.75
4.92	167.44	.222E+06	717.0	2.98	5.16
5.21	167.73	.266E+06	940.0	3.26	4.72
5.50	168.02	.313E+06	1219.5	3.60	4.28

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7477)	70.97	2.56	5.25	28.64	0.51	0.88
OUTFLOW: ID= 1 (7476)	70.97	2.38	5.33	28.64	0.49	

0.85

ADD HYD (7465)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7466):	265.15	5.594	5.92	30.37
+ ID2= 2 (7475):	88.28	2.317	5.25	20.62
ID = 3 (7465):	353.43	7.115	5.50	27.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7465)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7465):	353.43	7.115	5.50	27.94
+ ID2= 2 (7476):	70.97	2.380	5.33	28.64
ID = 1 (7465):	424.40	9.386	5.33	28.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7462)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	160.51	0.0600	
20.91	159.93	0.0500	Main Channel
23.59	159.77	0.0500	Main Channel
33.99	158.62	0.0500	Main Channel
39.12	158.16	0.0500	Main Channel
47.06	157.53	0.0500	Main Channel
70.17	156.54	0.0500	Main Channel
73.21	156.27	0.0500	Main Channel
85.69	155.54	0.0500	Main Channel
101.22	152.65	0.0500	Main Channel
112.43	151.27	0.0500	Main Channel
116.74	150.87	0.0500	Main Channel
125.50	150.70	0.0500	Main Channel
132.27	149.86	0.0500	Main Channel
138.57	149.26	0.0500	Main Channel
151.65	151.53	0.0500	Main Channel
163.32	154.92	0.0500	Main Channel
164.72	155.68	0.0500	Main Channel
172.22	158.24	0.0500 /0.0600	Main Channel
177.80	160.39	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	149.82	.144E+04	3.4	1.33	7.06
1.12	150.38	.557E+04	21.4	2.16	4.34
1.68	150.94	.128E+05	55.9	2.45	3.82

2.24	151.50	.244E+05	139.9	3.22	2.91
2.81	152.07	.384E+05	269.0	3.94	2.38
3.37	152.63	.544E+05	441.3	4.56	2.05
3.93	153.19	.722E+05	666.6	5.18	1.81
4.49	153.75	.916E+05	938.4	5.75	1.63
5.05	154.31	.113E+06	1257.8	6.28	1.49
5.61	154.87	.135E+06	1626.5	6.76	1.38
6.17	155.43	.159E+06	2056.9	7.27	1.29
6.73	155.99	.185E+06	2447.0	7.43	1.26
7.30	156.56	.214E+06	2914.8	7.64	1.23
7.86	157.12	.247E+06	3373.0	7.66	1.22
8.42	157.68	.285E+06	3968.9	7.82	1.20
8.98	158.24	.326E+06	4748.3	8.18	1.14
9.70	158.96	.382E+06	5959.5	8.77	1.07
10.41	159.67	.441E+06	7333.9	9.34	1.00
11.13	160.39	.506E+06	9051.9	10.06	0.93

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7465)	424.40	9.39	5.33	28.05	0.75	1.52
OUTFLOW: ID= 1 (7462)	424.40	9.24	5.50	28.05	0.74	1.51

ADD HYD (7578) | 1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7462):	424.40	9.241	5.50	28.05
+ ID2= 2 (7464):	8.51	0.070	6.67	11.56
ID = 3 (7578):	432.91	9.279	5.50	27.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7578) | 3 + 2 = 1

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (7578):	432.91	9.279	5.50	27.73
+ ID2= 2 (7602):	0.56	0.004	7.25	10.73
ID = 1 (7578):	433.47	9.280	5.50	27.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7578) | 1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7578):	433.47	9.280	5.50	27.71
+ ID2= 2 (7613):	2.20	0.014	7.25	10.74

ID = 3 (7578): 435.67 9.285 5.50 27.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7578) | 3 + 2 = 1

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (7578):	435.67	9.285	5.50	27.62
+ ID2= 2 (7614):	2.40	0.020	6.67	11.56
ID = 1 (7578):	438.07	9.296	5.50	27.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7578) | 1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7578):	438.07	9.296	5.50	27.53
+ ID2= 2 (7615):	28.92	0.238	6.67	11.56
ID = 3 (7578):	466.99	9.422	5.50	26.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7249) | 1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7577):	4689.03	14.631	6.42	19.69
+ ID2= 2 (7578):	466.99	9.422	5.50	26.54
ID = 3 (7249):	5156.02	22.767	6.08	20.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7248) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	163.56	0.0600	
32.89	162.97	0.0500	Main Channel
77.33	158.14	0.0500	Main Channel
154.54	156.75	0.0500	Main Channel
189.58	156.86	0.0500	Main Channel
262.28	158.47	0.0500	Main Channel
319.94	142.34	0.0500	Main Channel
419.26	141.64	0.0500	Main Channel
474.50	139.36	0.0500	Main Channel
485.27	143.63	0.0500	Main Channel
540.53	143.23	0.0500	Main Channel

570.62	141.77	0.0500	Main Channel
684.27	142.16	0.0500	Main Channel
716.37	143.28	0.0500	Main Channel
738.10	147.48	0.0500	Main Channel
770.50	161.77	0.0500	Main Channel
781.28	165.01	0.0500	Main Channel
824.60	165.48	0.0500	Main Channel
954.19	163.79	0.0500 /0.0600	Main Channel
966.02	162.14	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.34	140.70	.668E+04	22.0	0.92	5.05
2.68	142.04	.326E+05	97.3	0.83	5.58
4.02	143.38	.147E+06	815.8	1.54	3.01
5.37	144.73	.297E+06	2429.2	2.27	2.04
6.71	146.07	.453E+06	4806.4	2.94	1.57
8.05	147.41	.613E+06	7810.3	3.53	1.31
9.39	148.75	.777E+06	11440.1	4.09	1.13
10.73	150.09	.944E+06	15623.4	4.59	1.01
12.07	151.43	.111E+07	20331.6	5.07	0.91
13.41	152.77	.129E+07	25545.1	5.51	0.84
14.76	154.12	.146E+07	31248.6	5.93	0.78
16.10	155.46	.164E+07	37430.0	6.33	0.73
17.44	156.80	.182E+07	43039.1	6.56	0.71
18.78	158.14	.204E+07	43521.8	5.91	0.78
20.25	159.61	.232E+07	52850.3	6.31	0.73
21.72	161.08	.261E+07	63761.4	6.77	0.68
23.18	162.54	.291E+07	75495.6	7.20	0.64
24.65	164.01	.322E+07	86761.2	7.47	0.62
26.12	165.48	.358E+07	89626.2	6.95	0.67

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7249)	5156.02	22.77	6.08	20.31	1.35	0.91
OUTFLOW: ID= 1 (7248)	5156.02	22.71	6.17	20.31	1.35	0.91

ROUTE CHN(7483) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	158.99	0.0600	
22.87	158.75	0.0500	Main Channel
46.97	157.30	0.0500	Main Channel
60.91	154.83	0.0500	Main Channel
112.96	147.62	0.0500	Main Channel
131.01	146.83	0.0500	Main Channel
143.44	145.56	0.0500	Main Channel
166.89	141.79	0.0500	Main Channel
171.13	142.89	0.0500	Main Channel
207.93	140.85	0.0500	Main Channel
238.93	140.59	0.0500	Main Channel
259.37	141.41	0.0500	Main Channel
266.59	140.98	0.0500	Main Channel

288.48	142.71	0.0500	Main Channel
295.69	141.02	0.0500	Main Channel
310.31	134.76	0.0500	Main Channel
398.19	140.24	0.0500	Main Channel
423.69	148.92	0.0500	Main Channel
434.70	154.67	0.0500 /0.0600	Main Channel
450.12	158.30	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.17	135.93	.676E+04	9.2	0.73	12.26
2.34	137.10	.270E+05	58.4	1.16	7.72
3.51	138.27	.609E+05	172.1	1.52	5.89
4.68	139.44	.108E+06	370.6	1.84	4.86
5.86	140.62	.169E+06	673.6	2.14	4.17
7.03	141.79	.270E+06	987.7	1.96	4.56
8.20	142.96	.411E+06	1702.8	2.22	4.02
9.37	144.13	.569E+06	2847.7	2.68	3.33
10.54	145.30	.734E+06	4234.1	3.09	2.89
11.71	146.47	.907E+06	5817.3	3.44	2.60
12.88	147.64	.109E+07	7479.6	3.68	2.43
14.05	148.81	.129E+07	9610.7	4.00	2.23
15.23	149.99	.149E+07	12003.4	4.32	2.07
16.40	151.16	.170E+07	14637.6	4.61	1.94
17.57	152.33	.192E+07	17510.9	4.89	1.83
18.74	153.50	.214E+07	20623.5	5.16	1.73
19.91	154.67	.237E+07	23976.0	5.42	1.65
21.73	156.49	.275E+07	29931.9	5.85	1.53
23.54	158.30	.314E+07	36830.8	6.30	1.42

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7248)	5156.02	22.71	6.17	20.31	1.49	0.81
OUTFLOW: ID= 1 (7483)	5156.02	22.53	6.42	20.31	1.49	0.81

CALIB | NASHYD (7482) | ID= 1 DT= 5.0 min | Area (ha)= 1.92 Curve Number (CN)= 81.8 | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 0.50

Unit Hyd Qpeak (cms)= 0.147

PEAK FLOW (cms)= 0.026 (i)
TIME TO PEAK (hrs)= 5.583
RUNOFF VOLUME (mm)= 11.558
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.275

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | NASHYD (7566) | Area (ha)= 1.05 Curve Number (CN)= 81.8

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|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=      0.50

     Unit Hyd Qpeak  (cms)=     0.080

     PEAK FLOW       (cms)=     0.014 (i)
     TIME TO PEAK    (hrs)=     5.583
     RUNOFF VOLUME    (mm)=    11.557
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  7567)|   Area    (ha)=     10.82   Curve Number   (CN)= 81.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=      0.50

     Unit Hyd Qpeak  (cms)=     0.827

     PEAK FLOW       (cms)=     0.146 (i)
     TIME TO PEAK    (hrs)=     5.583
     RUNOFF VOLUME    (mm)=    11.558
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.275

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7576)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7482):      1.92      0.026        5.58       11.56
     + ID2= 2 (  7483):   5156.02     22.533        6.42       20.31
       ==========================================================
       ID = 3 (  7576):   5157.94     22.550        6.42       20.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7576)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  7576):   5157.94     22.550        6.42       20.31
     + ID2= 2 (  7566):      1.05      0.014        5.58       11.56
       ==========================================================
       ID = 1 (  7576):   5158.99     22.559        6.42       20.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7576)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
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       ID1= 1 (  7576):   5158.99     22.559        6.42       20.31
     + ID2= 2 (  7567):     10.82      0.146        5.58       11.56
       ==========================================================
       ID = 3 (  7576):   5169.81     22.658        6.33       20.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1298)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1109):  42671.75     27.799       16.25        6.65
     + ID2= 2 (  7576):   5169.81     22.658        6.33       20.29
       ==========================================================
       ID = 3 (  1298):  47841.56     46.861        7.33        8.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2972)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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              <------ DATA FOR SECTION (   1.1) ------>
             Distance      Elevation       Manning
                 0.00         159.56        0.0600
                41.33         158.39        0.0500      Main Channel
                63.69         158.26        0.0500      Main Channel
               101.34         158.43        0.0500      Main Channel
               119.23         154.65        0.0500      Main Channel
               147.01         156.95        0.0500      Main Channel
               169.45         156.29        0.0500      Main Channel
               241.60         155.31        0.0500      Main Channel
               275.14         153.49        0.0500      Main Channel
               297.25         148.63        0.0500      Main Channel
               342.17         136.81        0.0500      Main Channel
               364.20         135.40        0.0500      Main Channel
               386.76         135.20        0.0500      Main Channel
               409.12         133.19        0.0500      Main Channel
               431.48         136.03        0.0500      Main Channel
               445.87         140.53        0.0500      Main Channel
               460.19         145.61        0.0500      Main Channel
               475.84         149.08        0.0500      Main Channel
               502.15         158.44    0.0500 /0.0600  Main Channel
               510.71         159.97        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)     (m)     (cu.m.)          (cms)         (m/s)      (min)
        1.32  134.51    .609E+04           7.9          0.48      12.84
        2.64  135.83    .285E+05          51.0          0.66       9.30
        3.96  137.15    .698E+05         190.7          1.01       6.10
        5.28  138.47    .118E+06         427.5          1.34       4.59
        6.60  139.79    .170E+06         744.8          1.61       3.81
        7.92  141.11    .227E+06        1142.4          1.85       3.31
        9.24  142.43    .288E+06        1621.1          2.07       2.96
       10.56  143.75    .354E+06        2180.4          2.27       2.70
       11.88  145.07    .423E+06        2822.1          2.45       2.50
       13.19  146.38    .498E+06        3531.8          2.61       2.35
       14.51  147.70    .577E+06        4320.0          2.76       2.23
       15.83  149.02    .662E+06        5197.8          2.89       2.12
       17.15  150.34    .751E+06        6200.5          3.04       2.02
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       18.47   151.66    .846E+06       7304.3          3.18       1.93
       19.79   152.98    .945E+06       8510.6          3.31       1.85
       21.11   154.30    .105E+07       9533.8          3.34       1.84
       22.43   155.62    .117E+07       9806.9          3.08       1.99
       23.75   156.94    .134E+07      10149.0          2.78       2.20
       25.07   158.26    .153E+07      12451.6          2.99       2.05

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1298)   47841.56    46.86    7.33   8.12      2.51
0.64
   OUTFLOW: ID= 1 (  2972)   47841.56    46.85    7.25   8.12      2.50
0.63


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| CALIB            |
| NASHYD   (  0438)|   Area    (ha)=     43.54   Curve Number   (CN)= 78.3
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=      1.38

     Unit Hyd Qpeak  (cms)=     1.205

     PEAK FLOW       (cms)=     0.286 (i)
     TIME TO PEAK    (hrs)=     6.917
     RUNOFF VOLUME    (mm)=    10.001
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.238

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0439)|   Area    (ha)=      1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=     41.52   Dir. Conn.(%)=  41.52
-------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          0.59            0.84
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          4.08            4.08
     Length            (m)=         97.64           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32           10.08
               over (min)           5.00           20.00
     Storage Coeff.  (min)=          3.19 (ii)      17.46 (ii)
     Unit Hyd. Tpeak (min)=          5.00           20.00
     Unit Hyd. peak  (cms)=          0.27            0.06
                                                             *TOTALS*
     PEAK FLOW       (cms)=          0.03            0.02      0.051 (iii)
     TIME TO PEAK    (hrs)=          5.00            5.33       5.25
     RUNOFF VOLUME    (mm)=         40.00           15.71      25.79
     TOTAL RAINFALL   (mm)=         42.00           42.00      42.00
     RUNOFF COEFFICIENT   =          0.95            0.37       0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
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            CN*  =  83.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7622)|   Area    (ha)=      0.71
|ID= 1 DT= 5.0 min |   Total Imp(%)=     41.52   Dir. Conn.(%)=  41.52
-------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          0.29            0.42
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          4.08            4.08
     Length            (m)=         68.80           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32           10.08
               over (min)           5.00           20.00
     Storage Coeff.  (min)=          2.58 (ii)      16.85 (ii)
     Unit Hyd. Tpeak (min)=          5.00           20.00
     Unit Hyd. peak  (cms)=          0.29            0.06
                                                             *TOTALS*
     PEAK FLOW       (cms)=          0.02            0.01      0.025 (iii)
     TIME TO PEAK    (hrs)=          4.83            5.33       5.25
     RUNOFF VOLUME    (mm)=         40.00           15.71      25.78
     TOTAL RAINFALL   (mm)=         42.00           42.00      42.00
     RUNOFF COEFFICIENT   =          0.95            0.37       0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.5    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7623)|   Area    (ha)=     36.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=     41.52   Dir. Conn.(%)=  41.52
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                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         14.99           21.11
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          4.08            4.08
     Length            (m)=        490.58           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32           10.08
               over (min)           10.00           25.00
     Storage Coeff.  (min)=          8.40 (ii)      22.67 (ii)
     Unit Hyd. Tpeak (min)=          10.00           25.00
     Unit Hyd. peak  (cms)=          0.12            0.05
                                                             *TOTALS*
     PEAK FLOW       (cms)=          0.80            0.44      1.224 (iii)
     TIME TO PEAK    (hrs)=          5.25            5.42       5.25
     RUNOFF VOLUME    (mm)=         40.00           15.71      25.80
     TOTAL RAINFALL   (mm)=         42.00           42.00      42.00
     RUNOFF COEFFICIENT   =          0.95            0.37       0.61
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(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7624)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0439):	1.43	0.051	5.25	25.79
	+ ID2= 2 (7622):	0.71	0.025	5.25	25.78
	ID = 3 (7624):	2.14	0.076	5.25	25.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7624)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (7624):	2.14	0.076	5.25	25.79
	+ ID2= 2 (7623):	36.10	1.224	5.25	25.80
	ID = 1 (7624):	38.24	1.300	5.25	25.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2189)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	163.29	0.0600	
9.72	163.57	0.0500	Main Channel
19.44	164.03	0.0500	Main Channel
29.16	164.97	0.0500	Main Channel
38.88	165.40	0.0500	Main Channel
48.60	165.52	0.0500	Main Channel
68.04	165.55	0.0500	Main Channel
77.76	163.98	0.0500	Main Channel
87.48	161.56	0.0500	Main Channel
97.20	161.82	0.0500	Main Channel
106.92	159.22	0.0500	Main Channel
116.64	158.64	0.0500	Main Channel
126.36	158.67	0.0500	Main Channel
136.08	160.13	0.0500	Main Channel
145.80	162.33	0.0500	Main Channel
155.52	163.89	0.0500	Main Channel
165.24	164.41	0.0500	Main Channel
184.68	164.94	0.0500	Main Channel
194.40	165.51	0.0500 /0.0600	Main Channel
204.12	165.57	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.23	158.87	.308E+04	2.0	0.73	25.72
0.47	159.11	.777E+04	7.6	1.10	17.08
0.70	159.34	.138E+05	17.6	1.44	13.10
0.94	159.57	.206E+05	32.0	1.76	10.70
1.17	159.81	.280E+05	50.5	2.04	9.24
1.41	160.04	.361E+05	72.9	2.28	8.24
1.64	160.28	.448E+05	100.0	2.53	7.46
1.88	160.51	.540E+05	131.6	2.76	6.83
2.11	160.75	.637E+05	167.3	2.97	6.34
2.34	160.98	.739E+05	207.3	3.17	5.94
2.58	161.22	.846E+05	251.6	3.36	5.60
2.81	161.45	.958E+05	300.4	3.54	5.32
3.05	161.68	.108E+06	331.1	3.47	5.43
3.28	161.92	.123E+06	373.3	3.44	5.47
3.52	162.15	.138E+06	445.6	3.64	5.17
3.75	162.39	.154E+06	523.5	3.83	4.91
3.99	162.62	.171E+06	605.9	4.00	4.71
4.22	162.86	.188E+06	694.7	4.16	4.52
4.45	163.09	.206E+06	789.9	4.32	4.36

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7624)	38.24	1.30	5.25	25.80	0.15	0.73
OUTFLOW: ID= 1 (2189)	38.24	1.07	5.42	25.79	0.13	0.73

ROUTE CHN(2190)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	147.22	0.0600	
9.56	151.41	0.0500	Main Channel
19.11	155.64	0.0500	Main Channel
28.67	158.07	0.0500	Main Channel
38.23	156.98	0.0500	Main Channel
47.78	152.00	0.0500	Main Channel
57.34	147.17	0.0500	Main Channel
66.90	142.84	0.0500	Main Channel
76.46	139.41	0.0500	Main Channel
86.01	137.96	0.0500	Main Channel
95.57	138.30	0.0500	Main Channel
105.13	139.42	0.0500	Main Channel
114.68	141.16	0.0500	Main Channel
133.80	145.63	0.0500	Main Channel
143.35	147.88	0.0500	Main Channel
152.91	149.98	0.0500	Main Channel
162.47	152.00	0.0500	Main Channel
172.02	153.96	0.0500	Main Channel
181.58	155.26	0.0500 /0.0600	Main Channel
191.38	155.96	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.02	138.98	.199E+05	21.5	1.60	15.41
2.04	140.00	.631E+05	111.0	2.61	9.47

3.05	141.01	.120E+06	278.0	3.43	7.19
4.07	142.03	.189E+06	530.1	4.16	5.93
5.09	143.05	.268E+06	870.0	4.80	5.14
6.11	144.07	.358E+06	1305.0	5.40	4.57
7.12	145.08	.458E+06	1836.1	5.94	4.15
8.14	146.10	.567E+06	2469.2	6.44	3.83
9.16	147.12	.687E+06	3209.8	6.92	3.57
10.18	148.14	.818E+06	4066.6	7.36	3.35
11.19	149.15	.962E+06	5040.8	7.76	3.18
12.21	150.17	.112E+07	6146.5	8.13	3.03
13.23	151.19	.129E+07	7388.4	8.47	2.91
14.25	152.21	.148E+07	8787.8	8.81	2.80
15.26	153.22	.167E+07	10347.4	9.15	2.70
16.28	154.24	.189E+07	12038.2	9.44	2.61
17.30	155.26	.212E+07	13819.1	9.66	2.55
18.32	156.28	.237E+07	16106.9	10.06	2.45
19.72	157.68	.274E+07	19143.6	10.34	2.39

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2189)	38.24	1.07	5.42	25.79	0.05	1.60
OUTFLOW: ID= 1 (2190)	38.24	0.99	5.58	25.79	0.05	1.60

ADD HYD (1967)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2190):	38.24	0.993	5.58	25.79
	+ ID2= 2 (2972):	47841.56	46.851	7.25	8.12
	ID = 3 (1967):	47879.80	47.233	7.25	8.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1967)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (1967):	47879.80	47.233	7.25	8.14
	+ ID2= 2 (0438):	43.54	0.286	6.92	10.00
	ID = 1 (1967):	47923.34	47.513	7.25	8.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2973)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning

0.00	159.56	0.0600
41.33	158.39	0.0500 Main Channel
63.69	158.26	0.0500 Main Channel
101.34	158.43	0.0500 Main Channel
119.23	154.65	0.0500 Main Channel
147.01	156.95	0.0500 Main Channel
169.45	156.29	0.0500 Main Channel
241.60	155.31	0.0500 Main Channel
275.14	153.49	0.0500 Main Channel
297.25	148.63	0.0500 Main Channel
342.17	136.81	0.0500 Main Channel
364.20	135.40	0.0500 Main Channel
386.76	135.20	0.0500 Main Channel
409.12	133.19	0.0500 Main Channel
431.48	136.03	0.0500 Main Channel
445.87	140.53	0.0500 Main Channel
460.19	145.61	0.0500 Main Channel
475.84	149.08	0.0500 Main Channel
502.15	158.44	0.0500 /0.0600 Main Channel
510.71	159.97	0.0600

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.32	134.51	.430E+04	10.0	0.61	7.14
2.64	135.83	.201E+05	64.7	0.84	5.18
3.96	137.15	.493E+05	242.2	1.28	3.39
5.28	138.47	.832E+05	542.9	1.70	2.55
6.60	139.79	.120E+06	945.9	2.04	2.12
7.92	141.11	.160E+06	1450.9	2.35	1.84
9.24	142.43	.204E+06	2058.9	2.63	1.65
10.56	143.75	.250E+06	2769.2	2.88	1.50
11.88	145.07	.299E+06	3584.2	3.11	1.39
13.19	146.38	.352E+06	4485.5	3.32	1.31
14.51	147.70	.408E+06	5486.6	3.50	1.24
15.83	149.02	.467E+06	6601.4	3.67	1.18
17.15	150.34	.531E+06	7874.9	3.86	1.12
18.47	151.66	.598E+06	9276.8	4.04	1.07
19.79	152.98	.668E+06	10808.8	4.21	1.03
21.11	154.30	.743E+06	12108.3	4.24	1.02
22.43	155.62	.829E+06	12455.1	3.91	1.11
23.75	156.94	.948E+06	12889.6	3.53	1.23
25.07	158.26	.108E+07	15814.0	3.79	1.14

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1967)	47923.34	47.51	7.25	8.14	2.22	0.75
OUTFLOW: ID= 1 (2973)	47923.34	47.29	7.50	8.14	2.22	0.75

ROUTEPIPE(2951)		
IN= 2---> OUT= 1	PIPE Number	= 1.00
DT= 5.0 min	Diameter (mm)=	797.88
	Length (m)=	34.20
	Slope (m/m)=	0.000
	Manning n =	0.013

**** WARNING: SLOPE <=0.0 (HYD WAS ONLY TRANSFERED)

| ROUTE CHN(2974)| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	159.56	0.0600	
41.33	158.39	0.0500	Main Channel
63.69	158.26	0.0500	Main Channel
101.34	158.43	0.0500	Main Channel
119.23	154.65	0.0500	Main Channel
147.01	156.95	0.0500	Main Channel
169.45	156.29	0.0500	Main Channel
241.60	155.31	0.0500	Main Channel
275.14	153.49	0.0500	Main Channel
297.25	148.63	0.0500	Main Channel
342.17	136.81	0.0500	Main Channel
364.20	135.40	0.0500	Main Channel
386.76	135.20	0.0500	Main Channel
409.12	133.19	0.0500	Main Channel
431.48	136.03	0.0500	Main Channel
445.87	140.53	0.0500	Main Channel
460.19	145.61	0.0500	Main Channel
475.84	149.08	0.0500	Main Channel
502.15	158.44	0.0500 /0.0600	Main Channel
510.71	159.97	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.32	134.51	.215E+04	7.9	0.48	4.54
2.64	135.83	.101E+05	51.0	0.66	3.29
3.96	137.15	.247E+05	190.7	1.01	2.16
5.28	138.47	.416E+05	427.5	1.34	1.62
6.60	139.79	.601E+05	744.8	1.61	1.35
7.92	141.11	.802E+05	1142.4	1.85	1.17
9.24	142.43	.102E+06	1621.1	2.07	1.05
10.56	143.75	.125E+06	2180.4	2.27	0.96
11.88	145.07	.150E+06	2822.1	2.45	0.88
13.19	146.38	.176E+06	3531.8	2.61	0.83
14.51	147.70	.204E+06	4320.0	2.76	0.79
15.83	149.02	.234E+06	5197.8	2.89	0.75
17.15	150.34	.265E+06	6200.5	3.04	0.71
18.47	151.66	.299E+06	7304.3	3.18	0.68
19.79	152.98	.334E+06	8510.6	3.31	0.65
21.11	154.30	.371E+06	9533.8	3.34	0.65
22.43	155.62	.415E+06	9806.9	3.08	0.70
23.75	156.94	.474E+06	10149.0	2.78	0.78
25.07	158.26	.542E+06	12451.6	2.99	0.73

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2951)	47923.34	47.29	7.50	8.14	2.53	0.64
OUTFLOW: ID= 1 (2974)	47923.34	47.27	7.50	8.14	2.68	0.67

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	STANDHYD (0440)	ID= 1 DT= 5.0 min	Area (ha)= 112.91	Total Imp(%)= 42.96	Dir. Conn.(%)= 42.88

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.51	64.40
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.92	3.92
Length	(m)=	867.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.25
over (min)		10.00	30.00
Storage Coeff. (min)=		11.97 (ii)	28.44 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.10	0.04

		TOTALS
PEAK FLOW	(cms)=	2.58	0.89	3.372 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	11.56	23.75
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.28	0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0441)	ID= 1 DT= 5.0 min	Area (ha)= 251.12	Total Imp(%)= 65.04	Dir. Conn.(%)= 65.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	163.33	87.79
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.50	3.50
Length	(m)=	1293.88	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.45
over (min)		15.00	35.00
Storage Coeff. (min)=		15.73 (ii)	30.46 (ii)
Unit Hyd. Tpeak (min)=		15.00	35.00
Unit Hyd. peak (cms)=		0.07	0.04

		TOTALS
PEAK FLOW	(cms)=	8.58	1.68	10.034 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	16.30	31.71
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.39	0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4087)| IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	16.3800	7.3997
		4.4800	4.6485	22.0200	8.5381
		9.1800	5.8818	220.2000	9.4868

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0441)	251.120	10.034	5.25	31.71
OUTFLOW: ID= 1 (4087)	251.120	3.714	6.25	31.71

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.01
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 3.8543

CALIB	STANDHYD (0447)	ID= 1 DT= 5.0 min	Area (ha)= 69.06	Total Imp(%)= 62.40	Dir. Conn.(%)= 59.52

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.09	25.97
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.33	3.33
Length	(m)=	678.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.80
over (min)		10.00	30.00
Storage Coeff. (min)=		10.84 (ii)	25.08 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	2.20	0.61	2.765 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	17.23	30.78
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.41	0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0448)	ID= 1 DT= 5.0 min	Area (ha)= 43.75	Total Imp(%)= 49.92	Dir. Conn.(%)= 45.52

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	21.84	21.91
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.93	2.93
Length	(m)=	540.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.60
over (min)		10.00	25.00
Storage Coeff. (min)=		9.83 (ii)	24.72 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.11	0.05

		TOTALS
PEAK FLOW	(cms)=	1.07	0.52	1.561 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	27.34
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.65

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4086)| IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	3.0800	0.9171
		1.1100	0.5002	4.0300	1.0719
		1.9100	0.7027	40.3000	1.1910

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0448)	43.750	1.561	5.25	27.34
OUTFLOW: ID= 1 (4086)	43.750	0.880	5.58	27.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 56.39
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.3973

CALIB	STANDHYD (7625)	ID= 1 DT= 5.0 min	Area (ha)= 200.79	Total Imp(%)= 42.96	Dir. Conn.(%)= 42.88

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	86.26	114.53
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.92	3.92
Length	(m)=	1156.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.25
over (min)		15.00	35.00
Storage Coeff. (min)=		14.22 (ii)	30.70 (ii)

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     Unit Hyd. Tpeak (min)=        15.00          35.00
     Unit Hyd. peak  (cms)=         0.08           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         4.55           1.52      5.824 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.58       5.25
     RUNOFF VOLUME    (mm)=        40.00          11.56      23.75
     TOTAL RAINFALL   (mm)=        42.00          42.00      42.00
     RUNOFF COEFFICIENT   =         0.95           0.28       0.57

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7626)|   Area    (ha)=      6.24
|ID= 1 DT= 5.0 min |   Total Imp(%)=     42.96   Dir. Conn.(%)=  42.88
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                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         2.68           3.56
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         3.92           3.92
     Length             (m)=      203.96          40.00
     Mannings n            =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32           7.25
               over (min)          5.00          25.00
     Storage Coeff.  (min)=         5.02 (ii)     21.50 (ii)
     Unit Hyd. Tpeak (min)=         5.00          25.00
     Unit Hyd. peak  (cms)=         0.21           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.14           0.05      0.195 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.42       5.25
     RUNOFF VOLUME    (mm)=        40.00          11.56      23.75
     TOTAL RAINFALL   (mm)=        42.00          42.00      42.00
     RUNOFF COEFFICIENT   =         0.95           0.28       0.57

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1258)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2974):  47923.34     47.274        7.50        8.14
     + ID2= 2 (  4086):     43.75      0.880        5.58       27.34
       ==========================================================
       ID = 3 (  1258):  47967.09     47.785        7.50        8.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1258)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1258):  47967.09     47.785        7.50        8.15
     + ID2= 2 (  4087):    251.12      3.714        6.25       31.71
       ==========================================================
       ID = 1 (  1258):  48218.21     51.064        7.42        8.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1258)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1258):  48218.21     51.064        7.42        8.28
     + ID2= 2 (  0440):    112.91      3.372        5.25       23.75
       ==========================================================
       ID = 3 (  1258):  48331.12     51.714        7.33        8.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1258)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1258):  48331.12     51.714        7.33        8.31
     + ID2= 2 (  0447):     69.06      2.765        5.25       30.78
       ==========================================================
       ID = 1 (  1258):  48400.18     52.202        7.33        8.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1258)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1258):  48400.18     52.202        7.33        8.35
     + ID2= 2 (  7625):    200.79      5.824        5.25       23.75
       ==========================================================
       ID = 3 (  1258):  48600.97     53.444        7.33        8.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-
--------------------
| ADD HYD  (  1258)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
-------------------            (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1258):  48600.97     53.444        7.33        8.41
     + ID2= 2 (  7626):      6.24      0.195        5.25       23.75
       ==========================================================
       ID = 1 (  1258):  48607.21     53.475        7.33        8.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



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--------------------
| ROUTE CHN(  2911)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         152.51        0.0600
                 17.54         152.70        0.0500      Main Channel
                 58.65         151.76        0.0500      Main Channel
                107.00         152.74        0.0500      Main Channel
                150.66         138.73        0.0500      Main Channel
                183.71         132.14        0.0500      Main Channel
                208.56         133.31        0.0500      Main Channel
                258.08         134.36        0.0500      Main Channel
                299.69         135.17        0.0500      Main Channel
                316.23         139.91        0.0500      Main Channel
                332.77         143.85        0.0500      Main Channel
                357.58         143.52        0.0500      Main Channel
                382.58         141.08        0.0500      Main Channel
                401.49         141.79        0.0500      Main Channel
                456.99         151.46        0.0500      Main Channel
                490.09         156.54        0.0500      Main Channel
                512.98         156.74        0.0500      Main Channel
                539.79         153.72        0.0500      Main Channel
                581.21         157.13    0.0500 /0.0600  Main Channel
                612.00         158.14        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
       (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
       1.03   133.17    .802E+04           5.7          0.41       23.53
       2.07   134.21    .380E+05          37.8          0.57       16.76
       3.10   135.24    .101E+06         134.4          0.76       12.49
       4.13   136.27    .181E+06         342.5          1.08        8.82
       5.16   137.30    .267E+06         626.9          1.35        7.10
       6.20   138.34    .358E+06         982.9          1.57        6.07
       7.23   139.37    .454E+06        1413.9          1.79        5.35
       8.26   140.40    .554E+06        1914.3          1.98        4.82
       9.29   141.43    .660E+06        2375.8          2.06        4.63
      10.33   142.47    .785E+06        2869.6          2.09        4.56
      11.36   143.50    .925E+06        3525.0          2.18        4.37
      12.39   144.53    .109E+07        4226.1          2.23        4.29
      13.42   145.56    .126E+07        5276.7          2.40        3.98
      14.46   146.60    .144E+07        6431.5          2.57        3.72
      15.49   147.63    .162E+07        7690.2          2.72        3.51
      16.52   148.66    .181E+07        9052.6          2.87        3.32
      17.55   149.69    .200E+07       10519.0          3.02        3.17
      18.59   150.73    .220E+07       12089.8          3.15        3.03
      19.62   151.76    .240E+07       13759.8          3.29        2.91

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1258)   48607.21    53.48    7.33   8.41      2.23
0.59
   OUTFLOW: ID= 1 (  2911)   48607.21    53.05    7.33   8.41      2.23
0.59

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--------------------
| ROUTE CHN(  2893)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         154.20        0.0600
                 55.03         154.40        0.0500      Main Channel
                122.87         153.61        0.0500      Main Channel
                151.16         154.49        0.0500      Main Channel
                201.36         151.51        0.0500      Main Channel
                225.29         143.34        0.0500      Main Channel
                257.95         137.41        0.0500      Main Channel
                295.23         135.66        0.0500      Main Channel
                368.62         133.93        0.0500      Main Channel
                378.83         131.84        0.0500      Main Channel
                421.99         133.77        0.0500      Main Channel
                496.03         135.19        0.0500      Main Channel
                528.44         138.54        0.0500      Main Channel
                570.11         146.73        0.0500      Main Channel
                586.72         151.69        0.0500      Main Channel
                611.61         155.13        0.0500      Main Channel
                682.61         155.00        0.0500      Main Channel
                713.86         153.60        0.0500      Main Channel
                758.98         154.11    0.0500 /0.0600  Main Channel
                846.74         154.96        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
       (m)       (m)     (cu.m.)         (cms)         (m/s)       (min)
       1.21   133.05    .163E+05          13.2          0.66       20.65
       2.42   134.26    .699E+05          74.6          0.87       15.61
       3.63   135.47    .217E+06         300.9          1.14       12.03
       4.84   136.68    .433E+06         835.7          1.58        8.63
       6.05   137.89    .685E+06        1657.0          1.98        6.89
       7.26   139.10    .957E+06        2787.6          2.38        5.72
       8.47   140.31    .124E+07        4183.8          2.76        4.95
       9.68   141.52    .154E+07        5821.7          3.09        4.42
      10.89   142.73    .185E+07        7696.5          3.40        4.02
      12.09   143.93    .218E+07        9832.4          3.70        3.69
      13.30   145.14    .251E+07       12228.2          3.99        3.42
      14.51   146.35    .286E+07       14853.9          4.26        3.20
      15.72   147.56    .321E+07       17749.0          4.53        3.01
      16.93   148.77    .357E+07       20889.0          4.79        2.85
      18.14   149.98    .394E+07       24252.9          5.05        2.71
      19.35   151.19    .431E+07       27839.0          5.29        2.58
      20.56   152.40    .470E+07       30928.0          5.39        2.53
      21.77   153.61    .512E+07       33965.7          5.44        2.51
      23.29   155.13    .592E+07       32486.1          4.50        3.04

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2911)   48607.21    53.05    7.33   8.41      1.99
0.79
   OUTFLOW: ID= 1 (  2893)   48607.21    52.53    7.67   8.41      1.98
0.78

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| CALIB                |
| STANDHYD (  0437)|   Area    (ha)=    489.64
|ID= 1 DT= 5.0 min |   Total Imp(%)=     37.60   Dir. Conn.(%)=  34.72
-------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       184.10          305.54
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         4.61            4.61
     Length            (m)=      1806.73           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            7.86
           over (min)      =       20.00           35.00
     Storage Coeff. (min)=        17.70 (ii)      32.90 (ii)
     Unit Hyd. Tpeak (min)=        20.00           35.00
     Unit Hyd. peak  (cms)=         0.06            0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=         8.79            4.30          12.479 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58           5.33
     RUNOFF VOLUME    (mm)=        40.00           12.03          21.74
     TOTAL RAINFALL   (mm)=        42.00           42.00          42.00
     RUNOFF COEFFICIENT   =         0.95            0.29           0.52


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1229)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2893):  48607.21     52.530        7.67        8.41
     + ID2= 2 (  0437):    489.64     12.479        5.33       21.74
       ==========================================================
       ID = 3 (  1229):  49096.85     55.312        7.42        8.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  2861)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         154.22        0.0600
                 105.00         152.09        0.0500      Main Channel
                 135.00         150.70        0.0500      Main Channel
                 165.00         150.32        0.0500      Main Channel
                 218.05         147.98        0.0500      Main Channel
                 255.97         149.92        0.0500      Main Channel
                 281.00         146.30        0.0500      Main Channel
                 293.21         141.39        0.0500      Main Channel
                 303.21         140.94        0.0500      Main Channel
                 381.12         136.28        0.0500      Main Channel
                 443.42         132.11        0.0500      Main Channel
                 506.30         131.99        0.0500      Main Channel
                 544.17         130.24        0.0500      Main Channel
                 581.40         132.54        0.0500      Main Channel
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                 594.24         131.71        0.0500      Main Channel
                 631.46         138.49        0.0500      Main Channel
                 682.20         150.88        0.0500      Main Channel
                 719.43         152.30        0.0500      Main Channel
                 750.34         155.37    0.0500 /0.0600  Main Channel
                 809.65         154.87        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)      (cu.m.)          (cms)          (m/s)       (min)
        1.28   131.52    .270E+05          15.5           0.50       29.01
        2.56   132.80    .156E+06         126.2           0.71       20.60
        3.84   134.08    .357E+06         455.7           1.11       13.07
        5.11   135.35    .588E+06         959.7           1.43       10.21
        6.39   136.63    .848E+06        1635.4           1.69        8.64
        7.67   137.91    .114E+07        2485.9           1.91        7.63
        8.95   139.19    .146E+07        3533.9           2.11        6.89
       10.23   140.47    .181E+07        4787.1           2.31        6.31
       11.51   141.75    .220E+07        6281.8           2.50        5.83
       12.79   143.03    .259E+07        8160.7           2.75        5.30
       14.07   144.31    .300E+07       10245.0           2.98        4.88
       15.34   145.58    .342E+07       12530.3           3.20        4.55
       16.62   146.86    .385E+07       14954.9           3.40        4.29
       17.90   148.14    .429E+07       17312.9           3.53        4.13
       19.18   149.42    .479E+07       18757.1           3.43        4.25
       20.46   150.70    .535E+07       20681.8           3.38        4.31
       21.74   151.98    .599E+07       24018.1           3.50        4.16
       23.30   153.54    .688E+07       29007.1           3.68        3.95
       24.85   155.09    .788E+07       34751.6           3.85        3.78

                                       <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1229)   49096.85    55.31    7.42    8.54      1.74
0.56
  OUTFLOW: ID= 1 (  2861)   49096.85    54.17    7.92    8.54      1.73
0.56


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| ROUTE CHN(  2822)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         147.44        0.0600
                  57.12         146.49        0.0500      Main Channel
                  72.75         146.76        0.0500      Main Channel
                 126.90         146.11        0.0500      Main Channel
                 165.98         145.10        0.0500      Main Channel
                 215.11         144.93        0.0500      Main Channel
                 217.94         144.32        0.0500      Main Channel
                 243.57         135.85        0.0500      Main Channel
                 269.86         132.70        0.0500      Main Channel
                 293.30         132.80        0.0500      Main Channel
                 334.63         132.55        0.0500      Main Channel
                 372.30         130.76        0.0500      Main Channel
                 451.53         129.87        0.0500      Main Channel
                 477.17         129.93        0.0500      Main Channel
                 516.25         129.36        0.0500      Main Channel
                 530.48         136.63        0.0500      Main Channel
```



```
                 606.62         138.99        0.0500      Main Channel
                 632.31         144.15        0.0500      Main Channel
                 671.40         150.26    0.0500 /0.0600  Main Channel
                 737.58         151.14        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)      (cu.m.)          (cms)          (m/s)       (min)
        0.92   130.28    .168E+05          38.5           0.91        7.27
        1.83   131.19    .666E+05         288.7           1.72        3.85
        2.75   132.11    .127E+06         779.7           2.43        2.72
        3.66   133.02    .203E+06        1330.4           2.60        2.54
        4.58   133.94    .298E+06        2456.3           3.27        2.02
        5.49   134.85    .396E+06        3855.6           3.86        1.71
        6.41   135.77    .497E+06        5512.7           4.39        1.50
        7.33   136.69    .601E+06        7448.2           4.90        1.35
        8.24   137.60    .713E+06        9220.5           5.12        1.29
        9.16   138.52    .836E+06       11288.6           5.35        1.23
       10.07   139.43    .970E+06       13934.8           5.69        1.16
       10.99   140.35    .111E+07       17158.5           6.13        1.08
       11.91   141.27    .125E+07       20664.9           6.56        1.01
       12.82   142.18    .139E+07       24449.2           6.96        0.95
       13.74   143.10    .154E+07       28507.3           7.35        0.90
       14.65   144.01    .169E+07       32836.4           7.72        0.86
       15.57   144.93    .184E+07       37324.4           8.05        0.82
       16.48   145.84    .201E+07       38521.2           7.59        0.87
       17.40   146.76    .221E+07       41228.2           7.40        0.89

                                       <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2861)   49096.85    54.17    7.92    8.54      0.97
0.94
  OUTFLOW: ID= 1 (  2822)   49096.85    54.14    8.00    8.54      0.97
0.93


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--------------------
| ROUTE CHN(  2823)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         147.44        0.0600
                  57.12         146.49        0.0500      Main Channel
                  72.75         146.76        0.0500      Main Channel
                 126.90         146.11        0.0500      Main Channel
                 165.98         145.10        0.0500      Main Channel
                 215.11         144.93        0.0500      Main Channel
                 217.94         144.32        0.0500      Main Channel
                 243.57         135.85        0.0500      Main Channel
                 269.86         132.70        0.0500      Main Channel
                 293.30         132.80        0.0500      Main Channel
                 334.63         132.55        0.0500      Main Channel
                 372.30         130.76        0.0500      Main Channel
                 451.53         129.87        0.0500      Main Channel
                 477.17         129.93        0.0500      Main Channel
                 516.25         129.36        0.0500      Main Channel
                 530.48         136.63        0.0500      Main Channel
                 606.62         138.99        0.0500      Main Channel
                 632.31         144.15        0.0500      Main Channel
```



```
                 671.40         150.26    0.0500 /0.0600  Main Channel
                 737.58         151.14        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV       VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)      (cu.m.)          (cms)          (m/s)       (min)
        0.92   130.28    .137E+05          14.9           0.35       15.31
        1.83   131.19    .542E+05         111.4           0.66        8.10
        2.75   132.11    .103E+06         300.9           0.94        5.73
        3.66   133.92    .165E+06         513.4           1.00        5.36
        4.58   133.94    .242E+06         947.9           1.26        4.26
        5.49   134.85    .322E+06        1487.9           1.49        3.60
        6.41   135.77    .404E+06        2127.4           1.69        3.17
        7.33   136.69    .489E+06        2874.3           1.89        2.84
        8.24   137.60    .580E+06        3558.2           1.98        2.72
        9.16   138.52    .680E+06        4356.3           2.06        2.60
       10.07   139.43    .789E+06        5377.5           2.20        2.44
       10.99   140.35    .901E+06        6621.5           2.37        2.27
       11.91   141.27    .101E+07        7974.6           2.53        2.12
       12.82   142.18    .113E+07        9435.0           2.69        2.00
       13.74   143.10    .125E+07       11001.0           2.83        1.89
       14.65   144.01    .137E+07       12671.6           2.98        1.80
       15.57   144.93    .149E+07       14403.6           3.11        1.73
       16.48   145.84    .164E+07       14865.4           2.93        1.83
       17.40   146.76    .179E+07       15910.0           2.85        1.88

                                       <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2822)   49096.85    54.14    8.00    8.54      1.29
0.43
  OUTFLOW: ID= 1 (  2823)   49096.85    53.91    8.17    8.54      1.29
0.43


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--------------------
| ROUTE CHN(  2800)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00         143.30        0.0600
                 141.05         137.11        0.0500      Main Channel
                 188.17         136.71        0.0500      Main Channel
                 199.01         138.15        0.0500      Main Channel
                 242.94         135.43        0.0500      Main Channel
                 308.64         135.45        0.0500      Main Channel
                 401.39         132.39        0.0500      Main Channel
                 432.81         132.55        0.0500      Main Channel
                 463.91         126.86        0.0500      Main Channel
                 495.28         128.37        0.0500      Main Channel
                 555.58         128.71        0.0500      Main Channel
                 693.36         127.92        0.0500      Main Channel
                 734.90         128.51        0.0500      Main Channel
                 770.13         128.40        0.0500      Main Channel
                 793.02         129.36        0.0500      Main Channel
                 816.02         132.05        0.0500      Main Channel
                 908.50         142.95        0.0500      Main Channel
                1012.61         148.25        0.0500      Main Channel
                1067.57         149.92    0.0500 /0.0600  Main Channel
                1092.70         149.57        0.0600
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.09	127.95	.154E+05	5.7	0.36	45.23
2.19	129.05	.243E+06	130.8	0.52	30.99
3.28	130.14	.610E+06	582.7	0.93	17.45
4.38	131.24	.994E+06	1277.7	1.25	12.97
5.47	132.33	.139E+07	2185.0	1.52	10.64
6.57	133.43	.185E+07	3126.8	1.64	9.88
7.66	134.52	.236E+07	4415.4	1.81	8.92
8.76	135.62	.293E+07	5552.9	1.84	8.79
9.85	136.71	.359E+07	7563.8	2.05	7.90
11.17	138.03	.449E+07	10321.7	2.23	7.25
12.49	139.35	.547E+07	13874.0	2.46	6.57
13.81	140.67	.651E+07	17956.0	2.68	6.04
15.13	141.99	.760E+07	22537.0	2.88	5.62
16.46	143.32	.874E+07	27524.8	3.06	5.29
17.78	144.64	.993E+07	32834.7	3.21	5.04
19.10	145.96	.112E+08	38639.1	3.36	4.81
20.42	147.28	.124E+08	44933.8	3.51	4.61
21.74	148.60	.137E+08	51547.8	3.65	4.43
23.06	149.92	.151E+08	58209.6	3.75	4.31

channel->		<---- hydrograph ---->				<-pipe /
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2823)	49096.85	53.91	8.17	8.54	1.52	0.41
OUTFLOW: ID= 1 (2800)	49096.85	52.23	8.92	8.54	1.50	0.41

ROUTE CHN(2715)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	140.55	0.0600	
9.65	138.89	0.0500	Main Channel
39.34	137.77	0.0500	Main Channel
68.65	135.65	0.0500	Main Channel
104.76	134.38	0.0500	Main Channel
157.83	133.00	0.0500	Main Channel
200.41	133.02	0.0500	Main Channel
270.39	131.55	0.0500	Main Channel
342.68	131.34	0.0500	Main Channel
364.79	127.63	0.0500	Main Channel
395.14	126.51	0.0500	Main Channel
454.62	126.92	0.0500	Main Channel
484.31	124.96	0.0500	Main Channel
498.96	125.64	0.0500	Main Channel
513.79	128.00	0.0500	Main Channel
521.02	131.56	0.0500	Main Channel
562.68	132.48	0.0500	Main Channel
580.38	134.78	0.0500	Main Channel
722.10	134.42	0.0500 /0.0600	Main Channel
785.34	136.00	0.0600	

<---------------------- TRAVEL TIME TABLE ---------------------->

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	125.52	.497E+04	1.6	0.29	50.67
1.11	126.07	.186E+05	10.5	0.49	29.66
1.67	126.63	.393E+05	23.3	0.52	28.14
2.23	127.19	.930E+05	62.2	0.58	24.93
2.78	127.74	.162E+06	144.5	0.78	18.64
3.34	128.30	.235E+06	263.4	0.98	14.88
3.90	128.86	.311E+06	411.6	1.16	12.60
4.45	129.41	.389E+06	586.3	1.32	11.06
5.01	129.97	.469E+06	786.5	1.47	9.95
5.56	130.52	.552E+06	1011.3	1.60	9.09
6.12	131.08	.638E+06	1260.1	1.73	8.41
6.68	131.64	.735E+06	1242.1	1.48	9.86
7.23	132.19	.874E+06	1467.0	1.47	9.92
7.79	132.75	.104E+07	1792.9	1.51	9.63
8.35	133.31	.123E+07	2097.9	1.50	9.74
8.90	133.86	.144E+07	2632.4	1.60	9.10
9.46	134.42	.166E+07	3233.1	1.70	8.57
10.25	135.21	.209E+07	3831.7	1.61	9.07
11.04	136.00	.257E+07	5239.9	1.78	8.17

channel->		<---- hydrograph ---->				<-pipe /
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2800)	49096.85	52.23	8.92	8.54	2.08	0.57
OUTFLOW: ID= 1 (2715)	49096.85	51.47	9.42	8.54	2.07	0.57

CALIB	STANDHYD (0436)	Area (ha)= 311.64	Total Imp(%)= 41.92	Dir. Conn.(%)= 38.80

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	130.64	181.00	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	4.61	4.61	
Length	(m)=	1441.39	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	19.32	5.49	
over (min)		15.00	35.00	
Storage Coeff. (min)	=	15.46 (ii)	33.00 (ii)	
Unit Hyd. Tpeak (min)	=	15.00	35.00	
Unit Hyd. peak (cms)	=	0.07	0.03	
				TOTALS
PEAK FLOW (cms)	=	6.36	1.75	7.795 (iii)
TIME TO PEAK (hrs)	=	5.25	5.58	5.25
RUNOFF VOLUME (mm)	=	40.00	8.38	20.65
TOTAL RAINFALL (mm)	=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.20	0.49

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7571)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2715):		49096.85	51.468	9.42	8.54
+ ID2= 2 (0436):		311.64	7.795	5.25	20.65
ID = 3 (7571):		49408.49	51.965	9.25	8.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0435)	Area (ha)= 862.17	Total Imp(%)= 65.20	Dir. Conn.(%)= 64.24

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	562.13	300.04	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.98	3.98	
Length	(m)=	2397.46	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	19.32	8.40	
over (min)		20.00	40.00	
Storage Coeff. (min)	=	21.92 (ii)	37.38 (ii)	
Unit Hyd. Tpeak (min)	=	20.00	40.00	
Unit Hyd. peak (cms)	=	0.05	0.03	
				TOTALS
PEAK FLOW (cms)	=	27.83	4.25	31.158 (iii)
TIME TO PEAK (hrs)	=	5.25	5.67	5.25
RUNOFF VOLUME (mm)	=	40.00	13.05	30.36
TOTAL RAINFALL (mm)	=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.31	0.72

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 78.3 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1087)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0435):		862.17	31.158	5.25	30.36
+ ID2= 2 (7571):		49408.49	51.965	9.25	8.62
ID = 3 (1087):		50270.66	54.069	9.17	8.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2716)

IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	140.55	0.0600	
9.65	138.89	0.0500	Main Channel
39.34	137.77	0.0500	Main Channel
68.65	135.65	0.0500	Main Channel
104.76	134.38	0.0500	Main Channel
157.83	133.00	0.0500	Main Channel
200.41	133.02	0.0500	Main Channel
270.39	131.55	0.0500	Main Channel
342.68	131.34	0.0500	Main Channel
364.79	127.63	0.0500	Main Channel
395.14	126.51	0.0500	Main Channel
454.62	126.92	0.0500	Main Channel
484.31	124.96	0.0500	Main Channel
498.96	125.64	0.0500	Main Channel
513.79	128.00	0.0500	Main Channel
521.02	131.56	0.0500	Main Channel
562.68	132.48	0.0500	Main Channel
580.38	134.78	0.0500	Main Channel
722.10	134.42	0.0500 /0.0600	Main Channel
785.34	136.00	0.0600	

<---------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	125.52	.161E+04	1.5	0.27	17.51
1.11	126.07	.603E+04	9.8	0.46	10.25
1.67	126.63	.127E+05	21.8	0.48	9.73
2.23	127.19	.301E+05	58.2	0.55	8.62
2.78	127.74	.523E+05	135.3	0.73	6.44
3.34	128.30	.761E+05	246.5	0.92	5.14
3.90	128.86	.101E+06	385.1	1.08	4.35
4.45	129.41	.126E+06	548.7	1.23	3.82
5.01	129.97	.152E+06	736.0	1.37	3.44
5.56	130.52	.178E+06	946.3	1.50	3.14
6.12	131.08	.206E+06	1179.2	1.62	2.91
6.68	131.64	.238E+06	1162.3	1.38	3.41
7.23	132.19	.283E+06	1372.7	1.38	3.43
7.79	132.75	.335E+06	1677.7	1.42	3.33
8.35	133.31	.396E+06	1963.1	1.40	3.36
8.90	133.86	.465E+06	2463.4	1.50	3.15
9.46	134.42	.538E+06	3025.5	1.59	2.96
10.25	135.21	.675E+06	3585.6	1.50	3.14
11.04	136.00	.831E+06	4903.3	1.67	2.82

channel->		<---- hydrograph ---->				<-pipe /
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1087)	50270.66	54.07	9.17	8.99	2.16	0.54
OUTFLOW: ID= 1 (2716)	50270.66	54.08	9.33	8.99	2.16	0.54

ROUTE CHN(2677)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	137.40	0.0600	
7.62	137.65	0.0500	Main Channel
23.52	131.24	0.0500	Main Channel
31.91	126.88	0.0500	Main Channel
58.42	123.74	0.0500	Main Channel
72.07	125.21	0.0500	Main Channel
224.46	125.61	0.0500	Main Channel
281.29	125.91	0.0500	Main Channel
297.23	132.66	0.0500	Main Channel
321.49	132.85	0.0500	Main Channel
393.73	133.16	0.0500	Main Channel
442.12	134.96	0.0500	Main Channel
460.30	135.83	0.0500	Main Channel
481.22	135.44	0.0500	Main Channel
498.17	135.69	0.0500	Main Channel
554.36	136.90	0.0500	Main Channel
565.80	136.67	0.0500	Main Channel
587.91	136.56	0.0500	Main Channel
598.36	135.64	0.0500 /0.0600	Main Channel
605.69	135.68	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.68	124.42	.295E+04	1.4	0.35	34.53
1.36	125.10	.118E+05	9.1	0.55	21.75
2.05	125.79	.686E+05	39.5	0.41	28.94
2.73	126.47	.187E+06	191.7	0.74	16.23
3.41	127.15	.309E+06	437.6	1.02	11.77
4.09	127.83	.433E+06	762.2	1.26	9.48
4.77	128.51	.559E+06	1155.7	1.48	8.06
5.45	129.19	.686E+06	1612.8	1.68	7.09
6.14	129.88	.815E+06	2129.9	1.87	6.38
6.82	130.56	.945E+06	2704.2	2.05	5.82
7.50	131.24	.108E+07	3333.2	2.22	5.38
8.30	132.04	.123E+07	4155.3	2.42	4.94
9.10	132.84	.139E+07	4799.5	2.47	4.84
9.90	133.64	.160E+07	5111.1	2.29	5.23
10.70	134.44	.183E+07	6152.8	2.41	4.96
11.51	135.25	.208E+07	7323.6	2.53	4.73
12.31	136.05	.235E+07	8084.2	2.47	4.84
13.11	136.85	.266E+07	9054.1	2.44	4.90
13.91	137.65	.301E+07	10983.9	2.62	4.56

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2716)	50270.66	54.08	9.33	8.99	2.11	0.43
OUTFLOW: ID= 1 (2677)	50270.66	53.30	9.50	8.99	2.11	0.43

CALIB STANDHYD (0434) ID= 1 DT= 5.0 min	Area (ha)= 80.38	Total Imp(%)= 34.16	Dir. Conn.(%)= 30.88

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	27.46	52.92
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	4.68	4.68
Length (m)=	732.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	5.45
over (min)	10.00	30.00
Storage Coeff. (min)=	10.25 (ii)	27.76 (ii)
Unit Hyd. Tpeak (min)=	10.00	30.00
Unit Hyd. peak (cms)=	0.11	0.04

		TOTALS
PEAK FLOW (cms)=	1.33	0.55	1.810 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	40.00	8.35	18.12
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.20	0.43

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7570) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2677):	50270.66	53.299	9.50	8.99
+ ID2= 2 (0434):	80.38	1.810	5.25	18.12
ID = 3 (7570):	50351.04	53.391	9.50	9.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0449) ID= 1 DT= 5.0 min	Area (ha)= 223.28	Ia (mm)= 10.00	U.H. Tp(hrs)= 6.44	Curve Number (CN)= 68.8	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.592

PEAK FLOW	(cms)=	0.158 (i)
TIME TO PEAK	(hrs)=	13.250
RUNOFF VOLUME	(mm)=	6.903
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.164

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0450) ID= 1 DT= 5.0 min	Area (ha)= 342.48	Ia (mm)= 10.00	U.H. Tp(hrs)= 4.04	Curve Number (CN)= 64.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 1.446

PEAK FLOW	(cms)=	0.309 (i)
TIME TO PEAK	(hrs)=	11.167
RUNOFF VOLUME	(mm)=	5.853
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.139

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0451) ID= 1 DT= 5.0 min	Area (ha)= 323.01	Ia (mm)= 10.00	U.H. Tp(hrs)= 4.60	Curve Number (CN)= 66.4	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 1.199

PEAK FLOW	(cms)=	0.284 (i)
TIME TO PEAK	(hrs)=	12.083
RUNOFF VOLUME	(mm)=	6.372
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.152

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2580) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	295.26	0.0800	
34.03	295.10	0.0800	Main Channel
61.90	295.34	0.0800	Main Channel
88.81	293.98	0.0800	Main Channel
120.65	290.58	0.0800	Main Channel
184.44	286.25	0.0800	Main Channel
238.32	283.18	0.0800	Main Channel
253.20	282.97	0.0800	Main Channel
311.95	283.02	0.0800	Main Channel
335.31	282.69	0.0800	Main Channel
375.75	283.67	0.0800	Main Channel
431.04	285.03	0.0800	Main Channel
458.22	288.41	0.0800	Main Channel
473.78	289.42	0.0800	Main Channel
488.65	289.99	0.0800	Main Channel
526.88	290.63	0.0800	Main Channel
540.35	291.37	0.0800	Main Channel
567.96	293.77	0.0800	Main Channel
591.33	297.48	0.0800 /0.0800	Main Channel
622.53	298.95	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.63	283.32	.697E+05	12.9	0.31	89.84
1.26	283.96	.220E+06	73.9	0.55	49.60
1.90	284.59	.409E+06	181.0	0.73	37.61
2.53	285.22	.635E+06	342.9	0.89	30.84
3.16	285.85	.883E+06	568.0	1.06	25.90
3.79	286.48	.115E+07	844.4	1.21	22.65
4.43	287.12	.143E+07	1172.6	1.35	20.30

5.06	287.75	.172E+07	1550.4	1.48	18.52
5.69	288.38	.203E+07	1978.1	1.60	17.13
6.32	289.01	.236E+07	2437.6	1.70	16.14
6.96	289.65	.271E+07	2936.5	1.79	15.37
7.59	290.28	.308E+07	3415.5	1.82	15.05
8.22	290.91	.350E+07	3990.5	1.88	14.63
8.85	291.54	.394E+07	4738.8	1.98	13.87
9.49	292.18	.440E+07	5572.6	2.09	13.16
10.12	292.81	.487E+07	6470.7	2.19	12.54
10.75	293.44	.535E+07	7433.3	2.29	12.00
11.38	294.07	.585E+07	8467.1	2.39	11.51
12.02	294.71	.636E+07	9521.7	2.47	11.13

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0451)	323.01	0.28	12.08	6.37	0.01	0.31
OUTFLOW: ID= 1 (2580)	323.01	0.28	13.50	6.38	0.01	0.31

ADD HYD (0949) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2580):	323.01	0.277	13.50	6.38
+ ID2= 2 (0450):	342.48	0.309	11.17	5.85
ID = 3 (0949):	665.49	0.578	12.42	6.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2525) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	296.88	0.0800	
54.74	296.90	0.0800	Main Channel
99.95	295.25	0.0800	Main Channel
111.77	295.51	0.0800	Main Channel
145.95	291.28	0.0800	Main Channel
168.84	288.09	0.0800	Main Channel
202.87	288.18	0.0800	Main Channel
234.81	283.23	0.0800	Main Channel
259.94	281.98	0.0800	Main Channel
293.97	279.82	0.0800	Main Channel
328.07	278.94	0.0800	Main Channel
396.77	282.26	0.0800	Main Channel
419.73	283.74	0.0800	Main Channel
453.77	286.83	0.0800	Main Channel
476.61	289.87	0.0800	Main Channel
499.01	294.17	0.0800	Main Channel
521.86	296.08	0.0800	Main Channel
544.86	295.29	0.0800	Main Channel
602.00	295.38	0.0800 /0.0800	Main Channel

698.88 296.04 0.0800

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.91	279.85	.532E+05	9.7	0.40	91.42
1.81	280.75	.191E+06	59.2	0.68	53.78
2.72	281.66	.394E+06	159.4	0.88	41.19
3.62	282.56	.663E+06	321.3	1.06	34.40
4.53	283.47	.997E+06	564.6	1.23	29.43
5.44	284.38	.137E+07	908.3	1.44	25.22
6.34	285.28	.178E+07	1332.4	1.63	22.31
7.25	286.19	.222E+07	1835.4	1.80	20.20
8.16	287.10	.270E+07	2424.8	1.96	18.53
9.06	288.00	.319E+07	3110.0	2.12	17.12
9.97	288.91	.378E+07	3670.6	2.12	17.14
10.87	289.81	.439E+07	4593.1	2.28	15.94
11.78	290.72	.504E+07	5632.6	2.44	14.90
12.69	291.63	.570E+07	6768.1	2.59	14.04
13.59	292.53	.639E+07	7996.5	2.73	13.32
14.50	293.44	.710E+07	9324.9	2.86	12.69
15.40	294.34	.784E+07	10733.2	2.98	12.17
16.31	295.25	.861E+07	12158.2	3.08	11.80
17.96	296.90	.107E+08	14318.4	2.92	12.45

<---- hydrograph ----> <-pipe /

channel-> VEL (m/s)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX
INFLOW : ID= 2 (0949)	665.49	0.58	12.42	6.11	0.05	0.40
OUTFLOW: ID= 1 (2525)	665.49	0.56	14.08	6.11	0.05	0.40

ROUTE CHN(2430) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	282.84	0.0800	
59.25	282.64	0.0800	Main Channel
92.39	282.47	0.0800	Main Channel
131.83	281.53	0.0800	Main Channel
169.10	281.50	0.0800	Main Channel
192.58	279.75	0.0800	Main Channel
224.54	276.86	0.0800	Main Channel
246.54	275.69	0.0800	Main Channel
279.32	275.02	0.0800	Main Channel
323.23	274.35	0.0800	Main Channel
365.59	272.54	0.0800	Main Channel
387.03	273.37	0.0800	Main Channel
418.44	275.68	0.0800	Main Channel
460.41	276.91	0.0800	Main Channel
491.78	278.47	0.0800	Main Channel
513.77	280.66	0.0800	Main Channel
559.21	285.76	0.0800	Main Channel
607.35	288.71	0.0800	Main Channel
638.79	288.52	0.0800 /0.0800	Main Channel
666.10	288.54	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.83	273.37	.272E+05	7.9	0.47	57.51
1.65	274.20	.102E+06	49.2	0.78	34.62
2.48	275.02	.233E+06	130.5	0.90	29.80
3.31	275.85	.442E+06	304.0	1.11	24.21
4.14	276.68	.712E+06	583.4	1.32	20.35
4.96	277.50	.103E+07	998.7	1.56	17.27
5.79	278.33	.139E+07	1536.1	1.78	15.11
6.62	279.16	.178E+07	2216.2	2.01	13.39
7.45	279.99	.219E+07	3014.7	2.22	12.12
8.27	280.81	.263E+07	3924.3	2.41	11.17
9.10	281.64	.310E+07	4638.9	2.42	11.14
9.93	282.47	.366E+07	5709.3	2.52	10.67
10.76	283.30	.434E+07	7278.1	2.71	9.94
11.65	284.19	.512E+07	9217.8	2.91	9.25
12.54	285.08	.591E+07	11388.2	3.11	8.65
13.43	285.97	.671E+07	13748.0	3.31	8.13
14.32	286.86	.753E+07	16226.9	3.48	7.73
15.21	287.75	.837E+07	18912.5	3.65	7.38
16.11	288.65	.924E+07	21282.6	3.72	7.24

<---- hydrograph ----> <-pipe /

channel-> VEL (m/s)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX
INFLOW : ID= 2 (2525)	665.49	0.56	14.08	6.11	0.06	0.47
OUTFLOW: ID= 1 (2430)	665.49	0.55	15.17	6.11	0.06	0.47

ROUTE CHN(2387) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	279.79	0.0800	
37.56	279.28	0.0800	Main Channel
80.16	279.23	0.0800	Main Channel
93.62	278.90	0.0800	Main Channel
98.62	278.52	0.0800	Main Channel
119.91	274.86	0.0800	Main Channel
143.30	272.86	0.0800	Main Channel
173.82	271.14	0.0800	Main Channel
213.55	269.98	0.0800	Main Channel
249.71	268.85	0.0800	Main Channel
267.41	267.74	0.0800	Main Channel
279.45	267.14	0.0800	Main Channel
295.34	266.67	0.0800	Main Channel
340.70	271.05	0.0800	Main Channel
347.77	272.71	0.0800	Main Channel
355.58	275.17	0.0800	Main Channel
370.46	278.74	0.0800	Main Channel
374.06	279.14	0.0800	Main Channel
414.87	280.90	0.0800 /0.0800	Main Channel
461.67	281.13	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.66	267.33	.116E+05	2.9	0.31	65.46
1.32	267.99	.412E+05	17.0	0.51	40.27
1.98	268.65	.853E+05	46.3	0.67	30.72
2.64	269.31	.146E+06	90.5	0.76	26.83
3.31	269.98	.229E+06	159.4	0.86	23.90
3.97	270.64	.335E+06	258.8	0.95	21.55
4.63	271.30	.464E+06	401.2	1.06	19.29
5.29	271.96	.609E+06	596.9	1.21	17.01
5.95	272.62	.766E+06	830.7	1.33	15.36
6.61	273.28	.933E+06	1112.9	1.47	13.97
7.27	273.94	.111E+07	1438.9	1.60	12.84
7.93	274.60	.129E+07	1804.1	1.72	11.94
8.59	275.26	.148E+07	2221.3	1.84	11.13
9.25	275.92	.168E+07	2682.9	1.96	10.43
9.92	276.59	.188E+07	3183.6	2.08	9.85
10.58	277.25	.209E+07	3723.3	2.19	9.35
11.24	277.91	.230E+07	4301.9	2.30	8.92
11.90	278.57	.252E+07	4915.2	2.40	8.54
12.56	279.23	.275E+07	5366.4	2.40	8.53

<---- hydrograph ----> <-pipe /

channel-> VEL (m/s)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX
INFLOW : ID= 2 (2430)	665.49	0.55	15.17	6.11	0.12	0.31
OUTFLOW: ID= 1 (2387)	665.49	0.55	16.42	6.11	0.12	0.31

ROUTE CHN(2388) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	279.79	0.0800	
37.56	279.28	0.0800	Main Channel
80.16	279.23	0.0800	Main Channel
93.62	278.90	0.0800	Main Channel
98.62	278.52	0.0800	Main Channel
119.91	274.86	0.0800	Main Channel
143.30	272.86	0.0800	Main Channel
173.82	271.14	0.0800	Main Channel
213.55	269.98	0.0800	Main Channel
249.71	268.85	0.0800	Main Channel
267.41	267.74	0.0800	Main Channel
279.45	267.14	0.0800	Main Channel
295.34	266.67	0.0800	Main Channel
340.70	271.05	0.0800	Main Channel
347.77	272.71	0.0800	Main Channel
355.58	275.17	0.0800	Main Channel
370.46	278.74	0.0800	Main Channel
374.06	279.14	0.0800	Main Channel
414.87	280.90	0.0800 /0.0800	Main Channel
461.67	281.13	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.66	267.33	.143E+05	2.5	0.26	95.85

1.32	267.99	.509E+05	14.4	0.43	58.96
1.98	268.65	.105E+06	39.1	0.56	44.98
2.64	269.31	.180E+06	76.4	0.64	39.28
3.31	269.98	.282E+06	134.5	0.72	34.99
3.97	270.64	.413E+06	218.4	0.80	31.56
4.63	271.30	.574E+06	338.5	0.90	28.25
5.29	271.96	.752E+06	503.6	1.02	24.90
5.95	272.62	.946E+06	700.9	1.13	22.49
6.61	273.28	.115E+07	939.0	1.24	20.46
7.27	273.94	.137E+07	1214.1	1.35	18.80
7.93	274.60	.160E+07	1522.2	1.45	17.48
8.59	275.26	.183E+07	1874.2	1.55	16.30
9.25	275.92	.208E+07	2263.7	1.66	15.28
9.92	276.59	.232E+07	2686.2	1.76	14.42
10.58	277.25	.258E+07	3141.5	1.85	13.69
11.24	277.91	.284E+07	3629.7	1.94	13.05
11.90	278.57	.311E+07	4147.2	2.02	12.51
12.56	279.23	.339E+07	4527.9	2.03	12.49

<---- hydrograph ----> <-pipe /

channel-> VEL (m/s)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX
INFLOW : ID= 2 (2387)	665.49	0.55	16.42	6.11	0.15	0.26
OUTFLOW: ID= 1 (2388)	665.49	0.53	18.25	6.11	0.14	0.26

ADD HYD (1890) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2388):	665.49	0.530	18.25	6.11
+ ID2= 2 (0449):	223.28	0.158	13.25	6.90
ID = 3 (1890):	888.77	0.674	17.75	6.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2389) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	279.79	0.0800	
37.56	279.28	0.0800	Main Channel
80.16	279.23	0.0800	Main Channel
93.62	278.90	0.0800	Main Channel
98.62	278.52	0.0800	Main Channel
119.91	274.86	0.0800	Main Channel
143.30	272.86	0.0800	Main Channel
173.82	271.14	0.0800	Main Channel
213.55	269.98	0.0800	Main Channel
249.71	268.85	0.0800	Main Channel
267.41	267.74	0.0800	Main Channel
279.45	267.14	0.0800	Main Channel
295.34	266.67	0.0800	Main Channel

340.70	271.05	0.0800		Main Channel
347.77	272.71	0.0800		Main Channel
355.58	275.17	0.0800		Main Channel
370.46	278.74	0.0800		Main Channel
374.06	279.14	0.0800		Main Channel
414.87	280.90	0.0800 /0.0800		Main Channel
461.67	281.13	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.66	267.33	.103E+05	2.2	0.23	78.01
1.32	267.99	.366E+05	12.7	0.38	47.99
1.98	268.65	.759E+05	34.6	0.50	36.61
2.64	269.31	.130E+06	67.6	0.57	31.97
3.31	269.98	.203E+06	119.0	0.64	28.48
3.97	270.64	.298E+06	193.3	0.71	25.68
4.63	271.30	.413E+06	299.6	0.79	22.99
5.29	271.96	.542E+06	445.8	0.90	20.26
5.95	272.62	.681E+06	620.5	1.00	18.30
6.61	273.28	.830E+06	831.3	1.10	16.65
7.27	273.94	.987E+06	1074.8	1.19	15.30
7.93	274.60	.115E+07	1347.5	1.28	14.23
8.59	275.26	.132E+07	1659.2	1.38	13.26
9.25	275.92	.150E+07	2004.0	1.47	12.43
9.92	276.59	.167E+07	2377.9	1.55	11.74
10.58	277.25	.186E+07	2781.0	1.64	11.14
11.24	277.91	.205E+07	3213.2	1.72	10.62
11.90	278.57	.224E+07	3671.3	1.79	10.18
12.56	279.23	.245E+07	4008.3	1.79	10.17

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1890)	888.77	0.67	17.75	6.32	0.20	0.23
OUTFLOW: ID= 1 (2389)	888.77	0.66	19.17	6.32	0.20	0.23

ROUTE CHN(3906) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	270.22	0.0800	
98.25	269.84	0.0800	Main Channel
151.83	270.37	0.0800	Main Channel
212.68	270.44	0.0800	Main Channel
295.19	269.69	0.0800	Main Channel
317.24	268.46	0.0800	Main Channel
365.52	265.25	0.0800	Main Channel
441.65	261.14	0.0800	Main Channel
471.41	263.95	0.0800	Main Channel
488.15	264.34	0.0800	Main Channel
523.21	265.95	0.0800	Main Channel
570.58	268.33	0.0800	Main Channel
609.24	268.26	0.0800	Main Channel
680.94	268.14	0.0800	Main Channel
710.56	267.64	0.0800	Main Channel

739.09	268.17	0.0800		Main Channel
810.30	267.51	0.0800		Main Channel
831.51	267.00	0.0800		Main Channel
870.89	267.69	0.0800 /0.0800		Main Channel
919.33	266.78	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	261.61	.292E+04	1.2	0.36	42.00
0.94	262.08	.117E+05	7.4	0.58	26.46
1.40	262.54	.263E+05	21.7	0.76	20.19
1.87	263.01	.467E+05	46.7	0.92	16.67
2.34	263.48	.729E+05	84.6	1.06	14.36
2.81	263.95	.105E+06	137.6	1.20	12.72
3.27	264.41	.146E+06	197.2	1.24	12.35
3.74	264.88	.197E+06	291.2	1.36	11.26
4.21	265.35	.255E+06	411.1	1.47	10.36
4.68	265.82	.322E+06	560.7	1.60	9.56
5.15	266.29	.395E+06	741.0	1.72	8.89
5.61	266.75	.476E+06	952.7	1.83	8.33
6.08	267.22	.571E+06	1130.6	1.81	8.41
6.55	267.69	.701E+06	1276.1	1.67	9.16
7.02	268.16	.882E+06	1470.5	1.53	10.00
7.57	268.71	.118E+07	2042.8	1.59	9.61
8.12	269.26	.149E+07	2970.7	1.83	8.33
8.67	269.81	.180E+07	3993.4	2.03	7.51
9.22	270.36	.218E+07	5015.8	2.11	7.23

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2389)	888.77	0.66	19.17	6.32	0.27	0.36
OUTFLOW: ID= 1 (3906)	888.77	0.66	19.92	6.32	0.26	0.36

ROUTE CHN(3907) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	270.22	0.0800	
98.25	269.84	0.0800	Main Channel
151.83	270.37	0.0800	Main Channel
212.68	270.44	0.0800	Main Channel
295.19	269.69	0.0800	Main Channel
317.24	268.46	0.0800	Main Channel
365.52	265.25	0.0800	Main Channel
441.65	261.14	0.0800	Main Channel
471.41	263.95	0.0800	Main Channel
488.15	264.34	0.0800	Main Channel
523.21	265.95	0.0800	Main Channel
570.58	268.33	0.0800	Main Channel
609.24	268.26	0.0800	Main Channel
680.94	268.14	0.0800	Main Channel
710.56	267.64	0.0800	Main Channel
739.09	268.17	0.0800	Main Channel
810.30	267.51	0.0800	Main Channel

831.51	267.00	0.0800		Main Channel
870.89	267.69	0.0800 /0.0800		Main Channel
919.33	266.78	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	261.61	.319E+04	1.0	0.31	53.66
0.94	262.08	.128E+05	6.3	0.49	33.80
1.40	262.54	.287E+05	18.5	0.65	25.80
1.87	263.01	.510E+05	39.9	0.78	21.30
2.34	263.48	.797E+05	72.4	0.91	18.35
2.81	263.95	.115E+06	117.7	1.03	16.25
3.27	264.41	.160E+06	168.6	1.06	15.78
3.74	264.88	.215E+06	249.0	1.16	14.39
4.21	265.35	.279E+06	351.5	1.26	13.23
4.68	265.82	.352E+06	479.4	1.36	12.22
5.15	266.29	.432E+06	633.6	1.47	11.36
5.61	266.75	.520E+06	814.6	1.57	10.64
6.08	267.22	.623E+06	966.7	1.55	10.75
6.55	267.69	.766E+06	1091.1	1.43	11.70
7.02	268.16	.964E+06	1257.3	1.30	12.78
7.57	268.71	.129E+07	1746.6	1.36	12.27
8.12	269.26	.162E+07	2540.0	1.57	10.65
8.67	269.81	.197E+07	3414.4	1.74	9.59
9.22	270.36	.238E+07	4288.6	1.80	9.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3906)	888.77	0.66	19.92	6.32	0.31	0.31
OUTFLOW: ID= 1 (3907)	888.77	0.65	20.83	6.32	0.31	0.31

CALIB | NASHYD (0467) | ID= 1 DT= 5.0 min |	Area (ha)= 244.92 Curve Number (CN)= 66.4 Ia (mm)= 10.00 # of Linear Res.(N)= 1.50 U.H. Tp(hrs)= 6.84

Unit Hyd Qpeak (cms)= 0.611

PEAK FLOW (cms)= 0.150 (i)
TIME TO PEAK (hrs)= 13.667
RUNOFF VOLUME (mm)= 6.311
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.150

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1851) | 1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3907):	888.77	0.654	20.83	6.32
+ ID2= 2 (0467):	244.92	0.150	13.67	6.31

ID = 3 (1851):	1133.69	0.782	20.33	6.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3728) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	261.39	0.0800	
30.70	260.58	0.0800	Main Channel
68.33	259.99	0.0800	Main Channel
99.65	259.66	0.0800	Main Channel
147.50	258.78	0.0800	Main Channel
165.56	259.44	0.0800	Main Channel
198.31	258.34	0.0800	Main Channel
212.85	256.51	0.0800	Main Channel
231.93	252.88	0.0800	Main Channel
292.96	255.66	0.0800	Main Channel
295.96	256.35	0.0800	Main Channel
326.60	256.98	0.0800	Main Channel
378.79	255.93	0.0800	Main Channel
408.54	255.68	0.0800	Main Channel
464.11	256.05	0.0800	Main Channel
506.26	257.16	0.0800	Main Channel
558.91	257.47	0.0800	Main Channel
601.06	258.22	0.0800	Main Channel
650.89	259.36	0.0800 /0.0800	Main Channel
683.54	259.37	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	253.22	.195E+04	0.5	0.32	64.23
0.68	253.56	.781E+04	3.2	0.51	40.46
1.02	253.90	.176E+05	9.5	0.67	30.88
1.36	254.24	.312E+05	20.4	0.81	25.49
1.71	254.59	.488E+05	37.0	0.94	21.97
2.05	254.93	.703E+05	60.2	1.06	19.45
2.39	255.27	.956E+05	90.8	1.17	17.55
2.73	255.61	.125E+06	129.7	1.28	16.06
3.07	255.95	.169E+06	134.9	0.98	20.90
3.41	256.29	.243E+06	207.6	1.05	19.52
3.75	256.63	.334E+06	305.8	1.13	18.20
4.09	256.97	.445E+06	436.3	1.21	17.01
4.43	257.31	.573E+06	612.6	1.32	15.58
4.77	257.65	.720E+06	831.4	1.42	14.43
5.12	258.00	.878E+06	1114.1	1.56	13.14
5.46	258.34	.105E+07	1440.1	1.70	12.10
5.80	258.68	.122E+07	1795.8	1.81	11.35
6.14	259.02	.141E+07	2140.8	1.87	11.00
6.48	259.36	.162E+07	2519.6	1.91	10.75

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1851)	1133.69	0.78	20.33	6.33	0.38	0.33
OUTFLOW: ID= 1 (3728)	1133.69	0.78	21.42	6.33	0.37	

0.33

| ROUTE CHN(3729)| | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00 |

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	261.39	0.0800	
30.70	260.58	0.0800	Main Channel
68.33	259.99	0.0800	Main Channel
99.65	259.66	0.0800	Main Channel
147.50	258.78	0.0800	Main Channel
165.56	259.44	0.0800	Main Channel
198.31	258.34	0.0800	Main Channel
212.85	256.51	0.0800	Main Channel
231.93	252.88	0.0800	Main Channel
292.96	255.66	0.0800	Main Channel
295.96	256.35	0.0800	Main Channel
326.60	256.98	0.0800	Main Channel
378.79	255.93	0.0800	Main Channel
408.54	255.68	0.0800	Main Channel
464.11	256.05	0.0800	Main Channel
506.26	257.16	0.0800	Main Channel
558.91	257.47	0.0800	Main Channel
601.06	258.22	0.0800	Main Channel
650.89	259.36	0.0800 /0.0800	Main Channel
683.54	259.37	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	253.22	.108E+04	0.5	0.31	36.88
0.68	253.56	.431E+04	3.1	0.49	23.23
1.02	253.90	.970E+04	9.1	0.64	17.73
1.36	254.24	.173E+05	19.6	0.78	14.63
1.71	254.59	.270E+05	35.6	0.90	12.61
2.05	254.93	.388E+05	57.9	1.02	11.17
2.39	255.27	.528E+05	87.4	1.13	10.08
2.73	255.61	.690E+05	124.8	1.23	9.22
3.07	255.95	.935E+05	129.8	0.95	12.00
3.41	256.29	.134E+06	199.8	1.01	11.21
3.75	256.63	.185E+06	294.3	1.09	10.45
4.09	256.97	.246E+06	419.8	1.16	9.77
4.43	257.31	.316E+06	589.4	1.27	8.94
4.77	257.65	.398E+06	800.0	1.37	8.29
5.12	258.00	.485E+06	1072.0	1.51	7.54
5.46	258.34	.578E+06	1385.6	1.63	6.95
5.80	258.68	.675E+06	1727.8	1.74	6.51
6.14	259.02	.780E+06	2059.7	1.80	6.32
6.48	259.36	.898E+06	2424.2	1.84	6.17

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3728)	1133.69	0.78	21.42	6.33	0.38	0.32
OUTFLOW: ID= 1 (3729)	1133.69	0.77	21.92	6.33	0.38	0.32

| CALIB NASHYD (0466)| ID= 1 DT= 5.0 min | Area (ha)= 114.47 Curve Number (CN)= 70.4 Ia (mm)= 10.00 # of Linear Res.(N)= 1.50 U.H. Tp(hrs)= 3.69 |

Unit Hyd Qpeak (cms)= 0.530

PEAK FLOW (cms)= 0.141 (i)
TIME TO PEAK (hrs)= 10.583
RUNOFF VOLUME (mm)= 7.375
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1740)|	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3729):	1133.69	0.775	21.92	6.33
+ ID2= 2 (0466):	114.47	0.141	10.58	7.37
ID = 3 (1740):	1248.16	0.839	21.25	6.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(3585)| | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00 |

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	250.07	0.0800	
76.47	247.75	0.0800	Main Channel
180.56	247.71	0.0800	Main Channel
219.78	249.11	0.0800	Main Channel
240.33	250.45	0.0800	Main Channel
307.28	249.67	0.0800	Main Channel
330.68	250.55	0.0800	Main Channel
379.01	250.32	0.0800	Main Channel
413.40	248.83	0.0800	Main Channel
439.53	246.75	0.0800	Main Channel
469.71	245.51	0.0800	Main Channel
479.79	242.52	0.0800	Main Channel
489.87	244.26	0.0800	Main Channel
550.44	248.08	0.0800	Main Channel
609.99	248.30	0.0800	Main Channel
704.45	250.82	0.0800	Main Channel
763.54	250.93	0.0800	Main Channel
822.56	250.25	0.0800	Main Channel
883.68	251.16	0.0800 /0.0800	Main Channel
921.45	252.31	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	242.89	.493E+03	0.3	0.43	30.70

0.74	243.26	.197E+04	1.7	0.67	19.34
1.11	243.63	.444E+04	5.0	0.88	14.76
1.48	244.00	.789E+04	10.8	1.07	12.18
1.85	244.37	.124E+05	18.9	1.19	10.92
2.22	244.74	.187E+05	30.1	1.26	10.33
2.60	245.12	.270E+05	47.4	1.37	9.51
2.97	245.49	.375E+05	71.6	1.50	8.73
3.34	245.86	.510E+05	97.4	1.50	8.73
3.71	246.23	.688E+05	136.6	1.55	8.40
4.08	246.60	.909E+05	191.0	1.64	7.94
4.45	246.97	.117E+06	266.0	1.78	7.34
4.82	247.34	.147E+06	360.6	1.93	6.77
5.19	247.71	.179E+06	472.8	2.07	6.31
5.66	248.18	.268E+06	592.4	1.73	7.53
6.13	248.65	.393E+06	864.1	1.72	7.57
6.61	249.13	.539E+06	1302.4	1.89	6.89
7.08	249.60	.705E+06	1873.7	2.08	6.27
7.55	250.07	.897E+06	2459.4	2.15	6.08

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1740)	1248.16	0.84	21.25	6.43	0.52	0.50
OUTFLOW: ID= 1 (3585)	1248.16	0.84	21.67	6.43	0.52	0.50

| CALIB NASHYD (0461)| ID= 1 DT= 5.0 min | Area (ha)= 25.28 Curve Number (CN)= 67.2 Ia (mm)= 10.00 # of Linear Res.(N)= 1.50 U.H. Tp(hrs)= 1.89 |

Unit Hyd Qpeak (cms)= 0.228

PEAK FLOW (cms)= 0.048 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 6.559
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.156

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB NASHYD (0462)| ID= 1 DT= 5.0 min | Area (ha)= 19.14 Curve Number (CN)= 70.4 Ia (mm)= 10.00 # of Linear Res.(N)= 1.50 U.H. Tp(hrs)= 1.69 |

Unit Hyd Qpeak (cms)= 0.193

PEAK FLOW (cms)= 0.044 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 7.370
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.175

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB STANDHYD (0465)| ID= 1 DT= 5.0 min | Area (ha)= 5.64 Total Imp(%)= 73.47 Dir. Conn.(%)= 69.79 |

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.14	1.50
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.81	2.81
Length (m)=	193.91	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	7.82
over (min)	5.00	25.00
Storage Coeff. (min)=	5.38 (ii)	23.04 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.21	0.05

			TOTALS
PEAK FLOW (cms)=	0.21	0.02	0.234 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	40.00	11.07	31.26
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.26	0.74

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ROUTE CHN(2191)| | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00 |

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	247.31	0.0800	
29.97	248.26	0.0800	Main Channel
39.96	248.48	0.0800	Main Channel
49.95	248.40	0.0800	Main Channel
79.92	248.03	0.0800	Main Channel
109.88	247.57	0.0800	Main Channel
119.87	247.38	0.0800	Main Channel
129.86	246.80	0.0800	Main Channel
139.85	246.40	0.0800	Main Channel
149.84	245.62	0.0800	Main Channel
159.83	244.94	0.0800	Main Channel
169.82	245.27	0.0800	Main Channel
189.80	246.15	0.0800	Main Channel
199.79	246.81	0.0800	Main Channel
219.77	247.71	0.0800	Main Channel
239.75	248.37	0.0800	Main Channel
269.71	248.95	0.0800	Main Channel
279.70	249.21	0.0800	Main Channel
289.69	249.33	0.0800 /0.0800	Main Channel
319.66	249.62	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.12	245.07	.232E+03	0.1	0.24	49.18
0.24	245.19	.929E+03	0.5	0.37	30.98
0.37	245.31	.209E+04	1.5	0.49	23.41
0.49	245.43	.365E+04	3.2	0.61	19.03
0.61	245.55	.560E+04	5.7	0.71	16.34
0.73	245.68	.794E+04	9.2	0.80	14.43
0.85	245.80	.106E+05	13.7	0.89	12.99
0.97	245.92	.137E+05	19.3	0.98	11.88
1.10	246.04	.172E+05	26.0	1.05	10.98
1.22	246.16	.210E+05	34.1	1.13	10.24
1.34	246.28	.251E+05	43.9	1.22	9.52
1.46	246.41	.295E+05	55.0	1.30	8.93
1.58	246.53	.343E+05	66.7	1.35	8.56
1.71	246.65	.394E+05	80.0	1.41	8.22
1.83	246.77	.450E+05	95.0	1.47	7.90
1.95	246.89	.510E+05	111.9	1.52	7.60
2.07	247.02	.574E+05	130.6	1.58	7.33
2.19	247.14	.643E+05	151.2	1.63	7.08
2.31	247.26	.715E+05	173.9	1.69	6.85

		<---- hydrograph ---->		<-pipe / channel->
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0465)	5.64	0.23	5.25	31.26	0.17	0.27
OUTFLOW: ID= 1 (2191)	5.64	0.18	5.25	31.21	0.15	0.26

ADD HYD (1949)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2191):	5.64	0.181	5.25	31.21
+ ID2= 2 (3585):	1248.16	0.838	21.67	6.43
ID = 3 (1949):	1253.80	0.838	21.67	6.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1949)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1949):	1253.80	0.838	21.67	6.54
+ ID2= 2 (0461):	25.28	0.048	8.50	6.56
ID = 1 (1949):	1279.08	0.843	21.58	6.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1949)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1949):	1279.08	0.843	21.58	6.54
+ ID2= 2 (0462):	19.14	0.044	8.25	7.37
ID = 3 (1949):	1298.22	0.847	21.50	6.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0460)	Area (ha)=	15.74	Curve Number (CN)=	64.0
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.22		

Unit Hyd Qpeak (cms)= 0.220

PEAK FLOW	(cms)=	0.036 (i)
TIME TO PEAK	(hrs)=	7.583
RUNOFF VOLUME	(mm)=	5.846
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.139

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0463)	Area (ha)=	16.93	Curve Number (CN)=	70.4
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.60		

Unit Hyd Qpeak (cms)= 0.181

PEAK FLOW	(cms)=	0.041 (i)
TIME TO PEAK	(hrs)=	8.250
RUNOFF VOLUME	(mm)=	7.370
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.175

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0464)	Area (ha)=	41.10	Curve Number (CN)=	76.0
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	3.16		

Unit Hyd Qpeak (cms)= 0.222

PEAK FLOW	(cms)=	0.072 (i)
TIME TO PEAK	(hrs)=	9.833
RUNOFF VOLUME	(mm)=	9.122
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.217

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(3989)

IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	250.58	0.0800	
5.80	250.50	0.0800	Main Channel
8.11	250.47	0.0800	Main Channel
9.37	250.45	0.0800	Main Channel
18.72	250.32	0.0800	Main Channel
25.76	250.22	0.0800	Main Channel
29.32	250.18	0.0800	Main Channel
35.84	250.04	0.0800	Main Channel
39.93	249.98	0.0800	Main Channel
42.15	249.95	0.0800	Main Channel
50.53	249.86	0.0800	Main Channel
58.54	249.78	0.0800	Main Channel
61.13	249.75	0.0800	Main Channel
65.89	249.73	0.0800	Main Channel
71.74	249.78	0.0800	Main Channel
74.93	249.86	0.0800	Main Channel
82.34	250.15	0.0800	Main Channel
91.32	250.35	0.0800	Main Channel
92.95	250.40	0.0800 /0.0800	Main Channel
95.94	250.49	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.04	249.77	.128E+03	0.0	0.11	82.41
0.08	249.81	.423E+03	0.1	0.17	50.07
0.12	249.85	.833E+03	0.4	0.23	38.37
0.16	249.89	.135E+04	0.7	0.27	31.67
0.20	249.93	.197E+04	1.2	0.32	27.37
0.24	249.97	.268E+04	1.8	0.36	24.25
0.28	250.01	.347E+04	2.7	0.40	21.78
0.32	250.05	.433E+04	3.6	0.44	19.86
0.35	250.08	.527E+04	4.8	0.48	18.18
0.39	250.12	.626E+04	6.2	0.51	16.86
0.43	250.16	.730E+04	7.7	0.55	15.83
0.47	250.20	.843E+04	9.2	0.57	15.20
0.51	250.24	.966E+04	11.0	0.59	14.66
0.55	250.28	.110E+05	13.0	0.61	14.10
0.59	250.32	.124E+05	15.2	0.64	13.59
0.63	250.36	.139E+05	17.7	0.66	13.11
0.67	250.40	.155E+05	20.5	0.69	12.63
0.71	250.44	.172E+05	23.7	0.72	12.08
0.75	250.48	.192E+05	28.0	0.76	11.45

		<---- hydrograph ---->		<-pipe / channel->
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0464)	41.10	0.07	9.83	9.12	0.06	0.12
OUTFLOW: ID= 1 (3989)	41.10	0.07	11.17	9.12	0.05	0.12

ROUTE CHN(3635)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
83.88	247.23	0.0800	
88.47	247.16	0.0800	Main Channel
94.66	247.08	0.0800	Main Channel
116.22	246.76	0.0800	Main Channel
127.01	246.57	0.0800	Main Channel
130.56	246.40	0.0800	Main Channel
137.79	245.98	0.0800	Main Channel
142.67	245.83	0.0800	Main Channel
148.57	245.55	0.0800	Main Channel
157.30	245.78	0.0800	Main Channel
160.74	245.92	0.0800	Main Channel
170.14	246.23	0.0800	Main Channel
178.81	246.45	0.0800	Main Channel
180.92	246.52	0.0800	Main Channel
184.04	246.57	0.0800	Main Channel
202.48	246.76	0.0800	Main Channel
210.78	246.84	0.0800	Main Channel
214.94	246.89	0.0800	Main Channel
233.01	247.07	0.0800 /0.0800	Main Channel
244.80	247.21	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.08	245.63	.799E+02	0.0	0.19	33.83
0.17	245.72	.320E+03	0.2	0.30	21.31
0.25	245.80	.718E+03	0.7	0.39	16.06
0.34	245.89	.126E+04	1.6	0.48	13.23
0.42	245.97	.195E+04	2.8	0.55	11.55
0.51	246.06	.280E+04	4.6	0.63	10.09
0.59	246.14	.377E+04	7.0	0.70	9.03
0.68	246.23	.487E+04	9.9	0.77	8.22
0.76	246.31	.612E+04	13.3	0.83	7.67
0.84	246.39	.751E+04	17.4	0.88	7.19
0.93	246.48	.907E+04	22.3	0.93	6.78
1.01	246.56	.108E+05	27.7	0.98	6.49
1.10	246.65	.128E+05	32.2	0.96	6.62
1.18	246.73	.152E+05	38.3	0.96	6.61
1.27	246.82	.180E+05	45.9	0.97	6.55
1.35	246.90	.213E+05	55.7	0.99	6.39
1.44	246.99	.251E+05	67.1	1.02	6.22
1.52	247.07	.293E+05	80.8	1.05	6.04
1.66	247.21	.372E+05	117.4	1.20	5.28

		<---- hydrograph ---->		<-pipe / channel->
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3989)	41.10	0.07	11.17	9.12	0.10	0.20
OUTFLOW: ID= 1 (3635)	41.10	0.07	11.75	9.12	0.10	0.20

ROUTE CHN(2929)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning

0.00	244.75	0.0800		
4.75	244.70	0.0800	Main Channel	
8.24	244.59	0.0800	Main Channel	
15.42	244.37	0.0800	Main Channel	
25.23	244.06	0.0800	Main Channel	
27.52	243.96	0.0800	Main Channel	
36.76	243.59	0.0800	Main Channel	
42.23	242.10	0.0800	Main Channel	
47.43	240.73	0.0800	Main Channel	
58.10	241.18	0.0800	Main Channel	
59.22	241.33	0.0800	Main Channel	
68.77	242.53	0.0800	Main Channel	
76.21	243.52	0.0800	Main Channel	
79.43	244.00	0.0800	Main Channel	
84.87	243.94	0.0800	Main Channel	
90.10	243.89	0.0800	Main Channel	
100.77	244.10	0.0800	Main Channel	
110.20	244.26	0.0800	Main Channel	
122.11	244.50	0.0800 /0.0800	Main Channel	
126.01	244.57	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	240.93	.161E+03	0.2	0.39	12.53
0.40	241.13	.642E+03	1.4	0.63	7.89
0.60	241.33	.139E+04	4.2	0.89	5.57
0.79	241.52	.229E+04	8.6	1.11	4.44
0.99	241.72	.332E+04	14.6	1.30	3.79
1.19	241.92	.448E+04	22.3	1.47	3.35
1.39	242.12	.579E+04	31.8	1.63	3.04
1.59	242.32	.723E+04	43.2	1.77	2.79
1.79	242.52	.880E+04	56.7	1.91	2.59
1.98	242.71	.105E+05	72.3	2.04	2.42
2.18	242.91	.124E+05	90.3	2.17	2.28
2.38	243.11	.143E+05	110.5	2.29	2.16
2.58	243.31	.164E+05	133.2	2.40	2.06
2.78	243.51	.187E+05	158.3	2.52	1.96
2.98	243.71	.211E+05	180.1	2.53	1.95
3.17	243.90	.238E+05	196.3	2.44	2.02
3.37	244.10	.278E+05	195.9	2.09	2.36
3.57	244.30	.328E+05	226.0	2.04	2.42
3.77	244.50	.389E+05	269.7	2.06	2.40

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3635)	41.10	0.07	11.75	9.12	0.06	0.39
OUTFLOW: ID= 1 (2929)	41.10	0.07	12.00	9.12	0.06	0.39

ADD HYD (1337)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 3				
ID1= 1 (1949):	1298.22	0.847	21.50	6.55
+ ID2= 2 (2929):	41.10	0.069	12.00	9.12

1.11	243.63	.265E+04	5.7	1.01	7.75
1.48	244.00	.471E+04	12.3	1.22	6.39
1.85	244.37	.739E+04	21.5	1.36	5.73
2.22	244.74	.111E+05	34.3	1.44	5.42
2.60	245.12	.161E+05	53.9	1.56	4.99
2.97	245.49	.224E+05	81.4	1.70	4.58
3.34	245.86	.304E+05	110.7	1.70	4.58
3.71	246.23	.411E+05	155.3	1.77	4.41
4.08	246.60	.543E+05	217.2	1.87	4.16
4.45	246.97	.699E+05	302.6	2.02	3.85
4.82	247.34	.875E+05	410.2	2.19	3.55
5.19	247.71	.107E+06	537.8	2.35	3.31
5.66	248.18	.160E+06	673.9	1.97	3.95
6.13	248.65	.234E+06	982.9	1.96	3.97
6.61	249.13	.322E+06	1481.4	2.15	3.62
7.08	249.60	.421E+06	2131.2	2.37	3.29
7.55	250.07	.535E+06	2797.5	2.44	3.19

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1337)	1371.99	0.88	20.83	6.63	0.50	0.56
OUTFLOW: ID= 1 (3587)	1371.99	0.88	21.25	6.63	0.50	0.56

ROUTE CHN(3584)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	250.07	0.0800	
76.47	247.75	0.0800	Main Channel
180.56	247.71	0.0800	Main Channel
219.78	249.11	0.0800	Main Channel
240.33	250.45	0.0800	Main Channel
307.28	249.67	0.0800	Main Channel
330.68	250.55	0.0800	Main Channel
379.01	250.32	0.0800	Main Channel
413.40	248.83	0.0800	Main Channel
439.53	246.75	0.0800	Main Channel
469.71	245.51	0.0800	Main Channel
479.79	242.52	0.0800	Main Channel
489.87	244.26	0.0800	Main Channel
550.44	248.08	0.0800	Main Channel
609.99	248.30	0.0800	Main Channel
704.45	250.82	0.0800	Main Channel
763.54	250.93	0.0800	Main Channel
822.56	250.25	0.0800	Main Channel
883.68	251.16	0.0800 /0.0800	Main Channel
921.45	252.31	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	242.89	.694E+03	0.3	0.44	41.91
0.74	243.26	.278E+04	1.8	0.70	26.40
1.11	243.63	.625E+04	5.2	0.91	20.15
1.48	244.00	.111E+05	11.1	1.10	16.63

ID = 3 (1337):	1339.32	0.881	21.08	6.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1337)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 (1337):	1339.32	0.881	21.08	6.63
+ ID2= 2 (0460):	15.74	0.036	7.58	5.85
ID = 1 (1337):	1355.06	0.881	21.08	6.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1337)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (1337):	1355.06	0.881	21.08	6.62
+ ID2= 2 (0463):	16.93	0.041	8.25	7.37
ID = 3 (1337):	1371.99	0.884	20.83	6.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3587)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	250.07	0.0800	
76.47	247.75	0.0800	Main Channel
180.56	247.71	0.0800	Main Channel
219.78	249.11	0.0800	Main Channel
240.33	250.45	0.0800	Main Channel
307.28	249.67	0.0800	Main Channel
330.68	250.55	0.0800	Main Channel
379.01	250.32	0.0800	Main Channel
413.40	248.83	0.0800	Main Channel
439.53	246.75	0.0800	Main Channel
469.71	245.51	0.0800	Main Channel
479.79	242.52	0.0800	Main Channel
489.87	244.26	0.0800	Main Channel
550.44	248.08	0.0800	Main Channel
609.99	248.30	0.0800	Main Channel
704.45	250.82	0.0800	Main Channel
763.54	250.93	0.0800	Main Channel
822.56	250.25	0.0800	Main Channel
883.68	251.16	0.0800 /0.0800	Main Channel
921.45	252.31	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	242.89	.294E+03	0.3	0.48	16.11
0.74	243.26	.118E+04	1.9	0.77	10.15

1.85	244.37	.174E+05	19.5	1.23	14.91
2.22	244.74	.263E+05	31.1	1.30	14.10
2.60	245.12	.381E+05	48.9	1.42	12.98
2.97	245.49	.528E+05	73.8	1.54	11.92
3.34	245.86	.718E+05	100.4	1.54	11.91
3.71	246.23	.968E+05	140.8	1.60	11.46
4.08	246.60	.128E+06	196.9	1.70	10.83
4.45	246.97	.165E+06	274.4	1.83	10.02
4.82	247.34	.206E+06	371.9	1.99	9.25
5.19	247.71	.252E+06	487.6	2.13	8.62
5.66	248.18	.377E+06	611.0	1.79	10.28
6.13	248.65	.553E+06	891.2	1.78	10.34
6.61	249.13	.758E+06	1343.2	1.95	9.41
7.08	249.60	.992E+06	1932.3	2.15	8.56
7.55	250.07	.126E+07	2536.5	2.22	8.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3587)	1371.99	0.88	21.25	6.63	0.52	0.52
OUTFLOW: ID= 1 (3584)	1371.99	0.88	21.67	6.63	0.52	0.52

CALIB				
NASHYD (0457)	Area (ha)=	15.54	Curve Number (CN)=	68.0
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.56		

Unit Hyd Qpeak (cms)= 0.171

PEAK FLOW (cms)= 0.035 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 6.750
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.161

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (0458)	Area (ha)=	16.94		
ID= 1 DT= 5.0 min	Total Imp(%)=	61.20	Dir. Conn.(%)=	56.86

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	10.37	6.57
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.11	2.11
Length (m)=	336.06	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	6.88
over (min)	10.00	30.00
Storage Coeff. (min)=	8.16 (ii)	28.42 (ii)
Unit Hyd. Tpeak (min)=	10.00	30.00
Unit Hyd. peak (cms)=	0.13	0.04
		TOTALS

PEAK FLOW	(cms)=	0.52	0.09	0.595 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.24	27.16
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.24	0.65

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0459)	Area (ha)=	44.48	
ID= 1 DT= 5.0 min	Total Imp(%)=	51.79	Dir. Conn.(%)= 47.37

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.04	21.44
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.57	2.57
Length	(m)=	544.55	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.83
over (min)		10.00	30.00
Storage Coeff. (min)=		10.27 (ii)	29.42 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

				TOTALS
PEAK FLOW	(cms)=	1.13	0.28	1.371 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.07	24.25
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.24	0.58

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1881)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3584):	1371.99	0.883	21.67	6.63
+ ID2= 2 (0457):	15.54	0.035	8.25	6.75
ID = 3 (1881):	1387.53	0.885	21.58	6.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1881)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.

ID1= 3 (1881):	1387.53	0.885	21.58	6.63
+ ID2= 2 (0458):	16.94	0.595	5.25	27.16
ID = 1 (1881):	1404.47	0.885	21.58	6.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1881)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1881):	1404.47	0.885	21.58	6.88
+ ID2= 2 (0459):	44.48	1.371	5.25	24.25
ID = 3 (1881):	1448.95	2.080	5.25	7.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3583)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	250.07	0.0800	
76.47	247.75	0.0800	Main Channel
180.56	247.71	0.0800	Main Channel
219.78	249.11	0.0800	Main Channel
240.33	250.45	0.0800	Main Channel
307.28	249.67	0.0800	Main Channel
330.68	250.55	0.0800	Main Channel
379.01	250.32	0.0800	Main Channel
413.40	248.83	0.0800	Main Channel
439.53	246.75	0.0800	Main Channel
469.71	245.51	0.0800	Main Channel
479.79	242.52	0.0800	Main Channel
489.87	244.26	0.0800	Main Channel
550.44	248.08	0.0800	Main Channel
609.99	248.30	0.0800	Main Channel
704.45	250.82	0.0800	Main Channel
763.54	250.93	0.0800	Main Channel
822.56	250.25	0.0800	Main Channel
883.68	251.16	0.0800 /0.0800	Main Channel
921.45	252.31	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	242.89	.831E+03	0.2	0.38	57.34
0.74	243.26	.332E+04	1.5	0.61	36.12
1.11	243.63	.747E+04	4.5	0.80	27.57
1.48	244.00	.133E+05	9.7	0.97	22.76
1.85	244.37	.208E+05	17.0	1.08	20.40
2.22	244.74	.315E+05	27.2	1.14	19.29
2.60	245.12	.455E+05	42.7	1.24	17.77
2.97	245.49	.631E+05	64.5	1.35	16.30
3.34	245.86	.858E+05	87.8	1.35	16.30
3.71	246.23	.116E+06	123.1	1.40	15.68
4.08	246.60	.153E+06	172.2	1.48	14.82
4.45	246.97	.197E+06	239.9	1.60	13.71

4.82	247.34	.247E+06	325.2	1.74	12.65
5.19	247.71	.302E+06	426.3	1.86	11.79
5.66	248.18	.451E+06	534.2	1.56	14.06
6.13	248.65	.661E+06	779.2	1.55	14.14
6.61	249.13	.907E+06	1174.4	1.71	12.87
7.08	249.60	.119E+07	1689.5	1.88	11.71
7.55	250.07	.151E+07	2217.7	1.94	11.35

<---- hydrograph ----> <-pipe / channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	1881)	1448.95	2.08	5.25	7.41	0.81	0.64
OUTFLOW: ID= 1 (	3583)	1448.95	1.70	5.33	7.41	0.76	0.62

CALIB				
NASHYD (0454)	Area (ha)=	26.03	Curve Number (CN)= 62.4	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)=	2.89		
Unit Hyd Qpeak (cms)=		0.154		
PEAK FLOW	(cms)=	0.030 (i)		
TIME TO PEAK	(hrs)=	9.667		
RUNOFF VOLUME	(mm)=	5.531		
TOTAL RAINFALL	(mm)=	42.000		
RUNOFF COEFFICIENT	=	0.132		

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1127)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3583):	1448.95	1.702	5.33	7.41
+ ID2= 2 (0454):	26.03	0.030	9.67	5.53
ID = 3 (1127):	1474.98	1.711	5.33	7.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2742)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	222.89	0.0800	
26.58	223.30	0.0800	Main Channel
92.14	223.35	0.0800	Main Channel
232.14	222.66	0.0800	Main Channel
324.23	220.50	0.0800	Main Channel
344.95	220.96	0.0800	Main Channel

385.80	220.51	0.0800 Main Channel
447.07	219.37	0.0800 Main Channel
463.38	218.06	0.0800 Main Channel
497.96	210.51	0.0800 Main Channel
551.85	209.82	0.0800 Main Channel
567.99	214.12	0.0800 Main Channel
629.88	218.52	0.0800 Main Channel
670.48	219.52	0.0800 Main Channel
752.21	220.52	0.0800 Main Channel
784.26	219.53	0.0800 Main Channel
805.47	220.10	0.0800 Main Channel
837.49	223.14	0.0800 Main Channel
869.53	221.98	0.0800 /0.0800 Main Channel
933.64	222.47	0.0800

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.68	210.50	.163E+05	11.1	0.60	24.50
1.35	211.17	.513E+05	69.2	1.18	12.35
2.03	211.85	.896E+05	165.2	1.61	9.04
2.70	212.52	.131E+06	295.6	1.97	7.40
3.38	213.20	.176E+06	459.2	2.28	6.39
4.05	213.87	.224E+06	656.1	2.56	5.70
4.73	214.55	.277E+06	863.7	2.73	5.34
5.40	215.22	.337E+06	1100.0	2.86	5.10
6.08	215.90	.404E+06	1382.9	3.00	4.86
6.76	216.58	.478E+06	1716.1	3.14	4.64
7.43	217.25	.560E+06	2102.7	3.28	4.44
8.11	217.93	.649E+06	2546.2	3.43	4.25
8.78	218.60	.747E+06	2983.3	3.49	4.17
9.46	219.28	.862E+06	3350.8	3.40	4.29
10.13	219.95	.101E+07	3420.4	2.97	4.92
10.81	220.63	.123E+07	3712.3	2.63	5.54
11.48	221.30	.153E+07	4752.6	2.72	5.36
12.16	221.98	.185E+07	6260.7	2.96	4.93
13.53	223.35	.270E+07	9160.2	2.97	4.91

<---- hydrograph ----> <-pipe / channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	1127)	1474.98	1.71	5.33	7.38	0.10	0.60
OUTFLOW: ID= 1 (	2742)	1474.98	1.44	5.67	7.38	0.09	0.60

CALIB			
STANDHYD (0455)	Area (ha)=	46.10	
ID= 1 DT= 5.0 min	Total Imp(%)=	62.59	Dir. Conn.(%)= 57.19

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.85	17.25
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.32	2.32
Length	(m)=	554.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.47
over (min)		10.00	30.00

```
     Storage Coeff.  (min)=        10.70 (ii)     29.76 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.11           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         1.41           0.24      1.624 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50      5.25
     RUNOFF VOLUME    (mm)=        40.00          10.52     27.38
     TOTAL RAINFALL   (mm)=        42.00          42.00     42.00
     RUNOFF COEFFICIENT   =         0.95           0.25      0.65


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0456)|   Area    (ha)=     93.68
|ID= 1 DT= 5.0 min |   Total Imp(%)=     55.72   Dir. Conn.(%)=  51.14
--------------------
                          IMPERVIOUS      PERVIOUS (i)
     Surface Area    (ha)=        52.20          41.48
     Dep. Storage    (mm)=         2.00           5.00
     Average Slope    (%)=         2.84           2.84
     Length           (m)=       790.27          40.00
     Mannings n            =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32           6.97
               over (min)          10.00          35.00
     Storage Coeff.  (min)=        12.46 (ii)     30.90 (ii)
     Unit Hyd. Tpeak (min)=        10.00          35.00
     Unit Hyd. peak  (cms)=         0.10           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         2.55           0.53      2.995 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.58      5.25
     RUNOFF VOLUME    (mm)=        40.00          10.17     25.43
     TOTAL RAINFALL   (mm)=        42.00          42.00     42.00
     RUNOFF COEFFICIENT   =         0.95           0.24      0.61


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1879)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2742):   1474.98      1.443        5.67        7.38
     + ID2= 2 (  0455):     46.10      1.624        5.25       27.38
       ========================================================
       ID = 3 (  1879):   1521.08      2.812        5.25        7.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1879)|
| 3 +  2 =  1      |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1879):   1521.08      2.812        5.25        7.99
     + ID2= 2 (  0456):     93.68      2.995        5.25       25.43
       ========================================================
       ID = 1 (  1879):   1614.76      5.807        5.25        9.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2366)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         210.12        0.0800
                 37.98         209.75        0.0800      Main Channel
                 97.61         209.27        0.0800      Main Channel
                123.26         209.14        0.0800      Main Channel
                165.53         209.16        0.0800      Main Channel
                224.27         208.46        0.0800      Main Channel
                250.28         208.84        0.0800      Main Channel
                300.37         208.31        0.0800      Main Channel
                308.00         206.73        0.0800      Main Channel
                315.25         202.27        0.0800      Main Channel
                323.37         200.24        0.0800      Main Channel
                345.00         200.69        0.0800      Main Channel
                396.92         200.38        0.0800      Main Channel
                411.77         204.87        0.0800      Main Channel
                443.03         207.70        0.0800      Main Channel
                571.91         208.44        0.0800      Main Channel
                603.91         208.59        0.0800      Main Channel
                625.13         208.04        0.0800      Main Channel
                646.35         208.25    0.0800 /0.0800  Main Channel
                673.07         209.56        0.0800

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
       0.47   200.71    .166E+05          5.8          0.39       47.33
       0.94   201.18    .570E+05         44.4          0.85       21.40
       1.41   201.65    .992E+05        108.6          1.20       15.23
       1.88   202.12    .143E+06        194.7          1.49       12.26
       2.36   202.60    .189E+06        302.3          1.76       10.41
       2.83   203.07    .236E+06        429.4          2.00        9.15
       3.30   203.54    .284E+06        574.6          2.22        8.23
       3.77   204.01    .333E+06        737.3          2.43        7.53
       4.24   204.48    .384E+06        917.1          2.62        6.97
       4.71   204.95    .435E+06       1109.1          2.80        6.54
       5.18   205.42    .489E+06       1297.8          2.91        6.28
       5.65   205.89    .547E+06       1504.9          3.02        6.05
       6.13   206.37    .607E+06       1731.2          3.13        5.84
       6.60   206.84    .670E+06       1974.0          3.23        5.66
       7.07   207.31    .737E+06       2227.4          3.31        5.52
       7.54   207.78    .809E+06       2367.2          3.21        5.69
       8.01   208.25    .914E+06       2013.6          2.42        7.56
       8.67   208.91    .119E+07       2163.1          2.00        9.14
       9.32   209.56    .158E+07       3045.6          2.12        8.63

                                      <---- hydrograph ---->   <-pipe /
channel->
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                          AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                       (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1879)    1614.76     5.81    5.25   9.00      0.47
0.39
   OUTFLOW: ID= 1 (  2366)    1614.76     4.06    5.58   9.00      0.33
0.39


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| CALIB            |
| NASHYD   (  0452)|   Area    (ha)=     19.25   Curve Number   (CN)= 63.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.20

     Unit Hyd Qpeak  (cms)=     0.149

     PEAK FLOW       (cms)=     0.028 (i)
     TIME TO PEAK    (hrs)=     8.917
     RUNOFF VOLUME    (mm)=     5.689
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.135

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0453)|   Area    (ha)=     17.87
|ID= 1 DT= 5.0 min |   Total Imp(%)=     50.07   Dir. Conn.(%)=  46.15
--------------------
                          IMPERVIOUS      PERVIOUS (i)
     Surface Area    (ha)=         8.95           8.92
     Dep. Storage    (mm)=         2.00           5.00
     Average Slope    (%)=         2.78           2.78
     Length           (m)=       345.16          40.00
     Mannings n            =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32           6.32
               over (min)          10.00          30.00
     Storage Coeff.  (min)=         7.63 (ii)     26.93 (ii)
     Unit Hyd. Tpeak (min)=        10.00          30.00
     Unit Hyd. peak  (cms)=         0.13           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.44           0.11      0.539 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.50      5.25
     RUNOFF VOLUME    (mm)=        40.00           9.42     23.53
     TOTAL RAINFALL   (mm)=        42.00          42.00     42.00
     RUNOFF COEFFICIENT   =         0.95           0.22      0.56


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  68.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1067)|
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|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2366):   1614.76      4.059        5.58        9.00
     + ID2= 2 (  0452):     19.25      0.028        8.92        5.69
       ========================================================
       ID = 3 (  1067):   1634.01      4.071        5.58        8.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1067)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1067):   1634.01      4.071        5.58        8.96
     + ID2= 2 (  0453):     17.87      0.539        5.25       23.53
       ========================================================
       ID = 1 (  1067):   1651.88      4.383        5.42        9.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0468)|   Area    (ha)=     20.42   Curve Number   (CN)= 62.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.51

     Unit Hyd Qpeak  (cms)=     0.231

     PEAK FLOW       (cms)=     0.038 (i)
     TIME TO PEAK    (hrs)=     8.250
     RUNOFF VOLUME    (mm)=     5.527
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.132

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0469)|   Area    (ha)=    341.04   Curve Number   (CN)= 71.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      5.49

     Unit Hyd Qpeak  (cms)=     1.061

     PEAK FLOW       (cms)=     0.306 (i)
     TIME TO PEAK    (hrs)=    12.583
     RUNOFF VOLUME    (mm)=     7.577
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.180

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0470)|   Area    (ha)=     55.31   Curve Number   (CN)= 62.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.16
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Unit Hyd Qpeak (cms)= 0.299

PEAK FLOW (cms)= 0.058 (i)
TIME TO PEAK (hrs)= 9.917
RUNOFF VOLUME (mm)= 5.532
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.132

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0471)	Area (ha)=	352.36	Curve Number (CN)=	71.2
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	6.78		

Unit Hyd Qpeak (cms)= 0.888

PEAK FLOW (cms)= 0.260 (i)
TIME TO PEAK (hrs)= 13.583
RUNOFF VOLUME (mm)= 7.523
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.179

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0472)	Area (ha)=	112.75	Curve Number (CN)=	70.4
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	3.51		

Unit Hyd Qpeak (cms)= 0.548

PEAK FLOW (cms)= 0.145 (i)
TIME TO PEAK (hrs)= 10.333
RUNOFF VOLUME (mm)= 7.375
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0473)	Area (ha)=	146.61	Curve Number (CN)=	68.8
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	5.36		

Unit Hyd Qpeak (cms)= 0.467

PEAK FLOW (cms)= 0.123 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 6.939
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.165

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0474)	Area (ha)=	76.84	Curve Number (CN)=	68.8
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	4.36		

Unit Hyd Qpeak (cms)= 0.301

PEAK FLOW (cms)= 0.077 (i)
TIME TO PEAK (hrs)= 11.667
RUNOFF VOLUME (mm)= 6.952
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1105)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0473):	146.61	0.123	12.50	6.94
+ ID2= 2 (0474):	76.84	0.077	11.67	6.95
ID = 3 (1105):	223.45	0.200	12.25	6.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3983)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	276.95	0.0800	
9.26	276.75	0.0800	Main Channel
24.34	276.55	0.0800	Main Channel
33.62	276.36	0.0800	Main Channel
89.52	274.85	0.0800	Main Channel
129.65	274.37	0.0800	Main Channel
169.77	274.77	0.0800	Main Channel
179.81	274.64	0.0800	Main Channel
189.84	274.42	0.0800	Main Channel
209.90	274.70	0.0800	Main Channel
260.06	275.18	0.0800	Main Channel
303.00	275.35	0.0800	Main Channel
321.58	275.54	0.0800	Main Channel
340.32	275.60	0.0800	Main Channel
368.02	276.05	0.0800	Main Channel
380.44	276.00	0.0800	Main Channel
395.89	276.17	0.0800	Main Channel
410.54	276.53	0.0800	Main Channel
420.57	276.70	0.0800 /0.0800	Main Channel
467.89	277.08	0.0800	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	274.50	.970E+03	0.2	0.11	78.06
0.26	274.63	.443E+04	1.5	0.18	47.65
0.38	274.75	.106E+05	4.8	0.24	36.72

0.51	274.88	.192E+05	11.4	0.31	28.17
0.64	275.01	.292E+05	21.0	0.37	23.12
0.77	275.14	.403E+05	33.6	0.43	20.02
0.90	275.27	.530E+05	47.5	0.46	18.59
1.03	275.40	.680E+05	65.8	0.50	17.23
1.15	275.52	.844E+05	90.0	0.55	15.63
1.28	275.65	.102E+06	115.9	0.59	14.73
1.41	275.78	.122E+06	150.1	0.64	13.52
1.54	275.91	.142E+06	188.4	0.69	12.55
1.67	276.04	.163E+06	225.2	0.72	12.06
1.80	276.17	.186E+06	269.8	0.75	11.49
1.92	276.29	.210E+06	323.9	0.80	10.80
2.05	276.42	.234E+06	382.2	0.84	10.23
2.18	276.55	.260E+06	444.2	0.89	9.75
2.38	276.75	.301E+06	558.0	0.96	9.00
2.58	276.95	.346E+06	692.9	1.04	8.33

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1105)	223.45	0.20	12.25	6.96	0.12	0.11
OUTFLOW: ID= 1 (3983)	223.45	0.20	13.58	6.96	0.12	0.11

CALIB					
NASHYD (0475)	Area (ha)=	28.62	Curve Number (CN)=	70.4
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	1.09		

Unit Hyd Qpeak (cms)= 0.449

PEAK FLOW (cms)= 0.090 (i)
TIME TO PEAK (hrs)= 7.333
RUNOFF VOLUME (mm)= 7.365
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.175

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0476)	Area (ha)=	168.42	Curve Number (CN)=	67.2
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	5.18		

Unit Hyd Qpeak (cms)= 0.555

PEAK FLOW (cms)= 0.138 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 6.551
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.156

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0477)	Area (ha)=	123.27	Curve Number (CN)=	72.0
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	3.62		

Unit Hyd Qpeak (cms)= 0.581

PEAK FLOW (cms)= 0.164 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 7.827
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2072)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0476):	168.42	0.138	12.42	6.55
+ ID2= 2 (0477):	123.27	0.164	10.50	7.83
ID = 3 (2072):	291.69	0.298	11.42	7.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3982)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	276.95	0.0800	
9.26	276.75	0.0800	Main Channel
24.34	276.55	0.0800	Main Channel
33.62	276.36	0.0800	Main Channel
89.52	274.85	0.0800	Main Channel
129.65	274.37	0.0800	Main Channel
169.77	274.77	0.0800	Main Channel
179.81	274.64	0.0800	Main Channel
189.84	274.42	0.0800	Main Channel
209.90	274.70	0.0800	Main Channel
260.06	275.18	0.0800	Main Channel
303.00	275.35	0.0800	Main Channel
321.58	275.54	0.0800	Main Channel
340.32	275.60	0.0800	Main Channel
368.02	276.05	0.0800	Main Channel
380.44	276.00	0.0800	Main Channel
395.89	276.17	0.0800	Main Channel
410.54	276.53	0.0800	Main Channel
420.57	276.70	0.0800 /0.0800	Main Channel
467.89	277.08	0.0800	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	274.50	.107E+04	0.2	0.10	97.69
0.26	274.63	.489E+04	1.4	0.16	59.64
0.38	274.75	.117E+05	4.2	0.21	45.96

0.51	274.88	.212E+05	10.0	0.27	35.25
0.64	275.01	.322E+05	18.5	0.33	28.94
0.77	275.14	.445E+05	29.6	0.38	25.06
0.90	275.27	.585E+05	41.9	0.41	23.27
1.03	275.40	.750E+05	58.0	0.44	21.57
1.15	275.52	.931E+05	79.3	0.49	19.56
1.28	275.65	.113E+06	102.2	0.52	18.43
1.41	275.78	.134E+06	132.3	0.56	16.92
1.54	275.91	.157E+06	166.1	0.61	15.71
1.67	276.04	.180E+06	198.5	0.63	15.09
1.80	276.17	.205E+06	237.8	0.66	14.38
1.92	276.29	.232E+06	285.5	0.71	13.52
2.05	276.42	.259E+06	336.9	0.74	12.80
2.18	276.55	.287E+06	391.5	0.78	12.20
2.38	276.75	.333E+06	491.8	0.85	11.27
2.58	276.95	.382E+06	610.7	0.91	10.43

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2072)	291.69	0.30	11.42	7.10	0.14	0.10
OUTFLOW: ID= 1 (3982)	291.69	0.29	13.08	7.10	0.14	0.10

ADD HYD (1321) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3982):	291.69	0.289	13.08	7.10
+ ID2= 2 (3983):	223.45	0.196	13.58	6.96
ID = 3 (1321):	515.14	0.485	13.25	7.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1321) | 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1321):	515.14	0.485	13.25	7.04
+ ID2= 2 (0472):	112.75	0.145	10.33	7.37
ID = 1 (1321):	627.89	0.620	12.75	7.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1321) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1321):	627.89	0.620	12.75	7.10
+ ID2= 2 (0475):	28.62	0.090	7.33	7.36

ID = 3 (1321):	656.51	0.654	12.25	7.11	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3505) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ---->

Distance	Elevation	Manning	
0.00	276.82	0.0800	
22.48	276.32	0.0800	Main Channel
118.52	275.47	0.0800	Main Channel
142.99	275.15	0.0800	Main Channel
197.97	274.90	0.0800	Main Channel
226.87	274.74	0.0800	Main Channel
252.17	274.95	0.0800	Main Channel
262.98	274.85	0.0800	Main Channel
274.67	273.65	0.0800	Main Channel
286.87	272.67	0.0800	Main Channel
310.79	272.57	0.0800	Main Channel
323.07	272.01	0.0800	Main Channel
334.74	273.06	0.0800	Main Channel
346.95	274.99	0.0800	Main Channel
379.43	275.36	0.0800	Main Channel
419.15	275.43	0.0800	Main Channel
443.07	276.52	0.0800	Main Channel
479.15	277.12	0.0800	Main Channel
526.91	277.62	0.0800 /0.0800	Main Channel
553.33	277.41	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	272.30	.251E+04	0.3	0.18	167.05
0.58	272.59	.101E+05	1.4	0.26	117.73
0.87	272.88	.324E+05	6.0	0.34	89.71
1.15	273.16	.596E+05	15.3	0.47	64.80
1.44	273.45	.899E+05	28.5	0.58	52.51
1.73	273.74	.123E+06	45.5	0.68	45.03
2.02	274.03	.159E+06	66.5	0.77	39.79
2.31	274.32	.197E+06	91.1	0.85	35.99
2.60	274.61	.237E+06	119.6	0.92	33.08
2.88	274.89	.287E+06	115.5	0.74	41.41
3.17	275.18	.384E+06	133.5	0.64	47.87
3.46	275.47	.518E+06	180.6	0.64	47.84
3.77	275.78	.699E+06	287.4	0.75	40.56
4.07	276.08	.904E+06	418.0	0.85	36.03
4.38	276.39	.113E+07	575.0	0.93	32.78
4.69	276.70	.137E+07	752.8	1.00	30.43
5.00	277.01	.163E+07	951.5	1.07	28.62
5.30	277.31	.191E+07	1165.7	1.12	27.25
5.61	277.62	.220E+07	1401.9	1.17	26.14

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1321)	656.51	0.65	12.25	7.11	0.39	0.20
OUTFLOW: ID= 1 (3505)	656.51	0.60	14.75	7.11	0.37	

0.20

ROUTE CHN(3105) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ---->

Distance	Elevation	Manning	
0.00	276.09	0.0800	
64.89	275.43	0.0800	Main Channel
85.59	275.25	0.0800	Main Channel
126.80	275.31	0.0800	Main Channel
168.18	275.07	0.0800	Main Channel
271.59	274.04	0.0800	Main Channel
294.24	273.33	0.0800	Main Channel
311.80	269.28	0.0800	Main Channel
336.81	268.72	0.0800	Main Channel
362.65	272.92	0.0800	Main Channel
395.67	273.83	0.0800	Main Channel
429.73	273.32	0.0800	Main Channel
486.09	273.37	0.0800	Main Channel
514.37	273.27	0.0800	Main Channel
558.11	273.59	0.0800	Main Channel
600.62	274.05	0.0800	Main Channel
642.35	274.32	0.0800	Main Channel
714.79	273.93	0.0800	Main Channel
757.35	274.26	0.0800 /0.0800	Main Channel
814.78	274.66	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	269.03	.194E+04	0.9	0.37	35.91
0.62	269.34	.770E+04	5.9	0.62	21.63
0.92	269.64	.153E+05	17.3	0.91	14.70
1.23	269.95	.237E+05	33.7	1.15	11.71
1.54	270.26	.329E+05	54.9	1.34	9.98
1.85	270.57	.429E+05	81.0	1.52	8.83
2.15	270.87	.537E+05	112.0	1.68	7.99
2.46	271.18	.653E+05	148.1	1.83	7.35
2.77	271.49	.776E+05	189.4	1.96	6.83
3.08	271.80	.908E+05	236.2	2.09	6.41
3.39	272.11	.105E+06	288.6	2.22	6.05
3.69	272.41	.120E+06	346.8	2.33	5.75
4.00	272.72	.135E+06	410.9	2.45	5.48
4.31	273.03	.152E+06	467.2	2.48	5.41
4.62	273.34	.172E+06	382.0	1.79	7.50
4.92	273.64	.226E+06	383.5	1.37	9.81
5.23	273.95	.298E+06	526.5	1.42	9.44
5.54	274.26	.398E+06	648.6	1.31	10.22
5.94	274.66	.576E+06	1089.2	1.52	8.82

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3505)	656.51	0.60	14.75	7.11	0.21	0.37
OUTFLOW: ID= 1 (3105)	656.51	0.60	15.42	7.11	0.20	0.37

ROUTE CHN(3106) | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ---->

Distance	Elevation	Manning	
0.00	276.09	0.0800	
64.89	275.43	0.0800	Main Channel
85.59	275.25	0.0800	Main Channel
126.80	275.31	0.0800	Main Channel
168.18	275.07	0.0800	Main Channel
271.59	274.04	0.0800	Main Channel
294.24	273.33	0.0800	Main Channel
311.80	269.28	0.0800	Main Channel
336.81	268.72	0.0800	Main Channel
362.65	272.92	0.0800	Main Channel
395.67	273.83	0.0800	Main Channel
429.73	273.32	0.0800	Main Channel
486.09	273.37	0.0800	Main Channel
514.37	273.27	0.0800	Main Channel
558.11	273.59	0.0800	Main Channel
600.62	274.05	0.0800	Main Channel
642.35	274.32	0.0800	Main Channel
714.79	273.93	0.0800	Main Channel
757.35	274.26	0.0800 /0.0800	Main Channel
814.78	274.66	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	269.03	.139E+04	0.5	0.21	45.06
0.62	269.34	.552E+04	3.4	0.35	27.14
0.92	269.64	.110E+05	9.9	0.52	18.44
1.23	269.95	.170E+05	19.3	0.66	14.69
1.54	270.26	.236E+05	31.4	0.77	12.52
1.85	270.57	.308E+05	46.3	0.87	11.07
2.15	270.87	.385E+05	64.0	0.96	10.02
2.46	271.18	.468E+05	84.7	1.04	9.22
2.77	271.49	.557E+05	108.3	1.12	8.57
3.08	271.80	.652E+05	135.1	1.20	8.04
3.39	272.11	.752E+05	165.1	1.27	7.60
3.69	272.41	.858E+05	198.3	1.33	7.21
4.00	272.72	.970E+05	235.0	1.40	6.88
4.31	273.03	.109E+06	267.2	1.42	6.79
4.62	273.34	.123E+06	218.5	1.02	9.41
4.92	273.64	.162E+06	219.3	0.78	12.31
5.23	273.95	.214E+06	301.1	0.81	11.84
5.54	274.26	.285E+06	370.9	0.75	12.82
5.94	274.66	.414E+06	622.9	0.87	11.07

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3105)	656.51	0.60	15.42	7.11	0.32	0.22
OUTFLOW: ID= 1 (3106)	656.51	0.60	16.17	7.11	0.32	0.22

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| ROUTE CHN(  3107)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         276.09        0.0800
                   64.89         275.43        0.0800      Main Channel
                   85.59         275.25        0.0800      Main Channel
                  126.80         275.31        0.0800      Main Channel
                  168.18         275.07        0.0800      Main Channel
                  271.59         274.04        0.0800      Main Channel
                  294.24         273.33        0.0800      Main Channel
                  311.80         269.28        0.0800      Main Channel
                  336.81         268.72        0.0800      Main Channel
                  362.65         272.92        0.0800      Main Channel
                  395.67         273.83        0.0800      Main Channel
                  429.73         273.32        0.0800      Main Channel
                  486.09         273.37        0.0800      Main Channel
                  514.37         273.27        0.0800      Main Channel
                  558.11         273.59        0.0800      Main Channel
                  600.62         274.05        0.0800      Main Channel
                  642.35         274.32        0.0800      Main Channel
                  714.79         273.93        0.0800      Main Channel
                  757.35         274.26    0.0800 /0.0800  Main Channel
                  814.78         274.66        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.31   269.03    .165E+04           0.6         0.23      49.46
        0.62   269.34    .655E+04           3.7         0.38      29.79
        0.92   269.64    .130E+05          10.7         0.56      20.25
        1.23   269.95    .202E+05          20.8         0.71      16.13
        1.54   270.26    .280E+05          33.9         0.83      13.75
        1.85   270.57    .365E+05          50.0         0.94      12.16
        2.15   270.87    .457E+05          69.2         1.04      11.00
        2.46   271.18    .555E+05          91.5         1.13      10.12
        2.77   271.49    .661E+05         117.0         1.21       9.41
        3.08   271.80    .773E+05         145.9         1.29       8.83
        3.39   272.11    .892E+05         178.3         1.37       8.34
        3.69   272.41    .102E+06         214.2         1.44       7.92
        4.00   272.72    .115E+06         253.8         1.51       7.55
        4.31   273.03    .129E+06         288.6         1.53       7.46
        4.62   273.34    .146E+06         236.0         1.11      10.32
        4.92   273.64    .192E+06         236.9         0.84      13.51
        5.23   273.95    .254E+06         325.2         0.88      13.00
        5.54   274.26    .338E+06         400.7         0.81      14.08
        5.94   274.66    .490E+06         672.8         0.94      12.15

                                        <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3106)     656.51     0.60   16.17   7.11      0.31
0.23
  OUTFLOW: ID= 1 (  3107)     656.51     0.59   17.00   7.11      0.31
0.23


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| ROUTE CHN(  2744)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         265.99        0.0800
                   14.85         265.85        0.0800      Main Channel
                   48.96         266.31        0.0800      Main Channel
                  153.63         266.02        0.0800      Main Channel
                  191.60         265.17        0.0800      Main Channel
                  227.97         266.02        0.0800      Main Channel
                  250.87         265.66        0.0800      Main Channel
                  267.12         264.59        0.0800      Main Channel
                  294.62         261.89        0.0800      Main Channel
                  317.21         257.63        0.0800      Main Channel
                  368.22         258.16        0.0800      Main Channel
                  392.63         260.47        0.0800      Main Channel
                  405.29         263.25        0.0800      Main Channel
                  422.36         264.18        0.0800      Main Channel
                  494.89         266.07        0.0800      Main Channel
                  526.12         266.22        0.0800      Main Channel
                  600.29         266.75        0.0800      Main Channel
                  680.01         266.99        0.0800      Main Channel
                  691.67         267.39    0.0800 /0.0800  Main Channel
                  777.29         267.38        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.51   258.14    .169E+05           6.0         0.46      46.44
        1.02   258.65    .543E+05          37.8         0.89      23.91
        1.53   259.16    .969E+05          91.6         1.20      17.64
        2.04   259.67    .145E+06         166.2         1.46      14.53
        2.55   260.18    .198E+06         262.0         1.68      12.60
        3.06   260.69    .256E+06         382.7         1.90      11.17
        3.57   261.20    .318E+06         529.5         2.12      10.02
        4.08   261.71    .383E+06         698.1         2.32       9.16
        4.60   262.23    .452E+06         881.0         2.48       8.56
        5.11   262.74    .526E+06        1083.3         2.62       8.09
        5.62   263.25    .604E+06        1310.1         2.76       7.69
        6.13   263.76    .690E+06        1518.4         2.80       7.57
        6.64   264.27    .785E+06        1749.5         2.84       7.48
        7.15   264.78    .894E+06        1963.1         2.80       7.59
        7.66   265.29    .102E+07        2161.5         2.69       7.88
        8.17   265.80    .119E+07        2265.6         2.43       8.74
        8.68   266.31    .145E+07        2222.5         1.96      10.85
        9.19   266.82    .182E+07        2885.7         2.02      10.52
        9.73   267.36    .229E+07        3891.4         2.17       9.79

                                        <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3107)     656.51     0.59   17.00   7.11      0.05
0.46
  OUTFLOW: ID= 1 (  2744)     656.51     0.59   17.92   7.11      0.05
0.46


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| ADD HYD  (  0794)|
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|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2744):    656.51      0.589       17.92        7.11
     + ID2= 2 (  0471):    352.36      0.260       13.58        7.52
       ==========================================================
       ID = 3 (  0794):   1008.87      0.832       17.33        7.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2339)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                    0.00         261.47        0.0800
                   57.84         261.44        0.0800      Main Channel
                   89.78         261.00        0.0800      Main Channel
                  102.41         260.85        0.0800      Main Channel
                  117.29         260.98        0.0800      Main Channel
                  133.06         261.17        0.0800      Main Channel
                  139.77         260.41        0.0800      Main Channel
                  190.92         260.32        0.0800      Main Channel
                  211.68         259.66        0.0800      Main Channel
                  249.13         256.29        0.0800      Main Channel
                  273.44         251.23        0.0800      Main Channel
                  303.26         248.53        0.0800      Main Channel
                  355.34         250.08        0.0800      Main Channel
                  392.70         260.75        0.0800      Main Channel
                  414.81         261.79        0.0800      Main Channel
                  495.88         261.69        0.0800      Main Channel
                  512.26         261.30        0.0800      Main Channel
                  554.27         261.95        0.0800      Main Channel
                  679.49         263.28    0.0800 /0.0800  Main Channel
                  715.58         263.40        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.66   249.19    .938E+04           5.0         0.52      31.12
        1.31   249.84    .375E+05          31.9         0.83      19.61
        1.97   250.50    .819E+05          99.0         1.18      13.79
        2.63   251.16    .133E+06         205.4         1.51      10.80
        3.28   251.81    .189E+06         353.3         1.82       8.94
        3.94   252.47    .249E+06         536.5         2.10       7.75
        4.59   253.12    .313E+06         753.6         2.35       6.92
        5.25   253.78    .380E+06        1004.4         2.58       6.30
        5.91   254.44    .450E+06        1289.2         2.80       5.82
        6.56   255.09    .524E+06        1608.2         3.00       5.43
        7.22   255.75    .601E+06        1962.0         3.19       5.10
        7.88   256.41    .682E+06        2342.8         3.35       4.85
        8.53   257.06    .768E+06        2723.5         3.46       4.70
        9.19   257.72    .860E+06        3147.2         3.57       4.56
        9.84   258.37    .958E+06        3615.8         3.68       4.42
       10.50   259.03    .106E+07        4131.3         3.79       4.29
       11.16   259.69    .117E+07        4685.8         3.90       4.17
       11.81   260.34    .130E+07        4894.2         3.69       4.41
       12.47   261.00    .146E+07        4856.3         3.25       5.01

                                        <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
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(m/s)
   INFLOW : ID= 2 (  0794)    1008.87     0.83   17.33   7.28      0.11
0.52
  OUTFLOW: ID= 1 (  2339)    1008.87     0.83   17.92   7.28      0.11
0.52


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| ADD HYD  (  1124)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2339):   1008.87      0.830       17.92        7.28
     + ID2= 2 (  0469):    341.04      0.306       12.58        7.58
       ==========================================================
       ID = 3 (  1124):   1349.91      1.096       17.17        7.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1124)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1124):   1349.91      1.096       17.17        7.36
     + ID2= 2 (  0470):     55.31      0.058        9.92        5.53
       ==========================================================
       ID = 1 (  1124):   1405.22      1.132       16.92        7.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD  (  0478)|   Area    (ha)=    280.69   Curve Number   (CN)= 68.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      5.89

     Unit Hyd Qpeak  (cms)=     0.814

     PEAK FLOW       (cms)=     0.216 (i)
     TIME TO PEAK    (hrs)=    12.833
     RUNOFF VOLUME    (mm)=     6.925
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.165

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD  (  0479)|   Area    (ha)=    258.77   Curve Number   (CN)= 66.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      8.84

     Unit Hyd Qpeak  (cms)=     0.500

     PEAK FLOW       (cms)=     0.124 (i)
     TIME TO PEAK    (hrs)=    15.417
     RUNOFF VOLUME    (mm)=     6.165
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TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.147

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0480)	Area (ha)=	316.89	Curve Number (CN)=	68.8
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	4.51		

Unit Hyd Qpeak (cms)= 1.199

PEAK FLOW (cms)= 0.310 (i)
TIME TO PEAK (hrs)= 11.917
RUNOFF VOLUME (mm)= 6.951
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.165

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2647)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
324.81	278.33	0.0800	
340.02	277.58	0.0800	Main Channel
346.71	277.55	0.0800	Main Channel
352.08	277.29	0.0800	Main Channel
357.66	277.16	0.0800	Main Channel
364.60	276.77	0.0800	Main Channel
368.60	276.45	0.0800	Main Channel
379.55	276.18	0.0800	Main Channel
401.44	275.66	0.0800	Main Channel
423.34	275.59	0.0800	Main Channel
431.04	275.86	0.0800	Main Channel
434.29	275.93	0.0800	Main Channel
445.23	276.52	0.0800	Main Channel
456.18	276.97	0.0800	Main Channel
467.13	277.21	0.0800	Main Channel
487.47	277.86	0.0800	Main Channel
499.97	277.90	0.0800	Main Channel
529.75	278.13	0.0800	Main Channel
549.49	278.24	0.0800 /0.0800	Main Channel
554.71	278.24	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	275.72	.289E+04	0.5	0.19	102.77
0.26	275.85	.802E+04	2.1	0.32	62.88
0.39	275.98	.147E+05	5.0	0.41	49.13
0.52	276.11	.227E+05	9.3	0.49	40.74
0.65	276.24	.320E+05	15.0	0.56	35.43
0.78	276.37	.425E+05	22.3	0.63	31.69
0.91	276.50	.541E+05	31.6	0.70	28.51
1.05	276.64	.665E+05	42.9	0.77	25.85
1.18	276.77	.797E+05	55.7	0.84	23.81
1.31	276.90	.936E+05	70.0	0.90	22.28
1.44	277.03	.108E+06	85.4	0.94	21.16

1.57	277.16	.125E+06	101.9	0.98	20.37
1.70	277.29	.142E+06	119.4	1.01	19.84
1.83	277.42	.161E+06	141.6	1.05	18.95
1.96	277.55	.181E+06	166.1	1.10	18.17
2.13	277.72	.210E+06	205.2	1.17	17.07
2.31	277.90	.241E+06	238.3	1.18	16.88
2.48	278.07	.278E+06	272.0	1.17	17.05
2.65	278.24	.321E+06	310.2	1.16	17.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0480)	316.89	0.31	11.92	6.95	0.09	0.19
OUTFLOW: ID= 1 (2647)	316.89	0.30	13.67	6.96	0.08	0.19

ROUTE CHN(4003)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
233.54	274.21	0.0800	
241.16	273.95	0.0800	Main Channel
245.26	273.83	0.0800	Main Channel
251.72	273.45	0.0800	Main Channel
256.98	273.17	0.0800	Main Channel
260.32	272.77	0.0800	Main Channel
268.71	271.88	0.0800	Main Channel
281.91	270.85	0.0800	Main Channel
303.87	270.41	0.0800	Main Channel
317.81	270.05	0.0800	Main Channel
327.32	269.86	0.0800	Main Channel
339.04	270.19	0.0800	Main Channel
356.14	271.70	0.0800	Main Channel
362.49	272.22	0.0800	Main Channel
375.30	273.02	0.0800	Main Channel
385.93	273.41	0.0800	Main Channel
394.46	273.61	0.0800	Main Channel
397.66	273.71	0.0800	Main Channel
409.38	273.96	0.0800 /0.0800	Main Channel
432.79	274.23	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	270.08	.134E+04	0.4	0.17	62.37
0.44	270.30	.504E+04	2.3	0.29	37.26
0.66	270.52	.104E+05	6.1	0.38	28.43
0.88	270.74	.177E+05	12.4	0.45	23.84
1.10	270.96	.268E+05	22.3	0.54	20.00
1.32	271.18	.367E+05	35.9	0.63	17.05
1.54	271.40	.474E+05	52.4	0.71	15.07
1.76	271.62	.589E+05	72.0	0.79	13.64
1.98	271.84	.711E+05	94.4	0.86	12.55
2.21	272.07	.841E+05	120.5	0.92	11.63
2.43	272.29	.977E+05	149.5	0.99	10.89
2.65	272.51	.112E+06	181.2	1.04	10.31
2.87	272.73	.127E+06	216.3	1.09	9.81

3.09	272.95	.143E+06	255.1	1.15	9.36
3.31	273.17	.160E+06	295.1	1.19	9.05
3.53	273.39	.178E+06	334.6	1.21	8.88
3.75	273.61	.198E+06	374.6	1.22	8.81
3.97	273.83	.220E+06	420.8	1.24	8.69
4.19	274.05	.243E+06	484.9	1.28	8.36

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2647)	316.89	0.30	13.67	6.96	0.18	0.17
OUTFLOW: ID= 1 (4003)	316.89	0.29	14.83	6.96	0.18	0.17

ROUTE CHN(3060)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
89.81	271.46	0.0800	
93.83	271.17	0.0800	Main Channel
112.49	269.00	0.0800	Main Channel
116.12	268.71	0.0800	Main Channel
119.62	268.65	0.0800	Main Channel
127.26	268.44	0.0800	Main Channel
135.17	268.32	0.0800	Main Channel
149.54	267.91	0.0800	Main Channel
157.85	267.67	0.0800	Main Channel
160.68	267.60	0.0800	Main Channel
180.53	267.61	0.0800	Main Channel
194.11	267.70	0.0800	Main Channel
203.21	268.04	0.0800	Main Channel
216.39	268.45	0.0800	Main Channel
225.89	268.74	0.0800	Main Channel
248.57	269.14	0.0800	Main Channel
251.01	269.24	0.0800	Main Channel
260.95	269.65	0.0800	Main Channel
272.91	270.43	0.0800 /0.0800	Main Channel
283.24	271.37	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.18	267.78	.187E+04	1.2	0.21	26.22
0.35	267.95	.461E+04	4.6	0.33	16.76
0.53	268.13	.797E+04	10.0	0.42	13.23
0.70	268.30	.120E+05	17.8	0.49	11.27
0.88	268.48	.168E+05	27.6	0.54	10.19
1.05	268.65	.225E+05	41.0	0.60	9.13
1.23	268.83	.288E+05	57.5	0.66	8.36
1.40	269.00	.359E+05	77.6	0.71	7.71
1.62	269.22	.455E+05	109.4	0.79	6.93
1.83	269.43	.557E+05	148.8	0.88	6.24
2.05	269.65	.664E+05	193.8	0.96	5.71
2.26	269.86	.776E+05	246.0	1.05	5.25
2.48	270.08	.891E+05	303.7	1.13	4.89
2.69	270.29	.101E+06	366.9	1.20	4.59
2.91	270.51	.113E+06	437.7	1.28	4.31

3.12	270.72	.126E+06	517.8	1.36	4.05
3.34	270.94	.139E+06	603.7	1.44	3.83
3.55	271.15	.152E+06	695.6	1.51	3.64
3.77	271.37	.165E+06	794.5	1.59	3.47

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4003)	316.89	0.29	14.83	6.96	0.04	0.21
OUTFLOW: ID= 1 (3060)	316.89	0.29	15.33	6.96	0.04	0.21

CALIB					
NASHYD (0481)	Area (ha)=	138.58	Curve Number (CN)=	67.2
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	4.36		

Unit Hyd Qpeak (cms)= 0.543

PEAK FLOW (cms)= 0.132 (i)
TIME TO PEAK (hrs)= 11.667
RUNOFF VOLUME (mm)= 6.560
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.156

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1342)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3060):	316.89	0.293	15.33	6.96
+ ID2= 2 (0479):	258.77	0.124	15.42	6.16
ID = 3 (1342):	575.66	0.417	15.33	6.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1342)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1342):	575.66	0.417	15.33	6.70
+ ID2= 2 (0481):	138.58	0.132	11.67	6.56
ID = 1 (1342):	714.24	0.536	14.50	6.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(3097)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	270.53	0.0800	
30.65	271.17	0.0800	Main Channel
55.43	272.02	0.0800	Main Channel
89.62	271.34	0.0800	Main Channel
150.80	271.43	0.0800	Main Channel
183.62	271.26	0.0800	Main Channel
218.66	271.31	0.0800	Main Channel
242.64	272.03	0.0800	Main Channel
289.33	270.93	0.0800	Main Channel
303.84	270.10	0.0800	Main Channel
336.68	266.66	0.0800	Main Channel
348.35	266.19	0.0800	Main Channel
371.73	267.27	0.0800	Main Channel
400.10	267.30	0.0800	Main Channel
430.64	267.49	0.0800	Main Channel
457.61	268.89	0.0800	Main Channel
465.67	269.65	0.0800	Main Channel
476.49	271.01	0.0800	Main Channel
501.39	272.34	0.0800 /0.0800	Main Channel
524.83	273.37	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	266.41	.260E+04	0.3	0.22	168.45
0.45	266.64	.104E+05	1.6	0.35	106.12
0.67	266.86	.227E+05	4.9	0.48	77.10
0.90	267.09	.385E+05	10.2	0.59	62.86
1.12	267.31	.594E+05	13.1	0.49	75.47
1.35	267.54	.104E+06	26.2	0.56	66.29
1.57	267.76	.157E+06	50.0	0.71	52.47
1.79	267.98	.214E+06	80.1	0.83	44.45
2.02	268.21	.273E+06	116.4	0.95	39.12
2.24	268.43	.336E+06	158.8	1.05	35.27
2.47	268.66	.402E+06	207.2	1.15	32.34
2.69	268.88	.471E+06	261.8	1.24	30.01
2.92	269.11	.543E+06	324.8	1.33	27.88
3.14	269.33	.618E+06	394.0	1.42	26.12
3.36	269.55	.694E+06	469.3	1.50	24.65
3.59	269.78	.773E+06	551.5	1.59	23.36
3.81	270.00	.854E+06	640.3	1.67	22.22
4.04	270.23	.936E+06	732.5	1.74	21.30
4.26	270.45	.102E+07	828.8	1.81	20.55

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1342)	714.24	0.54	14.50	6.67	0.27	0.24
OUTFLOW: ID= 1 (3097)	714.24	0.50	17.33	6.67	0.26	0.24

| ROUTE CHN(2648)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	261.41	0.0800	
12.73	261.47	0.0800	Main Channel
119.78	260.45	0.0800	Main Channel
163.46	260.15	0.0800	Main Channel
191.66	259.36	0.0800	Main Channel
220.11	255.79	0.0800	Main Channel
241.32	254.98	0.0800	Main Channel
248.53	255.27	0.0800	Main Channel
279.93	254.89	0.0800	Main Channel
299.07	257.57	0.0800	Main Channel
318.21	258.90	0.0800	Main Channel
370.95	258.59	0.0800	Main Channel
388.83	258.68	0.0800	Main Channel
455.56	259.40	0.0800	Main Channel
544.27	260.67	0.0800	Main Channel
578.00	260.57	0.0800	Main Channel
645.46	260.79	0.0800	Main Channel
690.01	261.06	0.0800	Main Channel
734.82	260.82	0.0800 /0.0800	Main Channel
774.70	261.37	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	255.22	.108E+05	2.0	0.32	90.76
0.65	255.54	.404E+05	14.3	0.61	47.20
0.98	255.87	.764E+05	37.3	0.85	34.15
1.31	256.20	.116E+06	71.5	1.07	27.09
1.64	256.53	.159E+06	115.0	1.26	23.00
1.96	256.85	.204E+06	167.7	1.43	20.27
2.29	257.18	.252E+06	229.6	1.58	18.30
2.62	257.51	.303E+06	300.7	1.72	16.80
2.94	257.83	.357E+06	377.0	1.83	15.79
3.27	258.16	.416E+06	462.6	1.93	14.97
3.60	258.49	.478E+06	558.8	2.03	14.26
3.92	258.81	.559E+06	516.4	1.60	18.05
4.25	259.14	.684E+06	620.5	1.58	18.37
4.58	259.47	.829E+06	781.3	1.64	17.68
4.91	259.80	.993E+06	976.1	1.71	16.96
5.23	260.12	.118E+07	1207.3	1.78	16.26
5.56	260.45	.139E+07	1411.6	1.76	16.41
5.89	260.78	.166E+07	1597.6	1.67	17.30
6.40	261.29	.225E+07	2285.7	1.77	16.38

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3097)	714.24	0.50	17.33	6.67	0.08	0.32
OUTFLOW: ID= 1 (2648)	714.24	0.50	19.08	6.67	0.08	0.32

| ROUTE CHN(3114)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	253.23	0.0800	
44.04	253.12	0.0800	Main Channel
57.50	252.87	0.0800	Main Channel
100.69	252.64	0.0800	Main Channel
115.56	252.95	0.0800	Main Channel
160.96	252.40	0.0800	Main Channel
191.57	251.94	0.0800	Main Channel
255.48	252.03	0.0800	Main Channel
285.83	250.74	0.0800	Main Channel
306.20	243.00	0.0800	Main Channel
345.80	243.43	0.0800	Main Channel
366.92	242.84	0.0800	Main Channel
387.24	244.69	0.0800	Main Channel
427.77	250.25	0.0800	Main Channel
488.42	252.94	0.0800	Main Channel
497.48	251.78	0.0800	Main Channel
523.53	252.01	0.0800	Main Channel
560.63	253.34	0.0800	Main Channel
633.85	255.30	0.0800 /0.0800	Main Channel
669.07	256.01	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	243.37	.445E+04	4.7	0.37	15.65
1.06	243.90	.173E+05	39.0	0.78	7.37
1.58	244.42	.315E+05	99.8	1.09	5.26
2.11	244.95	.469E+05	184.9	1.35	4.23
2.64	245.48	.634E+05	293.4	1.59	3.60
3.17	246.01	.808E+05	423.6	1.80	3.18
3.70	246.54	.992E+05	575.4	1.99	2.87
4.22	247.06	.118E+06	748.6	2.17	2.64
4.75	247.59	.139E+06	943.5	2.34	2.45
5.28	248.12	.160E+06	1160.3	2.49	2.30
5.81	248.65	.182E+06	1399.3	2.64	2.17
6.33	249.17	.205E+06	1660.8	2.78	2.06
6.86	249.70	.229E+06	1945.3	2.92	1.96
7.39	250.23	.254E+06	2253.2	3.05	1.88
7.92	250.76	.281E+06	2504.3	3.06	1.87
8.45	251.29	.311E+06	2693.8	2.98	1.92
8.97	251.81	.346E+06	2911.4	2.90	1.98
9.50	252.34	.399E+06	2608.1	2.25	2.55
10.03	252.87	.471E+06	2799.9	2.04	2.80

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2648)	714.24	0.50	19.08	6.67	0.06	0.37
OUTFLOW: ID= 1 (3114)	714.24	0.50	19.42	6.67	0.06	0.37

| ADD HYD (7601)|
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3114):	714.24	0.495	19.42	6.67
+ ID2= 2 (0478):	280.69	0.216	12.83	6.92

ID = 3 (7601):	994.93	0.678	18.33	6.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0732)|
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1124):	1405.22	1.132	16.92	7.29
+ ID2= 2 (0468):	20.42	0.038	8.25	5.53
ID = 3 (0732):	1425.64	1.139	16.83	7.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0732)|
| 3 + 2 = 1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0732):	1425.64	1.139	16.83	7.26
+ ID2= 2 (7601):	994.93	0.678	18.33	6.75
ID = 1 (0732):	2420.57	1.811	17.33	7.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(3842)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	252.46	0.0800	
101.97	250.31	0.0800	Main Channel
154.76	250.91	0.0800	Main Channel
185.87	250.26	0.0800	Main Channel
206.35	248.79	0.0800	Main Channel
237.35	239.61	0.0800	Main Channel
254.62	240.58	0.0800	Main Channel
281.18	240.54	0.0800	Main Channel
329.37	240.54	0.0800	Main Channel
380.94	240.47	0.0800	Main Channel
401.67	241.91	0.0800	Main Channel
422.64	247.51	0.0800	Main Channel
432.84	249.42	0.0800	Main Channel
464.16	251.71	0.0800	Main Channel
495.37	252.21	0.0800	Main Channel
526.30	253.56	0.0800	Main Channel
549.82	252.96	0.0800	Main Channel
631.61	255.20	0.0800	Main Channel
673.01	255.97	0.0800 /0.0800	Main Channel
713.83	256.39	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.66	240.27	.367E+04	2.1	0.46	28.61

1.33	240.94	.556E+05	40.3	0.57	23.01
1.99	241.60	.139E+06	177.5	1.00	13.10
2.66	242.27	.229E+06	392.7	1.35	9.72
3.32	242.93	.321E+06	678.2	1.66	7.90
3.99	243.60	.416E+06	1024.9	1.93	6.77
4.65	244.26	.513E+06	1429.4	2.19	5.99
5.32	244.93	.613E+06	1889.2	2.42	5.41
5.98	245.59	.715E+06	2402.5	2.64	4.96
6.65	246.26	.820E+06	2968.1	2.84	4.60
7.31	246.92	.927E+06	3585.1	3.03	4.31
7.98	247.59	.104E+07	4251.3	3.22	4.06
8.64	248.25	.115E+07	4955.9	3.38	3.86
9.31	248.92	.126E+07	5689.3	3.53	3.71
9.97	249.58	.139E+07	6363.6	3.60	3.63
10.64	250.25	.152E+07	7035.7	3.64	3.59
11.30	250.91	.168E+07	7452.1	3.48	3.76
12.08	251.69	.193E+07	8759.6	3.57	3.66
12.85	252.46	.221E+07	9802.5	3.48	3.76

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0732)	2420.57	1.81	17.33	7.05	0.56	0.46
OUTFLOW: ID= 1 (3842)	2420.57	1.81	17.92	7.05	0.56	0.46

ROUTE CHN(3720)	IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.52	0.0800	
134.64	250.68	0.0800	Main Channel
173.76	250.16	0.0800	Main Channel
200.30	248.73	0.0800	Main Channel
207.51	248.72	0.0800	Main Channel
334.70	248.85	0.0800	Main Channel
344.70	247.39	0.0800	Main Channel
373.70	238.57	0.0800	Main Channel
383.70	236.50	0.0800	Main Channel
394.70	235.77	0.0800	Main Channel
444.75	236.04	0.0800	Main Channel
474.75	238.83	0.0800	Main Channel
515.17	248.12	0.0800	Main Channel
545.17	248.91	0.0800	Main Channel
585.23	248.74	0.0800	Main Channel
634.77	248.39	0.0800	Main Channel
688.48	248.86	0.0800	Main Channel
735.79	249.62	0.0800	Main Channel
784.99	249.50	0.0800 /0.0800	Main Channel
839.99	250.06	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.72	236.49	.162E+05	26.1	0.76	10.35
1.45	237.22	.405E+05	108.0	1.25	6.25
2.17	237.94	.687E+05	237.4	1.63	4.82

2.89	238.66	.101E+06	414.7	1.94	4.05
3.61	239.38	.136E+06	653.5	2.27	3.46
4.34	240.11	.173E+06	943.5	2.57	3.05
5.06	240.83	.212E+06	1280.5	2.85	2.76
5.78	241.55	.253E+06	1664.3	3.10	2.53
6.50	242.27	.295E+06	2095.0	3.34	2.35
7.23	243.00	.340E+06	2573.0	3.56	2.20
7.95	243.72	.386E+06	3098.6	3.78	2.08
8.67	244.44	.434E+06	3672.6	3.98	1.97
9.39	245.16	.485E+06	4295.6	4.17	1.88
10.12	245.89	.537E+06	4968.5	4.36	1.80
10.84	246.61	.591E+06	5692.0	4.54	1.73
11.56	247.33	.646E+06	6466.9	4.71	1.67
12.28	248.05	.705E+06	7236.9	4.83	1.62
13.01	248.78	.779E+06	5199.2	3.14	2.50
13.73	249.50	.951E+06	5645.3	2.79	2.81

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3842)	2420.57	1.81	17.92	7.05	0.05	0.76
OUTFLOW: ID= 1 (3720)	2420.57	1.81	18.00	7.05	0.05	0.76

ROUTE CHN(3722)	IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ----->

Distance	Elevation	Manning	
0.00	251.52	0.0800	
134.64	250.68	0.0800	Main Channel
173.76	250.16	0.0800	Main Channel
200.30	248.73	0.0800	Main Channel
207.51	248.72	0.0800	Main Channel
334.70	248.85	0.0800	Main Channel
344.70	247.39	0.0800	Main Channel
373.70	238.57	0.0800	Main Channel
383.70	236.50	0.0800	Main Channel
394.70	235.77	0.0800	Main Channel
444.75	236.04	0.0800	Main Channel
474.75	238.83	0.0800	Main Channel
515.17	248.12	0.0800	Main Channel
545.17	248.91	0.0800	Main Channel
585.23	248.74	0.0800	Main Channel
634.77	248.39	0.0800	Main Channel
688.48	248.86	0.0800	Main Channel
735.79	249.62	0.0800	Main Channel
784.99	249.50	0.0800 /0.0800	Main Channel
839.99	250.06	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.72	236.49	.395E+05	27.7	0.80	23.79
1.45	237.22	.988E+05	114.6	1.33	14.37
2.17	237.94	.167E+06	251.9	1.73	11.08
2.89	238.66	.245E+06	440.0	2.06	9.30
3.61	239.38	.331E+06	693.4	2.40	7.96

4.34	240.11	.421E+06	1001.1	2.73	7.01
5.06	240.83	.516E+06	1358.7	3.02	6.33
5.78	241.55	.616E+06	1765.9	3.29	5.81
6.50	242.27	.720E+06	2222.9	3.54	5.40
7.23	243.00	.828E+06	2730.0	3.78	5.06
7.95	243.72	.941E+06	3287.8	4.01	4.77
8.67	244.44	.106E+07	3896.8	4.22	4.53
9.39	245.16	.118E+07	4557.9	4.43	4.32
10.12	245.89	.131E+07	5271.8	4.62	4.14
10.84	246.61	.144E+07	6039.4	4.81	3.97
11.56	247.33	.158E+07	6861.7	5.00	3.83
12.28	248.05	.172E+07	7678.7	5.13	3.73
13.01	248.78	.190E+07	5516.6	3.33	5.74
13.73	249.50	.232E+07	5990.0	2.97	6.45

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3720)	2420.57	1.81	18.00	7.05	0.05	0.80
OUTFLOW: ID= 1 (3722)	2420.57	1.80	18.42	7.05	0.05	0.80

CALIB	NASHYD (0508)	ID= 1 DT= 5.0 min

Area (ha)= 104.03 Curve Number (CN)= 68.8
Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 4.00

Unit Hyd Qpeak (cms)= 0.444

PEAK FLOW (cms)= 0.113 (i)
TIME TO PEAK (hrs)= 11.083
RUNOFF VOLUME (mm)= 6.954
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1734)	1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3722):	2420.57	1.805	18.42	7.05
+ ID2= 2 (0508):	104.03	0.113	11.08	6.95
ID = 3 (1734):	2524.60	1.882	18.17	7.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3572)	IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.54	0.0800	
64.89	235.94	0.0800	Main Channel
85.19	235.31	0.0800	Main Channel
115.52	232.07	0.0800	Main Channel
125.57	230.43	0.0800	Main Channel
135.64	229.55	0.0800	Main Channel
155.93	226.81	0.0800	Main Channel
196.51	224.77	0.0800	Main Channel
206.57	223.62	0.0800	Main Channel
216.70	224.59	0.0800	Main Channel
236.97	224.46	0.0800	Main Channel
258.58	225.24	0.0800	Main Channel
280.26	224.70	0.0800	Main Channel
291.03	225.46	0.0800	Main Channel
302.99	226.71	0.0800	Main Channel
344.80	236.40	0.0800	Main Channel
420.68	236.60	0.0800	Main Channel
467.63	236.55	0.0800	Main Channel
517.63	237.56	0.0800 /0.0800	Main Channel
547.63	237.89	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.65	224.27	.163E+04	2.2	0.53	12.59
1.30	224.92	.113E+05	17.5	0.63	10.73
1.95	225.57	.362E+05	88.2	0.98	6.84
2.60	226.22	.679E+05	226.1	1.34	5.00
3.25	226.87	.105E+06	426.6	1.64	4.08
3.90	227.52	.144E+06	705.7	1.97	3.41
4.55	228.17	.186E+06	1043.8	2.26	2.97
5.20	228.82	.230E+06	1439.3	2.52	2.66
5.84	229.46	.275E+06	1891.4	2.77	2.43
6.49	230.11	.323E+06	2384.0	2.97	2.26
7.14	230.76	.374E+06	2948.1	3.18	2.11
7.79	231.41	.426E+06	3585.5	3.39	1.98
8.44	232.06	.481E+06	4280.9	3.59	1.87
9.09	232.71	.537E+06	5007.4	3.76	1.79
9.74	233.36	.595E+06	5794.1	3.92	1.71
10.39	234.01	.656E+06	6642.6	4.08	1.65
11.04	234.66	.719E+06	7554.2	4.23	1.59
11.69	235.31	.785E+06	8530.2	4.38	1.53
12.34	235.96	.855E+06	9710.1	4.58	1.47

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1734)	2524.60	1.88	18.17	7.05	0.57	0.53
OUTFLOW: ID= 1 (3572)	2524.60	1.88	18.42	7.05	0.56	0.53

CALIB	NASHYD (0505)	ID= 1 DT= 5.0 min

Area (ha)= 48.82 Curve Number (CN)= 70.4
Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.56

Unit Hyd Qpeak (cms)= 0.326

```
     PEAK FLOW       (cms)=     0.082 (i)
     TIME TO PEAK    (hrs)=     9.250
     RUNOFF VOLUME    (mm)=     7.374
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.176

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0506)|   Area    (ha)=     18.03   Curve Number   (CN)= 63.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.33

     Unit Hyd Qpeak  (cms)=     0.231

     PEAK FLOW       (cms)=     0.038 (i)
     TIME TO PEAK    (hrs)=     7.750
     RUNOFF VOLUME    (mm)=     5.684
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.135

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0507)|   Area    (ha)=    110.45   Curve Number   (CN)= 71.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      4.00

     Unit Hyd Qpeak  (cms)=     0.471

     PEAK FLOW       (cms)=     0.131 (i)
     TIME TO PEAK    (hrs)=    11.083
     RUNOFF VOLUME    (mm)=     7.596
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.181

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN(  2401)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                116.75         243.27        0.0800
                117.71         243.20        0.0800      Main Channel
                126.76         242.41        0.0800      Main Channel
                136.76         241.77        0.0800      Main Channel
                146.77         241.28        0.0800      Main Channel
                148.78         241.30        0.0800      Main Channel
                156.77         241.24        0.0800      Main Channel
                166.78         241.46        0.0800      Main Channel
                176.78         241.84        0.0800      Main Channel
                179.85         242.01        0.0800      Main Channel
                186.79         242.27        0.0800      Main Channel
                190.20         242.37        0.0800      Main Channel
                200.56         242.59        0.0800      Main Channel
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                206.80         242.62        0.0800      Main Channel
                210.92         242.60        0.0800      Main Channel
                216.81         242.53        0.0800      Main Channel
                221.27         242.36        0.0800      Main Channel
                231.63         242.52        0.0800      Main Channel
                236.82         242.92    0.0800 /0.0800  Main Channel
                241.99         243.36        0.0800

           <---------------------- TRAVEL TIME TABLE ---------------------->
            DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
              (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
             0.11   241.35    .809E+03          0.2          0.19       70.34
             0.21   241.45    .246E+04          1.0          0.31       42.58
             0.32   241.56    .463E+04          2.4          0.41       31.92
             0.43   241.67    .721E+04          4.5          0.50       26.45
             0.53   241.77    .102E+05          7.4          0.57       23.01
             0.64   241.88    .136E+05         11.1          0.65       20.36
             0.74   241.98    .173E+05         15.8          0.72       18.30
             0.85   242.09    .213E+05         21.0          0.78       16.89
             0.96   242.20    .257E+05         27.2          0.83       15.78
             1.06   242.30    .305E+05         34.2          0.88       14.89
             1.17   242.41    .358E+05         40.1          0.88       14.89
             1.28   242.52    .424E+05         46.6          0.87       15.15
             1.38   242.62    .504E+05         53.2          0.83       15.77
             1.49   242.73    .597E+05         69.7          0.92       14.27
             1.60   242.84    .692E+05         88.1          1.00       13.11
             1.71   242.95    .790E+05        108.4          1.08       12.14
             1.81   243.05    .890E+05        131.4          1.16       11.29
             1.92   243.16    .992E+05        156.1          1.24       10.59
             2.03   243.27    .110E+06        182.9          1.32        9.98

                                          <---- hydrograph ---->   <-pipe /
channel->
                                   AREA     QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL
                                   (ha)     (cms)    (hrs)    (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  0507)     110.45      0.13    11.08    7.60       0.07
0.19
  OUTFLOW: ID= 1 (  2401)     110.45      0.13    12.58    7.60       0.07
0.19


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| ROUTE CHN(  3706)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                107.25         237.61        0.0800
                120.81         237.17        0.0800      Main Channel
                123.89         237.04        0.0800      Main Channel
                134.36         236.60        0.0800      Main Channel
                138.71         236.42        0.0800      Main Channel
                153.52         235.68        0.0800      Main Channel
                164.75         234.92        0.0800      Main Channel
                168.34         234.95        0.0800      Main Channel
                171.83         234.89        0.0800      Main Channel
                175.02         235.05        0.0800      Main Channel
                178.91         235.21        0.0800      Main Channel
                183.15         235.41        0.0800      Main Channel
                188.57         235.64        0.0800      Main Channel
                193.06         235.82        0.0800      Main Channel
                202.13         236.23        0.0800      Main Channel
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                207.22         236.48        0.0800      Main Channel
                215.68         236.81        0.0800      Main Channel
                229.24         237.11        0.0800      Main Channel
                242.41         237.35    0.0800 /0.0800  Main Channel
                263.84         237.61        0.0800

           <---------------------- TRAVEL TIME TABLE ---------------------->
            DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
              (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
             0.13   235.02    .665E+03          0.3          0.35       33.49
             0.27   235.16    .197E+04          1.6          0.56       20.84
             0.40   235.29    .377E+04          3.9          0.73       16.15
             0.54   235.43    .602E+04          7.4          0.87       13.55
             0.67   235.56    .875E+04         12.3          0.99       11.89
             0.81   235.70    .120E+05         18.6          1.09       10.71
             0.94   235.83    .157E+05         26.5          1.19        9.88
             1.07   235.96    .200E+05         36.6          1.28        9.13
             1.21   236.10    .249E+05         48.8          1.38        8.51
             1.34   236.23    .303E+05         63.3          1.47        7.98
             1.48   236.37    .362E+05         80.3          1.56        7.51
             1.61   236.50    .426E+05         99.6          1.64        7.13
             1.75   236.64    .496E+05        121.0          1.71        6.84
             1.88   236.77    .573E+05        145.6          1.79        6.56
             2.02   236.91    .657E+05        171.3          1.84        6.39
             2.15   237.04    .749E+05        200.1          1.88        6.24
             2.34   237.23    .895E+05        252.1          1.98        5.91
             2.53   237.42    .106E+06        318.4          2.11        5.56
             2.72   237.61    .126E+06        406.1          2.27        5.16

                                          <---- hydrograph ---->   <-pipe /
channel->
                                   AREA     QPEAK    TPEAK    R.V.    MAX DEPTH  MAX
VEL
                                   (ha)     (cms)    (hrs)    (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  2401)     110.45      0.13    12.58    7.60       0.05
0.35
  OUTFLOW: ID= 1 (  3706)     110.45      0.13    13.08    7.60       0.05
0.35


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| ADD HYD  (  1354)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3572):   2524.60      1.881       18.42        7.05
     + ID2= 2 (  3706):    110.45      0.128       13.08        7.60
       ==========================================================
       ID = 3 (  1354):   2635.05      1.983       18.17        7.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1354)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1354):   2635.05      1.983       18.17        7.07
     + ID2= 2 (  0505):     48.82      0.082        9.25        7.37
       ==========================================================
       ID = 1 (  1354):   2683.87      2.016       18.00        7.08
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1354)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1354):   2683.87      2.016       18.00        7.08
     + ID2= 2 (  0506):     18.03      0.038        7.75        5.68
       ==========================================================
       ID = 3 (  1354):   2701.90      2.020       18.00        7.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3573)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         236.54        0.0800
                64.89         235.94        0.0800      Main Channel
                85.19         235.31        0.0800      Main Channel
               115.52         232.07        0.0800      Main Channel
               125.57         230.43        0.0800      Main Channel
               135.64         229.55        0.0800      Main Channel
               155.93         226.81        0.0800      Main Channel
               196.51         224.77        0.0800      Main Channel
               206.57         223.62        0.0800      Main Channel
               216.70         224.59        0.0800      Main Channel
               236.97         224.46        0.0800      Main Channel
               258.58         225.24        0.0800      Main Channel
               280.26         224.70        0.0800      Main Channel
               291.03         225.46        0.0800      Main Channel
               302.99         226.71        0.0800      Main Channel
               344.80         236.40        0.0800      Main Channel
               420.68         236.60        0.0800      Main Channel
               467.63         236.55        0.0800      Main Channel
               517.63         237.56    0.0800 /0.0800  Main Channel
               547.63         237.89        0.0800

           <---------------------- TRAVEL TIME TABLE ---------------------->
            DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
              (m)      (m)     (cu.m.)         (cms)         (m/s)       (min)
             0.65   224.27    .433E+04          1.9          0.47       38.01
             1.30   224.92    .299E+05         15.4          0.55       32.41
             1.95   225.57    .962E+05         77.6          0.86       20.66
             2.60   226.22    .180E+06        198.8          1.18       15.11
             3.25   226.87    .278E+06        375.1          1.45       12.33
             3.90   227.52    .383E+06        620.6          1.73       10.29
             4.55   228.17    .494E+06        917.9          1.99        8.97
             5.20   228.82    .610E+06       1265.6          2.22        8.03
             5.84   229.46    .732E+06       1663.2          2.43        7.33
             6.49   230.11    .859E+06       2096.3          2.61        6.83
             7.14   230.76    .993E+06       2592.4          2.79        6.38
             7.79   231.41    .113E+07       3152.9          2.98        5.99
             8.44   232.06    .128E+07       3764.4          3.16        5.65
             9.09   232.71    .143E+07       4403.3          3.30        5.40
             9.74   233.36    .158E+07       5095.1          3.45        5.17
            10.39   234.01    .174E+07       5841.2          3.59        4.97
            11.04   234.66    .191E+07       6642.8          3.72        4.79
```

```
     11.69   235.31    .208E+07       7501.0          3.85       4.63
     12.34   235.96    .227E+07       8538.6          4.02       4.43

                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1354)    2701.90     2.02   18.00   7.07      0.66
0.47
  OUTFLOW: ID= 1 (  3573)    2701.90     2.01   18.58   7.07      0.65
0.47


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--------------------
| CALIB            |
| NASHYD   (  0504)|   Area    (ha)=     19.72   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.51

     Unit Hyd Qpeak  (cms)=     0.223

     PEAK FLOW       (cms)=     0.039 (i)
     TIME TO PEAK    (hrs)=     8.250
     RUNOFF VOLUME    (mm)=     5.849
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  7599)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3573):   2701.90      2.015       18.58        7.07
     + ID2= 2 (  0504):     19.72      0.039        8.25        5.85
       ==========================================================
       ID = 3 (  7599):   2721.62      2.019       18.50        7.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0503)|   Area    (ha)=     54.85   Curve Number   (CN)= 72.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.84

     Unit Hyd Qpeak  (cms)=     0.329

     PEAK FLOW       (cms)=     0.092 (i)
     TIME TO PEAK    (hrs)=     9.500
     RUNOFF VOLUME    (mm)=     8.066
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.192

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0509)|   Area    (ha)=    141.15   Curve Number   (CN)= 72.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.38

     Unit Hyd Qpeak  (cms)=     0.713

     PEAK FLOW       (cms)=     0.205 (i)
     TIME TO PEAK    (hrs)=    10.167
     RUNOFF VOLUME    (mm)=     8.066
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.192

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0510)|   Area    (ha)=     36.01
|ID= 1 DT= 5.0 min |   Total Imp(%)=     40.09   Dir. Conn.(%)=  40.09
--------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        14.44           21.57
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.26            2.26
     Length            (m)=       489.97           40.00
     Mannings n           =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32            6.12
               over (min)          10.00           35.00
     Storage Coeff.  (min)=        10.02 (ii)      30.82 (ii)
     Unit Hyd. Tpeak (min)=        10.00           35.00
     Unit Hyd. peak  (cms)=         0.11            0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.77            0.25          0.978 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58           5.25
     RUNOFF VOLUME    (mm)=        40.00           10.08          22.08
     TOTAL RAINFALL   (mm)=        42.00           42.00          42.00
     RUNOFF COEFFICIENT   =         0.95            0.24           0.53


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  72.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1952)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0509):    141.15      0.205       10.17        8.07
     + ID2= 2 (  0510):     36.01      0.978        5.25       22.08
       ==========================================================
       ID = 3 (  1952):    177.16      1.026        5.25       10.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3381)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                 145.02        231.02        0.0800
                 153.12        230.12        0.0800      Main Channel
                 155.82        229.45        0.0800      Main Channel
                 165.62        227.41        0.0800      Main Channel
                 172.48        226.72        0.0800      Main Channel
                 178.12        226.38        0.0800      Main Channel
                 189.15        226.35        0.0800      Main Channel
                 190.62        226.33        0.0800      Main Channel
                 195.02        226.39        0.0800      Main Channel
                 203.12        226.44        0.0800      Main Channel
                 205.82        226.80        0.0800      Main Channel
                 215.62        228.24        0.0800      Main Channel
                 222.48        229.67        0.0800      Main Channel
                 228.12        230.80    0.0800 /0.0800  Main Channel
                 239.15        231.00        0.0800

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
       (m)       (m)     (cu.m.)          (cms)         (m/s)      (min)
      0.24   226.57    .595E+04           2.0           0.39      49.05
      0.48   226.81    .148E+05           8.3           0.65      29.80
      0.72   227.05    .249E+05          18.3           0.85      22.70
      0.96   227.29    .361E+05          31.8           1.02      18.95
      1.20   227.53    .484E+05          49.1           1.18      16.42
      1.44   227.77    .615E+05          70.4           1.32      14.57
      1.68   228.01    .754E+05          95.1           1.46      13.21
      1.92   228.25    .900E+05         123.4           1.59      12.15
      2.16   228.49    .105E+06         156.0           1.71      11.26
      2.40   228.73    .121E+06         192.2           1.83      10.53
      2.64   228.97    .138E+06         231.9           1.95       9.92
      2.88   229.21    .155E+06         275.3           2.05       9.40
      3.12   229.45    .173E+06         322.3           2.16       8.95
      3.38   229.71    .193E+06         381.2           2.29       8.44
      3.64   229.97    .214E+06         444.5           2.41       8.02
      3.90   230.23    .235E+06         512.3           2.52       7.65
      4.15   230.48    .258E+06         584.9           2.63       7.34
      4.41   230.74    .281E+06         662.5           2.73       7.07
      4.67   231.00    .307E+06         752.0           2.84       6.80

                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1952)    177.16     1.03    5.25  10.91      0.12
0.39
  OUTFLOW: ID= 1 (  3381)    177.16     0.70    5.50  10.91      0.08
0.39


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--------------------
| ADD HYD  (  7600)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3381):    177.16      0.702        5.50       10.91
     + ID2= 2 (  0503):     54.85      0.092        9.50        8.07
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       ==========================================================
       ID = 3 (  7600):    232.01      0.735        5.50       10.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1374)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7599):   2721.62      2.019       18.50        7.06
     + ID2= 2 (  7600):    232.01      0.735        5.50       10.24
       ==========================================================
       ID = 3 (  1374):   2953.63      2.194       17.75        7.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-
--------------------
| CALIB            |
| NASHYD   (  0502)|   Area    (ha)=     17.61   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.16

     Unit Hyd Qpeak  (cms)=     0.260

     PEAK FLOW       (cms)=     0.042 (i)
     TIME TO PEAK    (hrs)=     7.417
     RUNOFF VOLUME    (mm)=     5.846
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1895)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1374):   2953.63      2.194       17.75        7.31
     + ID2= 2 (  0502):     17.61      0.042        7.42        5.85
       ==========================================================
       ID = 3 (  1895):   2971.24      2.197       17.75        7.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3575)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        236.54        0.0800
                 64.89        235.94        0.0800      Main Channel
                 85.19        235.31        0.0800      Main Channel
                115.52        232.07        0.0800      Main Channel
                125.57        230.43        0.0800      Main Channel
                135.64        229.55        0.0800      Main Channel
                155.93        226.81        0.0800      Main Channel
```

196.51	224.77	0.0800	Main Channel
206.57	223.62	0.0800	Main Channel
216.70	224.59	0.0800	Main Channel
236.97	224.46	0.0800	Main Channel
258.58	225.24	0.0800	Main Channel
280.26	224.70	0.0800	Main Channel
291.03	225.46	0.0800	Main Channel
302.99	226.71	0.0800	Main Channel
344.80	236.40	0.0800	Main Channel
420.68	236.60	0.0800	Main Channel
467.63	236.55	0.0800	Main Channel
517.63	237.56	0.0800 /0.0800	Main Channel
547.63	237.89	0.0800	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.65	224.27	.177E+04	2.2	0.55	13.20
1.30	224.92	.122E+05	18.1	0.65	11.26
1.95	225.57	.394E+05	91.5	1.02	7.18
2.60	226.22	.739E+05	234.6	1.39	5.25
3.25	226.87	.114E+06	442.5	1.71	4.28
3.90	227.52	.157E+06	732.1	2.04	3.57
4.55	228.17	.202E+06	1082.8	2.34	3.11
5.20	228.82	.250E+06	1493.0	2.62	2.79
5.84	229.46	.300E+06	1962.0	2.87	2.55
6.49	230.11	.352E+06	2472.9	3.08	2.37
7.14	230.76	.407E+06	3058.1	3.29	2.22
7.79	231.41	.464E+06	3719.3	3.51	2.08
8.44	232.06	.523E+06	4440.6	3.72	1.96
9.09	232.71	.584E+06	5194.3	3.90	1.87
9.74	233.36	.648E+06	6010.4	4.07	1.80
10.39	234.01	.714E+06	6890.5	4.23	1.73
11.04	234.66	.783E+06	7836.1	4.39	1.66
11.69	235.31	.854E+06	8848.5	4.54	1.61
12.34	235.96	.930E+06	10072.5	4.75	1.54

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1895)	2971.24	2.20	17.75	7.30	0.64	0.55
OUTFLOW: ID= 1 (3575)	2971.24	2.20	18.00	7.30	0.64	0.55

ROUTE CHN(3576)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	236.54	0.0800	
64.89	235.94	0.0800	Main Channel
85.19	235.31	0.0800	Main Channel
115.52	232.07	0.0800	Main Channel
125.57	230.43	0.0800	Main Channel
135.64	229.55	0.0800	Main Channel
155.93	226.81	0.0800	Main Channel
196.51	224.77	0.0800	Main Channel
206.57	223.62	0.0800	Main Channel

216.70	224.59	0.0800	Main Channel
236.97	224.46	0.0800	Main Channel
258.58	225.24	0.0800	Main Channel
280.26	224.70	0.0800	Main Channel
291.03	225.46	0.0800	Main Channel
302.99	226.71	0.0800	Main Channel
344.80	236.40	0.0800	Main Channel
420.68	236.60	0.0800	Main Channel
467.63	236.55	0.0800	Main Channel
517.63	237.56	0.0800 /0.0800	Main Channel
547.63	237.89	0.0800	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.65	224.27	.304E+04	1.6	0.40	30.99
1.30	224.92	.210E+05	13.2	0.47	26.43
1.95	225.57	.675E+05	66.7	0.74	16.85
2.60	226.22	.126E+06	171.0	1.01	12.32
3.25	226.87	.195E+06	322.6	1.24	10.05
3.90	227.52	.269E+06	533.8	1.49	8.39
4.55	228.17	.346E+06	789.5	1.71	7.31
5.20	228.82	.428E+06	1088.6	1.91	6.55
5.84	229.46	.513E+06	1430.6	2.09	5.98
6.49	230.11	.602E+06	1803.1	2.25	5.57
7.14	230.76	.696E+06	2229.8	2.40	5.21
7.79	231.41	.794E+06	2711.9	2.56	4.88
8.44	232.06	.895E+06	3237.9	2.71	4.61
9.09	232.71	.100E+07	3787.4	2.84	4.40
9.74	233.36	.111E+07	4382.4	2.97	4.22
10.39	234.01	.122E+07	5024.2	3.08	4.05
11.04	234.66	.134E+07	5713.7	3.20	3.91
11.69	235.31	.146E+07	6451.8	3.31	3.78
12.34	235.96	.159E+07	7344.3	3.46	3.61

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3575)	2971.24	2.20	18.00	7.30	0.68	0.41
OUTFLOW: ID= 1 (3576)	2971.24	2.19	18.50	7.30	0.68	0.41

ROUTE CHN(2991)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	217.43	0.0800	
18.81	217.75	0.0800	Main Channel
60.23	217.27	0.0800	Main Channel
101.59	218.27	0.0800	Main Channel
127.37	216.89	0.0800	Main Channel
153.15	211.41	0.0800	Main Channel
184.47	208.93	0.0800	Main Channel
194.67	209.09	0.0800	Main Channel
225.99	207.51	0.0800	Main Channel
267.51	206.46	0.0800	Main Channel
277.71	207.73	0.0800	Main Channel

308.88	210.19	0.0800	Main Channel
319.08	212.46	0.0800	Main Channel
339.77	215.33	0.0800	Main Channel
405.05	215.19	0.0800	Main Channel
424.52	217.04	0.0800	Main Channel
468.24	215.34	0.0800	Main Channel
500.61	216.46	0.0800	Main Channel
565.35	217.11	0.0800 /0.0800	Main Channel
634.65	217.91	0.0800	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.59	207.05	.921E+04	3.4	0.41	45.49
1.18	207.64	.367E+05	21.9	0.66	27.86
1.78	208.24	.778E+05	63.0	0.89	20.61
2.37	208.83	.132E+06	129.1	1.09	16.99
2.96	209.42	.203E+06	221.4	1.21	15.29
3.55	210.01	.287E+06	364.6	1.41	13.12
4.14	210.60	.380E+06	551.0	1.60	11.49
4.73	211.19	.480E+06	777.2	1.79	10.29
5.33	211.79	.586E+06	1051.4	1.99	9.28
5.92	212.38	.695E+06	1368.7	2.18	8.46
6.51	212.97	.809E+06	1715.1	2.35	7.86
7.10	213.56	.927E+06	2096.8	2.50	7.37
7.69	214.15	.105E+07	2515.3	2.65	6.95
8.28	214.74	.118E+07	2970.9	2.79	6.60
8.88	215.34	.131E+07	2893.9	2.44	7.57
9.47	215.93	.151E+07	3305.1	2.43	7.59
10.06	216.52	.172E+07	3785.0	2.43	7.59
10.65	217.11	.199E+07	4167.8	2.32	7.94
11.81	218.27	.270E+07	6011.1	2.47	7.48

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3576)	2971.24	2.19	18.50	7.30	0.38	0.41
OUTFLOW: ID= 1 (2991)	2971.24	2.18	19.25	7.30	0.38	0.41

CALIB	NASHYD (0491)	ID= 1 DT= 5.0 min	Area (ha)= 32.42	Ia (mm)= 10.00	U.H. Tp(hrs)= 2.36	Curve Number (CN)= 60.0	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.235

PEAK FLOW (cms)= 0.040 (i)
TIME TO PEAK (hrs)= 9.167
RUNOFF VOLUME (mm)= 5.083
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.121

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0490)	ID= 1 DT= 5.0 min	Area (ha)= 28.07	Total Imp(%)= 59.73	Dir. Conn.(%)= 54.25

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	16.77	11.30
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.05	2.05
Length	(m)=	432.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=	over (min)	19.32 10.00	9.23 30.00
Storage Coeff.	(min)=	9.57 (ii)	27.74 (ii)
Unit Hyd. Tpeak	(min)=	10.00	30.00
Unit Hyd. peak	(cms)=	0.11	0.04
			TOTALS
PEAK FLOW	(cms)=	0.82	0.20 0.998 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	40.00	13.07 27.68
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.31 0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4018)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.4700	1.0826
			0.2000	0.5487	0.6200	1.3347
			0.3100	0.7563	6.2000	1.4830

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0490)	28.070	0.998	5.25	27.68
OUTFLOW: ID= 1 (4018)	28.070	0.185	7.33	27.65

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.54
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.5078

CALIB	STANDHYD (0492)	ID= 1 DT= 5.0 min	Area (ha)= 34.89	Total Imp(%)= 58.66	Dir. Conn.(%)= 53.26

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	20.47	14.42
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.92	2.92
Length	(m)=	482.29	40.00

```
     Mannings n          =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.32           6.19
               over (min)         10.00          30.00
     Storage Coeff.  (min)=        9.19 (ii)     28.36 (ii)
     Unit Hyd. Tpeak (min)=       10.00          30.00
     Unit Hyd. peak  (cms)=        0.12           0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.00           0.17      1.145 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.50      5.25
     RUNOFF VOLUME    (mm)=       40.00           8.85     25.44
     TOTAL RAINFALL   (mm)=       42.00          42.00     42.00
     RUNOFF COEFFICIENT   =        0.95           0.21      0.61


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  64.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1063)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2991):   2971.24      2.183       19.25        7.30
     + ID2= 2 (  4018):     28.07      0.185        7.33       27.65
       ==========================================================
       ID = 3 (  1063):   2999.31      2.233       19.08        7.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1063)|
|   3 +  1 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1063):   2999.31      2.233       19.08        7.49
     + ID2= 2 (  0491):     32.42      0.040        9.17        5.08
       ==========================================================
       ID = 1 (  1063):   3031.73      2.245       19.00        7.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1063)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1063):   3031.73      2.245       19.00        7.46
     + ID2= 2 (  0492):     34.89      1.145        5.25       25.44
       ==========================================================
       ID = 3 (  1063):   3066.62      2.245       19.00        7.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2663)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         214.30        0.0800
                 25.98         214.38        0.0800      Main Channel
                 62.44         214.62        0.0800      Main Channel
                 93.23         213.62        0.0800      Main Channel
                133.65         213.23        0.0800      Main Channel
                144.09         212.74        0.0800      Main Channel
                154.89         208.98        0.0800      Main Channel
                165.51         202.57        0.0800      Main Channel
                176.29         201.23        0.0800      Main Channel
                186.74         202.67        0.0800      Main Channel
                204.07         203.06        0.0800      Main Channel
                229.84         203.00        0.0800      Main Channel
                240.33         203.63        0.0800      Main Channel
                274.68         207.81        0.0800      Main Channel
                290.52         208.81        0.0800      Main Channel
                293.68         209.22        0.0800      Main Channel
                321.74         209.98        0.0800      Main Channel
                347.33         210.23        0.0800      Main Channel
                460.84         210.24    0.0800 /0.0800  Main Channel
                474.90         210.05        0.0800

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)          (cms)         (m/s)       (min)
       0.69   201.92    .385E+04          1.6          0.42       41.20
       1.39   202.62    .154E+05         10.0          0.68       25.73
       2.08   203.31    .478E+05         29.3          0.64       27.21
       2.77   204.00    .103E+06         96.9          0.99       17.74
       3.47   204.70    .164E+06        198.4          1.27       13.78
       4.16   205.39    .230E+06        330.6          1.51       11.58
       4.85   206.08    .301E+06        493.0          1.72       10.16
       5.54   206.77    .376E+06        685.7          1.91        9.15
       6.24   207.47    .457E+06        909.2          2.09        8.38
       6.93   208.16    .543E+06       1149.2          2.22        7.88
       7.62   208.85    .638E+06       1413.3          2.32        7.52
       8.32   209.55    .741E+06       1679.0          2.38        7.35
       9.01   210.24    .866E+06       1362.0          1.65       10.60
       9.74   210.97    .111E+07       2041.0          1.92        9.10
      10.47   211.70    .136E+07       2832.1          2.18        8.03
      11.20   212.43    .162E+07       3727.4          2.42        7.23
      11.93   213.16    .187E+07       4656.0          2.61        6.70
      12.66   213.89    .215E+07       5356.3          2.61        6.70
      13.39   214.62    .247E+07       6443.7          2.73        6.40

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1063)    3066.62     2.25   19.00   7.67      0.75
0.44
  OUTFLOW: ID= 1 (  2663)    3066.62     2.24   19.58   7.67      0.75
0.44


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| CALIB            |
| STANDHYD (  0486)|   Area    (ha)=     33.96
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|ID= 1 DT= 5.0 min |   Total Imp(%)=     57.93   Dir. Conn.(%)=  52.28
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        19.67           14.29
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.58            2.58
     Length            (m)=       475.82          40.00
     Mannings n          =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=       19.32            7.34
               over (min)         10.00           30.00
     Storage Coeff.  (min)=        9.46 (ii)      28.04 (ii)
     Unit Hyd. Tpeak (min)=       10.00           30.00
     Unit Hyd. peak  (cms)=        0.12            0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.95            0.20      1.130 (iii)
     TIME TO PEAK    (hrs)=        5.25            5.50      5.25
     RUNOFF VOLUME    (mm)=       40.00           10.44     25.89
     TOTAL RAINFALL   (mm)=       42.00           42.00     42.00
     RUNOFF COEFFICIENT   =        0.95            0.25      0.62


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  69.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0489)|   Area    (ha)=     23.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=     57.44   Dir. Conn.(%)=  52.28
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        13.38            9.92
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.15            2.15
     Length            (m)=       394.12          40.00
     Mannings n          =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=       19.32            9.01
               over (min)         10.00           30.00
     Storage Coeff.  (min)=        8.92 (ii)      27.01 (ii)
     Unit Hyd. Tpeak (min)=       10.00           30.00
     Unit Hyd. peak  (cms)=        0.12            0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.65            0.18      0.811 (iii)
     TIME TO PEAK    (hrs)=        5.25            5.50      5.25
     RUNOFF VOLUME    (mm)=       40.00           12.92     27.08
     TOTAL RAINFALL   (mm)=       42.00           42.00     42.00
     RUNOFF COEFFICIENT   =        0.95            0.31      0.64

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4019)|
| IN= 2---> OUT= 1 |
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| DT=  5.0 min     |        OUTFLOW       STORAGE   |    OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      0.4000
0.9538
                             0.1700        0.4965   |      0.5300
1.1759
                             0.2600        0.6794   |      5.3000
1.3066

                                AREA        QPEAK        TPEAK       R.V.
                                (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0489)     23.300        0.811         5.25      27.08
   OUTFLOW: ID= 1 (  4019)     23.300        0.143         7.33      27.04

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.69
                TIME SHIFT OF PEAK FLOW          (min)=125.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4190

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--------------------
| ADD HYD  (  2024)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2663):   3066.62      2.240       19.58        7.67
     + ID2= 2 (  4019):     23.30      0.143        7.33       27.04
       ==========================================================
       ID = 3 (  2024):   3089.92      2.280       19.33        7.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  2024)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  2024):   3089.92      2.280       19.33        7.82
     + ID2= 2 (  0486):     33.96      1.130        5.25       25.89
       ==========================================================
       ID = 1 (  2024):   3123.88      2.280       19.33        8.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3924)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         207.39        0.0800
                 26.54         207.57        0.0800      Main Channel
                 80.20         207.33        0.0800      Main Channel
                117.37         206.39        0.0800      Main Channel
                147.59         204.28        0.0800      Main Channel
                162.67         203.04        0.0800      Main Channel
                167.77         203.19        0.0800      Main Channel
                180.85         200.19        0.0800      Main Channel
                187.92         197.34        0.0800      Main Channel
                198.99         196.77        0.0800      Main Channel
                218.14         196.28        0.0800      Main Channel
```

228.20	196.90	0.0800	Main Channel	
258.72	197.12	0.0800	Main Channel	
283.90	197.32	0.0800	Main Channel	
303.68	199.72	0.0800	Main Channel	
315.88	202.57	0.0800	Main Channel	
327.57	204.18	0.0800	Main Channel	
362.57	206.25	0.0800	Main Channel	
388.77	206.58	0.0800 /0.0800	Main Channel	
436.85	207.47	0.0800		

<------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.57	196.85	.306E+04	5.1	0.57	9.95
1.14	197.42	.162E+05	37.7	0.79	7.16
1.72	198.00	.357E+05	135.1	1.29	4.41
2.29	198.57	.565E+05	278.4	1.68	3.38
2.86	199.14	.784E+05	463.4	2.02	2.82
3.43	199.71	.101E+06	688.3	2.31	2.46
4.01	200.29	.126E+06	959.7	2.60	2.18
4.58	200.86	.151E+06	1265.0	2.86	1.98
5.15	201.43	.177E+06	1607.8	3.10	1.83
5.72	202.00	.203E+06	1987.9	3.33	1.71
6.29	202.57	.231E+06	2405.2	3.54	1.60
6.87	203.15	.260E+06	2784.7	3.64	1.56
7.44	203.72	.292E+06	3207.3	3.74	1.52
8.01	204.29	.327E+06	3683.0	3.84	1.48
8.58	204.86	.364E+06	4143.8	3.88	1.46
9.16	205.44	.405E+06	4672.3	3.94	1.44
9.73	206.01	.449E+06	5270.7	4.00	1.42
10.30	206.58	.498E+06	5602.1	3.84	1.48
10.87	207.15	.557E+06	6370.2	3.89	1.46

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2024)	3123.88	2.28	19.33	8.01	0.25	0.57
OUTFLOW: ID= 1 (3924)	3123.88	2.28	19.50	8.01	0.25	0.57

CALIB					
STANDHYD (0488)	Area (ha)=	5.77			
ID= 1 DT= 5.0 min	Total Imp(%)=	61.77	Dir. Conn.(%)=	56.45	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.56	2.21
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.79	3.79
Length	(m)=	196.13	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.50
over (min)		5.00	20.00
Storage Coeff. (min)=		4.95 (ii)	19.89 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.22	0.06

				TOTALS
PEAK FLOW	(cms)=	0.17	0.05	0.219 (iii)

TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	13.09	28.28
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.31	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1765)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3924):	3123.88	2.280	19.50	8.01
	+ ID2= 2 (0488):	5.77	0.219	5.25	28.28
	ID = 3 (1765):	3129.65	2.280	19.50	8.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3615)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	208.19	0.0800	
18.06	207.72	0.0800	Main Channel
39.29	207.55	0.0800	Main Channel
124.53	205.01	0.0800	Main Channel
145.75	203.70	0.0800	Main Channel
156.52	203.18	0.0800	Main Channel
161.90	202.36	0.0800	Main Channel
167.00	202.12	0.0800	Main Channel
188.27	197.04	0.0800	Main Channel
199.06	195.33	0.0800	Main Channel
241.50	193.65	0.0800	Main Channel
251.95	193.09	0.0800	Main Channel
260.49	194.17	0.0800	Main Channel
284.05	196.04	0.0800	Main Channel
296.78	198.57	0.0800	Main Channel
305.32	200.82	0.0800	Main Channel
315.77	203.19	0.0800	Main Channel
342.36	204.33	0.0800	Main Channel
380.12	204.62	0.0800 /0.0800	Main Channel
409.01	205.39	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.64	193.73	.175E+04	3.1	0.56	9.50
1.28	194.37	.753E+04	20.3	0.86	6.18
1.92	195.01	.181E+05	64.0	1.13	4.73
2.56	195.65	.334E+05	149.7	1.43	3.72
3.20	196.29	.513E+05	283.5	1.76	3.02
3.84	196.93	.709E+05	461.9	2.08	2.56
4.48	197.57	.919E+05	683.4	2.37	2.24

5.12	198.21	.114E+06	944.7	2.64	2.01
5.77	198.86	.138E+06	1247.2	2.89	1.84
6.41	199.50	.162E+06	1591.5	3.13	1.70
7.05	200.14	.188E+06	1975.0	3.36	1.58
7.69	200.78	.214E+06	2397.7	3.57	1.49
8.33	201.42	.242E+06	2856.1	3.77	1.41
8.97	202.06	.271E+06	3354.6	3.96	1.34
9.61	202.70	.301E+06	3826.5	4.06	1.31
10.25	203.34	.333E+06	4312.5	4.13	1.29
10.89	203.98	.370E+06	4648.1	4.01	1.33
11.53	204.62	.414E+06	4721.6	3.64	1.46
12.30	205.39	.480E+06	5705.8	3.79	1.40

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1765)	3129.65	2.28	19.50	8.05	0.48	0.56
OUTFLOW: ID= 1 (3615)	3129.65	2.28	19.67	8.05	0.47	0.56

CALIB					
NASHYD (0487)	Area (ha)=	27.22	Curve Number (CN)=	64.0	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	2.87			

Unit Hyd Qpeak (cms)= 0.162

PEAK FLOW (cms)= 0.033 (i)
TIME TO PEAK (hrs)= 9.583
RUNOFF VOLUME (mm)= 5.853
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.139

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7597)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3615):	3129.65	2.279	19.67	8.05
	+ ID2= 2 (0487):	27.22	0.033	9.58	5.85
	ID = 3 (7597):	3156.87	2.292	19.58	8.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0485)	Area (ha)=	12.12	Curve Number (CN)=	67.2	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	2.47			

Unit Hyd Qpeak (cms)= 0.084

PEAK FLOW (cms)= 0.019 (i)
TIME TO PEAK (hrs)= 9.250
RUNOFF VOLUME (mm)= 6.562
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.156

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0494)	Area (ha)=	7.11	Curve Number (CN)=	60.8	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.11			

Unit Hyd Qpeak (cms)= 0.109

PEAK FLOW (cms)= 0.016 (i)
TIME TO PEAK (hrs)= 7.417
RUNOFF VOLUME (mm)= 5.221
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.124

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0501)	Area (ha)=	25.17	Curve Number (CN)=	70.4	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.42			

Unit Hyd Qpeak (cms)= 0.302

PEAK FLOW (cms)= 0.066 (i)
TIME TO PEAK (hrs)= 7.917
RUNOFF VOLUME (mm)= 7.369
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.175

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN (3002)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	225.97	0.0800	
8.77	225.98	0.0800	Main Channel
19.55	225.92	0.0800	Main Channel
51.88	225.32	0.0800	Main Channel
62.66	225.10	0.0800	Main Channel
69.91	224.82	0.0800	Main Channel
84.21	224.20	0.0800	Main Channel
105.77	222.36	0.0800	Main Channel
111.84	221.54	0.0800	Main Channel
116.55	220.94	0.0800	Main Channel
123.55	221.35	0.0800	Main Channel
138.10	222.95	0.0800	Main Channel
150.36	224.34	0.0800	Main Channel

159.65	225.31	0.0800		Main Channel
170.43	225.54	0.0800		Main Channel
191.99	225.91	0.0800		Main Channel
201.93	226.04	0.0800		Main Channel
224.32	226.39	0.0800		Main Channel
235.10	226.49	0.0800 /0.0800		Main Channel
237.53	226.47	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	221.22	.815E+03	0.3	0.30	47.10
0.55	221.49	.319E+04	1.9	0.50	28.43
0.83	221.77	.672E+04	5.3	0.67	21.27
1.11	222.05	.113E+05	10.8	0.81	17.56
1.38	222.32	.170E+05	18.7	0.94	15.20
1.66	222.60	.239E+05	28.9	1.03	13.79
1.94	222.88	.321E+05	42.4	1.13	12.64
2.21	223.15	.417E+05	59.6	1.22	11.66
2.49	223.43	.527E+05	81.0	1.31	10.84
2.77	223.71	.649E+05	106.8	1.40	10.14
3.04	223.98	.786E+05	137.3	1.49	9.54
3.32	224.26	.935E+05	171.8	1.57	9.07
3.60	224.54	.110E+06	208.3	1.61	8.84
3.87	224.81	.129E+06	251.7	1.66	8.57
4.15	225.09	.151E+06	301.5	1.71	8.33
4.43	225.37	.175E+06	343.9	1.68	8.48
4.70	225.64	.205E+06	384.7	1.60	8.88
4.98	225.92	.242E+06	445.2	1.57	9.07
5.55	226.49	.345E+06	672.9	1.67	8.55

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
<---- hydrograph ----> <-pipe / channel->						
INFLOW : ID= 2 (0501)	25.17	0.07	7.92	7.37	0.06	0.30
OUTFLOW: ID= 1 (3002)	25.17	0.06	8.83	7.37	0.06	0.30

CALIB	
STANDHYD (0493)	Area (ha)= 25.23
ID= 1 DT= 5.0 min	Total Imp(%)= 63.08 Dir. Conn.(%)= 57.35

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.92	9.31
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.19	2.19
Length	(m)=	410.12	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.60
over (min)		10.00	30.00
Storage Coeff. (min)=		9.09 (ii)	28.34 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.12	0.04

		TOTALS
PEAK FLOW	(cms)=	0.78 0.14 0.896 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	40.00 10.61 27.47

TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.25	0.65

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0495)	Area (ha)= 17.27
ID= 1 DT= 5.0 min	Total Imp(%)= 52.45 Dir. Conn.(%)= 46.55

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.06	8.21
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.84	2.84
Length	(m)=	339.31	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.47
over (min)		10.00	30.00
Storage Coeff. (min)=		7.50 (ii)	26.50 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.13	0.04

		TOTALS
PEAK FLOW	(cms)=	0.43 0.10 0.523 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	40.00 9.28 23.58
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.22 0.56

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 66.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1198)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3002):	25.17	0.063	8.83	7.37
	+ ID2= 2 (0493):	25.23	0.896	5.25	27.47
	ID = 3 (1198):	50.40	0.904	5.25	17.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1198)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (1198):	50.40	0.904	5.25	17.43
	+ ID2= 2 (0494):	7.11	0.016	7.42	5.22

ID = 1 (1198):	57.51	0.911	5.25	15.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1198)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1198):	57.51	0.911	5.25	15.92
	+ ID2= 2 (0495):	17.27	0.523	5.25	23.58
	ID = 3 (1198):	74.78	1.434	5.25	17.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2825)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
117.03	220.59	0.0800	
120.72	220.47	0.0800	Main Channel
158.43	219.76	0.0800	Main Channel
168.82	219.60	0.0800	Main Channel
186.12	219.45	0.0800	Main Channel
195.79	219.40	0.0800	Main Channel
198.84	219.19	0.0800	Main Channel
205.46	217.65	0.0800	Main Channel
208.85	217.04	0.0800	Main Channel
218.85	215.81	0.0800	Main Channel
228.86	215.09	0.0800	Main Channel
238.87	216.89	0.0800	Main Channel
248.87	218.18	0.0800	Main Channel
258.88	218.26	0.0800	Main Channel
268.88	218.86	0.0800	Main Channel
278.89	219.36	0.0800	Main Channel
300.69	219.60	0.0800	Main Channel
311.91	219.83	0.0800	Main Channel
334.36	220.13	0.0800 /0.0800	Main Channel
356.81	220.47	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	215.36	.468E+03	0.2	0.30	35.13
0.55	215.64	.187E+04	1.4	0.48	22.13
0.82	215.91	.419E+04	4.2	0.64	16.52
1.10	216.19	.722E+04	9.1	0.80	13.30
1.37	216.46	.109E+05	16.0	0.93	11.38
1.65	216.74	.153E+05	25.2	1.05	10.07
1.92	217.01	.203E+05	36.9	1.16	9.15
2.20	217.29	.260E+05	51.7	1.27	8.37
2.47	217.56	.323E+05	69.6	1.37	7.74
2.75	217.84	.393E+05	91.1	1.48	7.20
3.02	218.11	.469E+05	116.0	1.58	6.74
3.30	218.39	.561E+05	130.8	1.49	7.15
3.57	218.66	.669E+05	164.7	1.57	6.77
3.85	218.94	.786E+05	203.5	1.65	6.44
4.12	219.21	.916E+05	246.4	1.71	6.19

4.40	219.49	.107E+06	254.5	1.52	6.99
4.67	219.76	.130E+06	284.1	1.39	7.62
5.02	220.11	.169E+06	389.5	1.47	7.21
5.38	220.47	.217E+06	561.7	1.65	6.44

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
<---- hydrograph ----> <-pipe / channel->						
INFLOW : ID= 2 (1198)	74.78	1.43	5.25	17.69	0.55	0.48
OUTFLOW: ID= 1 (2825)	74.78	1.32	5.25	17.69	0.53	0.46

ROUTE CHN(2620)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
101.47	213.12	0.0800	
111.75	212.58	0.0800	Main Channel
117.57	212.47	0.0800	Main Channel
122.04	212.31	0.0800	Main Channel
136.15	212.58	0.0800	Main Channel
142.61	212.56	0.0800	Main Channel
144.65	212.45	0.0800	Main Channel
152.89	211.69	0.0800	Main Channel
158.19	211.11	0.0800	Main Channel
163.18	210.50	0.0800	Main Channel
171.74	211.94	0.0800	Main Channel
173.46	212.20	0.0800	Main Channel
178.91	212.38	0.0800	Main Channel
183.75	212.50	0.0800	Main Channel
194.03	212.57	0.0800	Main Channel
198.82	212.57	0.0800	Main Channel
204.32	212.54	0.0800	Main Channel
214.60	212.69	0.0800	Main Channel
235.17	213.09	0.0800 /0.0800	Main Channel
245.46	213.17	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	210.63	.863E+02	0.0	0.17	68.85
0.26	210.76	.345E+03	0.1	0.27	43.37
0.39	210.89	.776E+03	0.4	0.36	33.10
0.53	211.03	.138E+04	0.8	0.43	27.32
0.66	211.16	.216E+04	1.5	0.50	23.62
0.79	211.29	.312E+04	2.5	0.56	21.01
0.92	211.42	.426E+04	3.7	0.62	19.00
1.05	211.55	.559E+04	5.4	0.68	17.39
1.18	211.68	.710E+04	7.4	0.73	16.08
1.31	211.81	.880E+04	9.7	0.78	15.09
1.44	211.94	.107E+05	12.6	0.83	14.22
1.58	212.08	.128E+05	15.9	0.88	13.48
1.71	212.21	.152E+05	19.6	0.92	12.87
1.84	212.34	.179E+05	21.8	0.86	13.66
1.97	212.47	.218E+05	23.3	0.75	15.64
2.13	212.63	.306E+05	26.9	0.62	18.97
2.30	212.80	.428E+05	43.4	0.72	16.45

2.46	212.96	.564E+05	64.3	0.81	14.62
2.62	213.12	.714E+05	90.3	0.90	13.17

channel->		<---- hydrograph ---->				<-pipe /
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2825)	74.78	1.32	5.25	17.69	0.62	0.48
OUTFLOW: ID= 1 (2620)	74.78	1.11	5.42	17.69	0.58	0.46

ROUTE CHN(2381)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
47.37	209.42	0.0800	
57.74	209.09	0.0800	Main Channel
67.58	208.22	0.0800	Main Channel
69.57	208.13	0.0800	Main Channel
77.69	207.68	0.0800	Main Channel
81.40	207.62	0.0800	Main Channel
87.79	207.37	0.0800	Main Channel
93.23	206.58	0.0800	Main Channel
97.90	206.06	0.0800	Main Channel
105.06	206.00	0.0800	Main Channel
108.00	206.05	0.0800	Main Channel
116.88	207.00	0.0800	Main Channel
118.11	207.16	0.0800	Main Channel
128.21	208.05	0.0800	Main Channel
128.71	208.07	0.0800	Main Channel
138.32	208.63	0.0800	Main Channel
140.54	208.69	0.0800	Main Channel
148.42	208.92	0.0800	Main Channel
152.37	209.10	0.0800 /0.0800	Main Channel
158.53	209.37	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	206.17	.115E+04	0.6	0.36	34.37
0.34	206.34	.287E+04	2.2	0.56	21.68
0.51	206.51	.500E+04	4.9	0.72	16.98
0.68	206.68	.750E+04	8.8	0.86	14.28
0.85	206.85	.104E+05	13.8	0.98	12.49
1.02	207.02	.136E+05	20.2	1.09	11.22
1.20	207.20	.171E+05	27.9	1.20	10.23
1.37	207.37	.210E+05	36.7	1.28	9.54
1.54	207.54	.255E+05	45.1	1.30	9.42
1.71	207.71	.308E+05	54.5	1.30	9.43
1.88	207.88	.371E+05	69.2	1.37	8.92
2.05	208.05	.439E+05	86.4	1.45	8.47
2.22	208.22	.515E+05	104.9	1.50	8.18
2.39	208.39	.598E+05	130.1	1.60	7.66
2.58	208.58	.698E+05	161.9	1.70	7.19
2.77	208.77	.808E+05	193.6	1.76	6.95
2.97	208.97	.929E+05	230.0	1.82	6.73
3.16	209.16	.106E+06	277.1	1.92	6.38
3.35	209.35	.121E+06	335.9	2.04	5.99

		<---- hydrograph ---->				<-pipe /
channel->						
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2620)	74.78	1.11	5.42	17.69	0.23	0.41
OUTFLOW: ID= 1 (2381)	74.78	0.91	5.83	17.69	0.21	0.39

CALIB	
STANDHYD (0484)	Area (ha)= 26.39
ID= 1 DT= 5.0 min	Total Imp(%)= 60.14 Dir. Conn.(%)= 53.92

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	15.87	10.52	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.71	2.71	
Length	(m)=	419.44	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	6.82	
over (min)		10.00	30.00	
Storage Coeff. (min)=		8.64 (ii)	27.50 (ii)	
Unit Hyd. Tpeak (min)=		10.00	30.00	
Unit Hyd. peak (cms)=		0.12	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.76	0.14	0.886 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	9.53	25.96
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.23	0.62

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 66.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1727)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2381):	74.78	0.912	5.83	17.69
+ ID2= 2 (0484):	26.39	0.886	5.25	25.96
ID = 3 (1727):	101.17	1.498	5.25	19.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3562)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
55.55	206.03	0.0800	
65.64	205.68	0.0800	Main Channel
67.20	205.44	0.0800	Main Channel
75.73	204.80	0.0800	Main Channel
78.86	204.02	0.0800	Main Channel
85.82	201.88	0.0800	Main Channel
90.51	201.25	0.0800	Main Channel
95.91	200.24	0.0800	Main Channel
102.17	199.62	0.0800	Main Channel
116.09	198.47	0.0800	Main Channel
136.27	198.31	0.0800	Main Channel
137.13	198.59	0.0800	Main Channel
148.79	200.83	0.0800	Main Channel
156.45	202.48	0.0800	Main Channel
160.45	203.01	0.0800	Main Channel
166.54	204.07	0.0800	Main Channel
172.10	204.46	0.0800	Main Channel
176.63	204.92	0.0800	Main Channel
186.72	205.63	0.0800 /0.0800	Main Channel
196.81	205.81	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	198.69	.343E+04	4.1	0.64	13.83
0.75	199.06	.889E+04	17.2	1.03	8.60
1.13	199.44	.156E+05	38.8	1.32	6.71
1.50	199.81	.237E+05	70.0	1.57	5.64
1.88	200.19	.329E+05	111.2	1.80	4.93
2.25	200.56	.431E+05	165.1	2.04	4.35
2.63	200.94	.541E+05	229.9	2.26	3.92
3.00	201.31	.658E+05	305.3	2.46	3.59
3.38	201.69	.784E+05	389.6	2.64	3.36
3.75	202.06	.919E+05	488.7	2.82	3.14
4.13	202.44	.106E+06	602.5	3.02	2.93
4.50	202.81	.121E+06	722.6	3.18	2.79
4.88	203.19	.136E+06	856.4	3.34	2.65
5.25	203.56	.153E+06	1004.8	3.50	2.53
5.63	203.94	.170E+06	1165.7	3.65	2.42
6.00	204.31	.187E+06	1319.3	3.74	2.37
6.38	204.69	.206E+06	1488.0	3.83	2.31
6.75	205.06	.227E+06	1648.8	3.86	2.29
7.13	205.44	.249E+06	1812.9	3.87	2.29

channel->		<---- hydrograph ---->				<-pipe /
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1727)	101.17	1.50	5.25	19.85	0.14	0.64
OUTFLOW: ID= 1 (3562)	101.17	1.37	5.42	19.85	0.12	0.64

ADD HYD (7598)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3562):	101.17	1.369	5.42	19.85

ADD HYD (7598)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
+ ID2= 2 (0485):	12.12	0.019	9.25	6.56
ID = 3 (7598):	113.29	1.375	5.42	18.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1383)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7597):	3156.87	2.292	19.58	8.03
+ ID2= 2 (7598):	113.29	1.375	5.42	18.43
ID = 3 (1383):	3270.16	3.571	5.42	8.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0482)	Area (ha)=	11.92	Curve Number (CN)= 66.4
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	2.09	

Unit Hyd Qpeak (cms)= 0.097

PEAK FLOW	(cms)=	0.020 (i)
TIME TO PEAK	(hrs)=	8.750
RUNOFF VOLUME	(mm)=	6.373
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.152

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0496)	Area (ha)=	16.91	Curve Number (CN)= 67.2
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	2.31	

Unit Hyd Qpeak (cms)= 0.125

PEAK FLOW	(cms)=	0.027 (i)
TIME TO PEAK	(hrs)=	9.083
RUNOFF VOLUME	(mm)=	6.561
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.156

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0499)	Area (ha)=	52.08	Curve Number (CN)= 72.0
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	2.67	

Unit Hyd Qpeak (cms)= 0.333

```
     PEAK FLOW      (cms)=     0.090 (i)
     TIME TO PEAK   (hrs)=     9.333
     RUNOFF VOLUME   (mm)=     7.826
     TOTAL RAINFALL  (mm)=    42.000
     RUNOFF COEFFICIENT  =     0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0500)|   Area    (ha)=     42.74   Curve Number   (CN)= 72.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.71

     Unit Hyd Qpeak  (cms)=     0.269

     PEAK FLOW      (cms)=     0.075 (i)
     TIME TO PEAK   (hrs)=     9.417
     RUNOFF VOLUME   (mm)=     8.066
     TOTAL RAINFALL  (mm)=    42.000
     RUNOFF COEFFICIENT  =     0.192

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1375)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0499):     52.08      0.090        9.33        7.83
     + ID2= 2 (  0500):     42.74      0.075        9.42        8.07
       ========================================================
       ID = 3 (  1375):     94.82      0.165        9.42        7.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3079)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         232.56        0.0800
                 24.51         232.40        0.0800      Main Channel
                 32.78         232.30        0.0800      Main Channel
                 44.47         232.13        0.0800      Main Channel
                 57.59         232.05        0.0800      Main Channel
                 60.80         231.99        0.0800      Main Channel
                101.98         231.77        0.0800      Main Channel
                112.28         231.77        0.0800      Main Channel
                132.02         230.68        0.0800      Main Channel
                140.29         230.25        0.0800      Main Channel
                143.17         230.20        0.0800      Main Channel
                148.56         230.69        0.0800      Main Channel
                153.46         231.26        0.0800      Main Channel
                156.83         231.47        0.0800      Main Channel
                163.76         231.81        0.0800      Main Channel
                184.35         232.54        0.0800      Main Channel
                215.23         232.97        0.0800      Main Channel
                231.26         233.14        0.0800      Main Channel
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                239.53         233.15    0.0800 /0.0800  Main Channel
                246.32         233.12        0.0800

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
       0.15   230.35    .364E+03           0.2          0.27       38.16
       0.30   230.50    .119E+04           0.8          0.42       24.78
       0.45   230.65    .243E+04           2.1          0.54       19.31
       0.60   230.80    .409E+04           4.3          0.65       15.98
       0.75   230.95    .613E+04           7.4          0.76       13.82
       0.90   231.10    .855E+04          11.6          0.85       12.29
       1.05   231.25    .113E+05          17.0          0.94       11.14
       1.20   231.40    .146E+05          23.3          1.01       10.41
       1.35   231.55    .183E+05          31.0          1.07        9.81
       1.50   231.70    .225E+05          40.4          1.13        9.30
       1.65   231.85    .282E+05          42.4          0.95       11.06
       1.80   232.00    .370E+05          53.6          0.91       11.52
       1.95   232.15    .482E+05          73.7          0.96       10.89
       2.10   232.30    .611E+05         102.2          1.05        9.97
       2.27   232.47    .777E+05         146.8          1.19        8.82
       2.44   232.64    .972E+05         197.1          1.27        8.22
       2.61   232.81    .118E+06         254.8          1.35        7.73
       2.78   232.98    .141E+06         321.6          1.44        7.29
       2.95   233.15    .165E+06         385.3          1.47        7.12

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1375)      94.82     0.16    9.42   7.93      0.15
0.27
  OUTFLOW: ID= 1 (  3079)      94.82     0.16   10.08   7.93      0.15
0.27

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--------------------
| CALIB              |
| STANDHYD (  0498)|   Area    (ha)=     15.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=     63.00   Dir. Conn.(%)=  57.03
--------------------                  IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          9.57            5.62
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          2.33            2.33
     Length            (m)=        318.22           40.00
     Mannings n             =       0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32            8.11
               over (min)           10.00           30.00
     Storage Coeff.  (min)=          7.66 (ii)      26.07 (ii)
     Unit Hyd. Tpeak (min)=         10.00           30.00
     Unit Hyd. peak  (cms)=          0.13            0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=          0.46            0.09        0.545 (iii)
     TIME TO PEAK    (hrs)=          5.25            5.50         5.25
     RUNOFF VOLUME    (mm)=         40.00           11.26        27.65
     TOTAL RAINFALL   (mm)=         42.00           42.00        42.00
     RUNOFF COEFFICIENT   =          0.95            0.27         0.66

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```



```
          CN*  =  71.2    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1334)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3079):     94.82      0.163       10.08        7.93
     + ID2= 2 (  0498):     15.19      0.545        5.25       27.65
       ========================================================
       ID = 3 (  1334):    110.01      0.561        5.25       10.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3018)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                 111.46         228.63        0.0800
                 118.53         228.50        0.0800      Main Channel
                 132.68         228.22        0.0800      Main Channel
                 141.53         227.90        0.0800      Main Channel
                 146.83         227.65        0.0800      Main Channel
                 152.42         227.22        0.0800      Main Channel
                 160.98         225.32        0.0800      Main Channel
                 166.97         224.74        0.0800      Main Channel
                 169.08         224.90        0.0800      Main Channel
                 175.12         225.16        0.0800      Main Channel
                 203.42         226.72        0.0800      Main Channel
                 217.56         226.54        0.0800      Main Channel
                 231.71         226.74        0.0800      Main Channel
                 237.95         226.81        0.0800      Main Channel
                 255.58         227.22        0.0800      Main Channel
                 259.31         227.21        0.0800      Main Channel
                 269.27         227.32        0.0800      Main Channel
                 272.64         227.41        0.0800      Main Channel
                 284.38         227.98    0.0800 /0.0800  Main Channel
                 312.65         228.60        0.0800

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
       0.20   224.94    .309E+03           0.1          0.29       36.41
       0.41   225.15    .140E+04           1.0          0.45       23.19
       0.61   225.35    .331E+04           3.2          0.62       16.97
       0.81   225.55    .585E+04           7.2          0.78       13.53
       1.01   225.75    .898E+04          13.0          0.91       11.53
       1.22   225.96    .127E+05          20.8          1.03       10.17
       1.42   226.16    .170E+05          30.9          1.14        9.17
       1.62   226.36    .219E+05          43.4          1.25        8.40
       1.82   226.56    .274E+05          56.0          1.29        8.15
       2.03   226.77    .357E+05          62.9          1.11        9.47
       2.23   226.97    .467E+05          89.7          1.21        8.68
       2.43   227.17    .589E+05         123.7          1.32        7.94
       2.63   227.37    .732E+05         157.4          1.35        7.75
       2.84   227.58    .891E+05         209.9          1.48        7.08
       3.04   227.78    .106E+06         269.1          1.60        6.56
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       3.24   227.98    .124E+06         334.6          1.70        6.17
       3.45   228.19    .144E+06         415.2          1.82        5.77
       3.65   228.39    .166E+06         514.5          1.95        5.37
       3.86   228.60    .190E+06         627.5          2.08        5.06

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1334)     110.01     0.56    5.25  10.66      0.30
0.35
  OUTFLOW: ID= 1 (  3018)     110.01     0.47    5.33  10.66      0.28
0.33

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--------------------
| ADD HYD  (  1260)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3018):    110.01      0.469        5.33       10.66
     + ID2= 2 (  0496):     16.91      0.027        9.08        6.56
       ========================================================
       ID = 3 (  1260):    126.92      0.478        5.33       10.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  2913)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  56.74         222.08        0.0800
                  66.74         222.00        0.0800      Main Channel
                  70.18         221.92        0.0800      Main Channel
                  76.74         221.63        0.0800      Main Channel
                  80.18         221.63        0.0800      Main Channel
                  86.74         221.14        0.0800      Main Channel
                  90.18         220.80        0.0800      Main Channel
                  96.74         220.27        0.0800      Main Channel
                 100.18         219.93        0.0800      Main Channel
                 106.74         219.40        0.0800      Main Channel
                 110.18         219.06        0.0800      Main Channel
                 116.74         218.53        0.0800      Main Channel
                 126.74         217.97        0.0800      Main Channel
                 130.18         218.11        0.0800      Main Channel
                 140.18         219.91        0.0800      Main Channel
                 160.18         220.97        0.0800      Main Channel
                 166.74         221.35        0.0800      Main Channel
                 170.18         221.51        0.0800      Main Channel
                 176.74         221.89    0.0800 /0.0800  Main Channel
                 180.18         222.04        0.0800

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
       0.21   218.18    .614E+03           0.2          0.28       41.74
       0.41   218.38    .207E+04           1.3          0.46       25.88
       0.62   218.59    .423E+04           3.6          0.60       19.79
```

0.83	218.80	.698E+04	7.2	0.73	16.19
1.03	219.00	.103E+05	12.2	0.85	13.98
1.24	219.21	.141E+05	19.0	0.96	12.35
1.44	219.41	.184E+05	27.5	1.07	11.15
1.65	219.62	.232E+05	37.5	1.15	10.30
1.86	219.83	.285E+05	49.6	1.24	9.60
2.06	220.03	.345E+05	62.6	1.29	9.19
2.27	220.24	.413E+05	77.6	1.34	8.88
2.48	220.45	.491E+05	95.2	1.38	8.59
2.68	220.65	.577E+05	116.1	1.43	8.29
2.89	220.86	.673E+05	140.7	1.49	7.98
3.09	221.06	.778E+05	169.7	1.55	7.65
3.30	221.27	.892E+05	202.1	1.61	7.36
3.51	221.48	.102E+06	237.4	1.67	7.13
3.71	221.68	.115E+06	271.0	1.68	7.07
3.92	221.89	.130E+06	314.9	1.73	6.88

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1260)	126.92	0.48	5.33	10.11	0.25	0.31
OUTFLOW: ID= 1 (2913)	126.92	0.36	5.75	10.11	0.23	0.30

CALIB
STANDHYD (0497) | Area (ha)= 53.68
ID= 1 DT= 5.0 min | Total Imp(%)= 60.22 Dir. Conn.(%)= 55.39

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.33	21.35
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.89	1.89
Length	(m)=	598.22	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.99
over (min)		10.00	35.00
Storage Coeff. (min)=		11.92 (ii)	32.73 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.59	0.27	1.815 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	10.33	26.76
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.25	0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0826)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2913):	126.92	0.362	5.75	10.11
+ ID2= 2 (0497):	53.68	1.815	5.25	26.76
ID = 3 (0826):	180.60	2.104	5.25	15.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2914)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
56.74	222.08	0.0800	
66.74	222.00	0.0800	Main Channel
70.18	221.92	0.0800	Main Channel
76.74	221.63	0.0800	Main Channel
80.18	221.63	0.0800	Main Channel
86.74	221.14	0.0800	Main Channel
90.18	220.80	0.0800	Main Channel
96.74	220.27	0.0800	Main Channel
100.18	219.93	0.0800	Main Channel
106.74	219.40	0.0800	Main Channel
110.18	219.06	0.0800	Main Channel
116.74	218.53	0.0800	Main Channel
126.74	217.97	0.0800	Main Channel
130.18	218.11	0.0800	Main Channel
140.18	219.91	0.0800	Main Channel
160.18	220.97	0.0800	Main Channel
166.74	221.35	0.0800	Main Channel
170.18	221.51	0.0800	Main Channel
176.74	221.89	0.0800 /0.0800	Main Channel
180.18	222.04	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	218.18	.494E+03	0.2	0.26	36.08
0.41	218.38	.167E+04	1.2	0.43	22.37
0.62	218.59	.341E+04	3.3	0.56	17.10
0.83	218.80	.562E+04	6.7	0.68	14.00
1.03	219.00	.826E+04	11.4	0.79	12.08
1.24	219.21	.113E+05	17.7	0.90	10.68
1.44	219.41	.148E+05	25.6	0.99	9.64
1.65	219.62	.187E+05	34.9	1.07	8.90
1.86	219.83	.230E+05	46.2	1.15	8.29
2.06	220.03	.278E+05	58.3	1.20	7.94
2.27	220.24	.333E+05	72.2	1.25	7.68
2.48	220.45	.395E+05	88.6	1.29	7.42
2.68	220.65	.464E+05	108.1	1.33	7.16
2.89	220.86	.542E+05	131.0	1.39	6.89
3.09	221.06	.626E+05	158.0	1.45	6.61
3.30	221.27	.718E+05	188.1	1.50	6.36
3.51	221.48	.817E+05	221.0	1.55	6.16
3.71	221.68	.925E+05	252.3	1.56	6.11
3.92	221.89	.105E+06	293.2	1.61	5.94

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0826)	180.60	2.10	5.25	15.06	0.50	0.47
OUTFLOW: ID= 1 (2914)	180.60	1.91	5.33	15.06	0.48	0.46

ROUTE CHN(2537)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	210.84	0.0800	
16.14	210.69	0.0800	Main Channel
17.85	210.71	0.0800	Main Channel
31.04	210.53	0.0800	Main Channel
44.63	210.57	0.0800	Main Channel
56.47	210.55	0.0800	Main Channel
86.72	210.30	0.0800	Main Channel
106.89	209.58	0.0800	Main Channel
124.97	208.86	0.0800	Main Channel
133.89	208.53	0.0800	Main Channel
137.14	208.44	0.0800	Main Channel
142.82	208.49	0.0800	Main Channel
147.22	208.37	0.0800	Main Channel
151.75	208.61	0.0800	Main Channel
157.31	209.15	0.0800	Main Channel
160.67	209.42	0.0800	Main Channel
167.39	209.79	0.0800	Main Channel
169.60	210.07	0.0800	Main Channel
178.53	210.53	0.0800 /0.0800	Main Channel
187.45	211.08	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	208.50	.597E+03	0.1	0.17	84.61
0.25	208.62	.255E+04	1.0	0.36	40.50
0.38	208.75	.508E+04	2.9	0.49	29.39
0.51	208.88	.813E+04	5.6	0.60	24.07
0.64	209.01	.117E+05	9.4	0.70	20.74
0.76	209.13	.157E+05	14.2	0.78	18.46
0.89	209.26	.203E+05	20.1	0.86	16.81
1.02	209.39	.254E+05	27.2	0.93	15.52
1.14	209.51	.310E+05	35.5	0.99	14.55
1.27	209.64	.372E+05	45.1	1.05	13.77
1.40	209.77	.441E+05	56.2	1.10	13.09
1.52	209.89	.516E+05	69.6	1.17	12.37
1.65	210.02	.596E+05	84.8	1.23	11.72
1.78	210.15	.681E+05	101.0	1.29	11.24
1.91	210.28	.773E+05	118.8	1.33	10.84
2.03	210.40	.875E+05	130.9	1.30	11.14
2.16	210.53	.998E+05	146.1	1.27	11.38
2.32	210.69	.120E+06	164.2	1.19	12.17
2.47	210.84	.143E+06	215.4	1.30	11.09

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2914)	180.60	1.91	5.33	15.06	0.31	0.41
OUTFLOW: ID= 1 (2537)	180.60	1.54	5.58	15.06	0.29	0.39

CALIB
STANDHYD (0483) | Area (ha)= 24.28
ID= 1 DT= 5.0 min | Total Imp(%)= 58.66 Dir. Conn.(%)= 53.43

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.24	10.04
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.71	2.71
Length	(m)=	402.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.06
over (min)		10.00	30.00
Storage Coeff. (min)=		8.43 (ii)	27.04 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.12	0.04

		TOTALS
PEAK FLOW	(cms)=	0.70	0.14	0.818 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.09	26.07
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.24	0.62

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 68.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1960)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2537):	180.60	1.543	5.58	15.06
+ ID2= 2 (0483):	24.28	0.818	5.25	26.07
ID = 3 (1960):	204.88	2.153	5.33	16.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3841)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
53.41	207.15	0.0800	
63.62	206.96	0.0800	Main Channel
69.16	207.01	0.0800	Main Channel
73.84	206.94	0.0800	Main Channel
94.94	205.70	0.0800	Main Channel

104.48	205.30	0.0800		Main Channel
107.83	204.61	0.0800		Main Channel
120.72	202.39	0.0800		Main Channel
124.90	201.57	0.0800		Main Channel
135.11	200.18	0.0800		Main Channel
140.88	200.22	0.0800		Main Channel
145.33	200.35	0.0800		Main Channel
155.54	201.32	0.0800		Main Channel
159.38	202.09	0.0800		Main Channel
165.75	203.11	0.0800		Main Channel
172.27	204.33	0.0800		Main Channel
175.97	205.18	0.0800		Main Channel
186.18	206.02	0.0800		Main Channel
190.09	206.72	0.0800	/0.0800	Main Channel
196.39	207.76	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	200.54	.309E+04	2.3	0.59	22.72
0.73	200.91	.844E+04	9.5	0.91	14.81
1.09	201.27	.157E+05	22.4	1.16	11.68
1.45	201.63	.246E+05	42.8	1.41	9.59
1.82	202.00	.348E+05	70.7	1.65	8.19
2.18	202.36	.460E+05	105.1	1.85	7.29
2.54	202.72	.585E+05	146.3	2.03	6.66
2.91	203.09	.722E+05	195.4	2.19	6.16
3.27	203.45	.872E+05	253.7	2.36	5.73
3.63	203.81	.103E+06	320.7	2.51	5.37
4.00	204.18	.121E+06	396.8	2.66	5.07
4.36	204.54	.139E+06	483.4	2.81	4.81
4.72	204.90	.159E+06	581.6	2.96	4.56
5.09	205.27	.180E+06	686.0	3.09	4.36
5.45	205.63	.203E+06	755.4	3.02	4.47
5.81	205.99	.229E+06	855.8	3.02	4.47
6.18	206.36	.259E+06	990.3	3.10	4.36
6.54	206.72	.291E+06	1142.9	3.18	4.24
6.90	207.08	.326E+06	1312.6	3.26	4.14

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1960)	204.88	2.15	5.33	16.37	0.35	0.59
OUTFLOW: ID= 1 (3841)	204.88	1.86	5.75	16.37	0.30	0.59

ADD HYD (7596)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (3841):	204.88	1.862	5.75	16.37
+ ID2= 2 (0482):	11.92	0.020	8.75	6.37
ID = 3 (7596):	216.80	1.872	5.75	15.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-

ADD HYD (1395)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (1383):	3270.16	3.571	5.42	8.39
+ ID2= 2 (7596):	216.80	1.872	5.75	15.82
ID = 3 (1395):	3486.96	5.368	5.50	8.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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ADD HYD (1652)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (1067):	1651.88	4.383	5.42	9.12
+ ID2= 2 (1395):	3486.96	5.368	5.50	8.85
ID = 3 (1652):	5138.84	9.736	5.50	8.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-

ROUTE CHN(3565)	
IN= 2---> OUT= 1	Routing time step (min)= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	203.55	0.0800	
12.82	203.14	0.0800	Main Channel
61.38	201.71	0.0800	Main Channel
77.79	199.95	0.0800	Main Channel
90.61	199.15	0.0800	Main Channel
103.44	196.98	0.0800	Main Channel
129.07	195.21	0.0800	Main Channel
154.69	192.91	0.0800	Main Channel
158.29	192.26	0.0800	Main Channel
167.51	191.18	0.0800	Main Channel
244.22	190.11	0.0800	Main Channel
254.85	190.13	0.0800	Main Channel
269.99	191.52	0.0800	Main Channel
287.80	192.02	0.0800	Main Channel
295.61	193.63	0.0800	Main Channel
303.42	197.15	0.0800	Main Channel
321.24	203.20	0.0800	Main Channel
359.68	203.70	0.0800	Main Channel
397.75	203.21	0.0800	/0.0800 Main Channel
413.41	203.11	0.0800	

<---------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.68	190.79	.131E+05	14.8	0.56	14.83
1.36	191.47	.442E+05	82.8	0.94	8.90
2.05	192.16	.846E+05	211.7	1.25	6.66
2.73	192.84	.130E+06	417.9	1.61	5.19
3.41	193.52	.179E+06	674.0	1.89	4.42
4.09	194.20	.231E+06	989.5	2.15	3.88
4.78	194.89	.286E+06	1361.1	2.39	3.50

5.46	195.57	.344E+06	1781.1	2.59	3.22
6.14	196.25	.406E+06	2251.9	2.78	3.01
6.82	196.93	.472E+06	2782.0	2.95	2.83
7.51	197.62	.541E+06	3419.9	3.17	2.64
8.19	198.30	.613E+06	4119.4	3.37	2.48
8.87	198.98	.686E+06	4878.1	3.56	2.34
9.55	199.66	.762E+06	5618.8	3.70	2.26
10.24	200.35	.842E+06	6444.0	3.84	2.18
10.92	201.03	.925E+06	7365.5	3.99	2.09
11.60	201.71	.101E+07	8351.7	4.14	2.02
12.28	202.39	.110E+07	9545.8	4.34	1.92
13.28	203.39	.125E+07	10727.9	4.29	1.95

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1652)	5138.84	9.74	5.50	8.94	0.45	0.56
OUTFLOW: ID= 1 (3565)	5138.84	9.31	5.83	8.94	0.43	0.56

-

CALIB NASHYD (0518) ID= 1 DT= 5.0 min	Area (ha)= 16.84	Curve Number (CN)= 64.0
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.09	

Unit Hyd Qpeak (cms)=	0.264	
PEAK FLOW (cms)=	0.042	(i)
TIME TO PEAK (hrs)=	7.333	
RUNOFF VOLUME (mm)=	5.845	
TOTAL RAINFALL (mm)=	42.000	
RUNOFF COEFFICIENT =	0.139	

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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CALIB STANDHYD (0517) ID= 1 DT= 5.0 min	Area (ha)= 15.44	Total Imp(%)= 53.10	Dir. Conn.(%)= 48.35

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.20	7.24
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.63	2.63
Length	(m)=	320.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.23
over (min)		5.00	30.00
Storage Coeff. (min)=		7.43 (ii)	25.07 (ii)
Unit Hyd. Tpeak (min)=		5.00	30.00
Unit Hyd. peak (cms)=		0.17	0.04

		TOTALS
PEAK FLOW	(cms)=	0.40	0.12	0.508 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	12.01	25.54

TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.29	0.61

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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CALIB STANDHYD (0519) ID= 1 DT= 5.0 min	Area (ha)= 26.93	Total Imp(%)= 51.30	Dir. Conn.(%)= 47.05

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	13.82	13.11
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.75	1.75
Length	(m)=	423.71	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.59
over (min)		10.00	35.00
Storage Coeff. (min)=		9.91 (ii)	31.72 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	0.68	0.16	0.812 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	10.03	24.13
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.24	0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-

ADD HYD (1473)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (3565):	5138.84	9.309	5.83	8.94
+ ID2= 2 (0517):	15.44	0.508	5.25	25.54
ID = 3 (1473):	5154.28	9.517	5.75	8.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-

ADD HYD (1473)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 (1473):	5154.28	9.517	5.75	8.99
+ ID2= 2 (0518):	16.84	0.042	7.33	5.84

ID = 1 (1473):	5171.12	9.547	5.83	8.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1473) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1473):	5171.12	9.547	5.83	8.98
+ ID2= 2 (0519):	26.93	0.812	5.25	24.13
ID = 3 (1473):	5198.05	9.923	5.75	9.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3218) \| IN= 2---> OUT= 1 \| Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------> Distance	Elevation	Manning	
0.00	200.61	0.0800	
44.47	199.71	0.0800	Main Channel
77.61	198.72	0.0800	Main Channel
81.22	198.20	0.0800	Main Channel
88.83	196.56	0.0800	Main Channel
111.23	187.32	0.0800	Main Channel
122.41	186.92	0.0800	Main Channel
133.19	186.78	0.0800	Main Channel
166.80	186.91	0.0800	Main Channel
188.76	186.47	0.0800	Main Channel
196.82	185.87	0.0800	Main Channel
211.16	185.62	0.0800	Main Channel
222.34	186.99	0.0800	Main Channel
233.29	187.58	0.0800	Main Channel
278.20	191.93	0.0800	Main Channel
300.32	197.63	0.0800	Main Channel
313.73	198.85	0.0800	Main Channel
330.29	199.23	0.0800	Main Channel
367.08	199.82	0.0800 /0.0800	Main Channel
436.98	199.52	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.73	186.35	.111E+05	4.8	0.39	38.72
1.46	187.08	.484E+05	22.3	0.41	36.20
2.18	187.80	.126E+06	97.4	0.69	21.49
2.91	188.53	.210E+06	219.4	0.93	15.99
3.64	189.26	.301E+06	381.6	1.13	13.16
4.37	189.99	.398E+06	582.3	1.31	11.40
5.09	190.71	.501E+06	821.1	1.47	10.18
5.82	191.44	.610E+06	1098.0	1.61	9.27
6.55	192.17	.725E+06	1420.7	1.75	8.51
7.28	192.90	.844E+06	1796.9	1.91	7.83
8.01	193.63	.966E+06	2210.8	2.05	7.28
8.73	194.35	.109E+07	2661.7	2.19	6.83
9.46	195.08	.122E+07	3149.3	2.32	6.45
10.19	195.81	.135E+07	3673.2	2.44	6.12
10.92	196.54	.148E+07	4233.4	2.56	5.84

11.64	197.26	.162E+07	4809.8	2.66	5.61
12.37	197.99	.176E+07	5383.7	2.74	5.45
13.10	198.72	.191E+07	5942.5	2.79	5.36
13.90	199.52	.210E+07	6281.4	2.68	5.57

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1473)	5198.05	9.92	5.75	9.06	0.94	0.39
OUTFLOW: ID= 1 (3218)	5198.05	8.80	6.42	9.06	0.89	0.39

CALIB \| STANDHYD (0514) \| ID= 1 DT= 5.0 min \| Area (ha)= 24.00 Total Imp(%)= 53.59 Dir. Conn.(%)= 48.44

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	12.86	11.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.21	2.21
Length	(m)=	400.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.06
over (min)		10.00	30.00
Storage Coeff. (min)=		8.93 (ii)	28.70 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.12	0.04

		TOTALS
PEAK FLOW	(cms)=	0.755 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	24.65
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.59

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2093) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3218):	5198.05	8.800	6.42	9.06
+ ID2= 2 (0514):	24.00	0.755	5.25	24.65
ID = 3 (2093):	5222.05	9.026	6.33	9.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3067) \| IN= 2---> OUT= 1 \| Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------> Distance	Elevation	Manning	
0.00	196.53	0.0800	
50.12	195.99	0.0800	Main Channel
70.18	195.24	0.0800	Main Channel
90.18	192.48	0.0800	Main Channel
104.26	191.58	0.0800	Main Channel
120.26	190.41	0.0800	Main Channel
135.36	189.40	0.0800	Main Channel
140.36	188.16	0.0800	Main Channel
145.36	185.88	0.0800	Main Channel
150.36	184.44	0.0800	Main Channel
170.44	183.72	0.0800	Main Channel
210.75	183.55	0.0800	Main Channel
220.75	182.53	0.0800	Main Channel
240.81	183.57	0.0800	Main Channel
260.81	183.64	0.0800	Main Channel
320.91	183.66	0.0800	Main Channel
341.15	193.01	0.0800	Main Channel
361.21	190.82	0.0800	Main Channel
371.21	190.56	0.0800 /0.0800	Main Channel
391.29	192.86	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	183.07	.253E+04	1.2	0.29	34.84
1.07	183.60	.104E+05	5.8	0.34	29.91
1.61	184.14	.578E+05	46.6	0.49	20.67
2.14	184.67	.113E+06	136.5	0.73	13.79
2.68	185.21	.170E+06	265.9	0.95	10.64
3.21	185.74	.228E+06	428.1	1.14	8.86
3.75	186.28	.286E+06	621.3	1.32	7.68
4.28	186.81	.346E+06	843.0	1.48	6.83
4.82	187.35	.406E+06	1091.7	1.63	6.20
5.35	187.88	.467E+06	1366.1	1.77	5.70
5.89	188.42	.529E+06	1662.9	1.91	5.30
6.42	188.95	.591E+06	1981.2	2.03	4.98
6.96	189.49	.655E+06	2315.8	2.14	4.72
7.49	190.02	.722E+06	2638.3	2.22	4.56
8.03	190.56	.791E+06	2987.9	2.29	4.41
8.61	191.14	.872E+06	3294.2	2.29	4.41
9.18	191.71	.961E+06	3706.8	2.34	4.32
9.76	192.29	.106E+07	4152.8	2.38	4.24
10.33	192.86	.116E+07	4675.0	2.45	4.13

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2093)	5222.05	9.03	6.33	9.13	1.11	0.35
OUTFLOW: ID= 1 (3067)	5222.05	8.58	6.92	9.13	1.11	0.34

CALIB \|

STANDHYD (0513) \| ID= 1 DT= 5.0 min \| Area (ha)= 69.23 Total Imp(%)= 52.94 Dir. Conn.(%)= 44.92

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	36.65	32.58
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.16	2.16
Length	(m)=	679.36	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.73
over (min)		10.00	30.00
Storage Coeff. (min)=		12.36 (ii)	29.87 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.10	0.04

		TOTALS
PEAK FLOW	(cms)=	2.198 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	25.35
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.60

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES: CN* = 76.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1257) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3067):	5222.05	8.575	6.92	9.13
+ ID2= 2 (0513):	69.23	2.198	5.25	25.35
ID = 3 (1257):	5291.28	9.092	6.83	9.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2910) \| IN= 2---> OUT= 1 \| Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------> Distance	Elevation	Manning	
0.00	193.49	0.0800	
27.00	192.77	0.0800	Main Channel
47.08	192.50	0.0800	Main Channel
77.08	190.55	0.0800	Main Channel
94.15	188.51	0.0800	Main Channel
124.15	183.95	0.0800	Main Channel
147.39	182.38	0.0800	Main Channel
167.39	181.89	0.0800	Main Channel
197.39	181.17	0.0800	Main Channel
207.45	181.19	0.0800	Main Channel
217.45	180.26	0.0800	Main Channel
257.45	180.51	0.0800	Main Channel
277.50	180.47	0.0800	Main Channel
282.50	180.02	0.0800	Main Channel
317.50	180.87	0.0800	Main Channel

318.50	181.10	0.0800	Main Channel
337.55	191.26	0.0800	Main Channel
357.55	192.13	0.0800	Main Channel
407.61	192.08	0.0800 /0.0800	Main Channel
410.61	191.88	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.60	180.62	.214E+05	6.5	0.29	55.06
1.21	181.23	.832E+05	51.7	0.60	26.82
1.81	181.83	.163E+06	138.8	0.82	19.52
2.41	182.43	.257E+06	269.3	1.01	15.91
3.02	183.04	.361E+06	456.9	1.22	13.17
3.62	183.64	.471E+06	686.5	1.40	11.44
4.22	184.24	.587E+06	963.6	1.58	10.15
4.82	184.84	.705E+06	1288.0	1.76	9.13
5.43	185.45	.827E+06	1651.6	1.92	8.35
6.03	186.05	.952E+06	2053.5	2.08	7.73
6.63	186.65	.108E+07	2492.7	2.22	7.22
7.24	187.26	.121E+07	2969.0	2.36	6.79
7.84	187.86	.134E+07	3481.8	2.49	6.43
8.44	188.46	.148E+07	4030.9	2.62	6.12
9.05	189.07	.162E+07	4605.1	2.74	5.86
9.65	189.67	.176E+07	5214.7	2.85	5.64
10.25	190.27	.191E+07	5860.9	2.95	5.43
10.85	190.87	.206E+07	6508.8	3.04	5.28
11.46	191.48	.222E+07	7092.3	3.08	5.21

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1257)	5291.28	9.09	6.83	9.34	0.64	0.30
OUTFLOW: ID= 1 (2910)	5291.28	8.23	7.67	9.34	0.63	0.30

ROUTE CHN(2479)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	189.96	0.0800	
13.10	189.21	0.0800	Main Channel
63.25	185.50	0.0800	Main Channel
93.37	187.04	0.0800	Main Channel
131.49	179.02	0.0800	Main Channel
133.49	178.71	0.0800	Main Channel
169.72	177.68	0.0800	Main Channel
213.94	177.49	0.0800	Main Channel
256.10	176.72	0.0800	Main Channel
264.16	176.42	0.0800	Main Channel
294.22	175.24	0.0800	Main Channel
304.27	178.98	0.0800	Main Channel
322.33	186.23	0.0800	Main Channel
334.33	187.74	0.0800	Main Channel
351.40	186.42	0.0800	Main Channel
364.49	188.54	0.0800	Main Channel
394.68	189.61	0.0800	Main Channel

414.77	189.87	0.0800	Main Channel
436.84	190.51	0.0800 /0.0800	Main Channel
461.90	190.76	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.73	175.97	.884E+04	3.4	0.45	43.09
1.47	176.71	.354E+05	21.6	0.71	27.29
2.20	177.44	.888E+05	63.1	0.83	23.44
2.93	178.17	.199E+06	163.7	0.96	20.23
3.66	178.90	.338E+06	362.1	1.25	15.56
4.40	179.64	.488E+06	652.5	1.56	12.46
5.13	180.37	.642E+06	1010.6	1.84	10.59
5.86	181.10	.801E+06	1431.9	2.09	9.32
6.60	181.84	.964E+06	1913.9	2.32	8.39
7.33	182.57	.113E+07	2454.8	2.54	7.68
8.06	183.30	.130E+07	3053.2	2.74	7.12
8.79	184.03	.148E+07	3708.2	2.93	6.66
9.53	184.77	.166E+07	4419.3	3.11	6.27
10.26	185.50	.185E+07	5186.1	3.28	5.94
11.15	186.39	.210E+07	5930.6	3.31	5.89
12.04	187.28	.239E+07	6627.2	3.24	6.02
12.94	188.18	.273E+07	7874.6	3.37	5.78
13.83	189.07	.309E+07	9205.2	3.48	5.60
14.72	189.96	.350E+07	10336.5	3.46	5.64

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2910)	5291.28	8.23	7.67	9.34	0.93	0.50
OUTFLOW: ID= 1 (2479)	5291.28	7.87	8.25	9.34	0.91	0.50

ROUTE CHN(2892)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	177.05	0.0800	
27.06	176.55	0.0800	Main Channel
47.29	175.58	0.0800	Main Channel
83.37	174.50	0.0800	Main Channel
132.46	174.45	0.0800	Main Channel
147.56	174.38	0.0800	Main Channel
177.64	174.80	0.0800	Main Channel
187.64	174.54	0.0800	Main Channel
211.53	171.28	0.0800	Main Channel
235.41	171.24	0.0800	Main Channel
247.64	169.66	0.0800	Main Channel
254.85	170.24	0.0800	Main Channel
259.33	170.91	0.0800	Main Channel
273.77	172.45	0.0800	Main Channel
283.20	175.17	0.0800	Main Channel
302.62	182.68	0.0800	Main Channel
307.10	184.72	0.0800	Main Channel
309.92	185.58	0.0800	Main Channel
319.36	187.06	0.0800 /0.0800	Main Channel

339.69	187.54	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	170.03	.404E+03	0.3	0.19	25.83
0.74	170.40	.160E+04	1.7	0.31	15.74
1.11	170.77	.340E+04	4.8	0.41	11.79
1.48	171.14	.581E+04	9.8	0.49	9.88
1.85	171.51	.106E+05	16.0	0.44	11.08
2.22	171.88	.169E+05	32.4	0.56	8.72
2.59	172.25	.239E+05	53.9	0.66	7.38
2.96	172.62	.315E+05	81.4	0.76	6.45
3.33	172.99	.396E+05	114.9	0.85	5.74
3.70	173.36	.481E+05	153.6	0.93	5.22
4.07	173.73	.571E+05	197.6	1.01	4.81
4.44	174.10	.665E+05	246.8	1.09	4.49
4.81	174.47	.767E+05	238.4	0.91	5.36
5.18	174.84	.968E+05	260.6	0.79	6.19
5.55	175.21	.120E+06	359.0	0.87	5.59
5.92	175.58	.145E+06	472.8	0.95	5.12
6.29	175.95	.171E+06	619.0	1.06	4.62
6.78	176.44	.207E+06	838.0	1.18	4.13
7.27	176.93	.246E+06	1087.7	1.30	3.77

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2479)	5291.28	7.87	8.25	9.34	1.34	0.46
OUTFLOW: ID= 1 (2892)	5291.28	7.83	8.33	9.34	1.33	0.46

CALIB	
NASHYD (0512)	Area (ha)= 107.01
ID= 1 DT= 5.0 min	Ia (mm)= 10.00
	U.H. Tp(hrs)= 6.36

Curve Number (CN)= 66.4
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.287

PEAK FLOW (cms)= 0.070 (i)
TIME TO PEAK (hrs)= 13.250
RUNOFF VOLUME (mm)= 6.333
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.151

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7595)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2892):	5291.28	7.827	8.33	9.34
+ ID2= 2 (0512):	107.01	0.070	13.25	6.33
ID = 3 (7595):	5398.29	7.880	8.42	9.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0511)	Area (ha)= 77.70
ID= 1 DT= 5.0 min	Ia (mm)= 10.00
	U.H. Tp(hrs)= 5.91

Curve Number (CN)= 66.4
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.224

PEAK FLOW (cms)= 0.055 (i)
TIME TO PEAK (hrs)= 12.833
RUNOFF VOLUME (mm)= 6.349
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.151

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0520)	Area (ha)= 23.15
ID= 1 DT= 5.0 min	Ia (mm)= 10.00
	U.H. Tp(hrs)= 1.96

Curve Number (CN)= 70.4
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.202

PEAK FLOW (cms)= 0.048 (i)
TIME TO PEAK (hrs)= 8.583
RUNOFF VOLUME (mm)= 7.372
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0524)	Area (ha)= 99.55
ID= 1 DT= 5.0 min	Ia (mm)= 10.00
	U.H. Tp(hrs)= 2.98

Curve Number (CN)= 76.8
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.571

PEAK FLOW (cms)= 0.188 (i)
TIME TO PEAK (hrs)= 9.667
RUNOFF VOLUME (mm)= 9.414
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0525)	Area (ha)= 58.49
ID= 1 DT= 5.0 min	Ia (mm)= 10.00
	U.H. Tp(hrs)= 2.98

Curve Number (CN)= 76.0
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.335

```
     PEAK FLOW       (cms)=     0.107 (i)
     TIME TO PEAK    (hrs)=     9.667
     RUNOFF VOLUME    (mm)=     9.122
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| NASHYD   (  0526)|   Area    (ha)=     84.72   Curve Number   (CN)= 76.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.82

     Unit Hyd Qpeak  (cms)=     0.513

     PEAK FLOW       (cms)=     0.163 (i)
     TIME TO PEAK    (hrs)=     9.500
     RUNOFF VOLUME    (mm)=     9.122
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.217

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN(  3828)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  41.52         260.06        0.0800
                  49.39         259.98        0.0800      Main Channel
                  50.76         259.94        0.0800      Main Channel
                  60.00         259.18        0.0800      Main Channel
                  87.73         258.36        0.0800      Main Channel
                  89.54         258.33        0.0800      Main Channel
                 109.61         258.57        0.0800      Main Channel
                 115.45         258.26        0.0800      Main Channel
                 119.65         258.07        0.0800      Main Channel
                 129.68         258.28        0.0800      Main Channel
                 139.72         258.36        0.0800      Main Channel
                 161.65         258.55        0.0800      Main Channel
                 199.94         259.33        0.0800      Main Channel
                 207.85         259.43        0.0800      Main Channel
                 217.09         259.46        0.0800      Main Channel
                 220.02         259.44        0.0800      Main Channel
                 235.57         259.72        0.0800      Main Channel
                 240.09         259.86        0.0800      Main Channel
                 244.81         259.99    0.0800 /0.0800  Main Channel
                 250.13         260.17        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.10   258.17    .418E+03          0.0         0.12     155.45
        0.21   258.28    .167E+04          0.3         0.19      97.69
        0.31   258.38    .439E+04          0.8         0.20      94.21
        0.42   258.49    .100E+05          2.1         0.24      78.14
        0.52   258.59    .186E+05          4.9         0.29      63.12
        0.62   258.69    .288E+05          9.5         0.37      50.44
        0.73   258.80    .399E+05         15.4         0.43      43.04
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        0.83   258.90    .520E+05         22.8         0.49      38.09
        0.93   259.00    .651E+05         31.5         0.54      34.48
        1.04   259.11    .792E+05         41.6         0.58      31.71
        1.14   259.21    .943E+05         53.5         0.63      29.40
        1.25   259.32    .110E+06         67.2         0.68      27.33
        1.35   259.42    .127E+06         81.6         0.71      25.92
        1.45   259.52    .146E+06         94.8         0.72      25.60
        1.56   259.63    .166E+06        114.2         0.77      24.15
        1.66   259.73    .186E+06        135.5         0.81      22.90
        1.77   259.84    .208E+06        159.7         0.85      21.66
        1.87   259.94    .229E+06        185.5         0.90      20.61
        1.97   260.04    .252E+06        215.2         0.95      19.53

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0526)     84.72     0.16    9.50   9.12      0.15
0.15
  OUTFLOW: ID= 1 (  3828)     84.72     0.15   12.00   9.12      0.15
0.14


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| ADD HYD  (  1824)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3828):     84.72      0.146       12.00        9.12
     + ID2= 2 (  0525):     58.49      0.107        9.67        9.12
       ================================================================
       ID = 3 (  1824):    143.21      0.248       11.25        9.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3687)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  79.41         255.43        0.0800
                  87.81         255.19        0.0800      Main Channel
                  93.38         255.05        0.0800      Main Channel
                 102.13         254.85        0.0800      Main Channel
                 121.32         254.66        0.0800      Main Channel
                 130.77         254.56        0.0800      Main Channel
                 135.29         254.50        0.0800      Main Channel
                 145.09         254.32        0.0800      Main Channel
                 159.41         253.94        0.0800      Main Channel
                 163.23         253.90        0.0800      Main Channel
                 173.73         254.16        0.0800      Main Channel
                 177.20         254.27        0.0800      Main Channel
                 188.05         254.58        0.0800      Main Channel
                 202.37         254.93        0.0800      Main Channel
                 205.15         254.99        0.0800      Main Channel
                 216.69         255.19        0.0800      Main Channel
                 233.09         255.22        0.0800      Main Channel
                 247.06         255.28        0.0800      Main Channel
                 273.97         255.44    0.0800 /0.0800  Main Channel
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               279.67         255.45        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.08   253.98    .382E+03          0.0         0.11     167.62
        0.15   254.05    .130E+04          0.2         0.17     106.45
        0.23   254.13    .270E+04          0.5         0.21      82.49
        0.31   254.21    .459E+04          1.1         0.26      68.21
        0.38   254.28    .690E+04          2.0         0.30      58.88
        0.46   254.36    .968E+04          3.0         0.33      53.08
        0.54   254.44    .130E+05          4.4         0.36      48.77
        0.61   254.51    .169E+05          6.2         0.39      45.27
        0.69   254.59    .214E+05          8.3         0.41      43.05
        0.77   254.67    .268E+05         10.8         0.43      41.26
        0.84   254.74    .330E+05         13.9         0.45      39.48
        0.92   254.82    .401E+05         17.7         0.47      37.68
        1.00   254.90    .480E+05         22.6         0.50      35.36
        1.07   254.97    .565E+05         28.4         0.53      33.12
        1.15   255.05    .655E+05         34.8         0.56      31.39
        1.24   255.14    .776E+05         44.5         0.61      29.03
        1.34   255.24    .912E+05         51.3         0.60      29.59
        1.43   255.33    .108E+06         62.0         0.61      28.94
        1.53   255.43    .126E+06         75.2         0.63      27.94

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1824)     143.21     0.25   11.25   9.12      0.16
0.17
  OUTFLOW: ID= 1 (  3687)     143.21     0.24   12.92   9.12      0.16
0.17


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| ADD HYD  (  1742)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3687):     143.21      0.236       12.92        9.12
     + ID2= 2 (  0524):      99.55      0.188        9.67        9.41
       ================================================================
       ID = 3 (  1742):     242.76      0.407       12.00        9.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3589)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  28.16         251.42        0.0800
                  29.32         251.40        0.0800      Main Channel
                  39.71         251.17        0.0800      Main Channel
                  49.32         250.94        0.0800      Main Channel
                  51.25         250.90        0.0800      Main Channel
                  53.89         250.86        0.0800      Main Channel
                  62.80         250.69        0.0800      Main Channel
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               69.32         250.54        0.0800      Main Channel
               74.35         250.39        0.0800      Main Channel
               81.21         250.18        0.0800      Main Channel
               85.89         250.04        0.0800      Main Channel
               89.32         249.94        0.0800      Main Channel
               97.44         249.68        0.0800      Main Channel
              108.53         249.65        0.0800      Main Channel
              108.99         249.64        0.0800      Main Channel
              109.32         249.67        0.0800      Main Channel
              120.53         250.39        0.0800      Main Channel
              129.32         250.96        0.0800      Main Channel
              132.08         251.10    0.0800 /0.0800  Main Channel
              143.63         251.50        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.09   249.73    .526E+03          0.2         0.18      55.47
        0.18   249.82    .144E+04          0.7         0.30      33.69
        0.27   249.91    .259E+04          1.7         0.39      26.13
        0.37   250.01    .398E+04          3.0         0.46      22.10
        0.46   250.10    .562E+04          4.8         0.52      19.43
        0.55   250.19    .751E+04          7.2         0.58      17.48
        0.64   250.28    .964E+04         10.1         0.63      15.97
        0.73   250.37    .120E+05         13.6         0.68      14.76
        0.82   250.46    .146E+05         17.7         0.73      13.78
        0.91   250.55    .175E+05         22.5         0.78      12.97
        1.00   250.64    .206E+05         27.8         0.81      12.38
        1.10   250.74    .241E+05         33.8         0.85      11.88
        1.19   250.83    .279E+05         40.6         0.88      11.44
        1.28   250.92    .320E+05         48.2         0.91      11.07
        1.37   251.01    .365E+05         57.2         0.95      10.62
        1.46   251.10    .413E+05         67.3         0.99      10.22
        1.57   251.21    .473E+05         82.3         1.05       9.57
        1.67   251.31    .538E+05        100.6         1.13       8.91
        1.78   251.42    .608E+05        120.7         1.20       8.39

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1742)     242.76     0.41   12.00   9.24      0.13
0.22
  OUTFLOW: ID= 1 (  3589)     242.76     0.40   12.42   9.24      0.13
0.22


--------------------------------------------------------------------------------
-
--------------------
| ROUTE CHN(  3380)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  13.25         247.24        0.0800
                  19.25         247.21        0.0800      Main Channel
                  23.26         247.05        0.0800      Main Channel
                  29.72         246.74        0.0800      Main Channel
                  33.27         246.57        0.0800      Main Channel
                  40.20         246.47        0.0800      Main Channel
                  43.28         246.24        0.0800      Main Channel
                  50.67         245.26        0.0800      Main Channel
                  53.29         245.13        0.0800      Main Channel
```

61.15	245.37	0.0800		Main Channel
63.30	245.56	0.0800		Main Channel
71.62	246.45	0.0800		Main Channel
73.31	246.57	0.0800		Main Channel
82.10	246.91	0.0800		Main Channel
83.32	246.94	0.0800 /0.0800		Main Channel
92.58	247.33	0.0800		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	245.24	.165E+03	0.0	0.12	77.93
0.21	245.34	.636E+03	0.2	0.19	47.16
0.32	245.45	.132E+04	0.7	0.27	33.66
0.43	245.56	.213E+04	1.3	0.34	26.99
0.53	245.66	.305E+04	2.2	0.40	22.95
0.64	245.77	.408E+04	3.4	0.45	20.26
0.75	245.88	.521E+04	4.7	0.50	18.32
0.85	245.98	.645E+04	6.4	0.54	16.83
0.96	246.09	.779E+04	8.3	0.59	15.63
1.06	246.19	.924E+04	10.5	0.63	14.65
1.17	246.30	.108E+05	12.9	0.66	13.93
1.28	246.41	.125E+05	15.6	0.69	13.37
1.38	246.51	.144E+05	17.7	0.68	13.53
1.49	246.62	.167E+05	20.1	0.66	13.82
1.60	246.73	.193E+05	23.8	0.68	13.49
1.70	246.83	.222E+05	28.2	0.70	13.13
1.81	246.94	.254E+05	33.1	0.72	12.81
1.96	247.09	.305E+05	43.3	0.78	11.74
2.11	247.24	.362E+05	56.0	0.85	10.77

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3589)	242.76	0.40	12.42	9.24	0.26	0.22
OUTFLOW: ID= 1 (3380)	242.76	0.40	13.08	9.24	0.26	0.22

ROUTE CHN(3207)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	245.65	0.0800	
10.81	245.56	0.0800	Main Channel
39.07	244.77	0.0800	Main Channel
63.50	243.91	0.0800	Main Channel
71.67	243.66	0.0800	Main Channel
75.72	243.75	0.0800	Main Channel
81.81	243.57	0.0800	Main Channel
87.94	243.50	0.0800	Main Channel
91.95	243.57	0.0800	Main Channel
102.10	243.39	0.0800	Main Channel
122.38	243.26	0.0800	Main Channel
142.67	243.27	0.0800	Main Channel
165.62	243.36	0.0800	Main Channel
177.52	243.10	0.0800	Main Channel
201.33	243.79	0.0800	Main Channel

237.04	245.15	0.0800		Main Channel
247.11	245.17	0.0800		Main Channel
272.75	245.34	0.0800		Main Channel
296.56	245.73	0.0800 /0.0800		Main Channel
304.58	245.75	0.0800		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	243.23	.279E+03	0.1	0.15	47.92
0.26	243.36	.262E+04	1.0	0.17	41.59
0.39	243.49	.737E+04	5.2	0.30	23.59
0.51	243.61	.131E+05	11.9	0.38	18.36
0.64	243.74	.197E+05	21.5	0.46	15.21
0.77	243.87	.270E+05	34.9	0.55	12.86
0.90	244.00	.347E+05	51.3	0.62	11.25
1.03	244.13	.427E+05	70.6	0.70	10.10
1.16	244.26	.512E+05	92.5	0.76	9.22
1.28	244.38	.601E+05	117.2	0.82	8.54
1.41	244.51	.693E+05	144.7	0.88	7.98
1.54	244.64	.789E+05	175.0	0.93	7.51
1.67	244.77	.889E+05	208.1	0.99	7.12
1.82	244.92	.101E+06	252.5	1.06	6.65
1.96	245.06	.113E+06	300.9	1.12	6.27
2.11	245.21	.126E+06	338.3	1.13	6.23
2.26	245.36	.142E+06	380.5	1.13	6.20
2.40	245.50	.158E+06	440.8	1.18	5.96
2.55	245.65	.175E+06	506.9	1.22	5.75

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3380)	242.76	0.40	13.08	9.24	0.17	0.15
OUTFLOW: ID= 1 (3207)	242.76	0.40	13.83	9.24	0.17	0.15

ROUTE CHN(3126)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	244.32	0.0800	
31.06	244.01	0.0800	Main Channel
34.13	243.87	0.0800	Main Channel
41.06	243.70	0.0800	Main Channel
51.06	243.11	0.0800	Main Channel
54.49	242.86	0.0800	Main Channel
81.07	241.54	0.0800	Main Channel
85.03	241.53	0.0800	Main Channel
91.07	241.16	0.0800	Main Channel
95.21	241.30	0.0800	Main Channel
101.07	241.59	0.0800	Main Channel
105.38	241.71	0.0800	Main Channel
111.07	241.80	0.0800	Main Channel
121.07	241.69	0.0800	Main Channel
125.74	241.82	0.0800	Main Channel
131.07	242.08	0.0800	Main Channel
151.08	243.26	0.0800	Main Channel

156.28	243.42	0.0800		Main Channel
161.08	243.64	0.0800 /0.0800		Main Channel
186.81	244.32	0.0800		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	241.33	.721E+03	0.1	0.22	89.45
0.33	241.49	.270E+04	0.8	0.35	55.32
0.50	241.66	.644E+04	2.3	0.41	46.64
0.66	241.82	.135E+05	4.9	0.42	45.85
0.83	241.99	.237E+05	11.6	0.56	34.16
0.99	242.15	.353E+05	20.9	0.68	28.18
1.16	242.32	.480E+05	32.8	0.79	24.40
1.32	242.48	.619E+05	47.4	0.88	21.78
1.49	242.65	.770E+05	64.6	0.97	19.84
1.65	242.81	.932E+05	84.8	1.05	18.33
1.82	242.98	.111E+06	108.3	1.13	17.01
1.98	243.14	.129E+06	135.0	1.21	15.92
2.15	243.31	.148E+06	163.5	1.27	15.12
2.31	243.47	.169E+06	194.3	1.33	14.51
2.48	243.64	.191E+06	229.8	1.39	13.87
2.65	243.81	.216E+06	271.3	1.45	13.25
2.82	243.98	.243E+06	322.0	1.53	12.56
2.99	244.15	.272E+06	381.5	1.62	11.90
3.16	244.32	.307E+06	447.1	1.68	11.44

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3207)	242.76	0.40	13.83	9.24	0.23	0.25
OUTFLOW: ID= 1 (3126)	242.76	0.39	15.08	9.24	0.23	0.25

CALIB	STANDHYD (0523)	ID= 1 DT= 5.0 min	Area (ha)= 177.15	Total Imp(%)= 53.18	Dir. Conn.(%)= 48.52

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	94.21	82.94
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.64	2.64
Length	(m)=	1086.74	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.93
over (min)		15.00	35.00
Storage Coeff. (min)=		15.42 (ii)	34.31 (ii)
Unit Hyd. Tpeak (min)=		15.00	35.00
Unit Hyd. peak (cms)=		0.07	0.03

		TOTALS
PEAK FLOW	(cms)=	4.52 1.01 5.354 (iii)
TIME TO PEAK	(hrs)=	5.25 5.58 5.25
RUNOFF VOLUME	(mm)=	40.00 10.14 24.63
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.24 0.59

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1323)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (3126):		242.76	0.386	15.08	9.24
	+ ID2= 2 (0523):		177.15	5.354	5.25	24.63
	ID = 3 (1323):		419.91	5.354	5.25	15.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3003)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
36.12	239.65	0.0800	
46.20	239.25	0.0800	Main Channel
76.47	237.82	0.0800	Main Channel
93.03	237.37	0.0800	Main Channel
110.84	237.03	0.0800	Main Channel
116.82	236.24	0.0800	Main Channel
119.75	235.56	0.0800	Main Channel
126.90	234.26	0.0800	Main Channel
128.66	234.22	0.0800	Main Channel
147.08	234.03	0.0800	Main Channel
157.17	234.10	0.0800	Main Channel
164.28	235.13	0.0800	Main Channel
167.25	235.71	0.0800	Main Channel
173.19	236.42	0.0800	Main Channel
187.43	237.62	0.0800	Main Channel
191.00	237.73	0.0800	Main Channel
197.52	237.75	0.0800	Main Channel
208.81	237.63	0.0800	Main Channel
226.62	238.37	0.0800 /0.0800	Main Channel
235.53	239.55	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	234.30	.522E+04	2.6	0.44	33.98
0.54	234.57	.133E+05	11.4	0.76	19.48
0.81	234.84	.222E+05	25.1	1.01	14.73
1.08	235.11	.319E+05	43.5	1.21	12.23
1.35	235.38	.424E+05	66.7	1.40	10.59
1.62	235.65	.535E+05	94.5	1.57	9.44
1.90	235.93	.654E+05	126.2	1.72	8.64
2.17	236.20	.781E+05	162.3	1.85	8.02
2.44	236.47	.917E+05	201.4	1.96	7.58
2.71	236.74	.106E+06	244.0	2.04	7.27
2.98	237.01	.122E+06	292.5	2.13	6.98
3.25	237.28	.141E+06	321.2	2.03	7.32
3.52	237.55	.163E+06	370.3	2.02	7.36
3.79	237.82	.192E+06	392.1	1.82	8.15

4.14	238.17	.236E+06	530.5	2.00	7.42
4.48	238.51	.285E+06	700.9	2.19	6.79
4.83	238.86	.338E+06	909.7	2.40	6.19
5.17	239.20	.394E+06	1144.4	2.59	5.74
5.52	239.55	.453E+06	1409.1	2.77	5.35

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1323)	419.91	5.35	5.25	15.73	0.36	0.50
OUTFLOW: ID= 1 (3003)	419.91	4.44	5.42	15.73	0.33	0.48

CALIB			
STANDHYD (0522)	Area (ha)=	142.25	
ID= 1 DT= 5.0 min	Total Imp(%)=	57.85	Dir. Conn.(%)= 52.53

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	82.29	59.96
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.85	2.85
Length (m)=	973.82	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	7.25
over (min)	15.00	35.00
Storage Coeff. (min)=	14.11 (ii)	32.24 (ii)
Unit Hyd. Tpeak (min)=	15.00	35.00
Unit Hyd. peak (cms)=	0.08	0.03

		TOTALS
PEAK FLOW (cms)=	3.95	0.78	4.605 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	10.37	25.93
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.25	0.62

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1135)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3003):	419.91	4.437	5.42	15.73
+ ID2= 2 (0522):	142.25	4.605	5.25	25.93
ID = 3 (1135):	562.16	8.811	5.33	18.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2757)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
54.60	230.09	0.0800	
62.00	229.85	0.0800	Main Channel
69.13	229.71	0.0800	Main Channel
76.26	229.30	0.0800	Main Channel
79.92	228.67	0.0800	Main Channel
97.64	225.75	0.0800	Main Channel
119.02	225.14	0.0800	Main Channel
120.45	224.82	0.0800	Main Channel
126.14	223.88	0.0800	Main Channel
130.56	223.76	0.0800	Main Channel
133.27	224.25	0.0800	Main Channel
136.76	224.41	0.0800	Main Channel
140.40	224.74	0.0800	Main Channel
143.22	225.35	0.0800	Main Channel
147.52	226.81	0.0800	Main Channel
153.06	228.59	0.0800	Main Channel
154.65	229.19	0.0800	Main Channel
155.88	229.37	0.0800	Main Channel
161.78	229.75	0.0800 /0.0800	Main Channel
168.54	230.31	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	224.09	.135E+04	0.7	0.44	31.56
0.66	224.42	.411E+04	3.0	0.61	22.69
0.99	224.75	.870E+04	8.4	0.80	17.22
1.32	225.08	.145E+05	17.8	1.01	13.55
1.65	225.41	.220E+05	27.4	1.03	13.38
1.98	225.74	.330E+05	43.6	1.09	12.60
2.31	226.07	.461E+05	72.9	1.30	10.54
2.64	226.40	.600E+05	108.8	1.49	9.20
2.97	226.73	.748E+05	151.2	1.67	8.24
3.31	227.07	.904E+05	199.9	1.82	7.53
3.64	227.40	.107E+06	255.2	1.97	6.97
3.97	227.73	.124E+06	316.9	2.11	6.52
4.30	228.06	.142E+06	385.4	2.24	6.14
4.63	228.39	.161E+06	460.7	2.36	5.82
4.96	228.72	.181E+06	543.2	2.48	5.54
5.29	229.05	.201E+06	633.5	2.60	5.29
5.62	229.38	.222E+06	720.9	2.67	5.14
5.95	229.71	.246E+06	785.0	2.63	5.22
6.28	230.04	.274E+06	920.8	2.77	4.95

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1135)	562.16	8.81	5.33	18.31	1.01	0.81
OUTFLOW: ID= 1 (2757)	562.16	8.25	5.42	18.31	0.98	0.79

ROUTE CHN(2508)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
45.89	222.93	0.0800	
54.23	222.71	0.0800	Main Channel
62.57	222.55	0.0800	Main Channel
68.54	222.49	0.0800	Main Channel
70.90	222.12	0.0800	Main Channel
78.80	221.76	0.0800	Main Channel
81.16	221.41	0.0800	Main Channel
95.92	218.80	0.0800	Main Channel
99.33	218.05	0.0800	Main Channel
104.26	217.13	0.0800	Main Channel
109.59	216.60	0.0800	Main Channel
112.60	216.72	0.0800	Main Channel
119.85	216.86	0.0800	Main Channel
137.61	217.00	0.0800	Main Channel
150.64	217.04	0.0800	Main Channel
154.29	217.58	0.0800	Main Channel
160.90	219.70	0.0800	Main Channel
162.63	220.02	0.0800	Main Channel
193.09	221.79	0.0800 /0.0800	Main Channel
217.00	222.88	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.32	216.92	.166E+04	1.0	0.37	28.89
0.65	217.25	.104E+05	11.9	0.74	14.57
0.97	217.57	.210E+05	36.4	1.13	9.60
1.30	217.90	.323E+05	72.2	1.45	7.46
1.62	218.22	.442E+05	117.9	1.73	6.25
1.95	218.55	.566E+05	173.1	1.98	5.45
2.27	218.87	.696E+05	237.1	2.21	4.89
2.59	219.20	.831E+05	309.3	2.42	4.48
2.92	219.52	.972E+05	390.4	2.61	4.15
3.24	219.84	.112E+06	479.1	2.78	3.89
3.57	220.17	.127E+06	567.2	2.89	3.75
3.89	220.49	.144E+06	657.4	2.95	3.66
4.22	220.82	.163E+06	760.3	3.03	3.57
4.54	221.14	.183E+06	876.6	3.11	3.48
4.87	221.47	.205E+06	1006.5	3.19	3.39
5.19	221.79	.228E+06	1146.5	3.26	3.32
5.55	222.15	.257E+06	1334.9	3.37	3.21
5.92	222.52	.289E+06	1561.1	3.51	3.09
6.28	222.88	.326E+06	1829.8	3.64	2.97

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2757)	562.16	8.25	5.42	18.31	0.54	0.56
OUTFLOW: ID= 1 (2508)	562.16	7.53	5.58	18.31	0.52	0.53

CALIB			
STANDHYD (0521)	Area (ha)=	126.12	

ID= 1 DT= 5.0 min	Total Imp(%)=	49.83	Dir. Conn.(%)= 45.33

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	62.84	63.28
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	3.37	3.37
Length (m)=	916.95	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	5.93
over (min)	15.00	35.00
Storage Coeff. (min)=	12.94 (ii)	31.63 (ii)
Unit Hyd. Tpeak (min)=	15.00	35.00
Unit Hyd. peak (cms)=	0.08	0.03

		TOTALS
PEAK FLOW (cms)=	3.04	0.67	3.594 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	8.77	22.92
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.21	0.55

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2006)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2508):	562.16	7.532	5.58	18.31
+ ID2= 2 (0521):	126.12	3.594	5.25	22.92
ID = 3 (2006):	688.28	10.199	5.42	19.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3892)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
71.05	215.18	0.0800	
80.07	214.47	0.0800	Main Channel
97.55	214.41	0.0800	Main Channel
116.91	213.88	0.0800	Main Channel
131.34	211.60	0.0800	Main Channel
145.76	209.21	0.0800	Main Channel
150.22	208.15	0.0800	Main Channel
152.97	208.07	0.0800	Main Channel
157.10	207.16	0.0800	Main Channel
167.39	207.26	0.0800	Main Channel
174.25	207.20	0.0800	Main Channel
181.81	209.13	0.0800	Main Channel
186.27	209.74	0.0800	Main Channel
189.02	209.79	0.0800	Main Channel
198.29	211.43	0.0800	Main Channel
210.31	212.18	0.0800	Main Channel

225.08	213.46	0.0800		Main Channel
239.50	214.61	0.0800		Main Channel
261.14	214.80	0.0800 /0.0800		Main Channel
275.56	215.08	0.0800		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	207.56	.400E+04	1.8	0.28	36.95
0.81	207.97	.945E+04	6.8	0.44	23.15
1.21	208.37	.161E+05	14.3	0.54	18.74
1.61	208.77	.238E+05	25.5	0.66	15.52
2.01	209.17	.323E+05	39.7	0.75	13.55
2.42	209.58	.418E+05	55.9	0.82	12.48
2.82	209.98	.530E+05	74.4	0.86	11.89
3.22	210.38	.657E+05	99.9	0.93	10.96
3.62	210.78	.795E+05	129.8	1.00	10.21
4.03	211.19	.945E+05	164.3	1.06	9.58
4.43	211.59	.111E+06	200.7	1.11	9.19
4.83	211.99	.129E+06	238.7	1.13	9.00
5.24	212.40	.149E+06	285.8	1.17	8.71
5.64	212.80	.171E+06	341.5	1.22	8.37
6.04	213.20	.195E+06	404.3	1.27	8.06
6.44	213.60	.221E+06	474.3	1.31	7.77
6.85	214.01	.249E+06	540.4	1.33	7.68
7.25	214.41	.281E+06	597.2	1.30	7.84
7.65	214.81	.322E+06	659.9	1.26	8.12

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2006)	688.28	10.20	5.42	19.16	0.99	0.48
OUTFLOW: ID= 1 (3892)	688.28	9.13	5.67	19.16	0.93	0.47

RESERVOIR(4045)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 5.0 min	0.0000	0.0000	22.6100	13.5167
	0.8400	0.3167	29.0500	14.5526
	1.2300	1.8090	36.0500	15.6276
	1.3400	2.4812	43.5600	16.7026
	1.8500	7.1310	51.5600	17.7776
	1.9900	8.8545	60.0100	18.8526
	3.8700	9.7795	68.8900	19.9276
	7.2500	10.7045	78.1700	21.0026
	11.6200	11.6295	87.8500	22.0776

16.7700	12.5545	97.9100		23.1526

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (3892)	688.280	9.132	5.67	19.16
OUTFLOW: ID= 1 (4045)	688.280	1.806	9.50	19.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.78
TIME SHIFT OF PEAK FLOW (min)=230.00
MAXIMUM STORAGE USED (ha.m.)= 6.7315

ROUTE CHN(2223)	Routing time step (min)'= 5.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
73.67	211.01	0.0800	
77.68	210.85	0.0800	Main Channel
82.26	210.58	0.0800	Main Channel
87.84	210.45	0.0800	Main Channel
90.84	210.18	0.0800	Main Channel
98.01	210.34	0.0800	Main Channel
99.43	210.02	0.0800	Main Channel
107.10	207.55	0.0800	Main Channel
108.18	207.19	0.0800	Main Channel
116.60	205.74	0.0800	Main Channel
118.35	205.86	0.0800	Main Channel
125.18	207.25	0.0800	Main Channel
128.52	207.98	0.0800	Main Channel
133.77	208.96	0.0800	Main Channel
138.69	209.33	0.0800	Main Channel
142.35	209.77	0.0800	Main Channel
148.86	210.05	0.0800	Main Channel
159.02	210.69	0.0800	Main Channel
159.53	210.73	0.0800 /0.0800	Main Channel
162.24	210.90	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	206.01	.169E+03	0.2	0.34	13.37
0.54	206.28	.566E+03	1.1	0.52	8.58
0.81	206.55	.117E+04	2.9	0.67	6.67
1.08	206.82	.198E+04	5.9	0.80	5.57
1.34	207.08	.301E+04	10.3	0.92	4.85
1.61	207.35	.422E+04	16.6	1.05	4.25
1.88	207.62	.560E+04	24.6	1.18	3.79
2.15	207.89	.712E+04	34.4	1.30	3.45
2.42	208.16	.879E+04	45.8	1.40	3.20
2.69	208.43	.106E+05	59.2	1.50	2.99
2.96	208.70	.126E+05	74.7	1.59	2.82
3.23	208.97	.148E+05	92.3	1.68	2.67
3.50	209.24	.172E+05	108.8	1.70	2.64
3.76	209.50	.199E+05	130.4	1.76	2.55
4.03	209.77	.229E+05	155.8	1.83	2.44
4.30	210.04	.262E+05	176.2	1.81	2.48
4.57	210.31	.301E+05	190.7	1.71	2.63
4.84	210.58	.350E+05	217.1	1.67	2.69
5.16	210.90	.419E+05	284.4	1.82	2.46

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4045)	688.28	1.81	9.50	19.16	0.64	0.57
OUTFLOW: ID= 1 (2223)	688.28	1.81	9.67	19.16	0.64	0.57

ROUTE CHN(3553)	Routing time step (min)'= 5.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	206.10	0.0800	
41.52	205.75	0.0800	Main Channel
69.50	205.15	0.0800	Main Channel
82.88	204.72	0.0800	Main Channel
101.61	204.45	0.0800	Main Channel
124.64	203.93	0.0800	Main Channel
144.06	203.83	0.0800	Main Channel
166.16	203.35	0.0800	Main Channel
176.36	203.37	0.0800	Main Channel
199.29	203.01	0.0800	Main Channel
217.98	203.01	0.0800	Main Channel
238.68	202.74	0.0800	Main Channel
259.33	202.21	0.0800	Main Channel
290.43	204.20	0.0800	Main Channel
310.20	204.98	0.0800	Main Channel
331.96	205.45	0.0800	Main Channel
363.14	205.71	0.0800	Main Channel
373.35	206.81	0.0800	Main Channel
381.59	207.24	0.0800 /0.0800	Main Channel
383.83	207.52	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.20	202.41	.813E+03	0.3	0.24	52.96
0.39	202.60	.325E+04	1.6	0.39	33.36
0.59	202.80	.737E+04	4.6	0.49	26.48
0.78	202.99	.140E+05	10.1	0.56	22.95
0.98	203.19	.257E+05	20.1	0.61	21.37
1.18	203.39	.403E+05	35.6	0.68	18.90
1.37	203.58	.585E+05	61.7	0.82	15.79
1.57	203.78	.784E+05	94.7	0.94	13.81
1.76	203.97	.101E+06	128.8	0.99	13.11
1.96	204.17	.127E+06	179.7	1.10	11.80
2.16	204.37	.155E+06	237.8	1.19	10.86
2.35	204.56	.185E+06	302.0	1.27	10.20
2.55	204.76	.218E+06	375.5	1.34	9.66
2.74	204.95	.252E+06	465.3	1.43	9.04
2.94	205.15	.289E+06	560.3	1.50	8.59
3.14	205.35	.328E+06	674.0	1.59	8.11
3.37	205.58	.380E+06	809.0	1.65	7.82
3.61	205.82	.438E+06	975.8	1.73	7.48
3.85	206.06	.502E+06	1193.1	1.84	7.01

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2223)	688.28	1.81	9.67	19.16	0.40	0.39
OUTFLOW: ID= 1 (3553)	688.28	1.80	10.17	19.16	0.40	0.39

CALIB	Area (ha)= 59.78		
STANDHYD (0516)	Total Imp(%)= 63.16	Dir. Conn.(%)= 58.75	
ID= 1 DT= 5.0 min	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	37.76	22.02	
Dep. Storage (mm)=	2.00	5.00	
Average Slope (%)=	2.86	2.86	
Length (m)=	631.29	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	6.79	
over (min)	10.00	30.00	
Storage Coeff. (min)=	10.87 (ii)	29.46 (ii)	
Unit Hyd. Tpeak (min)=	10.00	30.00	
Unit Hyd. peak (cms)=	0.11	0.04	
			TOTALS
PEAK FLOW (cms)=	1.88	0.28	2.126 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	40.00	9.77	27.53
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.23	0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 68.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1907)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3553):	688.28	1.801	10.17	19.16
+ ID2= 2 (0516):	59.78	2.126	5.25	27.53
ID = 3 (1907):	748.06	2.795	5.25	19.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1907)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1907):	748.06	2.795	5.25	19.83
+ ID2= 2 (0520):	23.15	0.048	8.58	7.37
ID = 1 (1907):	771.21	2.810	5.25	19.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3192)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	201.61	0.0800	
20.07	201.51	0.0800	Main Channel
34.29	201.94	0.0800	Main Channel
77.25	200.75	0.0800	Main Channel
105.98	200.59	0.0800	Main Channel
140.66	200.63	0.0800	Main Channel
178.65	199.88	0.0800	Main Channel
216.75	199.59	0.0800	Main Channel
253.28	199.80	0.0800	Main Channel
273.41	199.50	0.0800	Main Channel
293.63	196.04	0.0800	Main Channel
303.75	195.38	0.0800	Main Channel
333.87	194.97	0.0800	Main Channel
374.03	194.58	0.0800	Main Channel
424.41	198.48	0.0800	Main Channel
474.60	199.78	0.0800	Main Channel
591.18	200.47	0.0800	Main Channel
615.07	200.95	0.0800	Main Channel
663.58	201.58	0.0800 /0.0800	Main Channel
734.89	203.21	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	194.95	.111E+05	2.2	0.28	85.60
0.74	195.32	.420E+05	13.6	0.46	51.48
1.11	195.69	.855E+05	39.7	0.66	35.90
1.47	196.05	.135E+06	78.7	0.83	28.53
1.84	196.42	.188E+06	131.5	0.99	23.87
2.21	196.79	.246E+06	196.2	1.13	20.86
2.58	197.16	.306E+06	272.6	1.26	18.73
2.95	197.53	.371E+06	360.9	1.38	17.12
3.32	197.90	.439E+06	461.2	1.49	15.85
3.68	198.26	.510E+06	573.8	1.59	14.82
4.05	198.63	.586E+06	687.5	1.66	14.20
4.42	199.00	.669E+06	801.4	1.69	13.92
4.79	199.37	.761E+06	933.3	1.73	13.59
5.16	199.74	.869E+06	924.4	1.50	15.66
5.53	200.11	.103E+07	993.5	1.36	17.36
5.89	200.47	.124E+07	1182.9	1.34	17.53
6.26	200.84	.150E+07	1425.1	1.34	17.56
6.63	201.21	.179E+07	1823.3	1.44	16.37
7.00	201.58	.210E+07	2271.0	1.53	15.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1907)	771.21	2.81	5.25	19.45	0.39	0.28
OUTFLOW: ID= 1 (3192)	771.21	1.93	9.33	19.45	0.33	0.28

CALIB STANDHYD (0515) ID= 1 DT= 5.0 min	Area (ha)= 55.84	Total Imp(%)= 68.89	Dir. Conn.(%)= 65.54

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	38.47	17.37
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.97	1.97
Length	(m)=	610.14	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=	over (min)	19.32	7.64
		10.00	35.00
Storage Coeff.	(min)=	11.91 (ii)	31.74 (ii)
Unit Hyd. Tpeak	(min)=	10.00	35.00
Unit Hyd. peak	(cms)=	0.10	0.03

				TOTALS
PEAK FLOW	(cms)=	1.95	0.24	2.155 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	11.10	30.04
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.26	0.72

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1318) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3192):	771.21	1.931	9.33	19.45
+ ID2= 2 (0515):	55.84	2.155	5.25	30.04
ID = 3 (1318):	827.05	3.456	5.25	20.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2999)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	195.58	0.0800	
32.95	195.44	0.0800	Main Channel
61.58	194.13	0.0800	Main Channel
68.99	194.03	0.0800	Main Channel
127.78	193.58	0.0800	Main Channel
160.00	192.18	0.0800	Main Channel
169.31	190.50	0.0800	Main Channel
184.33	188.65	0.0800	Main Channel
197.98	187.90	0.0800	Main Channel
215.18	188.11	0.0800	Main Channel

240.40	188.62	0.0800	Main Channel
253.81	192.72	0.0800	Main Channel
270.33	192.71	0.0800	Main Channel
278.15	192.88	0.0800	Main Channel
301.68	192.64	0.0800	Main Channel
324.09	191.82	0.0800	Main Channel
334.16	192.56	0.0800	Main Channel
344.36	193.46	0.0800	Main Channel
395.60	193.95	0.0800 /0.0800	Main Channel
494.46	194.34	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	188.24	.531E+04	1.4	0.27	61.31
0.67	188.57	.188E+05	8.1	0.43	38.55
1.01	188.91	.377E+05	23.8	0.62	26.37
1.34	189.24	.579E+05	46.6	0.79	20.68
1.68	189.58	.793E+05	75.8	0.94	17.44
2.02	189.92	.102E+06	111.1	1.07	15.31
2.35	190.25	.126E+06	152.4	1.19	13.78
2.69	190.59	.151E+06	200.1	1.30	12.60
3.03	190.93	.178E+06	254.8	1.41	11.61
3.36	191.26	.205E+06	315.5	1.52	10.82
3.70	191.60	.233E+06	382.2	1.61	10.16
4.03	191.93	.263E+06	440.7	1.65	9.93
4.37	192.27	.297E+06	480.2	1.59	10.30
4.71	192.61	.338E+06	528.2	1.54	10.66
5.04	192.94	.394E+06	533.6	1.33	12.30
5.38	193.28	.461E+06	666.8	1.42	11.51
5.71	193.61	.532E+06	776.9	1.44	11.42
6.05	193.95	.624E+06	836.0	1.32	12.43
6.44	194.34	.770E+06	1102.8	1.41	11.64

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1318)	827.05	3.46	5.25	20.17	0.44	0.30
OUTFLOW: ID= 1 (2999)	827.05	2.34	6.33	20.17	0.38	0.28

ROUTE CHN(2607)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	191.49	0.0800	
83.66	190.72	0.0800	Main Channel
112.11	190.88	0.0800	Main Channel
169.06	189.66	0.0800	Main Channel
199.00	189.13	0.0800	Main Channel
230.38	189.64	0.0800	Main Channel
240.58	188.23	0.0800	Main Channel
271.49	188.35	0.0800	Main Channel
281.70	187.03	0.0800	Main Channel
292.14	182.92	0.0800	Main Channel
322.98	182.42	0.0800	Main Channel
364.12	182.72	0.0800	Main Channel

374.32	184.79	0.0800	Main Channel
395.01	189.45	0.0800	Main Channel
456.74	189.86	0.0800	Main Channel
531.63	190.35	0.0800	Main Channel
582.27	190.89	0.0800	Main Channel
622.77	190.39	0.0800	Main Channel
683.56	190.99	0.0800 /0.0800	Main Channel
774.73	191.60	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	182.89	.144E+05	8.4	0.42	28.67
0.94	183.36	.396E+05	42.9	0.78	15.36
1.41	183.83	.659E+05	97.5	1.06	11.27
1.88	184.30	.935E+05	169.3	1.30	9.20
2.35	184.77	.122E+06	257.2	1.51	7.92
2.82	185.24	.152E+06	361.0	1.71	7.02
3.29	185.71	.183E+06	479.8	1.88	6.36
3.76	186.18	.215E+06	613.2	2.05	5.85
4.23	186.65	.248E+06	761.3	2.20	5.44
4.70	187.12	.283E+06	921.2	2.34	5.11
5.17	187.59	.319E+06	1085.2	2.45	4.89
5.64	188.06	.357E+06	1265.0	2.55	4.70
6.11	188.53	.402E+06	1282.1	2.29	5.22
6.58	189.00	.454E+06	1536.2	2.43	4.93
7.05	189.47	.514E+06	1578.0	2.21	5.42
7.52	189.94	.603E+06	1564.8	1.87	6.42
7.99	190.41	.724E+06	1785.8	1.77	6.76
8.46	190.88	.890E+06	2030.2	1.64	7.31
9.07	191.49	.119E+07	3062.4	1.85	6.47

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2999)	827.05	2.34	6.33	20.17	0.13	0.42
OUTFLOW: ID= 1 (2607)	827.05	2.28	7.00	20.17	0.13	0.42

ROUTE CHN(3927)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	189.24	0.0800	
11.00	189.31	0.0800	Main Channel
65.39	187.98	0.0800	Main Channel
91.47	186.92	0.0800	Main Channel
101.47	185.46	0.0800	Main Channel
121.56	179.04	0.0800	Main Channel
128.63	178.28	0.0800	Main Channel
161.86	177.36	0.0800	Main Channel
180.92	176.41	0.0800	Main Channel
201.97	176.91	0.0800	Main Channel
222.02	179.13	0.0800	Main Channel
265.25	179.74	0.0800	Main Channel
272.32	180.18	0.0800	Main Channel
292.40	185.28	0.0800	Main Channel

302.40	186.54	0.0800		Main Channel
348.58	187.37	0.0800		Main Channel
372.74	188.06	0.0800		Main Channel
402.80	188.06	0.0800		Main Channel
493.02	187.29	0.0800 /0.0800		Main Channel
510.09	186.55	0.0800		

<TRAVEL TIME TABLE>

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.64	177.05	.659E+04	6.5	0.52	16.99
1.28	177.69	.222E+05	34.5	0.83	10.70
1.92	178.33	.471E+05	94.0	1.06	8.35
2.56	178.97	.785E+05	202.4	1.37	6.47
3.20	179.61	.117E+06	317.3	1.44	6.16
3.84	180.25	.168E+06	529.6	1.68	5.28
4.48	180.89	.221E+06	822.6	1.98	4.48
5.12	181.53	.276E+06	1167.8	2.25	3.94
5.76	182.17	.332E+06	1562.7	2.50	3.55
6.40	182.81	.390E+06	2005.9	2.73	3.24
7.04	183.45	.450E+06	2496.2	2.94	3.00
7.68	184.09	.511E+06	3032.9	3.15	2.81
8.32	184.73	.574E+06	3615.4	3.35	2.64
8.96	185.37	.638E+06	4238.3	3.53	2.51
9.60	186.01	.704E+06	4847.4	3.65	2.42
10.24	186.65	.774E+06	5414.6	3.71	2.38
10.88	187.29	.858E+06	5613.1	3.47	2.55
11.89	188.30	.106E+07	5692.8	2.86	3.10
12.90	189.31	.131E+07	7985.8	3.22	2.74

<hydrograph ----> <pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2607)	827.05	2.28	7.00	20.17	0.23	0.52
OUTFLOW: ID= 1 (3927)	827.05	2.27	7.50	20.17	0.22	0.52

ROUTE CHN(3057)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<DATA FOR SECTION (1.1)>

Distance	Elevation	Manning	
0.00	186.49	0.0800	
13.45	185.56	0.0800	Main Channel
22.67	185.14	0.0800	Main Channel
26.79	183.81	0.0800	Main Channel
33.11	182.29	0.0800	Main Channel
40.19	179.76	0.0800	Main Channel
64.08	173.39	0.0800	Main Channel
68.08	173.50	0.0800	Main Channel
74.41	172.71	0.0800	Main Channel
81.48	173.01	0.0800	Main Channel
84.64	173.37	0.0800	Main Channel
125.98	174.29	0.0800	Main Channel
146.41	174.79	0.0800	Main Channel
161.99	179.14	0.0800	Main Channel
177.33	183.56	0.0800	Main Channel
187.78	185.94	0.0800	Main Channel

215.49	186.03	0.0800		Main Channel
249.51	186.58	0.0800		Main Channel
280.57	186.29	0.0800 /0.0800		Main Channel
320.74	186.47	0.0800		

<TRAVEL TIME TABLE>

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.69	173.40	.194E+04	4.2	0.65	7.72
1.38	174.09	.995E+04	29.7	0.90	5.59
2.07	174.78	.249E+05	101.2	1.23	4.10
2.76	175.47	.436E+05	247.8	1.71	2.93
3.45	176.16	.634E+05	445.8	2.12	2.37
4.14	176.85	.843E+05	691.7	2.47	2.03
4.83	177.54	.106E+06	983.8	2.79	1.80
5.52	178.23	.129E+06	1321.2	3.08	1.63
6.21	178.92	.153E+06	1703.7	3.35	1.50
6.91	179.62	.178E+06	2131.9	3.61	1.39
7.60	180.31	.204E+06	2611.4	3.85	1.30
8.29	181.00	.231E+06	3137.6	4.09	1.23
8.98	181.69	.259E+06	3709.2	4.32	1.16
9.67	182.38	.288E+06	4324.1	4.53	1.11
10.36	183.07	.318E+06	4969.9	4.72	1.07
11.05	183.76	.349E+06	5659.1	4.89	1.03
11.74	184.45	.381E+06	6402.8	5.07	0.99
12.43	185.14	.414E+06	7197.2	5.24	0.96
13.12	185.83	.449E+06	8110.4	5.44	0.92

<hydrograph ----> <pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3927)	827.05	2.27	7.50	20.17	0.38	0.65
OUTFLOW: ID= 1 (3057)	827.05	2.27	7.58	20.17	0.37	0.65

ADD HYD (7594)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (3057):	827.05	2.268	7.58	20.17
	+ ID2= 2 (0511):	77.70	0.055	12.83	6.35
	ID = 3 (7594):	904.75	2.305	7.67	18.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0733)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7594):	904.75	2.305	7.67	18.98
	+ ID2= 2 (7595):	5398.29	7.880	8.42	9.28
	ID = 3 (0733):	6303.04	10.160	8.33	10.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0527) ID= 1 DT= 5.0 min	Area (ha)= 69.88	Curve Number (CN)= 71.2
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 4.18	

Unit Hyd Qpeak (cms)= 0.286

PEAK FLOW (cms)= 0.080 (i)
TIME TO PEAK (hrs)= 11.333
RUNOFF VOLUME (mm)= 7.595
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.181

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0528) ID= 1 DT= 5.0 min	Area (ha)= 243.00	Curve Number (CN)= 70.4
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 8.80	

Unit Hyd Qpeak (cms)= 0.471

PEAK FLOW (cms)= 0.135 (i)
TIME TO PEAK (hrs)= 15.417
RUNOFF VOLUME (mm)= 7.135
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.170

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0529) ID= 1 DT= 5.0 min	Area (ha)= 101.81	Curve Number (CN)= 75.2
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 3.31	

Unit Hyd Qpeak (cms)= 0.525

PEAK FLOW (cms)= 0.165 (i)
TIME TO PEAK (hrs)= 10.083
RUNOFF VOLUME (mm)= 8.842
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.211

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0530) ID= 1 DT= 5.0 min	Area (ha)= 99.56	Curve Number (CN)= 72.0
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 5.18	

Unit Hyd Qpeak (cms)= 0.328

PEAK FLOW (cms)= 0.097 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 7.814
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0531) ID= 1 DT= 5.0 min	Area (ha)= 221.44	Curve Number (CN)= 72.8
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 6.58	

Unit Hyd Qpeak (cms)= 0.575

PEAK FLOW (cms)= 0.179 (i)
TIME TO PEAK (hrs)= 13.333
RUNOFF VOLUME (mm)= 8.000
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.190

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0532) ID= 1 DT= 5.0 min	Area (ha)= 109.68	Curve Number (CN)= 70.4
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 5.29	

Unit Hyd Qpeak (cms)= 0.354

PEAK FLOW (cms)= 0.099 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 7.360
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.175

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0533) ID= 1 DT= 5.0 min	Area (ha)= 148.96	Curve Number (CN)= 68.8
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 5.20	

Unit Hyd Qpeak (cms)= 0.489

PEAK FLOW (cms)= 0.129 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 6.942
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.165

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

NASHYD (0534)	Area (ha)= 362.89	Curve Number (CN)= 68.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 8.11	

Unit Hyd Qpeak (cms)= 0.764

PEAK FLOW (cms)= 0.200 (i)
TIME TO PEAK (hrs)= 14.750
RUNOFF VOLUME (mm)= 6.599
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.157

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB NASHYD (0535)	Area (ha)= 368.77	Curve Number (CN)= 64.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 7.31	

Unit Hyd Qpeak (cms)= 0.861

PEAK FLOW (cms)= 0.195 (i)
TIME TO PEAK (hrs)= 14.083
RUNOFF VOLUME (mm)= 5.770
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.137

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2582)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	294.39	0.0800	
56.95	294.46	0.0800	Main Channel
162.13	293.20	0.0800	Main Channel
254.96	291.20	0.0800	Main Channel
314.03	289.09	0.0800	Main Channel
440.84	287.75	0.0800	Main Channel
523.63	286.29	0.0800	Main Channel
538.03	285.31	0.0800	Main Channel
616.67	285.53	0.0800	Main Channel
782.33	285.76	0.0800	Main Channel
824.15	285.51	0.0800	Main Channel
950.17	286.07	0.0800	Main Channel
1033.05	285.52	0.0800	Main Channel
1087.82	286.62	0.0800	Main Channel
1119.23	286.54	0.0800	Main Channel
1161.05	288.21	0.0800	Main Channel
1266.05	291.41	0.0800	Main Channel
1297.46	292.11	0.0800	Main Channel
1318.85	290.95	0.0800 /0.0800	Main Channel
1350.22	291.67	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	285.78	.293E+06	22.1	0.30	220.16
0.94	286.25	.122E+07	197.4	0.64	103.26

1.41	286.72	.231E+07	519.3	0.90	74.05
1.88	287.19	.351E+07	1006.1	1.14	58.21
2.35	287.66	.479E+07	1625.5	1.35	49.14
2.82	288.13	.615E+07	2349.4	1.52	43.66
3.29	288.60	.762E+07	3191.4	1.67	39.81
3.76	289.07	.920E+07	4167.1	1.81	36.82
4.23	289.54	.109E+08	5376.9	1.97	33.70
4.70	290.01	.126E+08	6727.2	2.13	31.20
5.17	290.48	.144E+08	8212.5	2.28	29.15
5.64	290.95	.162E+08	9832.3	2.42	27.45
6.14	291.45	.182E+08	11613.9	2.54	26.17
6.64	291.95	.204E+08	13494.1	2.64	25.22
7.14	292.45	.227E+08	15737.7	2.77	24.04
7.65	292.96	.250E+08	18236.4	2.91	22.87
8.15	293.46	.274E+08	21039.1	3.06	21.71
8.65	293.96	.299E+08	24153.7	3.23	20.61
9.15	294.46	.324E+08	27461.9	3.38	19.68

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0535)	368.77	0.20	14.08	5.77	0.00	0.30
OUTFLOW: ID= 1 (2582)	368.77	0.18	19.00	5.85	0.00	0.30

ADD HYD (0902)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2582):	368.77	0.180	19.00	5.85
+ ID2= 2 (0533):	148.96	0.129	12.42	6.94
ID = 3 (0902):	517.73	0.289	16.17	6.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0902)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0902):	517.73	0.289	16.17	6.17
+ ID2= 2 (0534):	362.89	0.200	14.75	6.60
ID = 1 (0902):	880.62	0.489	15.67	6.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2475)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning

0.00	274.34	0.0800		
45.33	273.75	0.0800	Main Channel	
84.05	273.66	0.0800	Main Channel	
170.48	272.24	0.0800	Main Channel	
192.02	272.56	0.0800	Main Channel	
224.03	273.42	0.0800	Main Channel	
245.59	273.21	0.0800	Main Channel	
256.03	272.60	0.0800	Main Channel	
277.65	270.67	0.0800	Main Channel	
309.77	266.61	0.0800	Main Channel	
350.71	265.11	0.0800	Main Channel	
363.61	266.71	0.0800	Main Channel	
405.42	269.63	0.0800	Main Channel	
432.26	270.78	0.0800	Main Channel	
526.12	272.61	0.0800	Main Channel	
578.83	272.77	0.0800	Main Channel	
621.09	272.50	0.0800	Main Channel	
715.98	272.47	0.0800	Main Channel	
779.53	273.23	0.0800 /0.0800	Main Channel	
806.79	273.33	0.0800		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	265.54	.699E+04	1.1	0.35	103.13
0.85	265.96	.280E+05	7.2	0.56	64.96
1.28	266.39	.629E+05	21.2	0.73	49.58
1.71	266.82	.111E+06	46.7	0.91	39.59
2.14	267.25	.168E+06	84.3	1.09	33.26
2.56	267.67	.234E+06	133.9	1.24	29.16
2.99	268.10	.309E+06	196.4	1.38	26.22
3.42	268.53	.393E+06	272.9	1.51	23.98
3.85	268.96	.485E+06	364.2	1.63	22.20
4.27	269.38	.586E+06	471.3	1.74	20.73
4.70	269.81	.697E+06	590.3	1.84	19.67
5.13	270.24	.819E+06	722.2	1.91	18.89
5.56	270.67	.953E+06	875.1	1.99	18.15
5.98	271.09	.110E+07	1015.3	1.99	18.12
6.41	271.52	.128E+07	1180.4	2.00	18.05
6.84	271.95	.148E+07	1383.9	2.03	17.80
7.27	272.38	.170E+07	1561.5	1.98	18.19
7.69	272.80	.209E+07	1370.6	1.42	25.47
8.12	273.23	.265E+07	1840.3	1.51	23.99

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0902)	880.62	0.49	15.67	6.41	0.18	0.35
OUTFLOW: ID= 1 (2475)	880.62	0.48	17.75	6.41	0.18	0.35

ADD HYD (0835)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2475):	880.62	0.481	17.75	6.41
+ ID2= 2 (0531):	221.44	0.179	13.33	8.00

ID = 3 (0835):	1102.06	0.648	16.75	6.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0835)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0835):	1102.06	0.648	16.75	6.74
+ ID2= 2 (0532):	109.68	0.099	12.42	7.36
ID = 1 (0835):	1211.74	0.737	16.08	6.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2390)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	260.60	0.0800	
108.85	258.29	0.0800	Main Channel
147.42	258.61	0.0800	Main Channel
230.20	257.32	0.0800	Main Channel
268.44	258.36	0.0800	Main Channel
308.82	257.39	0.0800	Main Channel
343.82	255.62	0.0800	Main Channel
378.92	255.88	0.0800	Main Channel
449.00	255.86	0.0800	Main Channel
569.07	254.78	0.0800	Main Channel
631.18	255.85	0.0800	Main Channel
671.70	256.39	0.0800	Main Channel
714.18	257.66	0.0800	Main Channel
802.80	258.64	0.0800	Main Channel
884.03	259.90	0.0800	Main Channel
905.15	260.57	0.0800	Main Channel
964.60	261.16	0.0800	Main Channel
1000.87	262.21	0.0800	Main Channel
1046.13	262.91	0.0800 /0.0800	Main Channel
1163.13	265.67	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	255.07	.805E+04	1.9	0.26	69.19
0.59	255.37	.322E+05	12.3	0.42	43.59
0.88	255.66	.726E+05	35.4	0.53	34.21
1.18	255.96	.144E+06	71.7	0.54	33.57
1.47	256.25	.246E+06	164.7	0.73	24.93
1.77	256.55	.357E+06	293.0	0.90	20.31
2.06	256.84	.473E+06	454.9	1.05	17.33
2.36	257.14	.594E+06	646.8	1.19	15.31
2.65	257.43	.721E+06	852.2	1.30	14.10
2.95	257.73	.862E+06	1054.8	1.34	13.62
3.24	258.02	.102E+07	1281.8	1.37	13.31
3.54	258.32	.121E+07	1557.4	1.41	12.92
3.83	258.61	.142E+07	1918.4	1.48	12.34
4.12	258.90	.165E+07	2390.5	1.58	11.53
4.46	259.24	.193E+07	2986.9	1.70	10.77
4.79	259.57	.222E+07	3650.6	1.80	10.13

5.12	259.90	.252E+07	4382.3	1.90	9.59	
5.45	260.23	.284E+07	5225.3	2.02	9.04	
5.78	260.56	.316E+07	6138.2	2.13	8.58	

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0835)	1211.74	0.74	16.08	6.80	0.11	0.26
OUTFLOW: ID= 1 (2390)	1211.74	0.73	17.42	6.80	0.11	0.26

ADD HYD (1928)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2390):	1211.74	0.732	17.42	6.80
+ ID2= 2(0530):	99.56	0.097	12.33	7.81
ID = 3 (1928):	1311.30	0.815	16.92	6.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2391)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	260.60	0.0800	
108.85	258.29	0.0800	Main Channel
147.42	258.61	0.0800	Main Channel
230.20	257.32	0.0800	Main Channel
268.44	258.36	0.0800	Main Channel
308.82	257.39	0.0800	Main Channel
343.82	255.62	0.0800	Main Channel
378.92	255.88	0.0800	Main Channel
449.00	255.86	0.0800	Main Channel
569.07	254.78	0.0800	Main Channel
631.18	255.85	0.0800	Main Channel
671.70	256.39	0.0800	Main Channel
714.18	257.66	0.0800	Main Channel
802.80	258.64	0.0800	Main Channel
884.03	259.90	0.0800	Main Channel
905.15	260.57	0.0800	Main Channel
964.60	261.16	0.0800	Main Channel
1000.87	262.21	0.0800	Main Channel
1046.13	262.91	0.0800 /0.0800	Main Channel
1163.13	265.67	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	255.07	.805E+04	1.6	0.22	82.57
0.59	255.37	.322E+05	10.3	0.35	52.01
0.88	255.66	.726E+05	29.6	0.45	40.82
1.18	255.96	.144E+06	60.0	0.46	40.06

1.47	256.25	.246E+06	138.0	0.61	29.75	
1.77	256.55	.357E+06	245.5	0.75	24.23	
2.06	256.84	.473E+06	381.1	0.88	20.68	
2.36	257.14	.594E+06	541.9	1.00	18.27	
2.65	257.43	.721E+06	714.0	1.09	16.82	
2.95	257.73	.862E+06	883.7	1.12	16.25	
3.24	258.02	.102E+07	1073.8	1.15	15.88	
3.54	258.32	.121E+07	1304.7	1.18	15.42	
3.83	258.61	.142E+07	1607.2	1.24	14.72	
4.12	258.90	.165E+07	2002.6	1.33	13.76	
4.46	259.24	.193E+07	2502.3	1.42	12.85	
4.79	259.57	.222E+07	3058.3	1.51	12.09	
5.12	259.90	.252E+07	3671.3	1.60	11.44	
5.45	260.23	.283E+07	4377.5	1.69	10.79	
5.78	260.56	.316E+07	5142.3	1.78	10.23	

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1928)	1311.30	0.82	16.92	6.88	0.15	0.22
OUTFLOW: ID= 1 (2391)	1311.30	0.81	18.50	6.88	0.15	0.22

ADD HYD (2066)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2391):	1311.30	0.806	18.50	6.88
+ ID2= 2 (0527):	69.88	0.080	11.33	7.60
ID = 3 (2066):	1381.18	0.863	17.92	6.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2066)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (2066):	1381.18	0.863	17.92	6.92
+ ID2= 2 (0528):	243.00	0.135	15.42	7.13
ID = 1 (2066):	1624.18	0.996	17.75	6.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2066)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2066):	1624.18	0.996	17.75	6.98
+ ID2= 2 (0529):	101.81	0.165	10.08	8.84

ID = 3 (2066): 1725.99 1.101 16.58 7.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2392)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	260.60	0.0800	
108.85	258.29	0.0800	Main Channel
147.42	258.61	0.0800	Main Channel
230.20	257.32	0.0800	Main Channel
268.44	258.36	0.0800	Main Channel
308.82	257.39	0.0800	Main Channel
343.82	255.62	0.0800	Main Channel
378.92	255.88	0.0800	Main Channel
449.00	255.86	0.0800	Main Channel
569.07	254.78	0.0800	Main Channel
631.18	255.85	0.0800	Main Channel
671.70	256.39	0.0800	Main Channel
714.18	257.66	0.0800	Main Channel
802.80	258.64	0.0800	Main Channel
884.03	259.90	0.0800	Main Channel
905.15	260.57	0.0800	Main Channel
964.60	261.16	0.0800	Main Channel
1000.87	262.21	0.0800	Main Channel
1046.13	262.91	0.0800 /0.0800	Main Channel
1163.13	265.67	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	255.07	.592E+04	2.5	0.34	39.66
0.59	255.37	.237E+05	15.8	0.54	24.98
0.88	255.66	.534E+05	45.4	0.69	19.61
1.18	255.96	.106E+06	92.0	0.70	19.24
1.47	256.25	.181E+06	211.5	0.94	14.29
1.77	256.55	.263E+06	376.1	1.15	11.64
2.06	256.84	.348E+06	584.0	1.35	9.93
2.36	257.14	.437E+06	830.4	1.53	8.77
2.65	257.43	.530E+06	1094.0	1.66	8.08
2.95	257.73	.634E+06	1354.1	1.72	7.81
3.24	258.02	.753E+06	1645.4	1.76	7.63
3.54	258.32	.889E+06	1999.2	1.81	7.41
3.83	258.61	.104E+07	2462.7	1.90	7.07
4.12	258.90	.122E+07	3068.7	2.03	6.61
4.46	259.24	.142E+07	3834.4	2.18	6.17
4.79	259.57	.163E+07	4686.4	2.31	5.81
5.12	259.90	.186E+07	5625.6	2.45	5.50
5.45	260.23	.209E+07	6707.8	2.59	5.18
5.78	260.56	.232E+07	7879.7	2.73	4.92

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2066)	1725.99	1.10	16.58	7.09	0.13	0.34
OUTFLOW: ID= 1 (2392)	1725.99	1.10	17.33	7.09	0.13	0.34

ROUTE CHN(3963)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.69	0.0800	
64.46	250.87	0.0800	Main Channel
155.77	250.61	0.0800	Main Channel
257.94	250.05	0.0800	Main Channel
302.99	248.82	0.0800	Main Channel
424.66	248.32	0.0800	Main Channel
437.71	247.22	0.0800	Main Channel
460.95	242.20	0.0800	Main Channel
479.13	239.57	0.0800	Main Channel
524.87	238.90	0.0800	Main Channel
575.27	238.64	0.0800	Main Channel
585.37	238.10	0.0800	Main Channel
696.77	240.10	0.0800	Main Channel
726.84	241.86	0.0800	Main Channel
757.08	244.60	0.0800	Main Channel
797.13	247.18	0.0800	Main Channel
867.24	247.59	0.0800	Main Channel
887.24	248.07	0.0800	Main Channel
907.30	247.56	0.0800 /0.0800	Main Channel
1101.81	249.42	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.59	238.69	.466E+04	3.3	0.25	23.92
1.18	239.28	.278E+05	31.5	0.40	14.71
1.77	239.87	.662E+05	109.1	0.58	10.12
2.36	240.46	.112E+06	245.3	0.77	7.63
2.96	241.06	.162E+06	432.7	0.94	6.23
3.55	241.65	.214E+06	665.0	1.09	5.37
4.14	242.24	.269E+06	945.7	1.24	4.75
4.73	242.83	.327E+06	1274.9	1.38	4.27
5.32	243.42	.386E+06	1646.4	1.50	3.91
5.91	244.01	.447E+06	2059.7	1.62	3.62
6.50	244.60	.510E+06	2514.2	1.74	3.38
7.09	245.19	.575E+06	2995.8	1.84	3.20
7.69	245.79	.643E+06	3519.3	1.93	3.05
8.28	246.38	.713E+06	4085.2	2.02	2.91
8.87	246.97	.786E+06	4694.2	2.10	2.79
9.46	247.56	.865E+06	4861.8	1.98	2.97
10.05	248.15	.967E+06	5368.8	1.96	3.00
10.67	248.77	.110E+07	5660.9	1.81	3.25
11.29	249.39	.127E+07	6705.4	1.86	3.16

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2392)	1725.99	1.10	17.33	7.09	0.20	0.25
OUTFLOW: ID= 1 (3963)	1725.99	1.10	17.75	7.09	0.20	0.25

ROUTE CHN(3964)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.69	0.0800	
64.46	250.87	0.0800	Main Channel
155.77	250.61	0.0800	Main Channel
257.94	250.05	0.0800	Main Channel
302.99	248.82	0.0800	Main Channel
424.66	248.32	0.0800	Main Channel
437.71	247.22	0.0800	Main Channel
460.95	242.20	0.0800	Main Channel
479.13	239.57	0.0800	Main Channel
524.87	238.90	0.0800	Main Channel
575.27	238.64	0.0800	Main Channel
585.37	238.10	0.0800	Main Channel
696.77	240.10	0.0800	Main Channel
726.84	241.86	0.0800	Main Channel
757.08	244.60	0.0800	Main Channel
797.13	247.18	0.0800	Main Channel
867.24	247.59	0.0800	Main Channel
887.24	248.07	0.0800	Main Channel
907.30	247.56	0.0800 /0.0800	Main Channel
1101.81	249.42	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.59	238.69	.222E+05	4.9	0.37	75.73
1.18	239.28	.132E+06	47.4	0.60	46.57
1.77	239.87	.315E+06	163.8	0.87	32.05
2.36	240.46	.534E+06	368.4	1.16	24.17
2.96	241.06	.769E+06	649.7	1.42	19.73
3.55	241.65	.102E+07	998.5	1.64	17.00
4.14	242.24	.128E+07	1419.9	1.86	15.03
4.73	242.83	.155E+07	1914.3	2.07	13.52
5.32	243.42	.183E+07	2472.2	2.26	12.37
5.91	244.01	.213E+07	3092.7	2.44	11.45
6.50	244.60	.242E+07	3775.2	2.61	10.71
7.09	245.19	.274E+07	4498.3	2.76	10.13
7.69	245.79	.306E+07	5284.3	2.90	9.64
8.28	246.38	.339E+07	6134.0	3.03	9.21
8.87	246.97	.374E+07	7048.4	3.16	8.84
9.46	247.56	.411E+07	7300.1	2.97	9.39
10.05	248.15	.460E+07	8061.4	2.94	9.51
10.67	248.77	.524E+07	8500.0	2.72	10.28
11.29	249.39	.604E+07	10068.3	2.79	10.00

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3963)	1725.99	1.10	17.75	7.09	0.13	0.37
OUTFLOW: ID= 1 (3964)	1725.99	1.09	19.17	7.09	0.13	0.37

CALIB	STANDHYD (0547)	ID= 1 DT= 5.0 min	Area (ha)= 74.34	Total Imp(%)= 40.58	Dir. Conn.(%)= 40.25

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	30.17	44.17
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	1.98	1.98
Length (m)=	703.99	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	6.56	
over (min)	15.00	35.00	
Storage Coeff. (min)=	12.96 (ii)	34.00 (ii)	
Unit Hyd. Tpeak (min)=	15.00	35.00	
Unit Hyd. peak (cms)=	0.08	0.03	
			TOTALS
PEAK FLOW (cms)=	1.59	0.52	2.021 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	10.74	22.52
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.26	0.54

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (0547)	ID= 1 DT= 5.0 min	Area (ha)= 214.45	Ia (mm)= 10.00	U.H. Tp(hrs)= 8.33	Curve Number (CN)= 71.2	# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.439

PEAK FLOW	(cms)=	0.130 (i)
TIME TO PEAK	(hrs)=	14.917
RUNOFF VOLUME	(mm)=	7.399
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0926)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (3964):	1725.99	1.087	19.17	7.09
		+ ID2= 2 (0547):	74.34	2.021	5.25	22.52
		ID = 3 (0926):	1800.33	2.023	5.25	7.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0926)	3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 3 (0926):	1800.33	2.023	5.25	7.73
		+ ID2= 2 (0548):	214.45	0.130	14.92	7.40
		ID = 1 (0926):	2014.78	2.041	5.25	7.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3965)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.69	0.0800	
64.46	250.87	0.0800	Main Channel
155.77	250.61	0.0800	Main Channel
257.94	250.05	0.0800	Main Channel
302.99	248.82	0.0800	Main Channel
424.66	248.32	0.0800	Main Channel
437.71	247.22	0.0800	Main Channel
460.95	242.20	0.0800	Main Channel
479.13	239.57	0.0800	Main Channel
524.87	238.90	0.0800	Main Channel
575.27	238.64	0.0800	Main Channel
585.37	238.10	0.0800	Main Channel
696.77	240.10	0.0800	Main Channel
726.84	241.86	0.0800	Main Channel
757.08	244.60	0.0800	Main Channel
797.13	247.18	0.0800	Main Channel
867.24	247.59	0.0800	Main Channel
887.24	248.07	0.0800	Main Channel
907.30	247.56	0.0800 /0.0800	Main Channel
1101.81	249.42	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.59	238.69	.118E+05	4.9	0.37	40.45
1.18	239.28	.707E+05	47.4	0.60	24.88
1.77	239.87	.168E+06	163.8	0.87	17.12
2.36	240.46	.285E+06	368.5	1.16	12.91
2.96	241.06	.411E+06	649.9	1.42	10.54
3.55	241.65	.544E+06	998.7	1.64	9.08
4.14	242.24	.684E+06	1420.3	1.86	8.03
4.73	242.83	.830E+06	1914.8	2.07	7.22
5.32	243.42	.980E+06	2472.8	2.26	6.61
5.91	244.01	.114E+07	3093.5	2.44	6.12
6.50	244.60	.130E+07	3776.2	2.61	5.72
7.09	245.19	.146E+07	4499.5	2.76	5.41
7.69	245.79	.163E+07	5285.7	2.90	5.15
8.28	246.38	.181E+07	6135.7	3.03	4.92
8.87	246.97	.200E+07	7050.4	3.16	4.72
9.46	247.56	.220E+07	7302.1	2.97	5.02
10.05	248.15	.246E+07	8063.6	2.94	5.08
10.67	248.77	.280E+07	8502.3	2.72	5.49
11.29	249.39	.323E+07	10071.0	2.79	5.34

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0926)	2014.78	2.04	5.25	7.72	0.25	0.37
OUTFLOW: ID= 1 (3965)	2014.78	1.52	5.50	7.72	0.18	0.37

ROUTE CHN(3711)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	232.75	0.0800	
98.57	232.47	0.0800	Main Channel
201.23	231.62	0.0800	Main Channel
244.75	231.87	0.0800	Main Channel
336.18	231.76	0.0800	Main Channel
458.81	231.26	0.0800	Main Channel
489.51	230.72	0.0800	Main Channel
572.04	228.18	0.0800	Main Channel
623.60	228.08	0.0800	Main Channel
654.55	225.61	0.0800	Main Channel
675.23	226.14	0.0800	Main Channel
705.86	229.84	0.0800	Main Channel
736.70	230.25	0.0800	Main Channel
820.43	229.22	0.0800	Main Channel
887.63	229.12	0.0800	Main Channel
950.33	228.86	0.0800	Main Channel
981.85	227.58	0.0800	Main Channel
1046.04	228.41	0.0800	Main Channel
1091.01	230.02	0.0800 /0.0800	Main Channel
1302.26	233.48	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	225.98	.323E+04	1.3	0.38	40.20
0.73	226.35	.123E+05	8.9	0.67	23.16
1.10	226.71	.244E+05	23.9	0.91	16.98
1.47	227.08	.391E+05	46.6	1.11	13.97
1.84	227.45	.564E+05	77.6	1.28	12.11
2.20	227.82	.789E+05	100.2	1.18	13.12
2.57	228.18	.118E+06	120.0	0.94	16.45
2.94	228.55	.189E+06	225.0	1.11	13.98
3.31	228.92	.272E+06	366.0	1.25	12.41
3.67	229.28	.389E+06	499.1	1.19	13.01
4.04	229.65	.542E+06	798.1	1.37	11.32
4.41	230.02	.715E+06	1158.2	1.50	10.29
4.80	230.41	.927E+06	1675.7	1.68	9.22
5.19	230.80	.116E+07	2351.3	1.89	8.20
5.58	231.19	.140E+07	3113.0	2.06	7.50
5.97	231.58	.167E+07	3791.8	2.10	7.35
6.36	231.97	.201E+07	4366.9	2.02	7.67
6.75	232.36	.240E+07	5733.9	2.21	6.98
7.14	232.75	.283E+07	7291.9	2.39	6.47

<---- hydrograph ----> <-pipe /
channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

(m/s)
INFLOW : ID= 2 (3965) 2014.78 1.52 5.50 7.72 0.38
0.39
OUTFLOW: ID= 1 (3711) 2014.78 1.24 6.17 7.72 0.34
0.38

| ROUTE CHN(3712) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	232.75	0.0800	
98.57	232.47	0.0800	Main Channel
201.23	231.62	0.0800	Main Channel
244.75	231.87	0.0800	Main Channel
336.18	231.76	0.0800	Main Channel
458.81	231.26	0.0800	Main Channel
489.51	230.72	0.0800	Main Channel
572.04	228.18	0.0800	Main Channel
623.60	228.08	0.0800	Main Channel
654.55	225.61	0.0800	Main Channel
675.23	226.14	0.0800	Main Channel
705.86	229.84	0.0800	Main Channel
736.70	230.25	0.0800	Main Channel
820.43	229.22	0.0800	Main Channel
887.63	229.12	0.0800	Main Channel
950.33	228.86	0.0800	Main Channel
981.85	227.58	0.0800	Main Channel
1046.04	228.41	0.0800	Main Channel
1091.01	230.02	0.0800 /0.0800	Main Channel
1302.26	233.48	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	225.98	.365E+04	1.1	0.32	55.14
0.73	226.35	.139E+05	7.3	0.55	31.77
1.10	226.71	.275E+05	19.7	0.75	23.29
1.47	227.08	.441E+05	38.4	0.91	19.16
1.84	227.45	.636E+05	63.9	1.05	16.60
2.20	227.82	.891E+05	82.5	0.97	17.99
2.57	228.18	.134E+06	98.8	0.77	22.55
2.94	228.55	.213E+06	185.2	0.91	19.18
3.31	228.92	.308E+06	301.3	1.03	17.01
3.67	229.28	.440E+06	411.0	0.98	17.84
4.04	229.65	.612E+06	657.1	1.12	15.53
4.41	230.02	.807E+06	953.6	1.24	14.11
4.80	230.41	.105E+07	1379.6	1.38	12.64
5.19	230.80	.131E+07	1935.8	1.55	11.24
5.58	231.19	.158E+07	2563.0	1.70	10.29
5.97	231.58	.189E+07	3121.9	1.73	10.08
6.36	231.97	.227E+07	3595.4	1.66	10.51
6.75	232.36	.271E+07	4720.9	1.82	9.57
7.14	232.75	.319E+07	6003.6	1.97	8.87

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3711)	2014.78	1.24	6.17	7.72	0.38	

0.32
OUTFLOW: ID= 1 (3712) 2014.78 1.20 21.33 7.72 0.37
0.32

CALIB	NASHYD (0542)	ID= 1 DT= 5.0 min
	Area (ha)= 7.14	Curve Number (CN)= 68.8
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.84	

Unit Hyd Qpeak (cms)= 0.066

PEAK FLOW (cms)= 0.015 (i)
TIME TO PEAK (hrs)= 8.417
RUNOFF VOLUME (mm)= 6.950
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.165

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0544)	ID= 1 DT= 5.0 min
	Area (ha)= 28.06	Curve Number (CN)= 66.4
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.51	

Unit Hyd Qpeak (cms)= 0.317

PEAK FLOW (cms)= 0.061 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 6.372
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.152

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0546)	ID= 1 DT= 5.0 min
	Area (ha)= 47.52	Curve Number (CN)= 72.8
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 1.82	

Unit Hyd Qpeak (cms)= 0.445

PEAK FLOW (cms)= 0.114 (i)
TIME TO PEAK (hrs)= 8.417
RUNOFF VOLUME (mm)= 8.062
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.192

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ROUTE CHN(2507) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
44.16	227.90	0.0800	
85.75	227.49	0.0800	Main Channel
95.22	227.26	0.0800	Main Channel
120.54	226.81	0.0800	Main Channel
143.73	226.71	0.0800	Main Channel
166.93	225.86	0.0800	Main Channel
174.21	225.52	0.0800	Main Channel
178.52	225.50	0.0800	Main Channel
193.95	225.68	0.0800	Main Channel
201.72	225.55	0.0800	Main Channel
224.91	226.06	0.0800	Main Channel
240.86	226.09	0.0800	Main Channel
248.11	226.24	0.0800	Main Channel
253.19	226.24	0.0800	Main Channel
259.70	226.33	0.0800	Main Channel
268.97	226.64	0.0800	Main Channel
282.90	227.33	0.0800	Main Channel
292.69	227.42	0.0800	Main Channel
312.43	227.90	0.0800 /0.0800	Main Channel
317.69	228.09	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	225.63	.184E+04	0.2	0.15	131.57
0.25	225.75	.703E+04	1.6	0.26	75.12
0.38	225.88	.137E+05	4.2	0.35	54.55
0.50	226.00	.216E+05	8.0	0.43	44.96
0.63	226.13	.318E+05	12.2	0.44	43.55
0.75	226.25	.446E+05	19.2	0.50	38.78
0.88	226.38	.597E+05	29.1	0.56	34.16
1.01	226.51	.760E+05	41.7	0.63	30.37
1.13	226.63	.933E+05	56.4	0.70	27.57
1.26	226.76	.112E+06	70.4	0.73	26.47
1.38	226.88	.134E+06	87.0	0.75	25.59
1.51	227.01	.157E+06	109.7	0.81	23.89
1.63	227.13	.182E+06	135.0	0.86	22.48
1.76	227.26	.208E+06	163.2	0.90	21.29
1.89	227.39	.236E+06	195.3	0.95	20.15
2.01	227.51	.267E+06	231.7	1.00	19.18
2.14	227.64	.300E+06	273.3	1.05	18.27
2.27	227.77	.335E+06	318.8	1.10	17.52
2.40	227.90	.373E+06	368.4	1.14	16.89

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0546)	47.52	0.11	8.42	8.06	0.06	
0.15						
OUTFLOW: ID= 1 (2507)	47.52	0.10	10.75	8.06	0.05	
0.15						

| ROUTE CHN(3718) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning
137.78	222.50	0.0800

152.55	222.18	0.0800 Main Channel
157.56	222.04	0.0800 Main Channel
162.17	221.88	0.0800 Main Channel
166.87	221.77	0.0800 Main Channel
180.12	221.35	0.0800 Main Channel
187.24	221.18	0.0800 Main Channel
197.43	221.11	0.0800 Main Channel
201.60	220.96	0.0800 Main Channel
207.61	220.93	0.0800 Main Channel
214.25	220.42	0.0800 Main Channel
217.80	220.16	0.0800 Main Channel
226.90	220.86	0.0800 Main Channel
227.99	220.87	0.0800 Main Channel
232.52	221.09	0.0800 Main Channel
238.18	221.33	0.0800 Main Channel
248.36	221.51	0.0800 Main Channel
252.19	221.57	0.0800 Main Channel
268.74	222.12	0.0800 /0.0800 Main Channel
278.93	222.40	0.0800

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.12	220.28	.138E+03	0.0	0.23	54.57
0.24	220.40	.553E+03	0.3	0.36	34.38
0.35	220.51	.124E+04	0.8	0.48	26.15
0.47	220.63	.220E+04	1.7	0.58	21.57
0.59	220.75	.343E+04	3.1	0.67	18.59
0.71	220.87	.493E+04	4.9	0.75	16.75
0.82	220.98	.698E+04	6.6	0.71	17.74
0.94	221.10	.983E+04	10.3	0.79	15.91
1.06	221.22	.136E+05	14.1	0.78	16.16
1.18	221.34	.184E+05	21.0	0.86	14.60
1.29	221.45	.240E+05	29.2	0.92	13.68
1.41	221.57	.305E+05	39.5	0.97	12.86
1.53	221.69	.378E+05	53.3	1.06	11.81
1.65	221.81	.457E+05	69.2	1.14	11.01
1.76	221.92	.544E+05	87.5	1.21	10.35
1.88	222.04	.637E+05	109.0	1.29	9.73
2.00	222.16	.738E+05	137.0	1.39	8.99
2.12	222.28	.848E+05	169.9	1.51	8.32
2.24	222.40	.967E+05	206.5	1.61	7.80

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2507)	47.52	0.10	10.75	8.06	0.15	
0.25						
OUTFLOW: ID= 1 (3718)	47.52	0.09	11.58	8.06	0.14	
0.25						

CALIB	STANDHYD (0541)	ID= 1 DT= 5.0 min
	Area (ha)= 44.48	
	Total Imp(%)= 59.89	Dir. Conn.(%)= 54.33

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	26.64	17.84
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.08	2.08

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     Length           (m)=       544.55         40.00
     Mannings n          =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        19.32          8.04
                over (min)        10.00         35.00
     Storage Coeff.  (min)=        10.94 (ii)    30.06 (ii)
     Unit Hyd. Tpeak (min)=        10.00         35.00
     Unit Hyd. peak  (cms)=         0.11          0.04
                                                                *TOTALS*
     PEAK FLOW       (cms)=         1.29          0.27           1.517 (iii)
     TIME TO PEAK    (hrs)=         5.25          5.58            5.25
     RUNOFF VOLUME    (mm)=        40.00         11.37           26.93
     TOTAL RAINFALL   (mm)=        42.00         42.00           42.00
     RUNOFF COEFFICIENT   =         0.95          0.27            0.64


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD (  0543)|   Area    (ha)=     33.87
|ID= 1 DT= 5.0 min |   Total Imp(%)=     57.03   Dir. Conn.(%)=  51.30
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        19.32         14.55
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         2.11          2.11
     Length            (m)=       475.18         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        19.32          7.97
                over (min)        10.00         30.00
     Storage Coeff.  (min)=        10.04 (ii)    29.14 (ii)
     Unit Hyd. Tpeak (min)=        10.00         30.00
     Unit Hyd. peak  (cms)=         0.11          0.04
                                                                *TOTALS*
     PEAK FLOW       (cms)=         0.93          0.22           1.126 (iii)
     TIME TO PEAK    (hrs)=         5.25          5.50            5.25
     RUNOFF VOLUME    (mm)=        40.00         11.33           26.03
     TOTAL RAINFALL   (mm)=        42.00         42.00           42.00
     RUNOFF COEFFICIENT   =         0.95          0.27            0.62


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  72.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  2111)|
|   1 +  2 =  3    |           AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  0541):      44.48      1.517        5.25       26.93
      + ID2= 2 (  0543):      33.87      1.126        5.25       26.03
        ===========================================================
        ID = 3 (  2111):      78.35      2.643        5.25       26.54
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR(  4017)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |       OUTFLOW      STORAGE   |     OUTFLOW
STORAGE
--------------------        (cms)       (ha.m.)   |   (cms)          (ha.m.)
                           0.0000       0.0000   |      1.1800
2.6257
                           0.5000       1.1441   |      1.5600
3.3759
                           0.7600       1.7255   |     15.6000
3.7510

                                  AREA        QPEAK        TPEAK       R.V.
                                  (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  2111)       78.350       2.643         5.25      26.54
   OUTFLOW: ID= 1 (  4017)       78.350       0.566         6.83      26.53

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.40
                   TIME SHIFT OF PEAK FLOW         (min)= 95.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.2911

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| CALIB              |
| STANDHYD (  0545)|   Area    (ha)=     30.53
|ID= 1 DT= 5.0 min |   Total Imp(%)=     38.62   Dir. Conn.(%)=  27.98
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        11.79         18.74
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         2.63          2.63
     Length            (m)=       451.15         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        19.32          9.77
                over (min)        10.00         30.00
     Storage Coeff.  (min)=         9.11 (ii)    25.59 (ii)
     Unit Hyd. Tpeak (min)=        10.00         30.00
     Unit Hyd. peak  (cms)=         0.12          0.04
                                                                *TOTALS*
     PEAK FLOW       (cms)=         0.46          0.37           0.791 (iii)
     TIME TO PEAK    (hrs)=         5.25          5.50            5.25
     RUNOFF VOLUME    (mm)=        40.00         13.42           20.86
     TOTAL RAINFALL   (mm)=        42.00         42.00           42.00
     RUNOFF COEFFICIENT   =         0.95          0.32            0.50


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  76.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1921)|
|   1 +  2 =  3    |           AREA      QPEAK       TPEAK        R.V.
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--------------------           (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  3712):    2014.78      1.200       21.33        7.72
      + ID2= 2 (  3718):      47.52      0.094       11.58        8.06
        ===========================================================
        ID = 3 (  1921):    2062.30      1.227       20.83        7.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1921)|
|   3 +  2 =  1    |           AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
        ID1= 3 (  1921):    2062.30      1.227       20.83        7.72
      + ID2= 2 (  4017):      78.35      0.566        6.83       26.53
        ===========================================================
        ID = 1 (  1921):    2140.65      1.635        7.17        8.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1921)|
|   1 +  2 =  3    |           AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  1921):    2140.65      1.635        7.17        8.41
      + ID2= 2 (  0542):       7.14      0.015        8.42        6.95
        ===========================================================
        ID = 3 (  1921):    2147.79      1.649        7.17        8.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1921)|
|   3 +  2 =  1    |           AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
        ID1= 3 (  1921):    2147.79      1.649        7.17        8.41
      + ID2= 2 (  0544):      28.06      0.061        8.25        6.37
        ===========================================================
        ID = 1 (  1921):    2175.85      1.706        7.25        8.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1921)|
|   1 +  2 =  3    |           AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  1921):    2175.85      1.706        7.25        8.38
      + ID2= 2 (  0545):      30.53      0.791        5.25       20.86
        ===========================================================
        ID = 3 (  1921):    2206.38      1.897        7.00        8.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3713)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00        232.75        0.0800
                  98.57        232.47        0.0800      Main Channel
                 201.23        231.62        0.0800      Main Channel
                 244.75        231.87        0.0800      Main Channel
                 336.18        231.76        0.0800      Main Channel
                 458.81        231.26        0.0800      Main Channel
                 489.51        230.72        0.0800      Main Channel
                 572.04        228.18        0.0800      Main Channel
                 623.60        228.08        0.0800      Main Channel
                 654.55        225.61        0.0800      Main Channel
                 675.23        226.14        0.0800      Main Channel
                 705.86        229.84        0.0800      Main Channel
                 736.70        230.25        0.0800      Main Channel
                 820.43        229.22        0.0800      Main Channel
                 887.63        229.12        0.0800      Main Channel
                 950.33        228.86        0.0800      Main Channel
                 981.85        227.58        0.0800      Main Channel
                1046.04        228.41        0.0800      Main Channel
                1091.01        230.02    0.0800 /0.0800  Main Channel
                1302.26        233.48        0.0800

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)      (cu.m.)        (cms)        (m/s)      (min)
       0.37   225.98    .351E+04          1.1         0.31      54.16
       0.73   226.35    .134E+05          7.1         0.54      31.20
       1.10   226.71    .265E+05         19.3         0.73      22.87
       1.47   227.08    .424E+05         37.6         0.89      18.82
       1.84   227.45    .612E+05         62.5         1.03      16.31
       2.20   227.82    .856E+05         80.8         0.95      17.67
       2.57   228.18    .129E+06         96.7         0.76      22.15
       2.94   228.55    .205E+06        181.4         0.89      18.84
       3.31   228.92    .296E+06        295.0         1.00      16.71
       3.67   229.28    .423E+06        402.3         0.96      17.52
       4.04   229.65    .589E+06        643.3         1.10      15.25
       4.41   230.02    .776E+06        933.6         1.21      13.86
       4.80   230.41    .101E+07       1350.6         1.35      12.42
       5.19   230.80    .126E+07       1895.2         1.52      11.04
       5.58   231.19    .152E+07       2509.1         1.66      10.10
       5.97   231.58    .181E+07       3056.3         1.70       9.90
       6.36   231.97    .218E+07       3519.8         1.63      10.33
       6.75   232.36    .261E+07       4621.6         1.79       9.40
       7.14   232.75    .307E+07       5877.4         1.93       8.71

                                        <---- hydrograph ---->   <-pipe /
channel->
                                    AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                    (ha)    (cms)   (hrs)   (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  1921)    2206.38     1.90    7.00   8.55      0.42
0.33
   OUTFLOW: ID= 1 (  3713)    2206.38     1.79    7.67   8.55      0.41
0.33


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| ROUTE CHN(  3098)|
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| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	217.16	0.0800	
62.20	217.40	0.0800	Main Channel
106.68	216.44	0.0800	Main Channel
182.42	216.33	0.0800	Main Channel
292.14	215.66	0.0800	Main Channel
343.32	216.27	0.0800	Main Channel
396.20	214.55	0.0800	Main Channel
435.35	215.13	0.0800	Main Channel
509.42	214.19	0.0800	Main Channel
521.48	211.40	0.0800	Main Channel
560.53	205.17	0.0800	Main Channel
649.64	207.06	0.0800	Main Channel
689.71	211.65	0.0800	Main Channel
810.08	214.51	0.0800	Main Channel
959.07	213.95	0.0800	Main Channel
1003.79	213.58	0.0800	Main Channel
1048.59	214.39	0.0800	Main Channel
1116.10	210.25	0.0800	Main Channel
1150.92	212.21	0.0800 /0.0800	Main Channel
1171.07	212.96	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.64	205.81	.183E+05	3.8	0.35	80.19
1.28	206.45	.731E+05	24.1	0.55	50.52
1.92	207.09	.164E+06	71.6	0.73	38.27
2.56	207.73	.278E+06	161.6	0.97	28.66
3.20	208.37	.402E+06	282.5	1.17	23.70
3.84	209.01	.536E+06	433.6	1.35	20.59
4.48	209.65	.680E+06	615.2	1.51	18.42
5.12	210.29	.835E+06	822.9	1.65	16.90
5.76	210.93	.101E+07	1001.0	1.65	16.86
6.40	211.57	.122E+07	1236.2	1.69	16.50
7.04	212.21	.148E+07	1473.5	1.67	16.70
7.69	212.86	.179E+07	1833.9	1.71	16.29
8.34	213.51	.216E+07	2284.1	1.76	15.79
8.99	214.16	.263E+07	2413.6	1.53	18.19
9.64	214.81	.335E+07	2900.2	1.45	19.22
10.28	215.45	.419E+07	3981.3	1.59	17.54
10.93	216.10	.511E+07	5017.8	1.64	16.98
11.58	216.75	.622E+07	6372.4	1.71	16.28
12.23	217.40	.742E+07	8470.3	1.91	14.60

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	3713)	2206.38	1.79	7.67	8.55	0.30	0.35
OUTFLOW: ID= 1 (	3098)	2206.38	1.59	9.17	8.55	0.27	0.35

ROUTE CHN(2751)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	206.36	0.0800	
88.97	205.27	0.0800	Main Channel
153.17	205.54	0.0800	Main Channel
177.21	205.94	0.0800	Main Channel
228.22	206.26	0.0800	Main Channel
268.66	201.56	0.0800	Main Channel
281.74	200.95	0.0800	Main Channel
353.67	200.32	0.0800	Main Channel
371.83	199.53	0.0800	Main Channel
410.56	204.08	0.0800	Main Channel
471.13	205.21	0.0800	Main Channel
565.00	205.47	0.0800	Main Channel
575.45	204.98	0.0800	Main Channel
617.41	205.40	0.0800	Main Channel
648.87	205.34	0.0800	Main Channel
711.72	205.92	0.0800	Main Channel
753.81	205.82	0.0800	Main Channel
846.99	205.63	0.0800	Main Channel
858.62	206.10	0.0800 /0.0800	Main Channel
927.90	206.50	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	199.88	.132E+04	0.6	0.31	35.57
0.71	200.24	.526E+04	3.9	0.50	22.41
1.06	200.59	.141E+05	10.7	0.51	22.02
1.41	200.94	.329E+05	30.3	0.61	18.12
1.77	201.30	.583E+05	73.2	0.84	13.27
2.12	201.65	.861E+05	132.9	1.03	10.80
2.47	202.00	.116E+06	210.4	1.22	9.16
2.83	202.36	.147E+06	302.9	1.38	8.07
3.18	202.71	.179E+06	410.2	1.53	7.27
3.54	203.07	.213E+06	532.1	1.67	6.67
3.89	203.42	.248E+06	668.6	1.80	6.18
4.24	203.77	.285E+06	819.8	1.92	5.79
4.60	204.13	.323E+06	977.7	2.02	5.51
4.95	204.48	.365E+06	1103.2	2.02	5.51
5.30	204.83	.412E+06	1255.0	2.04	5.47
5.66	205.19	.466E+06	1347.6	1.93	5.76
6.01	205.54	.557E+06	1251.4	1.50	7.42
6.42	205.95	.732E+06	1452.1	1.33	8.40
6.83	206.36	.961E+06	2093.7	1.46	7.65

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	3098)	2206.38	1.59	9.17	8.55	0.46	0.35
OUTFLOW: ID= 1 (	2751)	2206.38	1.57	9.67	8.55	0.45	0.35

CALIB	
STANDHYD (0540)|	Area (ha)= 151.40
ID= 1 DT= 5.0 min		Total Imp(%)= 25.94 Dir. Conn.(%)= 18.49

	IMPERVIOUS	PERVIOUS (i)

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	39.27	112.13	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.75	2.75	
Length	(m)=	1004.66	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	7.55	
over (min)		15.00	35.00	
Storage Coeff. (min)=		14.53 (ii)	32.56 (ii)	
Unit Hyd. Tpeak (min)=		15.00	35.00	
Unit Hyd. peak (cms)=		0.08	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.48	1.52	2.782 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.33
RUNOFF VOLUME	(mm)=	40.00	11.03	16.39
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.26	0.39

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1915)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (	2751):	2206.38	1.572	9.67	8.55
+ ID2= 2 (	0540):	151.40	2.782	5.33	16.39
ID = 3 (	1915):	2357.78	2.951	5.33	9.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2754)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	206.36	0.0800	
88.97	205.27	0.0800	Main Channel
153.17	205.54	0.0800	Main Channel
177.21	205.94	0.0800	Main Channel
228.22	206.26	0.0800	Main Channel
268.66	201.56	0.0800	Main Channel
281.74	200.95	0.0800	Main Channel
353.67	200.32	0.0800	Main Channel
371.83	199.53	0.0800	Main Channel
410.56	204.08	0.0800	Main Channel
471.13	205.21	0.0800	Main Channel
565.00	205.47	0.0800	Main Channel
575.45	204.98	0.0800	Main Channel
617.41	205.40	0.0800	Main Channel
648.87	205.34	0.0800	Main Channel
711.72	205.92	0.0800	Main Channel
753.81	205.82	0.0800	Main Channel

846.99	205.63	0.0800	Main Channel
858.62	206.10	0.0800 /0.0800	Main Channel
927.90	206.50	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	199.88	.127E+04	0.5	0.27	39.57
0.71	200.24	.507E+04	3.4	0.43	24.92
1.06	200.59	.138E+05	9.2	0.44	24.49
1.41	200.94	.317E+05	26.2	0.53	20.15
1.77	201.30	.562E+05	63.4	0.73	14.76
2.12	201.65	.830E+05	115.2	0.89	12.01
2.47	202.00	.111E+06	182.3	1.05	10.19
2.83	202.36	.141E+06	262.6	1.20	8.97
3.18	202.71	.173E+06	355.6	1.33	8.09
3.54	203.07	.205E+06	461.3	1.45	7.41
3.89	203.42	.239E+06	579.6	1.56	6.88
4.24	203.77	.275E+06	710.6	1.67	6.44
4.60	204.13	.311E+06	847.4	1.75	6.12
4.95	204.48	.352E+06	956.3	1.75	6.13
5.30	204.83	.397E+06	1087.9	1.76	6.09
5.66	205.19	.449E+06	1168.1	1.68	6.41
6.01	205.54	.537E+06	1084.7	1.30	8.25
6.42	205.95	.706E+06	1258.7	1.15	9.35
6.83	206.36	.927E+06	1814.8	1.26	8.51

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	1915)	2357.78	2.95	5.33	9.06	0.65	0.40
OUTFLOW: ID= 1 (	2754)	2357.78	2.44	5.58	9.06	0.59	0.36

CALIB	
STANDHYD (0539)|	Area (ha)= 68.79
ID= 1 DT= 5.0 min		Total Imp(%)= 26.67 Dir. Conn.(%)= 20.05

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	18.35	50.44	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.35	3.35	
Length	(m)=	677.20	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	7.21	
over (min)		10.00	30.00	
Storage Coeff. (min)=		10.81 (ii)	28.12 (ii)	
Unit Hyd. Tpeak (min)=		10.00	30.00	
Unit Hyd. peak (cms)=		0.11	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.74	0.70	1.355 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.63	16.52
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.25	0.39

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7605)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2754):	2357.78	2.435	5.58	9.06
	+ ID2= 2 (0539):	68.79	1.355	5.25	16.52
	ID = 3 (7605):	2426.57	3.553	5.33	9.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0549)	Area (ha)=	32.02	Curve Number (CN)=	72.0	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.71			

Unit Hyd Qpeak (cms)= 0.319

PEAK FLOW (cms)= 0.078 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 7.823
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0550)	Area (ha)=	69.88			
ID= 1 DT= 5.0 min	Total Imp(%)=	50.15	Dir. Conn.(%)=	46.06	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	35.05	34.83	
Dep. Storage (mm)=	2.00	5.00	
Average Slope (%)=	2.42	2.42	
Length (m)=	682.54	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	7.32	
over (min)	10.00	35.00	
Storage Coeff. (min)=	11.97 (ii)	30.95 (ii)	
Unit Hyd. Tpeak (min)=	10.00	35.00	
Unit Hyd. peak (cms)=	0.10	0.04	
			TOTALS
PEAK FLOW (cms)=	1.72	0.46	2.108 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	10.86	24.28
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.26	0.58

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4016)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	1.0700	2.2003
	0.4500	0.9088	1.4100	2.8699
	0.6900	1.4031	14.1000	3.1888

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0550)	69.880	2.108	5.25	24.28
OUTFLOW: ID= 1 (4016)	69.880	0.499	6.83	24.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.67
TIME SHIFT OF PEAK FLOW (min)= 95.00
MAXIMUM STORAGE USED (ha.m.)= 1.0096

ADD HYD (1350)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (4016):	69.88	0.499	6.83	24.28
	+ ID2= 2 (0549):	32.02	0.078	8.25	7.82
	ID = 3 (1350):	101.90	0.570	7.25	19.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3042)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
137.77	217.17	0.0800	
143.11	216.90	0.0800	Main Channel
147.92	216.87	0.0800	Main Channel
155.39	214.67	0.0800	Main Channel
158.07	213.98	0.0800	Main Channel
167.68	213.92	0.0800	Main Channel
168.22	213.92	0.0800	Main Channel
170.77	213.92	0.0800	Main Channel
178.37	213.92	0.0800	Main Channel
179.97	213.92	0.0800	Main Channel
188.52	213.92	0.0800	Main Channel
192.25	213.92	0.0800	Main Channel
198.67	213.92	0.0800	Main Channel
204.54	214.51	0.0800	Main Channel
208.82	214.66	0.0800	Main Channel

216.83	215.87	0.0800 /0.0800	Main Channel
218.97	216.19	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	214.03	.670E+04	0.8	0.17	144.65
0.23	214.15	.141E+05	2.6	0.28	90.32
0.34	214.26	.218E+05	5.2	0.36	69.26
0.46	214.38	.297E+05	8.6	0.44	57.61
0.57	214.49	.379E+05	12.6	0.50	50.06
0.69	214.61	.466E+05	17.0	0.55	45.71
0.80	214.72	.558E+05	22.3	0.60	41.74
0.92	214.84	.652E+05	28.5	0.66	38.14
1.03	214.95	.749E+05	35.4	0.71	35.28
1.15	215.07	.847E+05	42.9	0.76	32.94
1.26	215.18	.948E+05	51.0	0.81	30.98
1.38	215.30	.105E+06	59.7	0.86	29.32
1.49	215.41	.115E+06	69.0	0.90	27.88
1.61	215.53	.126E+06	78.9	0.94	26.62
1.72	215.64	.137E+06	89.4	0.99	25.51
1.84	215.76	.148E+06	100.6	1.03	24.53
1.95	215.87	.159E+06	112.2	1.06	23.64
2.11	216.03	.175E+06	130.8	1.13	22.33
2.27	216.19	.192E+06	150.5	1.19	21.22

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1350)	101.90	0.57	7.25	19.11	0.08	0.17
OUTFLOW: ID= 1 (3042)	101.90	0.46	9.83	19.10	0.07	0.17

ROUTE CHN(2824)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
88.54	211.78	0.0800	
95.63	211.55	0.0800	Main Channel
105.78	210.84	0.0800	Main Channel
107.90	210.70	0.0800	Main Channel
113.15	210.49	0.0800	Main Channel
120.18	210.17	0.0800	Main Channel
123.02	210.09	0.0800	Main Channel
132.46	209.87	0.0800	Main Channel
140.26	209.73	0.0800	Main Channel
144.73	209.60	0.0800	Main Channel
155.79	208.93	0.0800	Main Channel
157.50	208.85	0.0800	Main Channel
169.28	210.43	0.0800	Main Channel
174.74	211.09	0.0800	Main Channel
181.56	211.19	0.0800	Main Channel
191.98	211.35	0.0800	Main Channel
198.44	211.39	0.0800	Main Channel
206.11	211.45	0.0800	Main Channel
218.39	211.41	0.0800 /0.0800	Main Channel
226.46	211.64	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	208.99	.499E+03	0.0	0.17	169.89
0.28	209.13	.188E+04	0.3	0.27	107.46
0.43	209.28	.412E+04	0.8	0.36	82.49
0.57	209.42	.721E+04	1.8	0.43	68.36
0.71	209.56	.112E+05	3.2	0.50	59.07
0.85	209.70	.161E+05	4.9	0.54	55.05
0.99	209.84	.228E+05	7.1	0.55	53.88
1.14	209.99	.316E+05	10.5	0.59	50.07
1.28	210.13	.422E+05	15.3	0.64	46.07
1.42	210.27	.543E+05	21.7	0.71	41.63
1.56	210.41	.674E+05	29.6	0.78	38.00
1.71	210.56	.816E+05	38.6	0.84	35.27
1.85	210.70	.970E+05	48.8	0.89	33.10
1.99	210.84	.113E+06	61.2	0.96	30.86
2.13	210.98	.131E+06	76.4	1.03	28.50
2.29	211.14	.151E+06	92.6	1.08	27.19
2.45	211.30	.175E+06	106.7	1.08	27.29
2.61	211.46	.204E+06	111.4	0.97	30.45
2.77	211.62	.240E+06	143.7	1.06	27.78

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3042)	101.90	0.46	9.83	19.10	0.33	0.30
OUTFLOW: ID= 1 (2824)	101.90	0.42	11.58	19.09	0.32	0.29

ROUTE CHN(3832)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
56.08	202.69	0.0800	
74.66	202.40	0.0800	Main Channel
86.68	202.08	0.0800	Main Channel
92.14	201.87	0.0800	Main Channel
113.77	201.08	0.0800	Main Channel
120.98	200.91	0.0800	Main Channel
128.19	200.55	0.0800	Main Channel
142.61	199.77	0.0800	Main Channel
149.82	199.31	0.0800	Main Channel
157.04	199.07	0.0800	Main Channel
164.25	199.51	0.0800	Main Channel
170.81	199.64	0.0800	Main Channel
178.67	200.13	0.0800	Main Channel
182.83	200.18	0.0800	Main Channel
185.88	200.33	0.0800	Main Channel
190.46	200.46	0.0800	Main Channel
200.30	200.96	0.0800	Main Channel
208.49	201.24	0.0800	Main Channel
218.88	202.51	0.0800 /0.0800	Main Channel
221.94	202.74	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.19	199.26	.687E+03	0.2	0.23	61.19
0.38	199.45	.263E+04	1.2	0.38	36.61
0.56	199.63	.577E+04	3.2	0.46	30.46
0.75	199.82	.103E+05	7.2	0.58	23.92
0.94	200.01	.159E+05	13.0	0.69	20.30
1.13	200.20	.226E+05	20.1	0.74	18.70
1.32	200.39	.308E+05	30.4	0.83	16.86
1.50	200.57	.404E+05	43.7	0.90	15.42
1.69	200.76	.512E+05	60.3	0.98	14.15
1.88	200.95	.632E+05	79.6	1.05	13.23
2.07	201.14	.769E+05	100.3	1.09	12.77
2.26	201.33	.923E+05	128.2	1.16	12.01
2.45	201.52	.109E+06	161.8	1.24	11.22
2.63	201.70	.127E+06	199.6	1.32	10.56
2.82	201.89	.145E+06	241.9	1.39	10.01
3.01	202.08	.165E+06	289.0	1.46	9.51
3.20	202.27	.186E+06	348.2	1.56	8.90
3.40	202.47	.210E+06	418.0	1.66	8.37
3.60	202.67	.236E+06	497.9	1.76	7.92

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2824)	101.90	0.42	11.58	19.09	0.23	0.25
OUTFLOW: ID= 1 (3832)	101.90	0.41	12.42	19.09	0.23	0.25

CALIB
STANDHYD (0538) | Area (ha)= 105.10
ID= 1 DT= 5.0 min | Total Imp(%)= 32.32 Dir. Conn.(%)= 23.07

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.97	71.13
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.75	2.75
Length	(m)=	837.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.72
over (min)		15.00	35.00
Storage Coeff. (min)=		13.03 (ii)	30.04 (ii)
Unit Hyd. Tpeak (min)=		15.00	35.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	2.277 (iii)
TIME TO PEAK	(hrs)=	5.33
RUNOFF VOLUME	(mm)=	18.73
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.45

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7604)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3832):	101.90	0.415	12.42	19.09
+ ID2= 2 (0538):	105.10	2.277	5.33	18.73
ID = 3 (7604):	207.00	2.284	5.33	18.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (0537) | Area (ha)= 44.68
ID= 1 DT= 5.0 min | Total Imp(%)= 40.66 Dir. Conn.(%)= 28.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.17	26.51
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.96	2.96
Length	(m)=	545.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.62
over (min)		10.00	30.00
Storage Coeff. (min)=		9.86 (ii)	25.87 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

		TOTALS
PEAK FLOW	(cms)=	1.150 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	20.73
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.49

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1424)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0537):	44.68	1.150	5.25	20.73
+ ID2= 2 (7604):	207.00	2.284	5.33	18.91
ID = 3 (1424):	251.68	3.424	5.25	19.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1424)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1424):	251.68	3.424	5.25	19.23
+ ID2= 2 (7605):	2426.57	3.553	5.33	9.27
ID = 1 (1424):	2678.25	6.935	5.33	10.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3996)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	201.33	0.0800	
48.21	200.42	0.0800	Main Channel
58.29	200.03	0.0800	Main Channel
108.67	197.44	0.0800	Main Channel
129.73	196.84	0.0800	Main Channel
148.85	197.56	0.0800	Main Channel
157.85	198.64	0.0800	Main Channel
330.90	195.25	0.0800	Main Channel
341.68	194.45	0.0800	Main Channel
363.07	195.28	0.0800	Main Channel
373.90	194.78	0.0800	Main Channel
395.45	195.10	0.0800	Main Channel
417.01	195.37	0.0800	Main Channel
456.84	197.56	0.0800	Main Channel
535.18	199.53	0.0800	Main Channel
581.93	199.59	0.0800	Main Channel
611.99	199.55	0.0800	Main Channel
630.99	200.14	0.0800	Main Channel
843.51	201.35	0.0800 /0.0800	Main Channel
892.59	201.82	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	194.80	.136E+04	0.4	0.16	58.38
0.70	195.15	.885E+04	3.5	0.23	41.96
1.05	195.50	.255E+05	14.6	0.33	29.11
1.39	195.84	.479E+05	36.2	0.43	22.05
1.74	196.19	.750E+05	68.1	0.52	18.38
2.09	196.54	.107E+06	111.2	0.59	16.03
2.44	196.89	.144E+06	165.1	0.65	14.51
2.79	197.24	.188E+06	225.3	0.68	13.91
3.14	197.59	.241E+06	306.4	0.72	13.13
3.49	197.94	.303E+06	409.2	0.77	12.33
3.84	198.29	.373E+06	534.3	0.81	11.62
4.18	198.63	.450E+06	683.5	0.86	10.98
4.53	198.98	.535E+06	879.7	0.93	10.13
4.88	199.33	.623E+06	1100.1	1.00	9.43
5.23	199.68	.720E+06	1234.1	0.97	9.72
5.58	200.03	.831E+06	1533.9	1.05	9.03
5.93	200.38	.948E+06	1812.8	1.09	8.72
6.36	200.81	.111E+07	2180.4	1.11	8.51
6.80	201.25	.130E+07	2619.4	1.14	8.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1424)	2678.25	6.93	5.33	10.20	0.81	0.25
OUTFLOW: ID= 1 (3996)	2678.25	5.21	5.75	10.20	0.75	0.24

CALIB
NASHYD (0536) | Area (ha)= 87.09 Curve Number (CN)= 72.8
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 3.82

Unit Hyd Qpeak (cms)= 0.389

PEAK FLOW (cms)= 0.114 (i)
TIME TO PEAK (hrs)= 10.750
RUNOFF VOLUME (mm)= 8.066
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.192

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1380)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3996):	2678.25	5.212	5.75	10.20
+ ID2= 2 (0536):	87.09	0.114	10.75	8.07
ID = 3 (1380):	2765.34	5.254	5.75	10.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0554) | Area (ha)= 33.85 Curve Number (CN)= 66.4
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 2.31

Unit Hyd Qpeak (cms)= 0.250

PEAK FLOW (cms)= 0.053 (i)
TIME TO PEAK (hrs)= 9.083
RUNOFF VOLUME (mm)= 6.375
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.152

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0557) | Area (ha)= 228.90 Curve Number (CN)= 72.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 1.50
U.H. Tp(hrs)= 6.00

```
     Unit Hyd Qpeak  (cms)=     0.651

     PEAK FLOW       (cms)=     0.195 (i)
     TIME TO PEAK    (hrs)=    12.917
     RUNOFF VOLUME    (mm)=     7.790
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.185

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0559)|   Area    (ha)=     87.86   Curve Number   (CN)= 71.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      3.33

     Unit Hyd Qpeak  (cms)=     0.450

     PEAK FLOW       (cms)=     0.122 (i)
     TIME TO PEAK    (hrs)=    10.167
     RUNOFF VOLUME    (mm)=     7.597
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.181

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1333)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0557):    228.90      0.195       12.92        7.79
     + ID2= 2 (  0559):     87.86      0.122       10.17        7.60
       ================================================================
       ID = 3 (  1333):    316.76      0.311       12.08        7.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3017)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         231.44        0.0800
                12.39         231.10        0.0800      Main Channel
                26.38         230.32        0.0800      Main Channel
                32.10         229.94        0.0800      Main Channel
                40.37         229.61        0.0800      Main Channel
                46.40         229.31        0.0800      Main Channel
                54.37         228.89        0.0800      Main Channel
                60.69         228.66        0.0800      Main Channel
                68.36         228.37        0.0800      Main Channel
                74.99         228.30        0.0800      Main Channel
                82.35         228.23        0.0800      Main Channel
                89.29         227.57        0.0800      Main Channel
                96.34         227.72        0.0800      Main Channel
               103.58         229.15        0.0800      Main Channel
               110.34         229.77        0.0800      Main Channel
               124.33         230.57        0.0800      Main Channel
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               132.18         230.76        0.0800      Main Channel
               138.32         230.96        0.0800      Main Channel
               146.47         231.17     0.0800 /0.0800 Main Channel
               152.31         231.28        0.0800

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.18   227.75    .943E+03          0.2         0.21      79.74
       0.37   227.94    .288E+04          1.1         0.37      45.45
       0.55   228.12    .534E+04          2.6         0.48      34.74
       0.73   228.30    .858E+04          4.0         0.47      35.45
       0.92   228.49    .143E+05          7.5         0.52      31.84
       1.10   228.67    .212E+05         13.1         0.62      27.10
       1.28   228.85    .293E+05         20.3         0.70      23.98
       1.47   229.04    .383E+05         29.8         0.78      21.38
       1.65   229.22    .481E+05         41.2         0.86      19.48
       1.83   229.40    .589E+05         54.2         0.92      18.13
       2.02   229.59    .708E+05         69.4         0.98      17.01
       2.20   229.77    .838E+05         86.4         1.03      16.16
       2.38   229.95    .980E+05        105.1         1.07      15.54
       2.57   230.14    .114E+06        128.2         1.13      14.77
       2.75   230.32    .130E+06        154.0         1.18      14.09
       2.99   230.56    .154E+06        196.2         1.28      13.05
       3.23   230.80    .180E+06        237.4         1.32      12.62
       3.47   231.04    .209E+06        286.8         1.37      12.14
       3.71   231.28    .242E+06        349.1         1.44      11.54

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1333)     316.76     0.31   12.08   7.76      0.21
0.22
   OUTFLOW: ID= 1 (  3017)     316.76     0.31   13.08   7.76      0.21
0.22

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| CALIB            |
| NASHYD   (  0558)|   Area    (ha)=     79.28   Curve Number   (CN)= 72.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.40

     Unit Hyd Qpeak  (cms)=     0.564

     PEAK FLOW       (cms)=     0.153 (i)
     TIME TO PEAK    (hrs)=     9.167
     RUNOFF VOLUME    (mm)=     8.065
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.192

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1204)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3017):    316.76      0.306       13.08        7.76
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     + ID2= 2 (  0558):     79.28      0.153        9.17        8.06
       ================================================================
       ID = 3 (  1204):    396.04      0.433       11.75        7.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2834)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                140.61         227.16        0.0800
                151.75         227.26        0.0800      Main Channel
                153.72         227.20        0.0800      Main Channel
                164.64         226.14        0.0800      Main Channel
                166.82         225.95        0.0800      Main Channel
                167.22         225.89        0.0800      Main Channel
                179.93         224.29        0.0800      Main Channel
                182.68         224.07        0.0800      Main Channel
                193.04         223.69        0.0800      Main Channel
                198.15         223.45        0.0800      Main Channel
                206.15         223.70        0.0800      Main Channel
                213.62         224.32        0.0800      Main Channel
                219.26         224.82        0.0800      Main Channel
                229.09         225.68        0.0800      Main Channel
                232.36         225.91        0.0800      Main Channel
                244.55         226.50        0.0800      Main Channel
                250.57         226.69        0.0800      Main Channel
                258.58         226.93        0.0800      Main Channel
                260.02         226.98     0.0800 /0.0800 Main Channel
                271.69         227.41        0.0800

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.19   223.64    .764E+03          0.2         0.25      55.71
       0.37   223.82    .298E+04          1.5         0.41      33.72
       0.56   224.01    .634E+04          4.1         0.54      25.51
       0.74   224.19    .107E+05          8.8         0.68      20.45
       0.93   224.38    .159E+05         15.4         0.81      17.15
       1.11   224.56    .215E+05         24.1         0.93      14.92
       1.30   224.75    .278E+05         34.7         1.04      13.36
       1.49   224.94    .346E+05         47.2         1.14      12.19
       1.67   225.12    .419E+05         61.9         1.23      11.28
       1.86   225.31    .498E+05         78.8         1.31      10.54
       2.04   225.49    .583E+05         97.9         1.40       9.92
       2.23   225.68    .673E+05        119.4         1.47       9.39
       2.42   225.87    .769E+05        142.7         1.54       8.98
       2.60   226.05    .872E+05        166.9         1.59       8.70
       2.79   226.24    .984E+05        193.5         1.63       8.47
       2.97   226.42    .110E+06        223.5         1.68       8.24
       3.16   226.61    .123E+06        254.8         1.71       8.08
       3.34   226.79    .138E+06        288.4         1.74       7.96
       3.53   226.98    .153E+06        326.8         1.77       7.81

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1204)     396.04     0.43   11.75   7.82      0.22
0.27
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   OUTFLOW: ID= 1 (  2834)     396.04     0.43   12.50   7.82      0.22
0.27

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--------------------
| CALIB            |
| STANDHYD (  0556)|   Area    (ha)=      9.05
|ID= 1 DT= 5.0 min |   Total Imp(%)=     40.42   Dir. Conn.(%)=  28.23
--------------------

                                 IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=           3.66            5.39
     Dep. Storage     (mm)=           2.00            5.00
     Average Slope     (%)=           2.32            2.32
     Length            (m)=         245.63           40.00
     Mannings n           =          0.013           0.250

     Max.Eff.Inten.(mm/hr)=          19.32            9.42
               over (min)            5.00           25.00
     Storage Coeff.  (min)=           6.57 (ii)      23.94 (ii)
     Unit Hyd. Tpeak (min)=           5.00           25.00
     Unit Hyd. peak  (cms)=           0.18            0.05
                                                              *TOTALS*
     PEAK FLOW       (cms)=           0.14            0.11      0.236 (iii)
     TIME TO PEAK    (hrs)=           5.25            5.42       5.25
     RUNOFF VOLUME    (mm)=          40.00           12.62      20.35
     TOTAL RAINFALL   (mm)=          42.00           42.00      42.00
     RUNOFF COEFFICIENT   =           0.95            0.30       0.48

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  73.6     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0997)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2834):    396.04      0.429       12.50        7.82
     + ID2= 2 (  0556):      9.05      0.236        5.25       20.35
       ================================================================
       ID = 3 (  0997):    405.09      0.435       12.25        8.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2583)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 89.42         223.74        0.0800
                 97.73         223.46        0.0800      Main Channel
                105.09         222.33        0.0800      Main Channel
                108.78         221.93        0.0800      Main Channel
                112.94         220.93        0.0800      Main Channel
                119.83         219.51        0.0800      Main Channel
                125.93         218.45        0.0800      Main Channel
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                130.87        217.54        0.0800       Main Channel
                152.97        216.75        0.0800       Main Channel
                159.98        216.61        0.0800       Main Channel
                164.02        216.51        0.0800       Main Channel
                175.07        216.32        0.0800       Main Channel
                183.50        216.97        0.0800       Main Channel
                186.12        217.21        0.0800       Main Channel
                197.16        217.83        0.0800       Main Channel
                207.03        218.97        0.0800       Main Channel
                208.21        219.16        0.0800       Main Channel
                209.26        219.45        0.0800       Main Channel
                219.26        222.08    0.0800 /0.0800   Main Channel
                230.31        223.61        0.0800

      <-------------------- TRAVEL TIME TABLE --------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)         (m/s)      (min)
       0.36   216.68    .356E+04          1.4           0.33      41.50
       0.72   217.04    .129E+05          8.6           0.54      24.95
       1.08   217.40    .266E+05         23.1           0.71      19.19
       1.44   217.76    .446E+05         48.1           0.88      15.46
       1.80   218.12    .649E+05         85.1           1.07      12.72
       2.16   218.48    .868E+05        131.7           1.23      10.98
       2.52   218.84    .110E+06        187.4           1.39       9.79
       2.88   219.20    .135E+06        253.6           1.53       8.86
       3.24   219.56    .161E+06        331.2           1.68       8.09
       3.60   219.92    .188E+06        418.6           1.82       7.47
       3.96   220.28    .215E+06        515.2           1.95       6.97
       4.32   220.64    .244E+06        620.9           2.07       6.55
       4.68   221.00    .274E+06        735.9           2.19       6.20
       5.04   221.36    .304E+06        861.1           2.30       5.89
       5.40   221.72    .335E+06        995.3           2.41       5.62
       5.76   222.08    .368E+06       1134.0           2.51       5.40
       6.27   222.59    .416E+06       1368.4           2.68       5.06
       6.78   223.10    .467E+06       1641.6           2.86       4.74
       7.29   223.61    .521E+06       1938.8           3.03       4.48

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0097)     405.09     0.44   12.25   8.10      0.11
0.33
   OUTFLOW: ID= 1 (  2583)     405.09     0.43   12.92   8.10      0.11
0.33

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| ADD HYD  (  2030)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2583):    405.09      0.429       12.92        8.10
     + ID2= 2 (  0554):     33.85      0.053        9.08        6.38
       ========================================================
       ID = 3 (  2030):    438.94      0.471       12.58        7.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3930)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   97.65        218.89        0.0800
                  106.02        218.81        0.0800       Main Channel
                  110.34        218.79        0.0800       Main Channel
                  127.79        218.50        0.0800       Main Channel
                  135.72        218.38        0.0800       Main Channel
                  144.03        217.81        0.0800       Main Channel
                  148.41        217.35        0.0800       Main Channel
                  160.27        212.78        0.0800       Main Channel
                  161.10        212.49        0.0800       Main Channel
                  164.03        212.39        0.0800       Main Channel
                  173.79        212.05        0.0800       Main Channel
                  176.52        211.99        0.0800       Main Channel
                  186.48        211.76        0.0800       Main Channel
                  192.76        211.65        0.0800       Main Channel
                  199.17        211.55        0.0800       Main Channel
                  209.00        211.70        0.0800       Main Channel
                  211.86        212.04        0.0800       Main Channel
                  222.04        215.60        0.0800       Main Channel
                  225.25        216.65    0.0800 /0.0800   Main Channel
                  237.24        218.70        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)         (m/s)      (min)
       0.36   211.91    .488E+04          2.3           0.33      35.28
       0.73   212.28    .150E+05         11.6           0.55      21.54
       1.09   212.64    .279E+05         29.5           0.75      15.77
       1.46   213.01    .419E+05         56.4           0.96      12.36
       1.82   213.37    .563E+05         90.2           1.14      10.40
       2.19   213.74    .712E+05        130.3           1.30       9.11
       2.55   214.10    .867E+05        176.7           1.44       8.18
       2.91   214.46    .103E+06        229.0           1.58       7.47
       3.28   214.83    .119E+06        287.2           1.71       6.92
       3.64   215.19    .136E+06        351.1           1.83       6.46
       4.01   215.56    .154E+06        420.9           1.94       6.09
       4.37   215.92    .172E+06        496.2           2.05       5.77
       4.74   216.29    .190E+06        577.2           2.15       5.50
       5.10   216.65    .209E+06        664.0           2.25       5.26
       5.46   217.01    .229E+06        763.6           2.36       5.00
       5.87   217.42    .252E+06        879.5           2.47       4.78
       6.28   217.83    .277E+06        986.8           2.52       4.68
       6.69   218.24    .304E+06       1089.9           2.54       4.65
       7.10   218.65    .335E+06       1114.0           2.36       5.01

                                      <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2030)     438.94     0.47   12.58   7.97      0.07
0.33
   OUTFLOW: ID= 1 (  3930)     438.94     0.47   13.25   7.97      0.07
0.33

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| CALIB            |
| STANDHYD (  0552)|   Area    (ha)=     13.96
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|ID= 1 DT= 5.0 min |   Total Imp(%)=     21.44   Dir. Conn.(%)=  14.89
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        2.99           10.97
     Dep. Storage     (mm)=        2.00            5.00
     Average Slope     (%)=        3.84            3.84
     Length            (m)=      305.07           40.00
     Mannings n           =       0.013           0.250

     Max.Eff.Inten.(mm/hr)=       19.32            6.37
           over (min)             5.00           25.00
     Storage Coeff. (min)=        6.43 (ii)      23.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00           25.00
     Unit Hyd. peak  (cms)=       0.18            0.05
                                                              *TOTALS*
     PEAK FLOW       (cms)=       0.11            0.14          0.244 (iii)
     TIME TO PEAK    (hrs)=       5.25            5.42          5.25
     RUNOFF VOLUME    (mm)=      40.00            9.46         14.01
     TOTAL RAINFALL   (mm)=      42.00           42.00         42.00
     RUNOFF COEFFICIENT   =       0.95            0.23          0.33

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
            YOU SHOULD CONSIDER SPLITTING THE AREA.

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  68.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7608)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3930):    438.94      0.468       13.25        7.97
     + ID2= 2 (  0552):     13.96      0.244        5.25       14.01
       ========================================================
       ID = 3 (  7608):    452.90      0.469       13.00        8.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0555)|   Area    (ha)=     80.53   Curve Number   (CN)= 70.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      2.64

     Unit Hyd Qpeak  (cms)=     0.520

     PEAK FLOW       (cms)=     0.132 (i)
     TIME TO PEAK    (hrs)=     9.333
     RUNOFF VOLUME    (mm)=     7.374
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.176

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| NASHYD   (  0560)|   Area    (ha)=    339.61   Curve Number   (CN)= 72.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      5.29

     Unit Hyd Qpeak  (cms)=     1.096

     PEAK FLOW       (cms)=     0.325 (i)
     TIME TO PEAK    (hrs)=    12.417
     RUNOFF VOLUME    (mm)=     7.811
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.186

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ROUTE CHN(  3045)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
                Distance      Elevation       Manning
                   0.00        233.18        0.0800
                  17.61        233.09        0.0800       Main Channel
                  54.20        232.74        0.0800       Main Channel
                  90.79        232.16        0.0800       Main Channel
                 127.38        231.50        0.0800       Main Channel
                 150.80        231.19        0.0800       Main Channel
                 163.98        230.55        0.0800       Main Channel
                 168.27        230.21        0.0800       Main Channel
                 200.57        227.15        0.0800       Main Channel
                 203.20        227.06        0.0800       Main Channel
                 220.66        226.99        0.0800       Main Channel
                 224.96        227.06        0.0800       Main Channel
                 238.13        228.56        0.0800       Main Channel
                 249.36        230.01        0.0800       Main Channel
                 255.59        230.69        0.0800       Main Channel
                 261.56        231.28        0.0800       Main Channel
                 275.37        232.27        0.0800       Main Channel
                 290.52        232.98        0.0800       Main Channel
                 298.15        233.17    0.0800 /0.0800   Main Channel
                 358.16        232.41        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE    VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)         (cms)         (m/s)      (min)
       0.27   227.26    .575E+04          2.0           0.34      47.70
       0.55   227.54    .138E+05          7.7           0.55      29.94
       0.82   227.81    .233E+05         16.6           0.70      23.36
       1.10   228.09    .342E+05         28.9           0.83      19.74
       1.37   228.36    .465E+05         44.6           0.94      17.36
       1.64   228.63    .602E+05         64.2           1.04      15.64
       1.92   228.91    .754E+05         87.8           1.14      14.30
       2.19   229.18    .918E+05        115.5           1.23      13.24
       2.46   229.45    .110E+06        147.6           1.32      12.38
       2.74   229.73    .129E+06        184.1           1.40      11.65
       3.01   230.00    .149E+06        225.4           1.48      11.03
       3.29   230.28    .171E+06        270.6           1.55      10.54
       3.56   230.55    .195E+06        320.2           1.61      10.12
       3.83   230.82    .220E+06        370.5           1.65       9.89
       4.11   231.10    .247E+06        427.2           1.69       9.65
       4.38   231.37    .278E+06        466.5           1.64       9.94
       4.65   231.64    .315E+06        516.5           1.61      10.17
       4.93   231.92    .357E+06        587.2           1.61      10.14
       5.20   232.19    .404E+06        671.4           1.63      10.04
```

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0560)	339.61	0.33	12.42	7.81	0.04	0.34
OUTFLOW: ID= 1 (3045)	339.61	0.32	13.25	7.83	0.04	0.34

CALIB NASHYD (0561) ID= 1 DT= 5.0 min	Area (ha)= 146.57	Curve Number (CN)= 71.2
	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)= 4.64	

Unit Hyd Qpeak (cms)= 0.539

PEAK FLOW (cms)= 0.153 (i)
TIME TO PEAK (hrs)= 12.083
RUNOFF VOLUME (mm)= 7.592
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.181

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1278) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3045):	339.61	0.323	13.25	7.83
+ ID2= 2 (0561):	146.57	0.153	12.08	7.59
ID = 3 (1278):	486.18	0.473	12.83	7.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2934) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	230.00	0.0800	
38.59	228.67	0.0800	Main Channel
49.65	227.67	0.0800	Main Channel
60.72	227.55	0.0800	Main Channel
82.85	228.59	0.0800	Main Channel
116.04	229.24	0.0800	Main Channel
127.11	229.25	0.0800	Main Channel
149.24	228.68	0.0800	Main Channel
171.37	222.99	0.0800	Main Channel
182.43	221.48	0.0800	Main Channel
193.50	221.13	0.0800	Main Channel
204.56	221.16	0.0800	Main Channel
226.69	221.93	0.0800	Main Channel
237.76	223.55	0.0800	Main Channel

270.95	227.21	0.0800	Main Channel
304.15	229.95	0.0800	Main Channel
315.22	230.19	0.0800	Main Channel
337.35	230.08	0.0800	Main Channel
371.93	229.76	0.0800 /0.0800	Main Channel
391.95	229.70	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	221.60	.105E+05	5.4	0.49	32.57
0.93	222.06	.300E+05	24.7	0.79	20.23
1.40	222.53	.535E+05	59.6	1.06	14.95
1.87	223.00	.800E+05	108.2	1.29	12.32
2.34	223.47	.109E+06	172.2	1.51	10.56
2.80	223.93	.141E+06	248.5	1.69	9.43
3.27	224.40	.175E+06	338.5	1.85	8.60
3.74	224.87	.212E+06	443.4	2.00	7.95
4.20	225.33	.251E+06	563.6	2.14	7.43
4.67	225.80	.293E+06	699.7	2.28	6.99
5.14	226.27	.338E+06	852.3	2.41	6.62
5.61	226.74	.386E+06	1022.1	2.53	6.29
6.07	227.20	.436E+06	1209.6	2.65	6.01
6.54	227.67	.491E+06	1315.6	2.56	6.21
7.04	228.17	.562E+06	1511.2	2.57	6.20
7.55	228.68	.646E+06	1733.7	2.56	6.21
8.05	229.18	.753E+06	1864.8	2.37	6.73
8.56	229.69	.887E+06	2261.9	2.44	6.54
9.06	230.19	.105E+07	2480.0	2.25	7.07

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1278)	486.18	0.47	12.83	7.76	0.04	0.49
OUTFLOW: ID= 1 (2934)	486.18	0.47	13.33	7.76	0.04	0.49

ROUTE CHN(2617) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	223.61	0.0800	
21.97	223.72	0.0800	Main Channel
56.15	222.95	0.0800	Main Channel
78.93	221.42	0.0800	Main Channel
94.34	218.94	0.0800	Main Channel
101.71	217.42	0.0800	Main Channel
113.10	216.23	0.0800	Main Channel
124.49	215.15	0.0800	Main Channel
147.27	214.45	0.0800	Main Channel
191.39	215.42	0.0800	Main Channel
194.57	215.55	0.0800	Main Channel
204.23	215.73	0.0800	Main Channel
215.62	219.76	0.0800	Main Channel
227.01	223.32	0.0800	Main Channel
233.16	223.30	0.0800	Main Channel
238.40	223.09	0.0800	Main Channel

249.79	222.98	0.0800	Main Channel
261.18	223.32	0.0800	Main Channel
283.96	223.63	0.0800 /0.0800	Main Channel
350.40	223.42	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.47	214.92	.593E+04	2.8	0.32	34.98
0.94	215.39	.233E+05	18.3	0.54	21.22
1.42	215.87	.488E+05	53.1	0.74	15.31
1.89	216.34	.780E+05	110.9	0.97	11.73
2.36	216.81	.109E+06	186.4	1.16	9.76
2.83	217.28	.142E+06	278.6	1.34	8.51
3.31	217.76	.177E+06	390.4	1.50	7.55
3.78	218.23	.213E+06	519.6	1.66	6.83
4.25	218.70	.250E+06	664.7	1.81	6.27
4.72	219.17	.288E+06	824.1	1.95	5.83
5.19	219.64	.328E+06	997.8	2.07	5.48
5.67	220.12	.369E+06	1186.3	2.19	5.18
6.14	220.59	.411E+06	1390.5	2.30	4.93
6.61	221.06	.455E+06	1610.5	2.41	4.71
7.08	221.53	.501E+06	1838.6	2.50	4.54
7.56	222.01	.549E+06	2059.2	2.56	4.44
8.03	222.48	.599E+06	2299.7	2.62	4.34
8.50	222.95	.652E+06	2560.6	2.68	4.25
8.97	223.42	.717E+06	2565.3	2.44	4.66

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2934)	486.18	0.47	13.33	7.76	0.08	0.32
OUTFLOW: ID= 1 (2617)	486.18	0.47	14.00	7.76	0.08	0.32

ADD HYD (2082) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2617):	486.18	0.470	14.00	7.76
+ ID2= 2 (0555):	80.53	0.132	9.33	7.37
ID = 3 (2082):	566.71	0.574	12.92	7.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3992) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	219.93	0.0800	
14.13	219.71	0.0800	Main Channel
40.95	218.94	0.0800	Main Channel
50.44	219.17	0.0800	Main Channel

76.46	219.44	0.0800	Main Channel
86.75	219.05	0.0800	Main Channel
98.85	218.42	0.0800	Main Channel
123.06	214.05	0.0800	Main Channel
135.16	212.68	0.0800	Main Channel
171.47	211.62	0.0800	Main Channel
183.58	210.68	0.0800	Main Channel
195.68	213.28	0.0800	Main Channel
207.78	217.98	0.0800	Main Channel
231.99	217.82	0.0800	Main Channel
244.09	217.44	0.0800	Main Channel
253.97	217.70	0.0800	Main Channel
280.40	218.66	0.0800	Main Channel
316.71	219.57	0.0800	Main Channel
353.02	219.90	0.0800 /0.0800	Main Channel
372.31	219.80	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.46	211.14	.112E+04	0.4	0.21	48.93
0.92	211.60	.450E+04	2.4	0.33	30.82
1.38	212.06	.114E+05	7.0	0.38	27.03
1.84	212.52	.232E+05	17.3	0.45	22.31
2.29	212.97	.394E+05	37.0	0.57	17.74
2.75	213.43	.574E+05	65.3	0.69	14.65
3.21	213.89	.770E+05	101.3	0.80	12.67
3.67	214.35	.980E+05	145.6	0.90	11.22
4.13	214.81	.120E+06	197.7	1.00	10.12
4.59	215.27	.143E+06	257.0	1.09	9.28
5.05	215.73	.167E+06	323.5	1.18	8.62
5.51	216.19	.192E+06	397.3	1.26	8.07
5.97	216.65	.219E+06	478.4	1.33	7.62
6.42	217.10	.246E+06	566.8	1.40	7.23
6.88	217.56	.274E+06	630.0	1.40	7.26
7.34	218.02	.312E+06	610.0	1.19	8.52
7.80	218.48	.359E+06	725.2	1.23	8.25
8.26	218.94	.412E+06	836.4	1.24	8.21
9.12	219.80	.553E+06	1029.9	1.13	8.95

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2082)	566.71	0.57	12.92	7.70	0.50	0.21
OUTFLOW: ID= 1 (3992)	566.71	0.57	13.75	7.70	0.50	0.21

ROUTE CHN(3216) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	215.53	0.0800	
34.12	215.58	0.0800	Main Channel
42.51	215.54	0.0800	Main Channel
71.62	215.77	0.0800	Main Channel
84.12	215.05	0.0800	Main Channel
96.62	214.94	0.0800	Main Channel

121.62	213.29	0.0800	Main Channel
146.62	210.89	0.0800	Main Channel
171.62	209.33	0.0800	Main Channel
175.84	209.14	0.0800	Main Channel
184.12	208.47	0.0800	Main Channel
192.51	208.87	0.0800	Main Channel
196.62	209.23	0.0800	Main Channel
225.84	213.13	0.0800	Main Channel
234.12	214.21	0.0800	Main Channel
242.51	214.79	0.0800	Main Channel
271.62	215.62	0.0800	Main Channel
284.12	215.54	0.0800	Main Channel
292.51	215.67	0.0800 /0.0800	Main Channel
326.26	215.86	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	208.82	.775E+03	0.5	0.26	24.30
0.71	209.18	.293E+04	3.3	0.42	14.71
1.06	209.53	.637E+04	9.4	0.55	11.25
1.41	209.88	.109E+05	19.7	0.67	9.22
1.77	210.24	.166E+05	34.7	0.78	7.95
2.12	210.59	.233E+05	55.0	0.88	7.06
2.47	210.94	.311E+05	81.5	0.97	6.37
2.83	211.30	.399E+05	115.6	1.08	5.75
3.18	211.65	.495E+05	156.2	1.17	5.28
3.54	212.01	.599E+05	203.6	1.26	4.90
3.89	212.36	.712E+05	258.2	1.35	4.59
4.24	212.71	.833E+05	320.3	1.43	4.33
4.60	213.07	.962E+05	390.2	1.51	4.11
4.95	213.42	.110E+06	466.4	1.58	3.93
5.30	213.77	.125E+06	548.7	1.64	3.79
5.66	214.13	.141E+06	640.5	1.70	3.66
6.01	214.48	.158E+06	736.3	1.74	3.57
6.36	214.83	.176E+06	838.5	1.77	3.50
6.72	215.19	.197E+06	898.2	1.70	3.66

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3992)	566.71	0.57	13.75	7.70	0.36	0.26
OUTFLOW: ID= 1 (3216)	566.71	0.57	14.17	7.70	0.36	0.26

CALIB			
STANDHYD (0553)	Area (ha)=	13.23	
ID= 1 DT= 5.0 min	Total Imp(%)=	23.56	Dir. Conn.(%)= 18.49

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.12	10.11
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.19	3.19
Length	(m)=	296.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.54
over (min)		5.00	25.00

Storage Coeff. (min)=	6.69 (ii)	24.96 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.18	0.05	
			TOTALS
PEAK FLOW (cms)=	0.13	0.13	0.255 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	40.00	9.85	15.42
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.23	0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7609)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3216):	566.71	0.568	14.17	7.70
	+ ID2= 2 (0553):	13.23	0.255	5.25	15.42
	ID = 3 (7609):	579.94	0.568	14.08	7.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0724)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7608):	452.90	0.469	13.00	8.16
	+ ID2= 2 (7609):	579.94	0.568	14.08	7.88
	ID = 3 (0724):	1032.84	1.034	13.67	8.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2315)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
111.79	212.15	0.0800	
116.67	210.79	0.0800	Main Channel
122.12	208.45	0.0800	Main Channel
124.89	207.30	0.0800	Main Channel
132.44	205.23	0.0800	Main Channel
133.11	205.19	0.0800	Main Channel
135.73	205.36	0.0800	Main Channel
141.33	205.63	0.0800	Main Channel
142.76	205.80	0.0800	Main Channel
149.55	205.87	0.0800	Main Channel
153.08	205.83	0.0800	Main Channel

163.40	205.93	0.0800	Main Channel
165.98	206.06	0.0800	Main Channel
182.42	207.04	0.0800	Main Channel
184.05	207.17	0.0800	Main Channel
190.64	208.16	0.0800	Main Channel
194.37	208.99	0.0800	Main Channel
198.86	210.07	0.0800	Main Channel
204.69	211.12	0.0800 /0.0800	Main Channel
215.02	212.38	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	205.55	.902E+03	0.4	0.25	39.63
0.72	205.91	.400E+04	1.9	0.28	35.51
1.09	206.28	.119E+05	9.8	0.49	20.26
1.45	206.64	.215E+05	23.4	0.64	15.30
1.81	207.00	.326E+05	42.7	0.77	12.74
2.17	207.36	.452E+05	69.4	0.91	10.84
2.54	207.73	.585E+05	103.0	1.04	9.46
2.90	208.09	.725E+05	142.4	1.16	8.49
3.26	208.45	.872E+05	188.4	1.28	7.71
3.62	208.81	.102E+06	242.2	1.40	7.04
3.99	209.18	.118E+06	303.3	1.51	6.51
4.36	209.55	.135E+06	370.6	1.62	6.07
4.73	209.92	.152E+06	443.9	1.72	5.71
5.10	210.29	.170E+06	522.0	1.82	5.42
5.47	210.66	.188E+06	605.4	1.90	5.18
5.84	211.03	.207E+06	695.4	1.98	4.96
6.21	211.40	.227E+06	801.0	2.09	4.72
6.58	211.77	.247E+06	916.7	2.19	4.50
6.95	212.14	.269E+06	1040.1	2.28	4.31

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0724)	1032.84	1.03	13.67	8.00	0.52	0.26
OUTFLOW: ID= 1 (2315)	1032.84	1.03	14.25	8.00	0.52	0.26

ROUTE CHN(2404)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
133.59	210.68	0.0800	
135.49	210.69	0.0800	Main Channel
141.43	208.93	0.0800	Main Channel
149.26	207.84	0.0800	Main Channel
156.70	205.75	0.0800	Main Channel
172.77	205.44	0.0800	Main Channel
188.52	205.10	0.0800	Main Channel
196.28	204.08	0.0800	Main Channel
199.13	203.44	0.0800	Main Channel
204.12	203.10	0.0800	Main Channel
209.73	203.53	0.0800	Main Channel
211.95	203.85	0.0800	Main Channel
218.24	205.44	0.0800	Main Channel

220.34	205.89	0.0800	Main Channel
227.63	207.78	0.0800	Main Channel
230.95	208.89	0.0800	Main Channel
241.55	209.43	0.0800	Main Channel
243.30	209.34	0.0800	Main Channel
248.24	209.81	0.0800 /0.0800	Main Channel
262.76	210.34	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.39	203.49	.964E+03	0.3	0.16	49.73
0.78	203.88	.326E+04	1.9	0.27	28.35
1.17	204.27	.625E+04	4.9	0.36	21.43
1.55	204.65	.100E+05	9.3	0.43	18.07
1.94	205.04	.146E+05	15.4	0.49	15.83
2.33	205.43	.210E+05	20.4	0.45	17.15
2.72	205.82	.310E+05	31.1	0.46	16.61
3.11	206.21	.427E+05	51.5	0.56	13.84
3.50	206.60	.550E+05	76.1	0.64	12.04
3.89	206.99	.677E+05	104.7	0.72	10.78
4.28	207.38	.810E+05	137.4	0.79	9.82
4.66	207.76	.948E+05	174.1	0.85	9.08
5.05	208.15	.109E+06	213.4	0.91	8.52
5.44	208.54	.124E+06	256.5	0.96	8.07
5.83	208.93	.140E+06	302.3	1.00	7.72
6.27	209.37	.159E+06	350.9	1.02	7.57
6.71	209.81	.181E+06	413.8	1.06	7.30
7.15	210.25	.205E+06	501.3	1.13	6.81
7.59	210.69	.231E+06	597.7	1.20	6.43

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2315)	1032.84	1.03	14.25	8.00	0.56	0.19
OUTFLOW: ID= 1 (2404)	1032.84	1.02	14.83	8.00	0.56	0.19

ROUTE CHN(3860)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
112.70	208.89	0.0800	
118.23	208.04	0.0800	Main Channel
132.70	206.32	0.0800	Main Channel
138.03	205.92	0.0800	Main Channel
147.92	203.83	0.0800	Main Channel
152.70	203.47	0.0800	Main Channel
167.72	203.55	0.0800	Main Channel
172.70	203.42	0.0800	Main Channel
182.70	202.54	0.0800	Main Channel
187.51	202.62	0.0800	Main Channel
192.71	203.18	0.0800	Main Channel
197.41	203.52	0.0800	Main Channel
217.21	203.97	0.0800	Main Channel
227.10	204.41	0.0800	Main Channel
232.71	205.31	0.0800	Main Channel

237.00	206.16	0.0800		Main Channel
242.71	207.09	0.0800		Main Channel
246.90	207.63	0.0800		Main Channel
252.71	207.83	0.0800 /0.0800		Main Channel
286.49	208.80	0.0800		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	202.85	.137E+04	0.6	0.26	40.38
0.63	203.17	.415E+04	2.6	0.40	26.55
0.94	203.48	.842E+04	5.9	0.44	23.96
1.26	203.80	.187E+05	13.6	0.47	22.84
1.57	204.11	.325E+05	30.3	0.60	17.87
1.89	204.43	.482E+05	54.5	0.72	14.74
2.20	204.74	.651E+05	87.4	0.86	12.41
2.52	205.06	.826E+05	126.7	0.98	10.87
2.83	205.37	.101E+06	172.4	1.09	9.76
3.15	205.69	.120E+06	224.5	1.20	8.90
3.46	206.00	.139E+06	281.3	1.29	8.26
3.78	206.32	.160E+06	340.3	1.36	7.83
4.13	206.67	.184E+06	424.1	1.47	7.24
4.49	207.03	.210E+06	516.3	1.57	6.78
4.84	207.38	.237E+06	615.5	1.66	6.41
5.20	207.74	.265E+06	714.1	1.72	6.18
5.55	208.09	.296E+06	833.7	1.80	5.91
5.91	208.45	.330E+06	977.0	1.89	5.63
6.26	208.80	.367E+06	1133.6	1.97	5.40

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2404)	1032.84	1.02	14.83	8.00	0.39	0.29
OUTFLOW: ID= 1 (3860)	1032.84	1.02	15.33	8.00	0.39	0.29

ROUTE CHN(2931)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
97.73	206.33	0.0800	
105.38	205.88	0.0800	Main Channel
113.04	205.39	0.0800	Main Channel
120.44	204.39	0.0800	Main Channel
128.35	202.77	0.0800	Main Channel
136.01	201.86	0.0800	Main Channel
152.90	201.52	0.0800	Main Channel
158.98	201.21	0.0800	Main Channel
163.72	200.58	0.0800	Main Channel
166.64	200.61	0.0800	Main Channel
174.54	201.33	0.0800	Main Channel
189.61	201.35	0.0800	Main Channel
207.00	201.36	0.0800	Main Channel
212.58	201.42	0.0800	Main Channel
217.82	202.40	0.0800	Main Channel
220.24	202.62	0.0800	Main Channel
235.55	205.26	0.0800	Main Channel

239.46	205.49	0.0800		Main Channel
243.21	206.01	0.0800 /0.0800		Main Channel
250.28	206.15	0.0800		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.28	200.86	.415E+03	0.4	0.29	16.67
0.57	201.15	.127E+04	1.9	0.43	11.14
0.85	201.43	.344E+04	3.7	0.31	15.43
1.13	201.71	.863E+04	15.1	0.50	9.55
1.41	201.99	.150E+05	34.4	0.67	7.24
1.70	202.28	.217E+05	62.2	0.83	5.82
1.98	202.56	.288E+05	96.0	0.96	5.00
2.26	202.84	.363E+05	137.1	1.09	4.42
2.55	203.13	.441E+05	185.4	1.22	3.97
2.83	203.41	.521E+05	239.9	1.33	3.62
3.11	203.69	.604E+05	300.5	1.44	3.35
3.40	203.98	.689E+05	367.1	1.54	3.13
3.68	204.26	.777E+05	439.7	1.64	2.94
3.96	204.54	.867E+05	517.2	1.72	2.79
4.24	204.82	.960E+05	599.9	1.81	2.67
4.53	205.11	.106E+06	688.6	1.88	2.56
4.81	205.39	.116E+06	777.7	1.95	2.48
5.19	205.77	.130E+06	922.4	2.05	2.35
5.57	206.15	.145E+06	1089.9	2.17	2.22

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3860)	1032.84	1.02	15.33	8.00	0.40	0.33
OUTFLOW: ID= 1 (2931)	1032.84	1.02	15.58	8.00	0.40	0.33

CALIB	STANDHYD (0551)	Area (ha)= 81.52	
ID= 1 DT= 5.0 min	Total Imp(%)= 29.29	Dir. Conn.(%)= 20.70	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.88	57.64
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.94	2.94
Length	(m)=	737.20	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.27
over (min)		10.00	30.00
Storage Coeff. (min)=		11.83 (ii)	28.87 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.10	0.04

				TOTALS
PEAK FLOW	(cms)=	0.90	0.91	1.712 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	11.87	17.69
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.28	0.42

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7606)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2931):	1032.84	1.019	15.58	8.00
	+ ID2= 2 (0551):	81.52	1.712	5.25	17.69
	ID = 3 (7606):	1114.36	1.784	5.25	8.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	NASHYD (0562)	Area (ha)= 306.23	Curve Number (CN)= 71.2
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 5.02		

Unit Hyd Qpeak (cms)= 1.041

PEAK FLOW (cms)= 0.298 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 7.586
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.181

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0563)	Area (ha)= 26.85	Curve Number (CN)= 72.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 1.71		

Unit Hyd Qpeak (cms)= 0.268

PEAK FLOW (cms)= 0.066 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 7.823
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0571)	Area (ha)= 125.88	Curve Number (CN)= 75.2
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 3.62		

Unit Hyd Qpeak (cms)= 0.593

PEAK FLOW (cms)= 0.189 (i)
TIME TO PEAK (hrs)= 10.500
RUNOFF VOLUME (mm)= 8.842
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.211

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0572)	Area (ha)= 188.91	Curve Number (CN)= 76.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 4.24		

Unit Hyd Qpeak (cms)= 0.760

PEAK FLOW (cms)= 0.255 (i)
TIME TO PEAK (hrs)= 11.417
RUNOFF VOLUME (mm)= 9.120
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.217

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	NASHYD (0573)	Area (ha)= 192.77	Curve Number (CN)= 75.2
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 1.50	
	U.H. Tp(hrs)= 8.16		

Unit Hyd Qpeak (cms)= 0.404

PEAK FLOW (cms)= 0.139 (i)
TIME TO PEAK (hrs)= 14.750
RUNOFF VOLUME (mm)= 8.633
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.206

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2640)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	258.21	0.0800	
9.22	258.23	0.0800	Main Channel
12.31	258.17	0.0800	Main Channel
14.21	258.19	0.0800	Main Channel
19.58	258.10	0.0800	Main Channel
26.85	257.95	0.0800	Main Channel
34.12	257.62	0.0800	Main Channel
37.68	257.50	0.0800	Main Channel
41.39	257.35	0.0800	Main Channel
55.93	256.71	0.0800	Main Channel
61.15	256.40	0.0800	Main Channel
63.20	256.40	0.0800	Main Channel
66.54	256.53	0.0800	Main Channel
70.47	256.77	0.0800	Main Channel

72.89	256.82	0.0800		Main Channel
108.10	257.60	0.0800		Main Channel
114.09	257.69	0.0800		Main Channel
119.83	257.79	0.0800		Main Channel
128.63	257.89	0.0800 /0.0800		Main Channel
135.90	257.91	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	256.49	.419E+03	0.0	0.12	156.49
0.19	256.59	.123E+04	0.2	0.18	103.02
0.28	256.68	.238E+04	0.5	0.23	80.37
0.37	256.77	.385E+04	0.9	0.27	68.73
0.47	256.87	.586E+04	1.5	0.29	65.07
0.56	256.96	.854E+04	2.4	0.31	59.72
0.65	257.05	.119E+05	3.6	0.34	54.71
0.75	257.15	.159E+05	5.2	0.37	50.35
0.84	257.24	.205E+05	7.3	0.40	46.63
0.93	257.33	.258E+05	9.9	0.43	43.45
1.02	257.42	.318E+05	13.0	0.46	40.78
1.12	257.52	.384E+05	16.6	0.48	38.49
1.21	257.61	.457E+05	20.8	0.51	36.65
1.30	257.70	.539E+05	25.5	0.53	35.22
1.40	257.80	.629E+05	31.1	0.55	33.70
1.49	257.89	.728E+05	36.9	0.57	32.84
1.60	258.00	.865E+05	47.4	0.61	30.43
1.72	258.12	.101E+06	58.7	0.65	28.68
1.83	258.23	.117E+06	71.3	0.68	27.25

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0573)	192.77	0.14	14.75	8.63	0.15	0.15
OUTFLOW: ID= 1 (2640)	192.77	0.14	16.75	8.84	0.15	0.15

ROUTE CHN(2380)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	255.19	0.0800	
17.93	255.18	0.0800	Main Channel
42.50	255.20	0.0800	Main Channel
58.88	255.10	0.0800	Main Channel
87.52	254.84	0.0800	Main Channel
92.73	254.76	0.0800	Main Channel
103.07	254.28	0.0800	Main Channel
116.22	253.45	0.0800	Main Channel
126.93	253.02	0.0800	Main Channel
140.79	253.15	0.0800	Main Channel
144.42	253.24	0.0800	Main Channel
154.76	253.63	0.0800	Main Channel
175.43	253.88	0.0800	Main Channel
181.74	254.14	0.0800	Main Channel
185.77	254.16	0.0800	Main Channel
189.93	254.31	0.0800	Main Channel

196.11	254.43	0.0800		Main Channel
198.12	254.52	0.0800		Main Channel
216.79	255.30	0.0800 /0.0800		Main Channel
227.13	255.50	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	253.13	.700E+03	0.1	0.14	103.16
0.22	253.24	.257E+04	0.7	0.25	59.13
0.33	253.35	.508E+04	1.9	0.34	43.50
0.44	253.46	.813E+04	3.8	0.42	35.79
0.54	253.56	.117E+05	6.4	0.49	30.60
0.65	253.67	.157E+05	9.3	0.53	28.08
0.76	253.78	.207E+05	12.8	0.56	26.90
0.87	253.89	.268E+05	17.6	0.59	25.30
0.98	254.00	.335E+05	24.5	0.66	22.74
1.09	254.11	.406E+05	32.5	0.72	20.80
1.20	254.22	.484E+05	40.7	0.75	19.81
1.31	254.33	.568E+05	50.9	0.80	18.58
1.42	254.44	.659E+05	61.7	0.84	17.80
1.53	254.55	.755E+05	75.0	0.89	16.78
1.63	254.65	.857E+05	89.7	0.94	15.93
1.74	254.76	.963E+05	105.6	0.98	15.20
1.85	254.87	.108E+06	119.4	0.99	15.04
1.96	254.98	.120E+06	133.3	0.99	15.05
2.07	255.09	.135E+06	150.0	1.00	14.95

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2640)	192.77	0.14	16.75	8.84	0.11	0.15
OUTFLOW: ID= 1 (2380)	192.77	0.13	18.92	8.84	0.11	0.15

ADD HYD (1356)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2380):	192.77	0.134	18.92	8.84
+ ID2= 2 (0571):	125.88	0.189	10.50	8.84
ID = 3 (1356):	318.65	0.281	13.67	8.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1356)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1356):	318.65	0.281	13.67	8.84
+ ID2= 2 (0572):	188.91	0.255	11.42	9.12
ID = 1 (1356):	507.56	0.529	12.58	8.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3049)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	253.37	0.0800	
7.13	253.47	0.0800	Main Channel
20.90	253.38	0.0800	Main Channel
48.68	252.70	0.0800	Main Channel
61.45	250.83	0.0800	Main Channel
69.45	249.75	0.0800	Main Channel
85.79	248.81	0.0800	Main Channel
90.22	248.24	0.0800	Main Channel
93.90	247.85	0.0800	Main Channel
110.12	248.44	0.0800	Main Channel
126.34	248.60	0.0800	Main Channel
131.77	250.63	0.0800	Main Channel
142.15	251.59	0.0800	Main Channel
144.03	252.02	0.0800	Main Channel
150.67	253.13	0.0800	Main Channel
158.78	253.60	0.0800	Main Channel
166.90	254.15	0.0800	Main Channel
173.31	254.67	0.0800	Main Channel
191.23	254.78	0.0800 /0.0800	Main Channel
205.62	254.57	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	248.20	.750E+03	0.8	0.38	14.92
0.69	248.54	.310E+04	4.8	0.52	10.80
1.04	248.89	.777E+04	18.4	0.81	7.02
1.38	249.23	.132E+05	40.2	1.04	5.46
1.73	249.58	.194E+05	70.3	1.23	4.61
2.07	249.92	.264E+05	110.6	1.42	3.98
2.42	250.27	.339E+05	161.2	1.62	3.50
2.76	250.61	.417E+05	220.4	1.80	3.16
3.11	250.96	.502E+05	282.9	1.92	2.95
3.46	251.31	.593E+05	355.0	2.04	2.78
3.80	251.65	.692E+05	438.4	2.15	2.63
4.15	252.00	.795E+05	537.6	2.30	2.47
4.49	252.34	.904E+05	644.9	2.42	2.34
4.84	252.69	.102E+06	762.3	2.54	2.23
5.18	253.03	.114E+06	839.2	2.49	2.27
5.53	253.38	.129E+06	926.3	2.44	2.32
5.88	253.73	.147E+06	1099.8	2.54	2.23
6.34	254.19	.173E+06	1370.2	2.69	2.11
6.81	254.66	.200E+06	1680.9	2.85	1.99

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1356)	507.56	0.53	12.58	8.95	0.22	0.38
OUTFLOW: ID= 1 (3049)	507.56	0.53	12.83	8.95	0.22	0.38

ADD HYD (7612)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3049):	507.56	0.529	12.83	8.95
+ ID2= 2 (0563):	26.85	0.066	8.25	7.82
ID = 3 (7612):	534.41	0.570	12.33	8.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (0564)	Area (ha)=	145.14	Curve Number (CN)=	68.0
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	4.84		

Unit Hyd Qpeak (cms)= 0.511

PEAK FLOW (cms)= 0.130 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 6.748
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.161

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0565)	Area (ha)=	141.48	Curve Number (CN)=	68.8
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	4.44		

Unit Hyd Qpeak (cms)= 0.543

PEAK FLOW (cms)= 0.140 (i)
TIME TO PEAK (hrs)= 11.833
RUNOFF VOLUME (mm)= 6.951
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.166

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
NASHYD (0566)	Area (ha)=	365.26	Curve Number (CN)=	64.0
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=	6.64		

Unit Hyd Qpeak (cms)= 0.939

PEAK FLOW (cms)= 0.212 (i)
TIME TO PEAK (hrs)= 13.500
RUNOFF VOLUME (mm)= 5.802
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.138

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1302)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0565):		141.48	0.140	11.83	6.95
+ ID2= 2 (0566):		365.26	0.212	13.50	5.80
ID = 3 (1302):		506.74	0.349	12.58	6.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2978)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	265.09	0.0800	
40.90	265.02	0.0800	Main Channel
75.99	263.41	0.0800	Main Channel
116.33	262.56	0.0800	Main Channel
134.72	261.67	0.0800	Main Channel
183.00	261.92	0.0800	Main Channel
226.52	261.46	0.0800	Main Channel
248.56	258.55	0.0800	Main Channel
271.16	257.14	0.0800	Main Channel
300.57	258.32	0.0800	Main Channel
314.52	260.25	0.0800	Main Channel
380.50	262.39	0.0800	Main Channel
431.62	262.86	0.0800	Main Channel
443.28	263.19	0.0800	Main Channel
480.12	263.11	0.0800	Main Channel
504.62	263.36	0.0800	Main Channel
577.39	263.67	0.0800	Main Channel
625.92	263.45	0.0800	Main Channel
674.23	264.46	0.0800 /0.0800	Main Channel
703.86	264.83	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.39	257.53	.358E+04	1.2	0.37	50.65
0.78	257.92	.143E+05	7.5	0.59	31.91
1.18	258.32	.322E+05	22.1	0.78	24.35
1.57	258.71	.557E+05	49.6	1.01	18.72
1.96	259.10	.819E+05	88.4	1.23	15.45
2.35	259.49	.111E+06	137.7	1.41	13.42
2.74	259.88	.142E+06	197.6	1.58	12.00
3.13	260.27	.176E+06	267.2	1.73	11.00
3.53	260.67	.215E+06	332.2	1.76	10.80
3.92	261.06	.261E+06	415.0	1.81	10.48
4.31	261.45	.313E+06	516.8	1.88	10.11
4.70	261.84	.383E+06	511.8	1.52	12.49
5.09	262.23	.491E+06	682.9	1.59	11.97
5.49	262.63	.610E+06	890.5	1.66	11.42
5.88	263.02	.754E+06	1140.6	1.72	11.01
6.27	263.41	.929E+06	1367.3	1.68	11.32
6.66	263.80	.116E+07	1675.1	1.64	11.57
7.14	264.28	.148E+07	2430.1	1.87	10.16

7.61	264.75	.182E+07	3354.8	2.10	9.04

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1302)	506.74	0.35	12.58	6.16	0.12	0.37
OUTFLOW: ID= 1 (2978)	506.74	0.35	13.58	6.16	0.12	0.37

ADD HYD (1025)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2978):		506.74	0.347	13.58	6.16
+ ID2= 2 (0564):		145.14	0.130	12.25	6.75
ID = 3 (1025):		651.88	0.474	13.17	6.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1477)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1025):		651.88	0.474	13.17	6.29
+ ID2= 2 (7612):		534.41	0.570	12.33	8.89
ID = 3 (1477):		1186.29	1.042	12.67	7.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2625)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	257.69	0.0800	
75.77	257.13	0.0800	Main Channel
124.81	256.97	0.0800	Main Channel
148.78	257.16	0.0800	Main Channel
182.00	257.37	0.0800	Main Channel
198.52	256.26	0.0800	Main Channel
207.08	256.61	0.0800	Main Channel
221.41	256.43	0.0800	Main Channel
291.10	255.61	0.0800	Main Channel
305.65	254.83	0.0800	Main Channel
332.56	251.27	0.0800	Main Channel
349.53	250.69	0.0800	Main Channel
364.40	248.61	0.0800	Main Channel
401.91	254.17	0.0800	Main Channel
440.17	254.67	0.0800	Main Channel
508.23	255.23	0.0800	Main Channel

608.29	257.26	0.0800	Main Channel		
659.29	257.91	0.0800	Main Channel		
709.29	257.76	0.0800 /0.0800	Main Channel		
758.34	258.02	0.0800			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.46	249.07	.146E+04	0.6	0.38	42.61
0.93	249.54	.586E+04	3.6	0.61	26.84
1.39	250.00	.132E+05	10.7	0.79	20.48
1.86	250.47	.234E+05	23.1	0.96	16.91
2.32	250.93	.372E+05	38.9	1.02	15.94
2.79	251.40	.579E+05	65.9	1.11	14.64
3.25	251.86	.828E+05	110.4	1.30	12.51
3.72	252.33	.111E+06	166.7	1.47	11.08
4.18	252.79	.142E+06	235.5	1.62	10.03
4.64	253.25	.176E+06	317.5	1.77	9.22
5.11	253.72	.213E+06	413.3	1.90	8.57
5.57	254.18	.253E+06	520.3	2.01	8.09
6.04	254.65	.303E+06	558.9	1.80	9.05
6.50	255.11	.377E+06	619.9	1.61	10.13
6.97	255.58	.475E+06	805.3	1.66	9.83
7.43	256.04	.594E+06	1004.2	1.65	9.86
7.90	256.51	.743E+06	1260.0	1.66	9.82
8.36	256.97	.920E+06	1676.8	1.78	9.14
9.08	257.69	.130E+07	2419.4	1.81	8.98

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1477)	1186.29	1.04	12.67	7.46	0.54	0.41
OUTFLOW: ID= 1 (2625)	1186.29	1.04	13.25	7.46	0.53	0.40

ROUTE CHN(3825)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	254.42	0.0800	
49.72	253.94	0.0800	Main Channel
128.76	252.72	0.0800	Main Channel
139.05	252.35	0.0800	Main Channel
252.63	251.47	0.0800	Main Channel
297.92	249.89	0.0800	Main Channel
309.10	249.15	0.0800	Main Channel
354.41	244.47	0.0800	Main Channel
455.72	238.85	0.0800	Main Channel
491.12	239.92	0.0800	Main Channel
523.78	242.07	0.0800	Main Channel
546.26	244.92	0.0800	Main Channel
578.21	250.72	0.0800	Main Channel
591.62	251.92	0.0800	Main Channel
625.21	253.55	0.0800	Main Channel
681.64	253.85	0.0800	Main Channel
704.52	254.12	0.0800	Main Channel
760.53	255.49	0.0800	Main Channel

828.18	255.69	0.0800 /0.0800	Main Channel		
878.11	256.52	0.0800			

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.82	239.67	.134E+05	7.8	0.46	28.66
1.63	240.48	.513E+05	50.1	0.77	17.05
2.45	241.30	.107E+06	138.5	1.02	12.87
3.26	242.11	.189E+06	281.8	1.23	10.65
4.08	242.93	.268E+06	494.6	1.45	9.05
4.90	243.75	.370E+06	773.8	1.64	7.98
5.71	244.56	.486E+06	1127.5	1.82	7.18
6.53	245.38	.612E+06	1583.4	2.03	6.44
7.34	246.19	.746E+06	2117.8	2.23	5.87
8.16	247.01	.889E+06	2727.9	2.41	5.43
8.97	247.82	.104E+07	3415.3	2.58	5.07
9.79	248.64	.120E+07	4181.6	2.75	4.77
10.61	249.46	.136E+07	5009.1	2.89	4.54
11.42	250.27	.154E+07	5825.1	2.97	4.41
12.24	251.09	.173E+07	6649.9	3.01	4.35
13.05	251.90	.196E+07	7051.5	2.83	4.63
13.87	252.72	.224E+07	7785.5	2.73	4.80
14.72	253.57	.259E+07	9499.4	2.88	4.54
15.57	254.42	.302E+07	10759.2	2.80	4.68

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2625)	1186.29	1.04	13.25	7.46	0.11	0.46
OUTFLOW: ID= 1 (3825)	1186.29	1.04	13.75	7.46	0.11	0.46

ADD HYD (7611)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3825):		1186.29	1.035	13.75	7.46
+ ID2= 2 (0562):		306.23	0.298	12.25	7.59
ID = 3 (7611):		1492.52	1.328	13.42	7.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0567)	Area	(ha)=	105.51	Curve Number	(CN)= 70.4
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		3.24		

Unit Hyd Qpeak (cms)= 0.555

PEAK FLOW (cms)= 0.145 (i)
TIME TO PEAK (hrs)= 10.000
RUNOFF VOLUME (mm)= 7.375
TOTAL RAINFALL (mm)= 42.000

RUNOFF COEFFICIENT = 0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0568)	Area	(ha)=	235.25	Curve Number	(CN)= 70.4
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		8.31		

Unit Hyd Qpeak (cms)= 0.483

PEAK FLOW (cms)= 0.139 (i)
TIME TO PEAK (hrs)= 14.917
RUNOFF VOLUME (mm)= 7.185
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.171

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0569)	Area	(ha)=	284.55	Curve Number	(CN)= 71.2
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		9.71		

Unit Hyd Qpeak (cms)= 0.500

PEAK FLOW (cms)= 0.148 (i)
TIME TO PEAK (hrs)= 16.250
RUNOFF VOLUME (mm)= 7.238
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.172

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0570)	Area	(ha)=	299.42	Curve Number	(CN)= 68.8
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)=	1.50
	U.H. Tp(hrs)=		6.91		

Unit Hyd Qpeak (cms)= 0.740

PEAK FLOW (cms)= 0.199 (i)
TIME TO PEAK (hrs)= 13.667
RUNOFF VOLUME (mm)= 6.880
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.164

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2611)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	261.06	0.0800	
47.29	260.79	0.0800	Main Channel
93.29	260.69	0.0800	Main Channel
151.94	259.82	0.0800	Main Channel
196.08	259.39	0.0800	Main Channel
223.86	257.65	0.0800	Main Channel
238.25	253.83	0.0800	Main Channel
259.09	253.17	0.0800	Main Channel
269.04	252.78	0.0800	Main Channel
276.67	252.32	0.0800	Main Channel
291.99	253.85	0.0800	Main Channel
300.07	255.16	0.0800	Main Channel
306.40	257.90	0.0800	Main Channel
314.52	258.41	0.0800	Main Channel
357.24	258.51	0.0800	Main Channel
377.32	258.76	0.0800	Main Channel
397.39	259.31	0.0800	Main Channel
497.69	259.37	0.0800	Main Channel
581.07	260.26	0.0800 /0.0800	Main Channel
631.26	260.33	0.0800	

0.00	261.06	0.0800		
47.29	260.79	0.0800	Main Channel	
93.29	260.69	0.0800	Main Channel	
151.94	259.82	0.0800	Main Channel	
196.08	259.39	0.0800	Main Channel	
223.86	257.65	0.0800	Main Channel	
238.25	253.83	0.0800	Main Channel	
259.09	253.17	0.0800	Main Channel	
269.04	252.78	0.0800	Main Channel	
276.67	252.32	0.0800	Main Channel	
291.99	253.85	0.0800	Main Channel	
300.07	255.16	0.0800	Main Channel	
306.40	257.90	0.0800	Main Channel	
314.52	258.41	0.0800	Main Channel	
357.24	258.51	0.0800	Main Channel	
377.32	258.76	0.0800	Main Channel	
397.39	259.31	0.0800	Main Channel	
497.69	259.37	0.0800	Main Channel	
581.07	260.26	0.0800 /0.0800	Main Channel	
631.26	260.33	0.0800		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	252.74	.404E+04	0.6	0.24	118.47
0.84	253.16	.173E+05	3.7	0.37	78.42
1.25	253.57	.421E+05	11.5	0.48	61.03
1.67	253.99	.789E+05	27.7	0.61	47.55
2.09	254.41	.121E+06	53.4	0.77	37.65
2.51	254.83	.165E+06	86.2	0.91	31.95
2.93	255.25	.213E+06	126.4	1.03	28.07
3.34	255.66	.263E+06	175.0	1.16	25.04
3.76	256.08	.315E+06	230.3	1.27	22.77
4.18	256.50	.368E+06	292.2	1.38	21.00
4.60	256.92	.424E+06	360.7	1.48	19.57
5.01	257.33	.481E+06	435.7	1.58	18.39
5.43	257.75	.540E+06	512.4	1.65	17.57
5.85	258.17	.605E+06	569.0	1.64	17.71
6.27	258.59	.688E+06	512.4	1.30	22.39
6.69	259.01	.813E+06	602.7	1.29	22.48
7.10	259.42	.970E+06	571.9	1.03	28.26
7.52	259.84	.122E+07	723.5	1.03	28.22
7.94	260.26	.153E+07	947.4	1.07	26.99

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0570)	299.42	0.20	13.67	6.88	0.15	0.24
OUTFLOW: ID= 1 (2611)	299.42	0.19	16.25	6.96	0.14	0.24

ROUTE CHN(2612)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	261.06	0.0800	
47.29	260.79	0.0800	Main Channel

93.29	260.69	0.0800	Main Channel	
151.94	259.82	0.0800	Main Channel	
196.08	259.39	0.0800	Main Channel	
223.86	257.65	0.0800	Main Channel	
238.25	253.83	0.0800	Main Channel	
259.09	253.17	0.0800	Main Channel	
269.04	252.78	0.0800	Main Channel	
276.67	252.32	0.0800	Main Channel	
291.99	253.85	0.0800	Main Channel	
300.07	255.16	0.0800	Main Channel	
306.40	257.90	0.0800	Main Channel	
314.52	258.41	0.0800	Main Channel	
357.24	258.51	0.0800	Main Channel	
377.32	258.76	0.0800	Main Channel	
397.39	259.31	0.0800	Main Channel	
497.69	259.37	0.0800	Main Channel	
581.07	260.26	0.0800 /0.0800	Main Channel	
631.26	260.33	0.0800		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	252.74	.290E+04	0.5	0.23	91.36
0.84	253.16	.124E+05	3.4	0.34	60.48
1.25	253.57	.303E+05	10.7	0.44	47.07
1.67	253.99	.567E+05	25.8	0.57	36.67
2.09	254.41	.867E+05	49.7	0.72	29.04
2.51	254.83	.119E+06	80.3	0.85	24.64
2.93	255.25	.153E+06	117.8	0.96	21.65
3.34	255.66	.189E+06	163.0	1.08	19.31
3.76	256.08	.226E+06	214.6	1.19	17.56
4.18	256.50	.265E+06	272.3	1.29	16.20
4.60	256.92	.304E+06	336.1	1.38	15.10
5.01	257.33	.346E+06	406.0	1.47	14.19
5.43	257.75	.388E+06	477.5	1.54	13.55
5.85	258.17	.435E+06	530.2	1.53	13.66
6.27	258.59	.495E+06	477.5	1.21	17.26
6.69	259.01	.584E+06	561.7	1.20	17.34
7.10	259.42	.697E+06	532.9	0.96	21.79
7.52	259.84	.880E+06	674.2	0.96	21.76
7.94	260.26	.110E+07	882.8	1.00	20.81

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2611)	299.42	0.19	16.25	6.96	0.15	0.23
OUTFLOW: ID= 1 (2612)	299.42	0.19	18.08	6.96	0.15	0.23

ADD HYD (0930)				
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2612):		299.42	0.190	18.08	6.96
+ ID2= 2 (0568):		235.25	0.139	14.92	7.19
ID = 3 (0930):		534.67	0.325	17.25	7.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0930)				
3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0930):		534.67	0.325	17.25	7.14
+ ID2= 2 (0569):		284.55	0.148	16.25	7.24
ID = 1 (0930):		819.22	0.473	17.00	7.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2613)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	261.06	0.0800	
47.29	260.79	0.0800	Main Channel
93.29	260.69	0.0800	Main Channel
151.94	259.82	0.0800	Main Channel
196.08	259.39	0.0800	Main Channel
223.86	257.65	0.0800	Main Channel
238.25	253.83	0.0800	Main Channel
259.09	253.17	0.0800	Main Channel
269.04	252.78	0.0800	Main Channel
276.67	252.32	0.0800	Main Channel
291.99	253.85	0.0800	Main Channel
300.07	255.16	0.0800	Main Channel
306.40	257.90	0.0800	Main Channel
314.52	258.41	0.0800	Main Channel
357.24	258.51	0.0800	Main Channel
377.32	258.76	0.0800	Main Channel
397.39	259.31	0.0800	Main Channel
497.69	259.37	0.0800	Main Channel
581.07	260.26	0.0800 /0.0800	Main Channel
631.26	260.33	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.42	252.74	.147E+04	0.5	0.23	46.12
0.84	253.16	.626E+04	3.4	0.34	30.53
1.25	253.57	.153E+05	10.7	0.44	23.76
1.67	253.99	.286E+05	25.8	0.57	18.51
2.09	254.41	.437E+05	49.7	0.72	14.66
2.51	254.83	.600E+05	80.3	0.85	12.44
2.93	255.25	.772E+05	117.8	0.96	10.93
3.34	255.66	.953E+05	163.0	1.08	9.75
3.76	256.08	.114E+06	214.6	1.19	8.86
4.18	256.50	.134E+06	272.3	1.29	8.18
4.60	256.92	.154E+06	336.1	1.38	7.62
5.01	257.33	.174E+06	406.0	1.47	7.16
5.43	257.75	.196E+06	477.5	1.54	6.84
5.85	258.17	.219E+06	530.2	1.53	6.90
6.27	258.59	.250E+06	477.5	1.21	8.72
6.69	259.01	.295E+06	561.7	1.20	8.75
7.10	259.42	.352E+06	532.9	0.96	11.00
7.52	259.84	.444E+06	674.2	0.96	10.99

7.94	260.26	.556E+06	882.8	1.00	10.51

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (0930)	819.22	0.47	17.00	7.30	0.37
0.23						
	OUTFLOW: ID= 1 (2613)	819.22	0.47	17.92	7.30	0.37
0.23						

ROUTE CHN(3857)|	
IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	258.27	0.0800	
34.95	258.35	0.0800	Main Channel
112.82	257.35	0.0800	Main Channel
166.91	256.88	0.0800	Main Channel
212.43	255.33	0.0800	Main Channel
250.01	255.49	0.0800	Main Channel
272.49	254.15	0.0800	Main Channel
293.80	248.21	0.0800	Main Channel
308.23	246.18	0.0800	Main Channel
344.93	245.48	0.0800	Main Channel
366.63	244.73	0.0800	Main Channel
381.94	242.68	0.0800	Main Channel
403.76	247.17	0.0800	Main Channel
418.21	253.10	0.0800	Main Channel
425.44	253.69	0.0800	Main Channel
527.54	254.85	0.0800	Main Channel
578.37	254.99	0.0800	Main Channel
598.63	255.51	0.0800	Main Channel
618.93	255.31	0.0800 /0.0800	Main Channel
657.57	255.61	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.79	243.47	.319E+04	2.0	0.53	26.09
1.58	244.26	.128E+05	12.9	0.84	16.44
2.37	245.05	.296E+05	35.0	0.98	14.11
3.16	245.84	.632E+05	78.9	1.04	13.35
3.95	246.63	.121E+06	190.3	1.31	10.59
4.74	247.42	.187E+06	370.6	1.65	8.40
5.53	248.21	.258E+06	605.6	1.95	7.10
6.32	249.00	.333E+06	901.3	2.24	6.17
7.10	249.78	.412E+06	1246.6	2.51	5.51
7.89	250.57	.493E+06	1640.3	2.76	5.01
8.68	251.36	.578E+06	2081.7	2.99	4.63
9.47	252.15	.666E+06	2570.7	3.21	4.32
10.26	252.94	.757E+06	3107.1	3.41	4.06
11.05	253.73	.852E+06	3557.6	3.47	3.99
11.84	254.52	.978E+06	3432.7	2.91	4.75
12.63	255.31	.117E+07	3602.0	2.56	5.40
13.64	256.32	.154E+07	4732.8	2.55	5.44
14.66	257.34	.196E+07	6339.0	2.68	5.16
15.67	258.35	.246E+07	8954.3	3.03	4.57

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (2613)	819.22	0.47	17.92	7.30	0.18
0.53						
	OUTFLOW: ID= 1 (3857)	819.22	0.47	18.33	7.30	0.18
0.53						

ADD HYD (7610)|			
1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3857):	819.22	0.471	18.33	7.30
+ ID2= 2 (0567):	105.51	0.145	10.00	7.38
ID = 3 (7610):	924.73	0.562	16.17	7.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0729)|			
1 + 2 = 3 |	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7610):	924.73	0.562	16.17	7.31
+ ID2= 2 (7611):	1492.52	1.328	13.42	7.49
ID = 3 (0729):	2417.25	1.872	14.00	7.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2506)|	
IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	251.45	0.0800	
21.96	250.78	0.0800	Main Channel
44.04	250.48	0.0800	Main Channel
66.40	250.61	0.0800	Main Channel
88.51	251.68	0.0800	Main Channel
110.51	253.31	0.0800	Main Channel
132.88	253.38	0.0800	Main Channel
143.65	252.53	0.0800	Main Channel
165.60	249.83	0.0800	Main Channel
188.01	244.44	0.0800	Main Channel
210.12	239.99	0.0800	Main Channel
243.33	235.15	0.0800	Main Channel
254.52	236.73	0.0800	Main Channel
317.39	240.38	0.0800	Main Channel
359.88	245.70	0.0800	Main Channel
372.57	247.67	0.0800	Main Channel
381.11	249.57	0.0800	Main Channel
391.55	250.52	0.0800	Main Channel

423.55	251.68	0.0800 /0.0800	Main Channel
458.57	251.51	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.96	236.11	.404E+04	3.2	0.51	20.80
1.92	237.07	.165E+05	19.7	0.75	13.97
2.87	238.02	.417E+05	63.2	0.96	10.99
3.83	238.98	.809E+05	150.0	1.17	8.99
4.79	239.94	.134E+06	291.8	1.37	7.65
5.75	240.90	.200E+06	512.2	1.62	6.50
6.71	241.86	.274E+06	808.2	1.86	5.64
7.67	242.82	.355E+06	1172.4	2.08	5.05
8.62	243.77	.444E+06	1607.7	2.29	4.60
9.58	244.73	.540E+06	2119.1	2.48	4.25
10.54	245.69	.644E+06	2711.5	2.66	3.96
11.50	246.65	.754E+06	3397.5	2.84	3.70
12.46	247.61	.870E+06	4164.1	3.02	3.48
13.41	248.56	.992E+06	5036.7	3.20	3.28
14.37	249.52	.112E+07	5993.3	3.38	3.11
15.33	250.48	.125E+07	6883.8	3.47	3.03
16.30	251.45	.144E+07	7089.2	3.11	3.38
17.26	252.41	.168E+07	8358.7	3.14	3.35
18.23	253.38	.194E+07	9548.3	3.11	3.38

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (0729)	2417.25	1.87	14.00	7.42	0.55
0.51						
	OUTFLOW: ID= 1 (2506)	2417.25	1.87	14.42	7.42	0.55
0.51						

ROUTE CHN(2480)|	
IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	252.33	0.0800	
101.35	250.23	0.0800	Main Channel
136.35	249.43	0.0800	Main Channel
175.46	247.37	0.0800	Main Channel
197.91	245.49	0.0800	Main Channel
220.02	241.94	0.0800	Main Channel
229.45	236.51	0.0800	Main Channel
242.71	232.37	0.0800	Main Channel
265.08	234.59	0.0800	Main Channel
321.76	233.86	0.0800	Main Channel
355.87	232.36	0.0800	Main Channel
367.10	232.29	0.0800	Main Channel
378.77	235.74	0.0800	Main Channel
389.95	239.87	0.0800	Main Channel
407.10	241.36	0.0800	Main Channel
424.11	243.70	0.0800	Main Channel
435.78	246.18	0.0800	Main Channel
449.24	247.97	0.0800	Main Channel
481.19	249.49	0.0800 /0.0800	Main Channel
530.63	250.72	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.95	233.24	.218E+05	16.3	0.63	22.26
1.90	234.19	.766E+05	78.2	0.86	16.33
2.86	235.15	.183E+06	267.5	1.23	11.43
3.81	236.10	.301E+06	593.6	1.67	8.45
4.76	237.05	.423E+06	1023.3	2.05	6.89
5.71	238.00	.549E+06	1547.3	2.39	5.91
6.67	238.96	.678E+06	2158.4	2.69	5.23
7.62	239.91	.810E+06	2848.9	2.97	4.74
8.57	240.86	.950E+06	3535.3	3.15	4.48
9.52	241.81	.110E+07	4336.7	3.34	4.22
10.47	242.76	.126E+07	5203.7	3.50	4.03
11.43	243.72	.143E+07	6160.3	3.66	3.86
12.38	244.67	.160E+07	7260.0	3.83	3.68
13.33	245.62	.179E+07	8442.5	3.99	3.53
14.28	246.57	.199E+07	9602.6	4.09	3.45
15.24	247.53	.220E+07	10825.8	4.17	3.38
16.19	248.48	.243E+07	11894.3	4.14	3.40
17.14	249.43	.269E+07	13052.7	4.10	3.44
18.09	250.38	.300E+07	15358.2	4.33	3.25

channel->		<---- hydrograph ---->				<-pipe /
VEL		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH MAX
(m/s)		(ha)	(cms)	(hrs)	(mm)	(m)
	INFLOW : ID= 2 (2506)	2417.25	1.87	14.42	7.42	0.11
0.63						
	OUTFLOW: ID= 1 (2480)	2417.25	1.87	14.75	7.42	0.11
0.63						

ROUTE CHN(2481)|	
IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	252.33	0.0800	
101.35	250.23	0.0800	Main Channel
136.35	249.43	0.0800	Main Channel
175.46	247.37	0.0800	Main Channel
197.91	245.49	0.0800	Main Channel
220.02	241.94	0.0800	Main Channel
229.45	236.51	0.0800	Main Channel
242.71	232.37	0.0800	Main Channel
265.08	234.59	0.0800	Main Channel
321.76	233.86	0.0800	Main Channel
355.87	232.36	0.0800	Main Channel
367.10	232.29	0.0800	Main Channel
378.77	235.74	0.0800	Main Channel
389.95	239.87	0.0800	Main Channel
407.10	241.36	0.0800	Main Channel
424.11	243.70	0.0800	Main Channel
435.78	246.18	0.0800	Main Channel
449.24	247.97	0.0800	Main Channel
481.19	249.49	0.0800 /0.0800	Main Channel
530.63	250.72	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.95	233.24	.967E+04	17.1	0.66	9.42
1.90	234.19	.340E+05	82.1	0.91	6.91
2.86	235.15	.814E+05	280.7	1.29	4.84
3.81	236.10	.134E+06	622.9	1.75	3.58
4.76	237.05	.188E+06	1073.9	2.15	2.92
5.71	238.00	.244E+06	1623.9	2.50	2.50
6.67	238.96	.301E+06	2265.2	2.83	2.21
7.62	239.91	.360E+06	2989.9	3.12	2.01
8.57	240.86	.422E+06	3710.3	3.31	1.89
9.52	241.81	.488E+06	4551.3	3.50	1.79
10.47	242.76	.558E+06	5461.3	3.68	1.70
11.43	243.72	.633E+06	6465.1	3.84	1.63
12.38	244.67	.712E+06	7619.2	4.02	1.56
13.33	245.62	.794E+06	8860.3	4.19	1.49
14.28	246.57	.882E+06	10077.8	4.29	1.46
15.24	247.53	.976E+06	11361.5	4.37	1.43
16.19	248.48	.108E+07	12482.9	4.35	1.44
17.14	249.43	.119E+07	13698.7	4.31	1.45
18.09	250.38	.133E+07	16118.2	4.55	1.38

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2480)	2417.25	1.87	14.75	7.42	0.10	0.66
OUTFLOW: ID= 1 (2481)	2417.25	1.87	14.92	7.42	0.10	0.66

ROUTE CHN(2409)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	252.99	0.0800	
29.17	251.48	0.0800	Main Channel
96.28	251.31	0.0800	Main Channel
132.78	247.95	0.0800	Main Channel
171.24	232.11	0.0800	Main Channel
186.16	228.09	0.0800	Main Channel
208.56	227.53	0.0800	Main Channel
254.90	226.39	0.0800	Main Channel
275.25	226.99	0.0800	Main Channel
316.22	224.64	0.0800	Main Channel
323.30	226.97	0.0800	Main Channel
377.52	228.90	0.0800	Main Channel
403.10	227.91	0.0800	Main Channel
428.58	239.91	0.0800	Main Channel
449.07	245.99	0.0800	Main Channel
480.76	249.64	0.0800	Main Channel
532.37	250.31	0.0800	Main Channel
567.23	251.14	0.0800	Main Channel
657.71	251.55	0.0800 /0.0800	Main Channel
720.32	251.52	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.40	226.04	.127E+05	11.2	0.56	18.82
2.81	227.45	.754E+05	82.5	0.69	15.22
4.21	228.85	.229E+06	361.3	0.99	10.56
5.61	230.25	.428E+06	992.4	1.46	7.19
7.02	231.66	.635E+06	1866.2	1.85	5.67
8.42	233.06	.848E+06	2963.6	2.20	4.77
9.83	234.47	.107E+07	4266.9	2.51	4.17
11.23	235.87	.129E+07	5762.6	2.80	3.74
12.63	237.27	.152E+07	7443.4	3.07	3.41
14.04	238.68	.176E+07	9304.0	3.33	3.15
15.44	240.08	.200E+07	11335.4	3.56	2.94
16.84	241.48	.225E+07	13503.1	3.78	2.78
18.25	242.89	.250E+07	15844.6	3.98	2.63
19.65	244.29	.277E+07	18360.2	4.17	2.51
21.06	245.70	.304E+07	21050.4	4.36	2.40
22.46	247.10	.332E+07	23660.9	4.49	2.34
23.86	248.50	.361E+07	26183.6	4.56	2.30
25.27	249.91	.393E+07	27773.6	4.45	2.36
26.67	251.31	.432E+07	27311.7	3.98	2.63

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2481)	2417.25	1.87	14.92	7.42	0.23	0.56
OUTFLOW: ID= 1 (2409)	2417.25	1.86	15.25	7.42	0.23	0.56

ROUTE CHN(2410)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	252.99	0.0800	
29.17	251.48	0.0800	Main Channel
96.28	251.31	0.0800	Main Channel
132.78	247.95	0.0800	Main Channel
171.24	232.11	0.0800	Main Channel
186.16	228.09	0.0800	Main Channel
208.56	227.53	0.0800	Main Channel
254.90	226.39	0.0800	Main Channel
275.25	226.99	0.0800	Main Channel
316.22	224.64	0.0800	Main Channel
323.30	226.97	0.0800	Main Channel
377.52	228.90	0.0800	Main Channel
403.10	227.91	0.0800	Main Channel
428.58	239.91	0.0800	Main Channel
449.07	245.99	0.0800	Main Channel
480.76	249.64	0.0800	Main Channel
532.37	250.31	0.0800	Main Channel
567.23	251.14	0.0800	Main Channel
657.71	251.55	0.0800 /0.0800	Main Channel
720.32	251.52	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.40	226.04	.250E+05	12.2	0.61	33.99
2.81	227.45	.148E+06	89.9	0.75	27.48

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
4.21	228.85	.450E+06	393.6	1.08	19.07
5.61	230.25	.843E+06	1081.2	1.59	12.99
7.02	231.66	.125E+07	2033.1	2.01	10.24
8.42	233.06	.167E+07	3228.7	2.39	8.62
9.83	234.47	.210E+07	4648.6	2.74	7.53
11.23	235.87	.254E+07	6278.1	3.05	6.75
12.63	237.27	.300E+07	8109.2	3.35	6.16
14.04	238.68	.346E+07	10136.3	3.62	5.69
15.44	240.08	.394E+07	12349.4	3.88	5.31
16.84	241.48	.442E+07	14711.0	4.11	5.01
18.25	242.89	.493E+07	17261.9	4.33	4.76
19.65	244.29	.544E+07	20002.5	4.55	4.54
21.06	245.70	.598E+07	22933.3	4.75	4.34
22.46	247.10	.652E+07	25777.4	4.89	4.22
23.86	248.50	.710E+07	28525.7	4.97	4.15
25.27	249.91	.773E+07	30257.9	4.85	4.26
26.67	251.31	.849E+07	29754.7	4.34	4.76

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2409)	2417.25	1.86	15.25	7.42	0.21	0.61
OUTFLOW: ID= 1 (2410)	2417.25	1.86	15.83	7.42	0.21	0.61

ROUTE CHN(2349)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	235.42	0.0800	
50.06	235.64	0.0800	Main Channel
102.11	228.96	0.0800	Main Channel
123.17	227.94	0.0800	Main Channel
164.24	224.51	0.0800	Main Channel
211.36	221.75	0.0800	Main Channel
247.46	221.20	0.0800	Main Channel
329.71	219.68	0.0800	Main Channel
371.77	219.43	0.0800	Main Channel
469.99	220.59	0.0800	Main Channel
483.45	225.04	0.0800	Main Channel
521.89	234.51	0.0800	Main Channel
534.70	235.12	0.0800	Main Channel
611.66	235.87	0.0800	Main Channel
714.43	235.48	0.0800	Main Channel
744.36	235.67	0.0800	Main Channel
765.21	234.49	0.0800	Main Channel
800.34	236.35	0.0800	Main Channel
855.07	236.78	0.0800 /0.0800	Main Channel
891.30	237.55	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.79	220.22	.753E+05	17.3	0.28	72.41
1.59	221.02	.251E+06	96.4	0.46	43.36
2.38	221.81	.478E+06	246.2	0.62	32.38
3.18	222.61	.736E+06	485.8	0.79	25.26

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
3.97	223.40	.101E+07	791.9	0.94	21.25
4.77	224.20	.130E+07	1162.1	1.07	18.62
5.56	224.99	.160E+07	1601.9	1.20	16.66
6.35	225.78	.192E+07	2105.9	1.32	15.16
7.15	226.58	.224E+07	2671.2	1.43	14.00
7.94	227.37	.258E+07	3297.7	1.53	13.05
8.74	228.17	.293E+07	3972.3	1.62	12.31
9.53	228.96	.330E+07	4677.3	1.70	11.77
10.45	229.88	.375E+07	5728.4	1.83	10.90
11.38	230.81	.420E+07	6869.4	1.96	10.20
12.30	231.73	.467E+07	8100.5	2.08	9.62
13.22	232.65	.516E+07	9421.6	2.19	9.12
14.14	233.57	.565E+07	10832.7	2.30	8.69
15.07	234.50	.615E+07	12328.9	2.40	8.32
15.99	235.42	.670E+07	12634.7	2.26	8.84

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2410)	2417.25	1.86	15.83	7.42	0.09	0.28
OUTFLOW: ID= 1 (2349)	2417.25	1.83	17.33	7.42	0.08	0.28

ROUTE CHN(3966)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	229.92	0.0800	
31.53	229.70	0.0800	Main Channel
51.88	229.23	0.0800	Main Channel
72.40	229.52	0.0800	Main Channel
111.96	229.59	0.0800	Main Channel
163.91	229.09	0.0800	Main Channel
230.09	226.72	0.0800	Main Channel
261.25	224.04	0.0800	Main Channel
298.10	220.18	0.0800	Main Channel
325.06	218.53	0.0800	Main Channel
349.83	217.63	0.0800	Main Channel
407.44	218.05	0.0800	Main Channel
434.35	221.87	0.0800	Main Channel
461.96	225.47	0.0800	Main Channel
475.42	225.49	0.0800	Main Channel
630.49	227.35	0.0800	Main Channel
668.45	227.99	0.0800	Main Channel
758.37	229.39	0.0800	Main Channel
799.82	230.04	0.0800 /0.0800	Main Channel
815.73	230.13	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.64	218.27	.270E+05	7.3	0.24	61.57
1.29	218.92	.757E+05	35.5	0.41	35.58
1.93	219.56	.133E+06	82.5	0.54	26.94
2.58	220.21	.199E+06	148.1	0.65	22.43
3.22	220.85	.273E+06	236.1	0.76	19.24
3.87	221.50	.352E+06	343.2	0.85	17.08

4.51	222.14	.437E+06	469.7	0.94	15.50
5.16	222.79	.528E+06	615.9	1.02	14.30
5.80	223.43	.626E+06	782.8	1.09	13.33
6.44	224.07	.730E+06	971.1	1.16	12.53
7.09	224.72	.840E+06	1177.6	1.22	11.89
7.73	225.36	.958E+06	1407.6	1.28	11.34
8.38	226.01	.110E+07	1481.7	1.18	12.34
9.02	226.65	.127E+07	1662.0	1.14	12.76
9.67	227.30	.148E+07	1895.2	1.11	13.05
10.31	227.94	.173E+07	2248.3	1.13	12.84
10.96	228.59	.201E+07	2668.3	1.16	12.57
11.60	229.23	.233E+07	3128.9	1.17	12.40
12.29	229.92	.275E+07	3569.0	1.13	12.85

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2349)	2417.25	1.83	17.33	7.42	0.16	0.24
OUTFLOW: ID= 1 (3966)	2417.25	1.81	18.50	7.42	0.16	0.24

CALIB					
NASHYD (0579)	Area (ha)=	173.74	Curve Number (CN)=	72.0	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	4.69			

Unit Hyd Qpeak (cms)= 0.633

PEAK FLOW	(cms)=	0.185 (i)
TIME TO PEAK	(hrs)=	12.167
RUNOFF VOLUME	(mm)=	7.821
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.186

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0580)	Area (ha)=	293.26	Curve Number (CN)=	68.8	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	10.11			

Unit Hyd Qpeak (cms)= 0.495

PEAK FLOW	(cms)=	0.134 (i)
TIME TO PEAK	(hrs)=	16.583
RUNOFF VOLUME	(mm)=	6.576
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.157

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF AN

ADD HYD (0840)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3966):	2417.25	1.814	18.50	7.42
+ ID2= 2 (0579):	173.74	0.185	12.17	7.82
ID = 3 (0840):	2590.99	1.956	18.17	7.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0840)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0840):	2590.99	1.956	18.17	7.45
+ ID2= 2 (0580):	293.26	0.134	16.58	6.58
ID = 1 (0840):	2884.25	2.089	18.17	7.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3967)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	229.92	0.0800	
31.53	229.70	0.0800	Main Channel
51.88	229.23	0.0800	Main Channel
72.40	229.52	0.0800	Main Channel
111.96	229.59	0.0800	Main Channel
163.91	229.09	0.0800	Main Channel
230.09	226.72	0.0800	Main Channel
261.25	224.04	0.0800	Main Channel
298.10	220.18	0.0800	Main Channel
325.06	218.53	0.0800	Main Channel
349.83	217.63	0.0800	Main Channel
407.44	218.05	0.0800	Main Channel
434.35	221.87	0.0800	Main Channel
461.96	225.47	0.0800	Main Channel
475.42	225.49	0.0800	Main Channel
630.49	227.35	0.0800	Main Channel
668.45	227.99	0.0800	Main Channel
758.37	229.39	0.0800	Main Channel
799.82	230.04	0.0800 /0.0800	Main Channel
815.73	230.13	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.64	218.27	.217E+05	13.4	0.43	27.08
1.29	218.92	.610E+05	65.0	0.75	15.65
1.93	219.56	.107E+06	151.0	0.99	11.85
2.58	220.21	.161E+06	271.3	1.19	9.86
3.22	220.85	.219E+06	432.3	1.38	8.46
3.87	221.50	.283E+06	628.5	1.56	7.51
4.51	222.14	.352E+06	860.0	1.72	6.82
5.16	222.79	.426E+06	1127.7	1.86	6.29
5.80	223.43	.504E+06	1433.5	2.00	5.86
6.44	224.07	.588E+06	1778.2	2.13	5.51

7.09	224.72	.677E+06	2156.3	2.24	5.23
7.73	225.36	.772E+06	2577.5	2.35	4.99
8.38	226.01	.884E+06	2713.2	2.16	5.43
9.02	226.65	.102E+07	3043.4	2.09	5.61
9.67	227.30	.119E+07	3470.4	2.04	5.74
10.31	227.94	.139E+07	4116.9	2.07	5.65
10.96	228.59	.162E+07	4885.9	2.12	5.53
11.60	229.23	.187E+07	5729.4	2.15	5.45
12.29	229.92	.222E+07	6535.2	2.07	5.65

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0840)	2884.25	2.09	18.17	7.40	0.10	0.43
OUTFLOW: ID= 1 (3967)	2884.25	2.09	18.58	7.40	0.10	0.43

CALIB					
NASHYD (0578)	Area (ha)=	47.43	Curve Number (CN)=	72.8	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.82			

Unit Hyd Qpeak (cms)= 0.444

PEAK FLOW	(cms)=	0.114 (i)
TIME TO PEAK	(hrs)=	8.417
RUNOFF VOLUME	(mm)=	8.062
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.192

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1940)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3967):	2884.25	2.086	18.58	7.40
+ ID2= 2 (0578):	47.43	0.114	8.42	8.06
ID = 3 (1940):	2931.68	2.109	18.42	7.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0577)	Area (ha)=	142.38	Curve Number (CN)=	72.8	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	4.42			

Unit Hyd Qpeak (cms)= 0.550

PEAK FLOW	(cms)=	0.164 (i)
TIME TO PEAK	(hrs)=	11.750

RUNOFF VOLUME	(mm)=	8.063
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.192

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1939)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1940):	2931.68	2.109	18.42	7.41
+ ID2= 2 (0577):	142.38	0.164	11.75	8.06
ID = 3 (1939):	3074.06	2.230	18.08	7.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3968)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	229.92	0.0800	
31.53	229.70	0.0800	Main Channel
51.88	229.23	0.0800	Main Channel
72.40	229.52	0.0800	Main Channel
111.96	229.59	0.0800	Main Channel
163.91	229.09	0.0800	Main Channel
230.09	226.72	0.0800	Main Channel
261.25	224.04	0.0800	Main Channel
298.10	220.18	0.0800	Main Channel
325.06	218.53	0.0800	Main Channel
349.83	217.63	0.0800	Main Channel
407.44	218.05	0.0800	Main Channel
434.35	221.87	0.0800	Main Channel
461.96	225.47	0.0800	Main Channel
475.42	225.49	0.0800	Main Channel
630.49	227.35	0.0800	Main Channel
668.45	227.99	0.0800	Main Channel
758.37	229.39	0.0800	Main Channel
799.82	230.04	0.0800 /0.0800	Main Channel
815.73	230.13	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.64	218.27	.329E+05	11.4	0.37	47.96
1.29	218.92	.924E+05	55.6	0.64	27.72
1.93	219.56	.163E+06	129.2	0.85	20.99
2.58	220.21	.243E+06	232.0	1.02	17.47
3.22	220.85	.333E+06	369.8	1.18	14.99
3.87	221.50	.429E+06	537.6	1.33	13.30
4.51	222.14	.533E+06	735.7	1.47	12.08
5.16	222.79	.645E+06	964.6	1.59	11.14
5.80	223.43	.764E+06	1226.2	1.71	10.38
6.44	224.07	.891E+06	1521.1	1.82	9.76
7.09	224.72	.103E+07	1844.5	1.91	9.27
7.73	225.36	.117E+07	2204.8	2.01	8.84
8.38	226.01	.134E+07	2320.9	1.84	9.62
9.02	226.65	.155E+07	2603.4	1.79	9.94

9.67	227.30	.181E+07	2968.6	1.75	10.16
10.31	227.94	.211E+07	3521.6	1.77	10.00
10.96	228.59	.246E+07	4179.5	1.81	9.79
11.60	229.23	.284E+07	4901.0	1.84	9.66
12.29	229.92	.336E+07	5590.3	1.77	10.01

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1939)	3074.06	2.23	18.08	7.44	0.13	0.37
OUTFLOW: ID= 1 (3968)	3074.06	2.22	19.00	7.44	0.12	0.37

ROUTE CHN(3649) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	219.22	0.0800	
79.78	219.16	0.0800	Main Channel
119.98	218.26	0.0800	Main Channel
152.66	219.01	0.0800	Main Channel
224.25	217.93	0.0800	Main Channel
307.28	217.35	0.0800	Main Channel
348.43	216.00	0.0800	Main Channel
384.54	211.60	0.0800	Main Channel
446.13	208.21	0.0800	Main Channel
456.95	209.59	0.0800	Main Channel
469.18	208.72	0.0800	Main Channel
493.08	215.94	0.0800	Main Channel
529.63	217.45	0.0800	Main Channel
566.28	217.79	0.0800	Main Channel
712.69	215.91	0.0800	Main Channel
743.07	216.81	0.0800	Main Channel
818.16	217.13	0.0800	Main Channel
864.82	217.62	0.0800	Main Channel
905.22	218.38	0.0800 /0.0800	Main Channel
992.50	218.52	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	208.74	.355E+04	0.9	0.26	62.88
1.06	209.27	.167E+05	6.5	0.38	42.66
1.59	209.80	.412E+05	22.5	0.53	30.58
2.12	210.33	.727E+05	51.1	0.68	23.73
2.64	210.85	.110E+06	91.7	0.81	19.99
3.17	211.38	.153E+06	145.5	0.92	17.55
3.70	211.91	.202E+06	216.9	1.05	15.50
4.23	212.44	.254E+06	305.1	1.17	13.86
4.76	212.97	.309E+06	407.3	1.28	12.63
5.29	213.50	.367E+06	523.8	1.39	11.68
5.82	214.03	.428E+06	654.7	1.49	10.90
6.35	214.56	.493E+06	800.5	1.58	10.26
6.88	215.09	.560E+06	961.3	1.67	9.71
7.41	215.62	.631E+06	1137.6	1.75	9.25
7.93	216.14	.709E+06	1170.2	1.61	10.09
8.46	216.67	.824E+06	1156.4	1.37	11.87

8.99	217.20	.999E+06	1175.3	1.14	14.17
9.52	217.73	.126E+07	1364.3	1.05	15.39
10.05	218.26	.160E+07	1855.1	1.13	14.38

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3968)	3074.06	2.22	19.00	7.44	0.65	0.28
OUTFLOW: ID= 1 (3649)	3074.06	2.20	19.92	7.44	0.65	0.28

CALIB | NASHYD (0575) | ID= 1 DT= 5.0 min | Area (ha)= 135.85 | Curve Number (CN)= 75.2 | Ia (mm)= 10.00 | # of Linear Res.(N)= 1.50 | U.H. Tp(hrs)= 4.29

Unit Hyd Qpeak (cms)= 0.541

PEAK FLOW (cms)= 0.176 (i)
TIME TO PEAK (hrs)= 11.500
RUNOFF VOLUME (mm)= 8.839
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.210

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB | STANDHYD (0576) | ID= 1 DT= 5.0 min | Area (ha)= 69.53 | Total Imp(%)= 22.50 | Dir. Conn.(%)= 17.18

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.64	53.89
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.00	3.00
Length	(m)=	680.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.56
over (min)		10.00	30.00
Storage Coeff. (min)=		11.21 (ii)	29.79 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.10	0.04

		TOTALS
PEAK FLOW	(cms)=	0.64	0.66	1.219 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	9.87	15.05
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.23	0.36

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1935) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3649):	3074.06	2.203	19.92	7.44
+ ID2= 2 (0575):	135.85	0.176	11.50	8.84
ID = 3 (1935):	3209.91	2.317	19.58	7.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1935) | 3 + 2 = 1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1935):	3209.91	2.317	19.58	7.50
+ ID2= 2 (0576):	69.53	1.219	5.25	15.05
ID = 1 (1935):	3279.44	2.317	19.58	7.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3651) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	219.22	0.0800	
79.78	219.16	0.0800	Main Channel
119.98	218.26	0.0800	Main Channel
152.66	219.01	0.0800	Main Channel
224.25	217.93	0.0800	Main Channel
307.28	217.35	0.0800	Main Channel
348.43	216.00	0.0800	Main Channel
384.54	211.60	0.0800	Main Channel
446.13	208.21	0.0800	Main Channel
456.95	209.59	0.0800	Main Channel
469.18	208.72	0.0800	Main Channel
493.08	215.94	0.0800	Main Channel
529.63	217.45	0.0800	Main Channel
566.28	217.79	0.0800	Main Channel
712.69	215.91	0.0800	Main Channel
743.07	216.81	0.0800	Main Channel
818.16	217.13	0.0800	Main Channel
864.82	217.62	0.0800	Main Channel
905.22	218.38	0.0800 /0.0800	Main Channel
992.50	218.52	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	208.74	.582E+04	1.0	0.27	99.89
1.06	209.27	.274E+05	6.7	0.39	67.77
1.59	209.80	.677E+05	23.2	0.55	48.58

2.12	210.33	.119E+06	52.8	0.71	37.70
2.64	210.85	.181E+06	94.8	0.84	31.76
3.17	211.38	.252E+06	150.3	0.96	27.89
3.70	211.91	.331E+06	224.2	1.08	24.62
4.23	212.44	.416E+06	315.3	1.21	22.02
4.76	212.97	.507E+06	420.9	1.33	20.07
5.29	213.50	.602E+06	541.3	1.44	18.55
5.82	214.03	.703E+06	676.6	1.54	17.32
6.35	214.56	.809E+06	827.3	1.63	16.30
6.88	215.09	.920E+06	993.5	1.73	15.43
7.41	215.62	.104E+07	1175.7	1.81	14.69
7.93	216.14	.116E+07	1209.4	1.66	16.03
8.46	216.67	.135E+07	1195.1	1.41	18.87
8.99	217.20	.164E+07	1214.7	1.18	22.51
9.52	217.73	.207E+07	1409.9	1.09	24.45
10.05	218.26	.263E+07	1917.2	1.17	22.84

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1935)	3279.44	2.32	19.58	7.66	0.65	0.29
OUTFLOW: ID= 1 (3651)	3279.44	2.28	21.17	7.66	0.65	0.29

ROUTE CHN(3083) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	210.47	0.0800	
130.77	209.45	0.0800	Main Channel
164.67	209.92	0.0800	Main Channel
253.07	209.27	0.0800	Main Channel
331.92	208.75	0.0800	Main Channel
473.97	203.41	0.0800	Main Channel
560.18	203.09	0.0800	Main Channel
601.56	203.24	0.0800	Main Channel
622.45	201.95	0.0800	Main Channel
670.12	207.58	0.0800	Main Channel
715.64	208.54	0.0800	Main Channel
781.71	209.37	0.0800	Main Channel
825.89	209.78	0.0800	Main Channel
892.34	209.26	0.0800	Main Channel
949.52	209.41	0.0800	Main Channel
1013.02	210.05	0.0800	Main Channel
1064.24	209.57	0.0800	Main Channel
1143.48	209.89	0.0800	Main Channel
1163.56	209.42	0.0800 /0.0800	Main Channel
1244.31	210.09	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	202.36	.175E+04	0.5	0.26	53.56
0.83	202.78	.700E+04	3.5	0.41	33.74
1.24	203.19	.182E+05	6.5	0.29	47.05
1.66	203.61	.683E+05	37.9	0.46	30.00
2.07	204.02	.128E+06	102.5	0.66	20.84

2.49	204.44	.193E+06	192.8	0.82	16.70
2.90	204.85	.263E+06	307.5	0.96	14.25
3.32	205.27	.338E+06	446.6	1.09	12.61
3.73	205.68	.418E+06	610.0	1.20	11.41
4.15	206.10	.502E+06	798.3	1.31	10.49
4.56	206.51	.592E+06	1011.8	1.41	9.76
4.98	206.93	.687E+06	1251.1	1.50	9.15
5.39	207.34	.787E+06	1516.9	1.59	8.64
5.81	207.76	.892E+06	1785.1	1.65	8.33
6.22	208.17	.101E+07	2055.2	1.68	8.16
6.64	208.59	.113E+07	2357.0	1.72	8.01
7.05	209.00	.127E+07	2544.7	1.65	8.35
7.47	209.42	.145E+07	2558.3	1.45	9.47
7.88	209.83	.174E+07	2624.1	1.25	11.03

channel->			<---- hydrograph ---->			<-pipe /
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH
VEL						
		(ha)	(cms)	(hrs)	(mm)	(m)
(m/s)						
INFLOW : ID= 2 (	3651)	3279.44	2.28	21.17	7.66	0.66
0.33						
OUTFLOW: ID= 1 (	3083)	3279.44	2.27	21.67	7.66	0.66
0.33						

CALIB	
STANDHYD (0574)	Area (ha)= 98.50
ID= 1 DT= 5.0 min	Total Imp(%)= 23.07 Dir. Conn.(%)= 16.69

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	22.73	75.77	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.64	2.64	
Length	(m)=	810.35	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	7.33	
over (min)		15.00	35.00	
Storage Coeff. (min)=		12.93 (ii)	31.40 (ii)	
Unit Hyd. Tpeak (min)=		15.00	35.00	
Unit Hyd. peak (cms)=		0.08	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.87	1.01	1.741 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.33
RUNOFF VOLUME	(mm)=	40.00	10.87	15.73
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.26	0.37

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 72.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7607)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3083):	3279.44	2.273	21.67	7.66
+ ID2= 2 (0574):	98.50	1.741	5.33	15.73
ID = 3 (7607):	3377.94	2.273	21.67	7.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1456)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7606):	1114.36	1.784	5.25	8.71
+ ID2= 2 (7607):	3377.94	2.273	21.67	7.89
ID = 3 (1456):	4492.30	3.735	5.33	8.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3084)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	210.47	0.0800	
130.77	209.45	0.0800	Main Channel
164.67	209.92	0.0800	Main Channel
253.07	209.27	0.0800	Main Channel
331.92	208.75	0.0800	Main Channel
473.97	203.41	0.0800	Main Channel
560.18	203.09	0.0800	Main Channel
601.56	203.24	0.0800	Main Channel
622.45	201.95	0.0800	Main Channel
670.12	207.58	0.0800	Main Channel
715.64	208.54	0.0800	Main Channel
781.71	209.37	0.0800	Main Channel
825.89	209.78	0.0800	Main Channel
892.34	209.26	0.0800	Main Channel
949.52	209.41	0.0800	Main Channel
1013.02	210.05	0.0800	Main Channel
1064.24	209.57	0.0800	Main Channel
1143.48	209.89	0.0800	Main Channel
1163.56	209.42	0.0800 /0.0800	Main Channel
1244.31	210.09	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	202.36	.135E+04	0.6	0.28	37.21
0.83	202.78	.540E+04	3.8	0.45	23.44
1.24	203.19	.141E+05	7.2	0.32	32.68
1.66	203.61	.527E+05	42.1	0.51	20.84
2.07	204.02	.989E+05	113.9	0.73	14.48
2.49	204.44	.149E+06	214.1	0.91	11.60
2.90	204.85	.203E+06	341.7	1.07	9.90
3.32	205.27	.261E+06	496.1	1.21	8.76
3.73	205.68	.322E+06	677.7	1.34	7.93
4.15	206.10	.388E+06	886.9	1.46	7.29

4.56	206.51	.457E+06	1124.1	1.56	6.78
4.98	206.93	.530E+06	1389.9	1.67	6.36
5.39	207.34	.607E+06	1685.2	1.77	6.00
5.81	207.76	.688E+06	1983.2	1.83	5.79
6.22	208.17	.777E+06	2283.3	1.87	5.67
6.64	208.59	.874E+06	2618.5	1.91	5.56
7.05	209.00	.983E+06	2827.1	1.83	5.80
7.47	209.42	.112E+07	2842.2	1.61	6.58
7.88	209.83	.134E+07	2915.3	1.38	7.66

channel->			<---- hydrograph ---->			<-pipe /
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH
VEL						
		(ha)	(cms)	(hrs)	(mm)	(m)
(m/s)						
INFLOW : ID= 2 (	1456)	4492.30	3.73	5.33	8.10	0.82
0.44						
OUTFLOW: ID= 1 (	3084)	4492.30	3.18	5.50	8.10	0.74
0.40						

ROUTE CHN(2801)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	203.17	0.0800	
33.35	203.46	0.0800	Main Channel
48.22	203.06	0.0800	Main Channel
109.57	203.76	0.0800	Main Channel
223.07	203.21	0.0800	Main Channel
314.80	203.13	0.0800	Main Channel
360.84	201.69	0.0800	Main Channel
394.13	199.91	0.0800	Main Channel
453.43	198.42	0.0800	Main Channel
494.67	198.54	0.0800	Main Channel
517.18	196.51	0.0800	Main Channel
550.38	202.81	0.0800	Main Channel
628.33	202.14	0.0800	Main Channel
708.70	202.76	0.0800	Main Channel
730.70	202.54	0.0800	Main Channel
781.57	203.30	0.0800	Main Channel
893.91	203.62	0.0800	Main Channel
932.02	204.27	0.0800	Main Channel
1006.02	204.69	0.0800 /0.0800	Main Channel
1056.93	204.47	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	196.92	.153E+04	0.3	0.24	79.14
0.82	197.33	.613E+04	2.0	0.37	49.86
1.23	197.74	.138E+05	6.0	0.49	38.05
1.64	198.15	.245E+05	13.0	0.59	31.41
2.05	198.56	.423E+05	15.6	0.41	45.15
2.46	198.97	.831E+05	41.9	0.56	33.04
2.87	199.38	.132E+06	81.3	0.69	27.16
3.28	199.79	.190E+06	134.7	0.79	23.52
3.68	200.19	.255E+06	207.7	0.91	20.49
4.09	200.60	.325E+06	297.8	1.02	18.21
4.50	201.01	.400E+06	403.2	1.13	16.52
4.91	201.42	.479E+06	524.0	1.22	15.22

5.32	201.83	.562E+06	656.6	1.31	14.27
5.73	202.24	.654E+06	742.4	1.27	14.67
6.14	202.65	.786E+06	743.0	1.06	17.63
6.55	203.06	.979E+06	931.1	1.06	17.52
7.09	203.60	.137E+07	1099.3	0.90	20.80
7.64	204.15	.192E+07	1784.1	1.04	17.93
8.18	204.69	.251E+07	2611.1	1.16	16.02

channel->			<---- hydrograph ---->			<-pipe /
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH
VEL						
		(ha)	(cms)	(hrs)	(mm)	(m)
(m/s)						
INFLOW : ID= 2 (	3084)	4492.30	3.18	5.50	8.10	0.93
0.40						
OUTFLOW: ID= 1 (	2801)	4492.30	3.09	21.25	8.10	0.92
0.40						

ROUTE CHN(4004)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	200.26	0.0800	
46.15	199.87	0.0800	Main Channel
67.22	200.27	0.0800	Main Channel
86.27	200.18	0.0800	Main Channel
115.33	199.69	0.0800	Main Channel
153.62	199.20	0.0800	Main Channel
192.31	198.62	0.0800	Main Channel
203.49	195.69	0.0800	Main Channel
225.07	195.20	0.0800	Main Channel
262.90	195.27	0.0800	Main Channel
300.79	194.16	0.0800	Main Channel
311.57	192.81	0.0800	Main Channel
326.87	195.00	0.0800	Main Channel
344.36	196.98	0.0800	Main Channel
355.21	197.16	0.0800	Main Channel
409.10	198.54	0.0800	Main Channel
456.70	198.94	0.0800	Main Channel
539.03	199.39	0.0800	Main Channel
572.38	199.20	0.0800 /0.0800	Main Channel
589.27	199.24	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	193.19	.863E+03	0.2	0.21	65.11
0.75	193.56	.345E+04	1.4	0.33	41.01
1.13	193.94	.777E+04	4.1	0.43	31.30
1.50	194.31	.141E+05	8.2	0.48	28.45
1.88	194.69	.246E+05	15.4	0.51	26.60
2.26	195.07	.398E+05	27.9	0.57	23.78
2.63	195.44	.670E+05	41.6	0.51	26.84
3.01	195.82	.105E+06	81.8	0.63	21.48
3.38	196.19	.146E+06	138.0	0.77	17.68
3.76	196.57	.189E+06	206.1	0.89	15.27
4.13	196.94	.233E+06	285.4	1.00	13.59
4.51	197.32	.280E+06	358.7	1.04	13.02
4.89	197.70	.333E+06	449.5	1.10	12.35
5.26	198.07	.391E+06	554.3	1.16	11.75

5.64	198.45	.454E+06	674.0	1.21	11.22
6.01	198.82	.525E+06	744.1	1.16	11.76
6.39	199.20	.619E+06	810.2	1.07	12.72
6.93	199.74	.812E+06	1053.8	1.06	12.85
7.46	200.27	.104E+07	1461.8	1.15	11.85

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2801)	4492.30	3.09	21.25	8.10	0.98	0.39
OUTFLOW: ID= 1 (4004)	4492.30	3.09	21.67	8.10	0.98	0.39

CALIB			
NASHYD (0593)	Area (ha)=	108.88	Curve Number (CN)= 71.2
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	5.91	

Unit Hyd Qpeak (cms)= 0.314

PEAK FLOW (cms)= 0.091 (i)
TIME TO PEAK (hrs)= 12.833
RUNOFF VOLUME (mm)= 7.564
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.180

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7603)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4004):	4492.30	3.089	21.67	8.10
+ ID2= 2 (0593):	108.88	0.091	12.83	7.56
ID = 3 (7603):	4601.18	3.157	21.58	8.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1776)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1380):	2765.34	5.254	5.75	10.14
+ ID2= 2 (7603):	4601.18	3.157	21.58	8.08
ID = 3 (1776):	7366.52	6.951	6.25	8.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3632)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	196.26	0.0800	
12.04	196.21	0.0800	Main Channel
25.51	195.91	0.0800	Main Channel
31.16	195.43	0.0800	Main Channel
38.97	194.07	0.0800	Main Channel
46.04	193.29	0.0800	Main Channel
52.45	192.84	0.0800	Main Channel
75.81	191.74	0.0800	Main Channel
80.05	191.64	0.0800	Main Channel
150.16	191.52	0.0800	Main Channel
160.79	190.78	0.0800	Main Channel
165.04	190.36	0.0800	Main Channel
174.26	189.91	0.0800	Main Channel
179.91	190.51	0.0800	Main Channel
187.72	191.69	0.0800	Main Channel
201.86	192.03	0.0800	Main Channel
209.67	192.44	0.0800	Main Channel
254.29	193.78	0.0800	Main Channel
282.62	196.65	0.0800 /0.0800	Main Channel
309.54	197.22	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	190.24	.693E+03	0.3	0.16	44.37
0.67	190.58	.267E+04	1.7	0.26	26.31
1.00	190.91	.551E+04	4.6	0.35	19.84
1.33	191.24	.928E+04	9.3	0.42	16.65
1.67	191.58	.144E+05	11.2	0.32	21.51
2.00	191.91	.298E+05	25.5	0.36	19.46
2.33	192.24	.484E+05	52.8	0.46	15.28
2.67	192.58	.690E+05	88.9	0.54	12.93
3.00	192.91	.920E+05	133.7	0.61	11.46
3.33	193.24	.117E+06	189.1	0.67	10.33
3.67	193.58	.145E+06	255.6	0.74	9.43
4.00	193.91	.174E+06	335.5	0.80	8.64
4.33	194.24	.204E+06	430.9	0.88	7.90
4.67	194.58	.235E+06	537.2	0.95	7.30
5.00	194.91	.267E+06	653.5	1.02	6.81
5.33	195.24	.300E+06	779.8	1.09	6.41
5.67	195.58	.333E+06	913.7	1.14	6.07
6.00	195.91	.367E+06	1054.8	1.20	5.80
6.35	196.26	.405E+06	1225.6	1.26	5.51

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1776)	7366.52	6.95	6.25	8.85	1.17	0.38
OUTFLOW: ID= 1 (3632)	7366.52	6.77	6.50	8.85	1.15	0.38

CALIB	

NASHYD (0590)	Area (ha)=	25.19	Curve Number (CN)= 75.2
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.89	

Unit Hyd Qpeak (cms)= 0.228

PEAK FLOW (cms)= 0.065 (i)
TIME TO PEAK (hrs)= 8.417
RUNOFF VOLUME (mm)= 8.838
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.210

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1741)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3632):	7366.52	6.768	6.50	8.85
+ ID2= 2 (0590):	25.19	0.065	8.42	8.84
ID = 3 (1741):	7391.71	6.818	6.50	8.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3588)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	196.39	0.0800	
25.46	196.16	0.0800	Main Channel
82.75	195.48	0.0800	Main Channel
135.81	194.80	0.0800	Main Channel
169.07	194.16	0.0800	Main Channel
183.21	189.10	0.0800	Main Channel
197.35	189.30	0.0800	Main Channel
212.24	190.15	0.0800	Main Channel
226.38	190.29	0.0800	Main Channel
254.66	190.37	0.0800	Main Channel
269.55	190.18	0.0800	Main Channel
283.69	190.26	0.0800	Main Channel
289.35	191.84	0.0800	Main Channel
297.83	193.60	0.0800	Main Channel
303.49	193.61	0.0800	Main Channel
311.98	194.44	0.0800	Main Channel
331.12	195.34	0.0800	Main Channel
369.30	195.33	0.0800	Main Channel
426.65	195.53	0.0800 /0.0800	Main Channel
457.17	195.69	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.34	189.44	.328E+04	0.8	0.21	69.67
0.67	189.77	.958E+04	3.8	0.35	42.55
1.01	190.11	.179E+05	9.0	0.45	33.06
1.34	190.44	.385E+05	14.4	0.34	44.56
1.68	190.78	.705E+05	38.9	0.50	30.21
2.01	191.11	.103E+06	72.3	0.63	23.77

2.35	191.45	.136E+06	113.7	0.75	19.99
2.69	191.79	.170E+06	162.5	0.86	17.47
3.02	192.12	.205E+06	217.8	0.96	15.68
3.36	192.46	.240E+06	279.8	1.05	14.31
3.69	192.79	.276E+06	348.3	1.13	13.23
4.03	193.13	.313E+06	423.2	1.21	12.34
4.37	193.47	.351E+06	504.2	1.29	11.60
4.70	193.80	.391E+06	574.8	1.32	11.32
5.04	194.14	.432E+06	665.8	1.38	10.82
5.37	194.47	.477E+06	718.5	1.35	11.07
5.71	194.81	.529E+06	775.8	1.32	11.36
6.04	195.14	.590E+06	833.1	1.27	11.80
6.38	195.48	.668E+06	780.0	1.05	14.28

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1741)	7391.71	6.82	6.50	8.85	0.87	0.40
OUTFLOW: ID= 1 (3588)	7391.71	6.33	7.17	8.85	0.83	0.39

CALIB			
NASHYD (0591)	Area (ha)=	21.40	Curve Number (CN)= 76.8
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)= 1.50
	U.H. Tp(hrs)=	1.44	

Unit Hyd Qpeak (cms)= 0.253

PEAK FLOW (cms)= 0.071 (i)
TIME TO PEAK (hrs)= 7.917
RUNOFF VOLUME (mm)= 9.407
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.224

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1476)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3588):	7391.71	6.326	7.17	8.85
+ ID2= 2 (0591):	21.40	0.071	7.92	9.41
ID = 3 (1476):	7413.11	6.395	7.17	8.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3222)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning

0.00	194.33	0.0800		
42.77	193.95	0.0800		Main Channel
82.85	193.30	0.0800		Main Channel
122.93	192.32	0.0800		Main Channel
173.03	190.25	0.0800		Main Channel
193.07	188.90	0.0800		Main Channel
273.23	188.94	0.0800		Main Channel
353.39	188.54	0.0800		Main Channel
373.43	187.17	0.0800		Main Channel
393.47	188.58	0.0800		Main Channel
512.43	188.10	0.0800		Main Channel
533.36	188.42	0.0800		Main Channel
549.65	190.16	0.0800		Main Channel
563.10	190.98	0.0800		Main Channel
639.30	190.56	0.0800		Main Channel
730.36	190.69	0.0800		Main Channel
773.23	191.82	0.0800		Main Channel
816.11	192.16	0.0800		Main Channel
875.29	191.65	0.0800 /0.0800		Main Channel
917.00	192.91	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	187.47	.134E+04	0.2	0.16	109.41
0.60	187.77	.535E+04	1.3	0.25	68.92
0.90	188.07	.120E+05	3.8	0.33	52.60
1.20	188.37	.330E+05	7.4	0.23	73.94
1.49	188.66	.843E+05	24.5	0.30	57.44
1.79	188.96	.162E+06	51.7	0.33	52.30
2.09	189.26	.271E+06	119.8	0.46	37.68
2.39	189.56	.382E+06	209.3	0.57	30.39
2.69	189.86	.495E+06	318.3	0.67	25.90
2.99	190.16	.610E+06	445.4	0.76	22.82
3.29	190.46	.728E+06	586.5	0.84	20.68
3.59	190.76	.866E+06	636.4	0.76	22.67
3.88	191.05	.104E+07	802.3	0.80	21.62
4.18	191.35	.123E+07	1033.8	0.87	19.78
4.48	191.65	.142E+07	1290.9	0.94	18.32
4.80	191.97	.163E+07	1522.6	0.97	17.89
5.11	192.28	.188E+07	1819.4	1.01	17.21
5.42	192.59	.213E+07	2215.0	1.08	16.05
5.74	192.91	.240E+07	2643.9	1.15	15.10

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1476)	7413.11	6.39	7.17	8.86	1.11	0.26
OUTFLOW: ID= 1 (3222)	7413.11	5.59	8.83	8.86	1.04	0.28

CALIB	
NASHYD (0589)	Area (ha)= 35.59
ID= 1 DT= 5.0 min	Ia (mm)= 10.00
	U.H. Tp(hrs)= 3.18

Curve Number (CN)= 70.4
# of Linear Res.(N)= 1.50

Unit Hyd Qpeak (cms)= 0.191

PEAK FLOW (cms)= 0.050 (i)
TIME TO PEAK (hrs)= 9.917
RUNOFF VOLUME (mm)= 7.375
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0592)	Area (ha)= 35.08
ID= 1 DT= 5.0 min	Total Imp(%)= 52.36 Dir. Conn.(%)= 44.92

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.37	16.71
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.95	1.95
Length	(m)=	483.60	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	19.32	9.00
over (min)		10.00	30.00
Storage Coeff.	(min)=	10.39 (ii)	29.02 (ii)
Unit Hyd. Tpeak	(min)=	10.00	30.00
Unit Hyd. peak	(cms)=	0.11	0.04

				TOTALS
PEAK FLOW	(cms)=	0.84	0.29	1.101 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	12.53	24.87
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.30	0.59

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1366)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3222):	7413.11	5.585	8.83	8.86
+ ID2= 2 (0589):	35.59	0.050	9.92	7.37
ID = 3 (1366):	7448.70	5.633	8.83	8.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1366)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1366):	7448.70	5.633	8.83	8.85
+ ID2= 2 (0592):	35.08	1.101	5.25	24.87
ID = 1 (1366):	7483.78	5.714	8.75	8.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3068)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<----- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	191.66	0.0800	
14.14	191.82	0.0800	Main Channel
42.43	191.89	0.0800	Main Channel
85.04	191.78	0.0800	Main Channel
102.79	191.62	0.0800	Main Channel
114.10	190.05	0.0800	Main Channel
116.93	188.88	0.0800	Main Channel
128.24	185.34	0.0800	Main Channel
131.07	185.10	0.0800	Main Channel
142.39	185.40	0.0800	Main Channel
156.53	186.86	0.0800	Main Channel
173.50	187.06	0.0800	Main Channel
198.95	186.97	0.0800	Main Channel
241.38	186.56	0.0800	Main Channel
244.21	186.56	0.0800	Main Channel
286.18	186.23	0.0800	Main Channel
313.05	186.35	0.0800	Main Channel
342.75	186.62	0.0800	Main Channel
356.89	188.06	0.0800 /0.0800	Main Channel
373.86	188.62	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.33	185.43	.190E+04	0.4	0.16	73.36
0.66	185.76	.589E+04	2.4	0.29	40.91
0.99	186.09	.109E+05	5.8	0.39	31.11
1.32	186.42	.211E+05	7.4	0.25	47.53
1.64	186.74	.505E+05	21.5	0.31	39.26
1.97	187.07	.937E+05	46.6	0.36	33.53
2.30	187.40	.147E+06	97.9	0.48	25.10
2.63	187.73	.202E+06	163.7	0.58	20.59
2.96	188.06	.258E+06	242.6	0.68	17.72
3.34	188.44	.325E+06	353.2	0.78	15.35
3.73	188.83	.396E+06	481.8	0.88	13.69
4.11	189.21	.467E+06	627.8	0.97	12.39
4.49	189.59	.538E+06	789.8	1.06	11.35
4.88	189.98	.610E+06	967.0	1.14	10.51
5.26	190.36	.682E+06	1154.8	1.22	9.84
5.64	190.74	.754E+06	1355.5	1.30	9.27
6.02	191.12	.828E+06	1569.7	1.37	8.79
6.41	191.51	.902E+06	1797.1	1.44	8.37
6.79	191.89	.983E+06	1799.3	1.32	9.11

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1366)	7483.78	5.71	8.75	8.92	0.98	0.38
OUTFLOW: ID= 1 (3068)	7483.78	5.64	9.08	8.92	0.96	0.38

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	
STANDHYD (0588)	Area (ha)= 8.81
ID= 1 DT= 5.0 min	Total Imp(%)= 54.65 Dir. Conn.(%)= 49.17

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.82	3.99
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.88	1.88
Length	(m)=	242.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	19.32	7.39
over (min)		5.00	30.00
Storage Coeff.	(min)=	6.94 (ii)	27.33 (ii)
Unit Hyd. Tpeak	(min)=	5.00	30.00
Unit Hyd. peak	(cms)=	0.17	0.04

				TOTALS
PEAK FLOW	(cms)=	0.23	0.06	0.285 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.91	25.21
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.26	0.60

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1282)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3068):	7483.78	5.645	9.08	8.92
+ ID2= 2 (0588):	8.81	0.285	5.25	25.21
ID = 3 (1282):	7492.59	5.662	9.08	8.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2940)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	189.66	0.0800	
33.59	189.40	0.0800	Main Channel
109.42	189.54	0.0800	Main Channel
131.98	188.90	0.0800	Main Channel
169.99	186.82	0.0800	Main Channel
210.27	186.12	0.0800	Main Channel
232.67	185.59	0.0800	Main Channel
243.89	185.75	0.0800	Main Channel
282.92	185.14	0.0800	Main Channel

305.46	183.72	0.0800		Main Channel
310.85	184.68	0.0800		Main Channel
315.32	186.79	0.0800		Main Channel
328.73	190.87	0.0800		Main Channel
366.75	191.36	0.0800		Main Channel
411.55	191.57	0.0800		Main Channel
434.00	191.58	0.0800		Main Channel
478.60	191.49	0.0800		Main Channel
568.17	190.97	0.0800		Main Channel
590.64	190.66	0.0800 /0.0800		Main Channel
636.73	190.23	0.0800		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.39	184.11	.133E+04	0.4	0.23	59.11
0.78	184.50	.533E+04	2.4	0.37	37.24
1.16	184.88	.119E+05	7.1	0.49	27.99
1.55	185.27	.211E+05	13.8	0.54	25.57
1.94	185.66	.375E+05	23.4	0.51	26.66
2.33	186.05	.664E+05	48.3	0.60	22.92
2.72	186.44	.102E+06	86.3	0.70	19.66
3.10	186.82	.145E+06	138.1	0.79	17.45
3.49	187.21	.192E+06	214.2	0.92	14.98
3.88	187.60	.243E+06	304.8	1.03	13.29
4.27	187.99	.296E+06	409.8	1.14	12.04
4.66	188.38	.352E+06	529.3	1.24	11.08
5.04	188.76	.410E+06	663.4	1.33	10.31
5.43	189.15	.472E+06	801.9	1.40	9.81
5.82	189.54	.544E+06	952.1	1.44	9.52
6.33	190.05	.679E+06	1255.3	1.52	9.02
6.84	190.56	.822E+06	1615.5	1.62	8.48
7.35	191.07	.985E+06	1804.3	1.51	9.10
7.86	191.58	.120E+07	1771.9	1.22	11.25

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1282)	7492.59	5.66	9.08	8.94	1.05	0.45
OUTFLOW: ID= 1 (2940)	7492.59	5.59	9.50	8.94	1.04	0.44

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB			
STANDHYD (0587)	Area (ha)=	23.55	
ID= 1 DT= 5.0 min	Total Imp(%)=	61.36	Dir. Conn.(%)= 55.72

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.45	9.10
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.72	1.72
Length	(m)=	396.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.86
over (min)		10.00	30.00
Storage Coeff. (min)=		9.57 (ii)	29.05 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00

2.20	183.55	.161E+06	369.0	1.66	7.29
2.57	183.92	.205E+06	537.8	1.91	6.35
2.93	184.28	.249E+06	732.7	2.13	5.67
3.30	184.65	.295E+06	953.0	2.34	5.17
3.67	185.02	.351E+06	971.4	2.01	6.02
4.03	185.38	.422E+06	1292.7	2.22	5.44
4.40	185.75	.495E+06	1664.4	2.44	4.96
4.77	186.12	.569E+06	2074.8	2.65	4.57
5.13	186.48	.644E+06	2522.9	2.84	4.26
5.50	186.85	.721E+06	3007.9	3.03	4.00
5.87	187.22	.800E+06	3548.4	3.22	3.76
6.33	187.68	.905E+06	4281.4	3.43	3.52
6.79	188.14	.102E+07	5089.1	3.61	3.35
7.25	188.60	.116E+07	5839.1	3.66	3.30

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1062)	7516.14	5.63	9.33	9.00	0.52	0.40
OUTFLOW: ID= 1 (2661)	7516.14	5.56	10.00	9.00	0.52	0.40

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB			
STANDHYD (0585)	Area (ha)=	9.62	
ID= 1 DT= 5.0 min	Total Imp(%)=	61.28	Dir. Conn.(%)= 56.37

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.90	3.72
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.49	2.49
Length	(m)=	253.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.59
over (min)		5.00	25.00
Storage Coeff. (min)=		6.55 (ii)	24.19 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.18	0.05

		TOTALS
PEAK FLOW	(cms)=	0.29	0.353 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	40.00	12.26	27.89
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.29	0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0586)	Area (ha)=	15.84	

Unit Hyd. peak (cms)=	0.11	0.04	

			TOTALS
PEAK FLOW	(cms)=	0.70	0.15	0.841 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	12.44	27.79
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.30	0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 74.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1062)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2940):	7492.59	5.590	9.50	8.94
+ ID2= 2 (0587):	23.55	0.841	5.25	27.79
ID = 3 (1062):	7516.14	5.628	9.33	9.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2661)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	187.26	0.0800	
16.24	187.67	0.0800	Main Channel
88.74	188.69	0.0800	Main Channel
109.03	188.40	0.0800	Main Channel
119.09	186.95	0.0800	Main Channel
139.14	182.78	0.0800	Main Channel
147.21	182.64	0.0800	Main Channel
149.21	182.28	0.0800	Main Channel
166.28	181.35	0.0800	Main Channel
169.28	181.91	0.0800	Main Channel
194.46	181.87	0.0800	Main Channel
222.65	181.69	0.0800	Main Channel
240.72	182.26	0.0800	Main Channel
287.95	182.61	0.0800	Main Channel
307.12	184.86	0.0800	Main Channel
325.30	185.03	0.0800	Main Channel
380.63	184.76	0.0800	Main Channel
392.04	184.77	0.0800	Main Channel
410.16	186.85	0.0800 /0.0800	Main Channel
443.29	188.37	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.37	181.72	.121E+04	0.5	0.33	37.05
0.73	182.08	.161E+05	12.4	0.56	21.71
1.10	182.45	.417E+05	47.4	0.83	14.65
1.47	182.82	.786E+05	115.9	1.07	11.29
1.83	183.18	.119E+06	227.8	1.39	8.73

ID= 1 DT= 5.0 min	Total Imp(%)=	54.00	Dir. Conn.(%)=	48.27

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.55	7.29
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.29	2.29
Length	(m)=	324.96	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.64
over (min)		10.00	30.00
Storage Coeff. (min)=		7.80 (ii)	26.76 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.13	0.04

		TOTALS
PEAK FLOW	(cms)=	0.41	0.11	0.507 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.94	24.97
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.26	0.59

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0869)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2661):	7516.14	5.558	10.00	9.00
+ ID2= 2 (0585):	9.62	0.353	5.25	27.89
ID = 3 (0869):	7525.76	5.568	9.92	9.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0869)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0869):	7525.76	5.568	9.92	9.03
+ ID2= 2 (0586):	15.84	0.507	5.25	24.97
ID = 1 (0869):	7541.60	5.584	9.92	9.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2427)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	186.18	0.0800	
11.00	186.11	0.0800	Main Channel

29.00	187.21	0.0800	Main Channel
50.41	187.13	0.0800	Main Channel
70.41	186.24	0.0800	Main Channel
100.41	185.88	0.0800	Main Channel
109.41	185.55	0.0800	Main Channel
129.41	179.27	0.0800	Main Channel
179.46	176.55	0.0800	Main Channel
199.46	176.89	0.0800	Main Channel
209.46	177.65	0.0800	Main Channel
238.46	182.51	0.0800	Main Channel
259.52	184.18	0.0800	Main Channel
278.52	185.96	0.0800	Main Channel
289.52	186.56	0.0800	Main Channel
359.58	187.86	0.0800	Main Channel
377.58	189.06	0.0800	Main Channel
409.58	188.12	0.0800	Main Channel
449.58	188.01	0.0800 /0.0800	Main Channel
502.65	188.39	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.63	177.18	.524E+04	7.1	0.53	12.31
1.25	177.80	.164E+05	35.7	0.86	7.64
1.88	178.43	.316E+05	90.3	1.13	5.83
2.51	179.06	.506E+05	173.3	1.35	4.86
3.14	179.69	.728E+05	297.3	1.61	4.08
3.76	180.31	.966E+05	457.3	1.86	3.52
4.39	180.94	.122E+06	647.8	2.09	3.13
5.02	181.57	.148E+06	868.6	2.30	2.85
5.64	182.19	.176E+06	1120.0	2.50	2.63
6.27	182.82	.206E+06	1388.2	2.65	2.47
6.90	183.45	.238E+06	1676.3	2.77	2.37
7.52	184.07	.272E+06	2001.0	2.89	2.27
8.15	184.70	.309E+06	2373.0	3.02	2.17
8.78	185.33	.348E+06	2785.6	3.15	2.08
9.41	185.96	.390E+06	3085.1	3.12	2.10
10.03	186.58	.444E+06	3305.8	2.93	2.24
10.66	187.21	.513E+06	3486.9	2.68	2.45
11.58	188.13	.641E+06	4264.3	2.62	2.50
12.51	189.06	.814E+06	5700.9	2.76	2.38

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0869)	7541.60	5.58	9.92	9.06	0.49	0.53
OUTFLOW: ID= 1 (2427)	7541.60	5.57	10.17	9.06	0.49	0.53

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2428)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	186.18	0.0800	
11.00	186.11	0.0800	Main Channel
29.00	187.21	0.0800	Main Channel

50.41	187.13	0.0800	Main Channel
70.41	186.24	0.0800	Main Channel
100.41	185.88	0.0800	Main Channel
109.41	185.55	0.0800	Main Channel
129.41	179.27	0.0800	Main Channel
179.46	176.55	0.0800	Main Channel
199.46	176.89	0.0800	Main Channel
209.46	177.65	0.0800	Main Channel
238.46	182.51	0.0800	Main Channel
259.52	184.18	0.0800	Main Channel
278.52	185.96	0.0800	Main Channel
289.52	186.56	0.0800	Main Channel
359.58	187.86	0.0800	Main Channel
377.58	189.06	0.0800	Main Channel
409.58	188.12	0.0800	Main Channel
449.58	188.01	0.0800 /0.0800	Main Channel
502.65	188.39	0.0800	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.63	177.18	.472E+04	6.4	0.48	12.23
1.25	177.80	.148E+05	32.4	0.78	7.60
1.88	178.43	.285E+05	82.0	1.02	5.79
2.51	179.06	.456E+05	157.3	1.22	4.83
3.14	179.69	.657E+05	269.9	1.46	4.06
3.76	180.31	.872E+05	415.2	1.69	3.50
4.39	180.94	.110E+06	588.1	1.90	3.11
5.02	181.57	.134E+06	788.6	2.09	2.83
5.64	182.19	.159E+06	1016.7	2.27	2.61
6.27	182.82	.186E+06	1260.2	2.41	2.46
6.90	183.45	.215E+06	1521.8	2.52	2.35
7.52	184.07	.246E+06	1816.6	2.63	2.25
8.15	184.70	.279E+06	2154.3	2.74	2.16
8.78	185.33	.314E+06	2528.9	2.86	2.07
9.41	185.96	.352E+06	2800.8	2.83	2.09
10.03	186.58	.401E+06	3001.1	2.66	2.23
10.66	187.21	.463E+06	3165.6	2.43	2.44
11.58	188.13	.578E+06	3871.3	2.38	2.49
12.51	189.06	.734E+06	5175.5	2.50	2.36

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2427)	7541.60	5.57	10.17	9.06	0.54	0.48
OUTFLOW: ID= 1 (2428)	7541.60	5.56	10.42	9.06	0.54	0.48

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB					
NASHYD (0581)	Area (ha)=	12.89	Curve Number (CN)=	68.8	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.36			

Unit Hyd Qpeak (cms)= 0.162

PEAK FLOW (cms)= 0.033 (i)
TIME TO PEAK (hrs)= 7.750

RUNOFF VOLUME (mm)= 6.948
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.165

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0582)	Area (ha)=	26.29	Curve Number (CN)=	68.0	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	1.60			

Unit Hyd Qpeak (cms)= 0.281

PEAK FLOW (cms)= 0.058 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 6.751
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.161

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0584)	Area (ha)=	38.49	Curve Number (CN)=	70.4	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	1.50	
	U.H. Tp(hrs)=	3.91			

Unit Hyd Qpeak (cms)= 0.168

PEAK FLOW (cms)= 0.045 (i)
TIME TO PEAK (hrs)= 10.917
RUNOFF VOLUME (mm)= 7.374
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.176

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0583)	Area (ha)=	169.27			
ID= 1 DT= 5.0 min	Total Imp(%)=	58.17	Dir. Conn.(%)=	52.12	

	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	98.47	70.80	
Dep. Storage (mm)=	2.00	5.00	
Average Slope (%)=	1.74	1.74	
Length (m)=	1062.29	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	19.32	8.59	
over (min)	15.00	40.00	
Storage Coeff. (min)=	17.24 (ii)	36.88 (ii)	
Unit Hyd. Tpeak (min)=	15.00	40.00	
Unit Hyd. peak (cms)=	0.07	0.03	
			TOTALS
PEAK FLOW (cms)=	4.60	1.03	5.414 (iii)
TIME TO PEAK (hrs)=	5.25	5.67	5.25
RUNOFF VOLUME (mm)=	40.00	12.08	26.63
TOTAL RAINFALL (mm)=	42.00	42.00	42.00

RUNOFF COEFFICIENT = 0.95 0.29 0.63

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 73.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1796)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2428):	7541.60	5.559	10.42	9.06
+ ID2= 2 (0581):	12.89	0.033	7.75	6.95
ID = 3 (1796):	7554.49	5.583	10.42	9.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1796)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1796):	7554.49	5.583	10.42	9.06
+ ID2= 2 (0582):	26.29	0.058	8.25	6.75
ID = 1 (1796):	7580.78	5.631	10.42	9.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1796)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1796):	7580.78	5.631	10.42	9.05
+ ID2= 2 (0583):	169.27	5.414	5.25	26.63
ID = 3 (1796):	7750.05	6.841	5.25	9.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1796)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1796):	7750.05	6.841	5.25	9.43
+ ID2= 2 (0584):	38.49	0.045	10.92	7.37
ID = 1 (1796):	7788.54	6.850	5.25	9.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3656)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         184.51        0.0800
                  13.38         184.52        0.0800      Main Channel
                  44.62         184.47        0.0800      Main Channel
                  55.25         182.37        0.0800      Main Channel
                  73.99         177.12        0.0800      Main Channel
                  86.44         175.18        0.0800      Main Channel
                  96.69         174.71        0.0800      Main Channel
                 138.32         173.80        0.0800      Main Channel
                 190.04         173.55        0.0800      Main Channel
                 200.54         173.38        0.0800      Main Channel
                 213.55         172.81        0.0800      Main Channel
                 254.55         172.12        0.0800      Main Channel
                 267.72         174.94        0.0800      Main Channel
                 297.91         176.39        0.0800      Main Channel
                 315.17         175.76        0.0800      Main Channel
                 330.42         176.12        0.0800      Main Channel
                 351.99         174.90        0.0800      Main Channel
                 373.75         183.00        0.0800      Main Channel
                 406.45         185.53    0.0800 /0.0800  Main Channel
                 430.37         185.72        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.65   172.77    .979E+04          7.6         0.56      21.50
        1.30   173.42    .342E+05         46.6         0.98      12.24
        1.95   174.07    .837E+05        122.3         1.06      11.40
        2.60   174.72    .156E+06        300.0         1.39       8.67
        3.25   175.37    .243E+06        559.8         1.67       7.22
        3.90   176.02    .346E+06        874.3         1.83       6.60
        4.55   176.67    .473E+06       1367.8         2.09       5.77
        5.20   177.32    .606E+06       2038.7         2.43       4.96
        5.85   177.97    .741E+06       2821.7         2.75       4.38
        6.50   178.62    .878E+06       3706.1         3.05       3.95
        7.15   179.27    .102E+07       4687.6         3.33       3.62
        7.80   179.92    .116E+07       5762.7         3.60       3.35
        8.45   180.57    .130E+07       6928.8         3.85       3.13
        9.10   181.22    .144E+07       8183.7         4.09       2.94
        9.75   181.87    .159E+07       9525.3         4.33       2.78
       10.40   182.52    .174E+07      10947.5         4.55       2.65
       11.05   183.17    .189E+07      12395.1         4.74       2.54
       11.70   183.82    .205E+07      13809.7         4.88       2.47
       12.35   184.47    .221E+07      15313.8         5.02       2.40

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1796)    7788.54     6.85    5.25   9.42      0.59
0.56
   OUTFLOW: ID= 1 (  3656)    7788.54     6.01    5.50   9.42      0.51
0.56

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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| ADD HYD  (  0726)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3656):   7788.54      6.013        5.50        9.42
     + ID2= 2 (  0733):   6303.04     10.160        8.33       10.67
       ==========================================================
       ID = 3 (  0726):  14091.58     14.972        9.17        9.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  2237)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         184.41        0.0800
                  64.35         181.65        0.0800      Main Channel
                 100.16         178.17        0.0800      Main Channel
                 124.03         176.77        0.0800      Main Channel
                 159.83         175.13        0.0800      Main Channel
                 207.58         174.27        0.0800      Main Channel
                 231.45         172.90        0.0800      Main Channel
                 291.13         171.16        0.0800      Main Channel
                 333.88         171.36        0.0800      Main Channel
                 410.62         170.86        0.0800      Main Channel
                 442.00         169.46        0.0800      Main Channel
                 504.76         168.98        0.0800      Main Channel
                 515.22         166.38        0.0800      Main Channel
                 525.67         165.90        0.0800      Main Channel
                 546.59         169.28        0.0800      Main Channel
                 557.05         172.29        0.0800      Main Channel
                 577.97         180.83        0.0800      Main Channel
                 588.43         181.65        0.0800      Main Channel
                 661.64         183.62    0.0800 /0.0800  Main Channel
                 727.00         183.46        0.0800

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
        0.88   166.77    .370E+04          5.0         0.54      12.35
        1.75   167.65    .113E+05         24.4         0.86       7.74
        2.63   168.53    .221E+05         61.0         1.10       6.03
        3.51   169.40    .404E+05         85.6         0.84       7.87
        4.38   170.28    .804E+05        226.2         1.12       5.93
        5.26   171.16    .131E+06        390.4         1.19       5.58
        6.14   172.03    .224E+06        712.3         1.26       5.25
        7.01   172.91    .333E+06       1281.5         1.53       4.33
        7.89   173.78    .450E+06       2044.6         1.81       3.67
        8.77   174.66    .574E+06       2891.2         2.00       3.31
        9.64   175.54    .713E+06       3898.1         2.17       3.05
       10.52   176.41    .861E+06       5160.3         2.38       2.78
       11.39   177.29    .102E+07       6610.4         2.58       2.56
       12.27   178.17    .118E+07       8241.4         2.78       2.38
       13.15   179.04    .134E+07      10217.2         3.02       2.19
       14.21   180.10    .155E+07      12835.8         3.29       2.01
       15.26   181.16    .176E+07      15639.8         3.53       1.88
       16.32   182.22    .198E+07      18243.1         3.65       1.81
       17.38   183.28    .223E+07      20900.1         3.72       1.78

                                     <---- hydrograph ---->   <-pipe /
channel->
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                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0726)   14091.58    14.97    9.17   9.98      1.33
0.66
   OUTFLOW: ID= 1 (  2237)   14091.58    14.96    9.25   9.98      1.33
0.66


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| CALIB            |
| NASHYD   (  0600)|   Area    (ha)=     21.83   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.58

     Unit Hyd Qpeak  (cms)=     0.236

     PEAK FLOW       (cms)=     0.042 (i)
     TIME TO PEAK    (hrs)=     8.250
     RUNOFF VOLUME    (mm)=     5.849
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0601)|   Area    (ha)=     10.02   Curve Number   (CN)= 64.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 1.50
--------------------   U.H. Tp(hrs)=      1.49

     Unit Hyd Qpeak  (cms)=     0.115

     PEAK FLOW       (cms)=     0.020 (i)
     TIME TO PEAK    (hrs)=     8.167
     RUNOFF VOLUME    (mm)=     5.848
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.139

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0720)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2237):  14091.58     14.959        9.25        9.98
     + ID2= 2 (  0600):     21.83      0.042        8.25        5.85
       ==========================================================
       ID = 3 (  0720):  14113.41     14.999        9.25        9.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0720)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
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--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  0720):  14113.41     14.999        9.25        9.97
     + ID2= 2 (  0601):     10.02      0.020        8.17        5.85
       ==========================================================
       ID = 1 (  0720):  14123.43     15.018        9.25        9.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0602)|   Area    (ha)=     20.88   Curve Number   (CN)= 99.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.68

     Unit Hyd Qpeak  (cms)=     1.173

     PEAK FLOW       (cms)=     0.724 (i)
     TIME TO PEAK    (hrs)=     5.583
     RUNOFF VOLUME    (mm)=    29.624
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.705

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1686)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0602):     20.88      0.724        5.58       29.62
     + ID2= 2 (  0720):  14123.43     15.018        9.25        9.97
       ==========================================================
       ID = 3 (  1686):  14144.31     15.092        9.25       10.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0595)|   Area    (ha)=     14.17   Curve Number   (CN)= 87.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.46

     Unit Hyd Qpeak  (cms)=     1.177

     PEAK FLOW       (cms)=     0.262 (i)
     TIME TO PEAK    (hrs)=     5.500
     RUNOFF VOLUME    (mm)=    14.637
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.349

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1469)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1686):  14144.31     15.092        9.25       10.00
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+ ID2= 2 (	0595):	14.17	0.262	5.50	14.64
ID = 3 (	1469):	14158.48	15.119	9.17	10.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0597)	Area	(ha)=	5.39	Curve Number	(CN)= 83.0
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.41		

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.086 (i)
TIME TO PEAK (hrs)= 5.417
RUNOFF VOLUME (mm)= 12.185
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.290

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0598)	Area	(ha)=	13.19	Curve Number	(CN)= 79.0
ID= 1 DT= 5.0 min	Ia	(mm)=	10.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.72		

Unit Hyd Qpeak (cms)= 0.700

PEAK FLOW (cms)= 0.127 (i)
TIME TO PEAK (hrs)= 5.833
RUNOFF VOLUME (mm)= 10.289
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.245

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0599)	Area	(ha)=	23.75		
ID= 1 DT= 5.0 min	Total Imp(%)=		49.30	Dir. Conn.(%)=	46.70

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.71	12.04
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.30	3.30
Length	(m)=	397.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	14.94
over (min)		10.00	25.00
Storage Coeff. (min)=		7.89 (ii)	20.88 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.13	0.05

		TOTALS
PEAK FLOW	(cms)=	0.59 0.40 0.987 (iii)
TIME TO PEAK	(hrs)=	5.25 5.33 5.25
RUNOFF VOLUME	(mm)=	40.00 22.69 30.77
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00

RUNOFF COEFFICIENT =	0.95	0.54	0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4022)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	
STORAGE				
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.4100	
0.4953				
	0.1700	0.1524	0.5300	
0.6858				
	0.2600	0.2819	5.3000	
0.7620				

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0599)	23.750	0.987	5.25	30.77
OUTFLOW: ID= 1 (4022)	23.750	0.315	6.33	30.76

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.95
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.3609

CALIB					
STANDHYD (0603)	Area	(ha)=	151.10		
ID= 1 DT= 5.0 min	Total Imp(%)=		90.50	Dir. Conn.(%)=	90.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	136.75	14.35
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.09	3.09
Length	(m)=	1003.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	17.42
over (min)		15.00	20.00
Storage Coeff. (min)=		14.02 (ii)	18.88 (ii)
Unit Hyd. Tpeak (min)=		15.00	20.00
Unit Hyd. peak (cms)=		0.08	0.06

		TOTALS
PEAK FLOW	(cms)=	7.24 0.61 7.849 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	40.00 28.77 38.93
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.69 0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 96.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0604)	Area	(ha)=	50.69		
ID= 1 DT= 5.0 min	Total Imp(%)=		87.70	Dir. Conn.(%)=	87.70

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	44.46	6.23
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.80	3.80
Length	(m)=	581.32	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	18.01
over (min)		10.00	25.00
Storage Coeff. (min)=		9.50 (ii)	21.06 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05

		TOTALS
PEAK FLOW	(cms)=	2.38 0.27 2.651 (iii)
TIME TO PEAK	(hrs)=	5.25 5.33 5.25
RUNOFF VOLUME	(mm)=	40.00 30.52 38.83
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.73 0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4021)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	
STORAGE				
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	3.2600	
1.5638				
	0.8400	0.9638	4.4100	
1.7703				
	1.7900	1.2392	44.1000	
1.9670				

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0604)	50.690	2.651	5.25	38.83
OUTFLOW: ID= 1 (4021)	50.690	1.021	5.67	38.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 38.53
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 1.0168

CALIB					
STANDHYD (0605)	Area	(ha)=	55.35		
ID= 1 DT= 5.0 min	Total Imp(%)=		85.00	Dir. Conn.(%)=	85.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	47.05	8.30

Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.50	3.50
Length	(m)=	607.45	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	17.32
over (min)		10.00	25.00
Storage Coeff. (min)=		10.00 (ii)	22.03 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.11	0.05

		TOTALS
PEAK FLOW	(cms)=	2.52 0.34 2.852 (iii)
TIME TO PEAK	(hrs)=	5.25 5.33 5.25
RUNOFF VOLUME	(mm)=	40.00 28.77 38.32
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.69 0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 96.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0606)	Area	(ha)=	48.23		
ID= 1 DT= 5.0 min	Total Imp(%)=		55.60	Dir. Conn.(%)=	51.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.82	21.41
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	5.51	5.51
Length	(m)=	567.04	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.44
over (min)		10.00	25.00
Storage Coeff. (min)=		8.37 (ii)	23.10 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05

		TOTALS
PEAK FLOW	(cms)=	1.33 0.32 1.628 (iii)
TIME TO PEAK	(hrs)=	5.25 5.42 5.25
RUNOFF VOLUME	(mm)=	40.00 10.62 25.69
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.25 0.61

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4020)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	
STORAGE				
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.7700	

1.2018

	0.3200	0.5567	| 1.0100	

1.5907

	0.4900	0.7511	| 10.1000	

1.7674

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0606)	48.230	1.628	5.25	25.69
OUTFLOW: ID= 1 (4020)	48.230	0.450	6.42	25.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.67
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.7061

ADD HYD (0756)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4020):	48.23	0.450	6.42	25.68
+ ID2= 2 (4021):	50.69	1.021	5.67	38.83
ID = 3 (0756):	98.92	1.444	5.75	32.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0756)

3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0756):	98.92	1.444	5.75	32.42
+ ID2= 2 (4022):	23.75	0.315	6.33	30.76
ID = 1 (0756):	122.67	1.749	5.75	32.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0756)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0756):	122.67	1.749	5.75	32.10
+ ID2= 2 (0598):	13.19	0.127	5.83	10.29
ID = 3 (0756):	135.86	1.875	5.75	29.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0756)

3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0756):	135.86	1.875	5.75	29.98
+ ID2= 2 (0603):	151.10	7.849	5.25	38.93

ID = 1 (0756): 286.96 9.285 5.25 34.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0756)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0756):	286.96	9.285	5.25	34.69
+ ID2= 2 (0605):	55.35	2.852	5.25	38.32
ID = 3 (0756):	342.31	12.137	5.25	35.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (2220)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	183.55	0.0600	
9.44	183.25	0.0500	Main Channel
18.88	183.02	0.0500	Main Channel
28.32	182.89	0.0500	Main Channel
37.76	182.81	0.0500	Main Channel
47.20	182.71	0.0500	Main Channel
56.64	182.29	0.0500	Main Channel
66.08	180.78	0.0500	Main Channel
75.52	178.53	0.0500	Main Channel
84.96	176.49	0.0500	Main Channel
94.40	175.85	0.0500	Main Channel
103.84	177.37	0.0500	Main Channel
113.28	178.84	0.0500	Main Channel
122.72	180.32	0.0500	Main Channel
132.16	181.77	0.0500	Main Channel
141.60	182.35	0.0500	Main Channel
151.04	182.46	0.0500 /0.0600	Main Channel
160.47	182.50	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	176.20	.125E+04	0.9	0.70	23.51
0.70	176.55	.499E+04	5.8	1.13	14.44
1.04	176.89	.104E+05	16.8	1.58	10.36
1.39	177.24	.172E+05	33.8	1.94	8.46
1.74	177.59	.252E+05	57.5	2.24	7.31
2.09	177.94	.346E+05	88.5	2.52	6.51
2.44	178.29	.452E+05	127.6	2.77	5.91
2.78	178.63	.572E+05	175.4	3.02	5.43
3.13	178.98	.704E+05	232.9	3.25	5.04
3.48	179.33	.849E+05	300.1	3.47	4.71
3.83	179.68	.101E+06	377.8	3.69	4.44
4.18	180.03	.118E+06	466.4	3.90	4.21
4.52	180.37	.136E+06	566.4	4.10	4.00
4.87	180.72	.155E+06	678.4	4.29	3.82
5.22	181.07	.176E+06	798.6	4.45	3.68
5.57	181.42	.199E+06	931.8	4.61	3.56
5.92	181.77	.223E+06	1079.6	4.76	3.44

6.26	182.11	.249E+06	1213.0	4.79	3.42
6.61	182.46	.278E+06	1275.0	4.51	3.64

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0756)	342.31	12.14	5.25	35.28	0.90	1.36
OUTFLOW: ID= 1 (2220)	342.31	11.74	5.33	35.28	0.88	1.34

ADD HYD (7593)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2220):	342.31	11.736	5.33	35.28
+ ID2= 2 (0597):	5.39	0.086	5.42	12.19
ID = 3 (7593):	347.70	11.819	5.33	34.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1955)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1469):	14158.48	15.119	9.17	10.01
+ ID2= 2 (7593):	347.70	11.819	5.33	34.92
ID = 3 (1955):	14506.18	19.901	5.42	10.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3211)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	182.67	0.0600	
38.23	182.01	0.0500	Main Channel
48.29	181.09	0.0500	Main Channel
68.48	176.14	0.0500	Main Channel
107.75	169.19	0.0500	Main Channel
199.97	169.15	0.0500	Main Channel
240.56	169.75	0.0500	Main Channel
289.44	169.91	0.0500	Main Channel
326.09	169.17	0.0500	Main Channel
374.49	168.98	0.0500	Main Channel
520.65	166.71	0.0500	Main Channel
546.48	166.98	0.0500	Main Channel
595.35	167.65	0.0500	Main Channel
620.38	166.64	0.0500	Main Channel
646.02	167.91	0.0500	Main Channel

683.28	167.91	0.0500	Main Channel
721.11	177.22	0.0500	Main Channel
733.92	179.75	0.0500	Main Channel
759.17	181.15	0.0500 /0.0600	Main Channel
775.60	178.91	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.63	167.27	.184E+05	13.1	0.40	23.45
1.26	167.90	.760E+05	93.4	0.69	13.56
1.88	168.52	.167E+06	278.4	0.93	10.02
2.51	169.15	.276E+06	538.6	1.09	8.54
3.14	169.78	.449E+06	932.7	1.16	8.02
3.77	170.41	.655E+06	1646.4	1.41	6.63
4.40	171.04	.864E+06	2598.0	1.68	5.54
5.03	171.67	.108E+07	3718.0	1.94	4.82
5.65	172.29	.129E+07	4995.9	2.17	4.30
6.28	172.92	.151E+07	6423.7	2.39	3.91
6.91	173.55	.172E+07	7995.2	2.60	3.59
7.54	174.18	.194E+07	9705.5	2.80	3.34
8.17	174.81	.217E+07	11550.3	2.99	3.13
8.80	175.44	.239E+07	13526.2	3.17	2.95
9.42	176.06	.262E+07	15630.2	3.34	2.79
10.05	176.69	.285E+07	17873.7	3.52	2.66
10.68	177.32	.308E+07	20240.8	3.68	2.53
11.31	177.95	.331E+07	22718.7	3.84	2.43
11.94	178.58	.355E+07	25316.0	4.00	2.33

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1955)	14506.18	19.90	5.42	10.60	0.68	0.41
OUTFLOW: ID= 1 (3211)	14506.18	17.53	5.75	10.60	0.66	0.41

CALIB
STANDHYD (0596) | Area (ha)= 84.65
ID= 1 DT= 5.0 min | Total Imp(%)= 64.00 Dir. Conn.(%)= 63.80

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	54.18	30.47	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.27	3.27	
Length	(m)=	751.22	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	15.33	
over (min)		10.00	25.00	
Storage Coeff.	(min)=	11.59 (ii)	24.48 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	25.00	
Unit Hyd. peak	(cms)=	0.10	0.05	
				TOTALS
PEAK FLOW	(cms)=	2.88	1.02	3.873 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	24.47	34.38
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.58	0.82

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1373)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3211):		14506.18	17.534	5.75	10.60
+ ID2= 2 (0596):		84.65	3.873	5.25	34.38
ID = 3 (1373):		14590.83	19.435	5.58	10.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3078)			
IN= 2---> OUT= 1		Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	180.36	0.0600	
25.39	179.89	0.0500	Main Channel
53.44	179.11	0.0500	Main Channel
134.83	173.17	0.0500	Main Channel
183.19	168.26	0.0500	Main Channel
207.08	167.68	0.0500	Main Channel
243.75	167.82	0.0500	Main Channel
377.18	167.77	0.0500	Main Channel
437.83	166.41	0.0500	Main Channel
480.34	166.00	0.0500	Main Channel
510.58	166.83	0.0500	Main Channel
522.82	172.78	0.0500	Main Channel
546.90	178.28	0.0500	Main Channel
595.21	179.67	0.0500	Main Channel
631.87	180.92	0.0500	Main Channel
644.08	179.80	0.0500	Main Channel
668.02	179.42	0.0500	Main Channel
730.00	179.57	0.0500	Main Channel
753.05	179.13	0.0500 /0.0600	Main Channel
783.30	180.29	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.77	166.77	.353E+05	13.8	0.36	42.81
1.54	167.54	.112E+06	74.0	0.62	25.27
2.31	168.31	.300E+06	199.4	0.62	25.11
3.08	169.08	.542E+06	523.6	0.90	17.26
3.86	169.86	.790E+06	964.0	1.14	13.67
4.63	170.63	.105E+07	1509.2	1.35	11.54
5.40	171.40	.131E+07	2152.3	1.54	10.12
6.17	172.17	.158E+07	2888.8	1.71	9.09
6.94	172.94	.185E+07	3713.2	1.87	8.30
7.71	173.71	.213E+07	4603.3	2.02	7.72
8.48	174.48	.243E+07	5574.6	2.15	7.25
9.25	175.25	.273E+07	6633.3	2.27	6.86

10.03	176.03	.304E+07	7780.1	2.39	6.52
10.80	176.80	.336E+07	9015.5	2.50	6.22
11.57	177.57	.370E+07	10340.5	2.61	5.96
12.34	178.34	.404E+07	11727.4	2.71	5.74
13.11	179.11	.440E+07	12883.5	2.73	5.70
14.02	180.02	.493E+07	13198.8	2.50	6.23
14.92	180.92	.558E+07	15376.3	2.58	6.05

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1373)	14590.83	19.44	5.58	10.74	0.84	0.38
OUTFLOW: ID= 1 (3078)	14590.83	17.00	9.33	10.74	0.81	0.37

ROUTE CHN(2799)			
IN= 2---> OUT= 1		Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	180.00	0.0600	
160.00	170.17	0.0500	Main Channel
172.23	167.63	0.0500	Main Channel
178.32	166.91	0.0500	Main Channel
182.44	166.12	0.0500	Main Channel
233.58	166.17	0.0500	Main Channel
274.46	166.06	0.0500	Main Channel
316.32	165.22	0.0500	Main Channel
335.86	165.44	0.0500	Main Channel
346.07	164.90	0.0500	Main Channel
356.13	163.17	0.0500	Main Channel
376.63	165.52	0.0500	Main Channel
397.06	165.95	0.0500	Main Channel
407.36	167.55	0.0500	Main Channel
427.76	173.11	0.0500	Main Channel
438.00	174.71	0.0500	Main Channel
499.23	176.88	0.0500	Main Channel
509.43	177.34	0.0500	Main Channel
570.68	177.95	0.0500 /0.0600	Main Channel
601.36	177.98	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.74	163.91	.235E+04	1.3	0.32	30.06
1.49	164.66	.941E+04	8.3	0.52	18.94
2.23	165.40	.235E+05	18.5	0.46	21.16
2.97	166.14	.674E+05	54.1	0.47	20.75
3.72	166.89	.163E+06	202.7	0.73	13.40
4.46	167.63	.263E+06	436.6	0.97	10.05
5.26	168.43	.375E+06	776.9	1.21	8.04
6.05	169.22	.489E+06	1194.3	1.43	6.83
6.85	170.02	.607E+06	1684.7	1.63	6.00
7.64	170.81	.729E+06	2247.7	1.81	5.41
8.44	171.61	.859E+06	2883.3	1.97	4.96
9.24	172.41	.996E+06	3592.3	2.11	4.62
10.03	173.20	.114E+07	4373.0	2.25	4.35
10.83	174.00	.129E+07	5208.8	2.36	4.14

11.63	174.80	.145E+07	6095.0	2.46	3.97
12.42	175.59	.163E+07	6853.5	2.47	3.96
13.22	176.39	.182E+07	7718.4	2.49	3.93
14.01	177.18	.203E+07	8722.0	2.52	3.87
14.81	177.98	.226E+07	9232.4	2.40	4.07

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3078)	14590.83	17.00	9.33	10.74	2.12	0.47
OUTFLOW: ID= 1 (2799)	14590.83	16.96	9.42	10.74	2.11	0.47

ROUTE CHN(2515)			
IN= 2---> OUT= 1		Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	175.21	0.0600	
73.69	172.91	0.0500	Main Channel
122.18	170.96	0.0500	Main Channel
172.54	170.25	0.0500	Main Channel
252.99	168.41	0.0500	Main Channel
268.12	166.06	0.0500	Main Channel
273.21	165.03	0.0500	Main Channel
286.30	165.16	0.0500	Main Channel
296.46	163.53	0.0500	Main Channel
313.52	162.68	0.0500	Main Channel
343.70	165.58	0.0500	Main Channel
384.19	165.78	0.0500	Main Channel
394.32	167.30	0.0500	Main Channel
434.59	175.03	0.0500	Main Channel
444.71	175.97	0.0500	Main Channel
462.77	176.78	0.0500	Main Channel
500.01	176.72	0.0500	Main Channel
616.02	176.57	0.0500	Main Channel
646.34	176.74	0.0500 /0.0600	Main Channel
680.55	176.63	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.69	163.37	.305E+04	2.3	0.31	22.59
1.38	164.06	.114E+05	14.5	0.53	13.13
2.07	164.75	.232E+05	38.9	0.71	9.91
2.76	165.44	.402E+05	73.4	0.77	9.13
3.45	166.13	.696E+05	129.9	0.79	8.93
4.14	166.82	.105E+06	247.2	0.99	7.11
4.83	167.51	.144E+06	397.0	1.16	6.04
5.52	168.20	.185E+06	579.5	1.32	5.31
6.21	168.89	.230E+06	746.8	1.37	5.13
6.90	169.58	.284E+06	944.2	1.40	5.02
7.59	170.27	.348E+06	1196.2	1.45	4.86
8.28	170.96	.425E+06	1461.4	1.45	4.85
8.97	171.65	.513E+06	1966.0	1.61	4.35
9.80	172.48	.627E+06	2663.9	1.79	3.92
10.63	173.31	.749E+06	3468.4	1.95	3.60
11.46	174.14	.882E+06	4386.0	2.09	3.35

12.30	174.98	.103E+07	5417.2	2.22	3.16
13.13	175.81	.118E+07	6525.6	2.33	3.01
13.96	176.64	.134E+07	6878.2	2.16	3.24

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2799)	14590.83	16.96	9.42	10.74	1.45	0.55
OUTFLOW: ID= 1 (2515)	14590.83	16.93	9.58	10.74	1.45	0.55

ROUTE CHN(2516)			
IN= 2---> OUT= 1		Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	175.21	0.0600	
73.69	172.91	0.0500	Main Channel
122.18	170.96	0.0500	Main Channel
172.54	170.25	0.0500	Main Channel
252.99	168.41	0.0500	Main Channel
268.12	166.06	0.0500	Main Channel
273.21	165.03	0.0500	Main Channel
286.30	165.16	0.0500	Main Channel
296.46	163.53	0.0500	Main Channel
313.52	162.68	0.0500	Main Channel
343.70	165.58	0.0500	Main Channel
384.19	165.78	0.0500	Main Channel
394.32	167.30	0.0500	Main Channel
434.59	175.03	0.0500	Main Channel
444.71	175.97	0.0500	Main Channel
462.77	176.78	0.0500	Main Channel
500.01	176.72	0.0500	Main Channel
616.02	176.57	0.0500	Main Channel
646.34	176.74	0.0500 /0.0600	Main Channel
680.55	176.63	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.69	163.37	.290E+04	2.3	0.31	21.46
1.38	164.06	.108E+05	14.5	0.53	12.47
2.07	164.75	.220E+05	38.9	0.71	9.41
2.76	165.44	.382E+05	73.4	0.77	8.68
3.45	166.13	.661E+05	129.9	0.79	8.48
4.14	166.82	.100E+06	247.2	0.99	6.75
4.83	167.51	.137E+06	397.0	1.16	5.74
5.52	168.20	.176E+06	579.5	1.32	5.05
6.21	168.89	.218E+06	746.8	1.37	4.87
6.90	169.58	.270E+06	944.2	1.40	4.77
7.59	170.27	.331E+06	1196.2	1.45	4.61
8.28	170.96	.404E+06	1461.4	1.45	4.61
8.97	171.65	.487E+06	1966.0	1.61	4.13
9.80	172.48	.595E+06	2663.9	1.79	3.72
10.63	173.31	.712E+06	3468.4	1.95	3.42
11.46	174.14	.838E+06	4386.0	2.09	3.19
12.30	174.98	.975E+06	5417.2	2.22	3.00
13.13	175.81	.112E+07	6525.6	2.33	2.86

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     13.96   176.64    .127E+07       6878.2          2.16       3.08

                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2515)   14590.83    16.93    9.58  10.74      1.45
0.55
   OUTFLOW: ID= 1 (  2516)   14590.83    16.91    9.67  10.74      1.45
0.55


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| ROUTE CHN(  3636)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         175.08        0.0600
                14.96         174.81        0.0500      Main Channel
                79.67         174.61        0.0500      Main Channel
                90.47         174.13        0.0500      Main Channel
               100.91         173.06        0.0500      Main Channel
               122.66         167.51        0.0500      Main Channel
               133.43         164.89        0.0500      Main Channel
               154.99         163.36        0.0500      Main Channel
               165.77         163.37        0.0500      Main Channel
               176.21         164.58        0.0500      Main Channel
               187.01         164.84        0.0500      Main Channel
               208.76         165.24        0.0500      Main Channel
               224.92         165.49        0.0500      Main Channel
               295.45         164.99        0.0500      Main Channel
               338.68         165.13        0.0500      Main Channel
               349.17         166.66        0.0500      Main Channel
               364.42         170.98        0.0500      Main Channel
               370.75         172.98        0.0500      Main Channel
               381.54         174.15   0.0500 /0.0600   Main Channel
               403.08         174.46        0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.57   163.93    .561E+04          3.4         0.35      27.71
       1.14   164.50    .155E+05         13.7         0.51      18.83
       1.70   165.06    .327E+05         24.4         0.43      22.35
       2.27   165.63    .903E+05         80.1         0.51      18.77
       2.84   166.20    .161E+06        206.2         0.74      13.01
       3.41   166.77    .234E+06        377.0         0.94      10.33
       3.98   167.34    .308E+06        589.8         1.11       8.71
       4.54   167.90    .384E+06        840.2         1.27       7.62
       5.11   168.47    .461E+06       1126.2         1.42       6.83
       5.68   169.04    .540E+06       1446.3         1.55       6.22
       6.25   169.61    .620E+06       1799.3         1.68       5.74
       6.81   170.17    .701E+06       2184.3         1.81       5.35
       7.38   170.74    .784E+06       2600.7         1.92       5.03
       7.95   171.31    .868E+06       3048.6         2.04       4.75
       8.52   171.88    .954E+06       3527.5         2.14       4.51
       9.09   172.45    .104E+07       4036.2         2.25       4.30
       9.65   173.01    .113E+07       4572.3         2.35       4.11
      10.22   173.58    .122E+07       5069.6         2.41       4.01
      10.79   174.15    .131E+07       5593.1         2.47       3.91
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                                    <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2516)   14590.83    16.91    9.67  10.74      1.31
0.49
   OUTFLOW: ID= 1 (  3636)   14590.83    16.84    9.83  10.74      1.29
0.49


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| CALIB            |
| NASHYD   (  0594)|   Area    (ha)=    265.88   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      3.20

     Unit Hyd Qpeak  (cms)=     3.174

     PEAK FLOW       (cms)=     0.958 (i)
     TIME TO PEAK    (hrs)=     9.250
     RUNOFF VOLUME    (mm)=     9.493
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.226

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7639)|   Area    (ha)=      0.50
|ID= 1 DT= 5.0 min |   Total Imp(%)=     31.90   Dir. Conn.(%)=  31.50
--------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          0.16            0.34
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          5.06            5.06
     Length            (m)=         57.74           40.00
     Mannings n            =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32           19.23
               over (min)           5.00           15.00
     Storage Coeff.  (min)=          2.18 (ii)      12.51 (ii)
     Unit Hyd. Tpeak (min)=          5.00           15.00
     Unit Hyd. peak  (cms)=          0.31            0.08
                                                              *TOTALS*
     PEAK FLOW       (cms)=          0.01            0.02       0.026 (iii)
     TIME TO PEAK    (hrs)=          4.75            5.25        5.25
     RUNOFF VOLUME    (mm)=         40.00           34.64       36.31
     TOTAL RAINFALL   (mm)=         42.00           42.00       42.00
     RUNOFF COEFFICIENT   =          0.95            0.82        0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7640)|   Area    (ha)=      0.29
|ID= 1 DT= 5.0 min |   Total Imp(%)=     31.90   Dir. Conn.(%)=  31.50
--------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          0.09            0.20
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          5.06            5.06
     Length            (m)=         43.97           40.00
     Mannings n            =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32           19.23
               over (min)           5.00           15.00
     Storage Coeff.  (min)=          1.85 (ii)      12.18 (ii)
     Unit Hyd. Tpeak (min)=          5.00           15.00
     Unit Hyd. peak  (cms)=          0.32            0.09
                                                              *TOTALS*
     PEAK FLOW       (cms)=          0.00            0.01        0.015 (iii)
     TIME TO PEAK    (hrs)=          4.67            5.25        5.25
     RUNOFF VOLUME    (mm)=         40.00           34.64       36.31
     TOTAL RAINFALL   (mm)=         42.00           42.00       42.00
     RUNOFF COEFFICIENT   =          0.95            0.82        0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  7590)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3636):  14590.83     16.839        9.83       10.74
     + ID2= 2 (  0594):    265.88      0.958        9.25        9.49
       ==========================================================
       ID = 3 (  7590):  14856.71     17.778        9.83       10.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7590)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  7590):  14856.71     17.778        9.83       10.72
     + ID2= 2 (  7639):      0.50      0.026        5.25       36.31
       ==========================================================
       ID = 1 (  7590):  14857.21     17.779        9.83       10.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  7590)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
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--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7590):  14857.21     17.779        9.83       10.72
     + ID2= 2 (  7640):      0.29      0.015        5.25       36.31
       ==========================================================
       ID = 3 (  7590):  14857.50     17.779        9.83       10.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0607)|   Area    (ha)=    163.14   Curve Number   (CN)= 95.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      2.89

     Unit Hyd Qpeak  (cms)=     2.156

     PEAK FLOW       (cms)=     1.552 (i)
     TIME TO PEAK    (hrs)=     8.583
     RUNOFF VOLUME    (mm)=    22.571
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.537

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0608)|   Area    (ha)=     47.19   Curve Number   (CN)= 90.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      1.68

     Unit Hyd Qpeak  (cms)=     1.073

     PEAK FLOW       (cms)=     0.483 (i)
     TIME TO PEAK    (hrs)=     7.250
     RUNOFF VOLUME    (mm)=    17.004
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.405

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| NASHYD   (  0609)|   Area    (ha)=     73.72   Curve Number   (CN)= 93.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      1.90

     Unit Hyd Qpeak  (cms)=     1.482

     PEAK FLOW       (cms)=     0.832 (i)
     TIME TO PEAK    (hrs)=     7.417
     RUNOFF VOLUME    (mm)=    20.032
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.477

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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NASHYD (0611)	Area (ha)= 62.92	Curve Number (CN)= 95.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.71	

Unit Hyd Qpeak (cms)= 1.405

PEAK FLOW (cms)= 0.868 (i)
TIME TO PEAK (hrs)= 7.167
RUNOFF VOLUME (mm)= 22.571
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.537

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
NASHYD (0612)	Area (ha)= 127.87	Curve Number (CN)= 93.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.90	

Unit Hyd Qpeak (cms)= 2.571

PEAK FLOW (cms)= 1.443 (i)
TIME TO PEAK (hrs)= 7.417
RUNOFF VOLUME (mm)= 20.032
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.477

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
NASHYD (0613)	Area (ha)= 101.08	Curve Number (CN)= 92.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 2.53	

Unit Hyd Qpeak (cms)= 1.526

PEAK FLOW (cms)= 0.880 (i)
TIME TO PEAK (hrs)= 8.250
RUNOFF VOLUME (mm)= 18.932
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.451

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
NASHYD (0614)	Area (ha)= 362.27	Curve Number (CN)= 94.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 3.09	

Unit Hyd Qpeak (cms)= 4.478

PEAK FLOW (cms)= 3.073 (i)
TIME TO PEAK (hrs)= 8.833
RUNOFF VOLUME (mm)= 21.239
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.506

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1848)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0613):	101.08	0.880	8.25	18.93
+ ID2= 2 (0614):	362.27	3.073	8.83	21.24
ID = 3 (1848):	463.35	3.934	8.75	20.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3724)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	233.45	0.0600	
1.77	233.36	0.0500	Main Channel
76.44	232.94	0.0500	Main Channel
110.98	232.42	0.0500	Main Channel
131.54	231.87	0.0500	Main Channel
152.11	231.71	0.0500	Main Channel
224.08	231.77	0.0500	Main Channel
277.71	232.26	0.0500	Main Channel
315.44	230.65	0.0500	Main Channel
330.11	230.68	0.0500	Main Channel
377.37	228.15	0.0500	Main Channel
408.33	227.39	0.0500	Main Channel
434.90	228.37	0.0500	Main Channel
448.00	229.20	0.0500	Main Channel
484.25	229.80	0.0500	Main Channel
563.35	230.88	0.0500	Main Channel
578.00	230.61	0.0500	Main Channel
595.61	231.04	0.0500	Main Channel
635.93	231.18	0.0500 /0.0600	Main Channel
712.50	231.77	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	227.61	.218E+04	0.3	0.19	115.67
0.45	227.84	.872E+04	2.0	0.30	72.87
0.67	228.06	.196E+05	5.9	0.39	55.61
0.89	228.28	.346E+05	12.9	0.48	44.64
1.11	228.50	.526E+05	23.6	0.58	37.11
1.34	228.73	.728E+05	37.7	0.67	32.14
1.56	228.95	.952E+05	55.3	0.75	28.71
1.78	229.17	.120E+06	76.4	0.82	26.15
2.01	229.40	.148E+06	96.8	0.85	25.45
2.23	229.62	.181E+06	122.3	0.87	24.65
2.45	229.84	.219E+06	153.5	0.91	23.78
2.68	230.07	.263E+06	190.0	0.93	23.05
2.90	230.29	.312E+06	234.2	0.97	22.23
3.12	230.51	.368E+06	286.6	1.01	21.39
3.34	230.73	.432E+06	324.9	0.97	22.15
3.57	230.96	.510E+06	394.7	1.00	21.52
3.79	231.18	.597E+06	461.7	1.00	21.54
4.09	231.48	.732E+06	631.1	1.11	19.34

4.38	231.77	.888E+06	725.1	1.06	20.42	

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1848)	463.35	3.93	8.75	20.74	0.56	0.34
OUTFLOW: ID= 1 (3724)	463.35	3.63	9.67	20.74	0.54	0.33

ADD HYD (0846)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3724):	463.35	3.628	9.67	20.74
+ ID2= 2 (0612):	127.87	1.443	7.42	20.03
ID = 3 (0846):	591.22	4.624	9.08	20.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3725)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	233.45	0.0600	
1.77	233.36	0.0500	Main Channel
76.44	232.94	0.0500	Main Channel
110.98	232.42	0.0500	Main Channel
131.54	231.87	0.0500	Main Channel
152.11	231.71	0.0500	Main Channel
224.08	231.77	0.0500	Main Channel
277.71	232.26	0.0500	Main Channel
315.44	230.65	0.0500	Main Channel
330.11	230.68	0.0500	Main Channel
377.37	228.15	0.0500	Main Channel
408.33	227.39	0.0500	Main Channel
434.90	228.37	0.0500	Main Channel
448.00	229.20	0.0500	Main Channel
484.25	229.80	0.0500	Main Channel
563.35	230.88	0.0500	Main Channel
578.00	230.61	0.0500	Main Channel
595.61	231.04	0.0500	Main Channel
635.93	231.18	0.0500 /0.0600	Main Channel
712.50	231.77	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	227.61	.372E+04	0.5	0.32	113.82
0.45	227.84	.149E+05	3.5	0.51	71.70
0.67	228.06	.335E+05	10.2	0.67	54.72
0.89	228.28	.590E+05	22.4	0.84	43.92
1.11	228.50	.896E+05	40.9	1.01	36.52
1.34	228.73	.124E+06	65.4	1.16	31.63

1.56	228.95	.162E+06	95.8	1.30	28.25	
1.78	229.17	.204E+06	132.4	1.43	25.73	
2.01	229.40	.252E+06	167.8	1.47	25.04	
2.23	229.62	.308E+06	211.9	1.51	24.26	
2.45	229.84	.373E+06	266.0	1.57	23.40	
2.68	230.07	.448E+06	329.3	1.62	22.68	
2.90	230.29	.533E+06	405.9	1.68	21.87	
3.12	230.51	.627E+06	496.8	1.75	21.05	
3.34	230.73	.736E+06	563.1	1.69	21.79	
3.57	230.96	.869E+06	684.1	1.73	21.18	
3.79	231.18	.102E+07	800.2	1.73	21.20	
4.09	231.48	.125E+07	1093.7	1.93	19.03	
4.38	231.77	.151E+07	1256.7	1.83	20.09	

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0846)	591.22	4.62	9.08	20.58	0.48	0.53
OUTFLOW: ID= 1 (3725)	591.22	4.29	10.17	20.58	0.47	0.53

ADD HYD (1393)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3725):	591.22	4.285	10.17	20.58
+ ID2= 2 (0611):	62.92	0.868	7.17	22.57
ID = 3 (1393):	654.14	4.679	9.83	20.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3111)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	219.44	0.0600	
42.96	219.00	0.0500	Main Channel
113.07	217.81	0.0500	Main Channel
163.15	217.36	0.0500	Main Channel
213.23	216.56	0.0500	Main Channel
253.29	215.16	0.0500	Main Channel
273.32	213.84	0.0500	Main Channel
275.72	214.02	0.0500	Main Channel
283.34	212.99	0.0500	Main Channel
293.35	213.85	0.0500	Main Channel
333.42	215.65	0.0500	Main Channel
345.37	215.90	0.0500	Main Channel
375.48	215.92	0.0500	Main Channel
435.53	217.26	0.0500	Main Channel
495.64	217.19	0.0500	Main Channel
535.71	217.75	0.0500	Main Channel
585.80	217.45	0.0500	Main Channel
615.85	217.56	0.0500	Main Channel

641.71 217.42 0.0500 /0.0600 Main Channel
705.60 218.15 0.0600

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	213.25	.895E+03	0.2	0.32	72.70
0.52	213.51	.358E+04	1.3	0.50	45.80
0.78	213.77	.805E+04	3.8	0.66	34.95
1.04	214.03	.153E+05	7.5	0.68	33.88
1.30	214.29	.268E+05	15.6	0.81	28.62
1.56	214.55	.418E+05	28.0	0.93	24.88
1.82	214.81	.604E+05	45.5	1.04	22.11
2.08	215.07	.824E+05	68.8	1.15	19.98
2.35	215.34	.108E+06	96.9	1.24	18.63
2.61	215.60	.139E+06	132.1	1.32	17.52
2.87	215.86	.175E+06	171.8	1.36	16.98
3.13	216.12	.227E+06	207.1	1.27	18.23
3.39	216.38	.287E+06	284.9	1.37	16.79
3.65	216.64	.355E+06	375.3	1.46	15.75
3.91	216.90	.432E+06	477.0	1.53	15.09
4.17	217.16	.519E+06	599.6	1.60	14.42
4.43	217.42	.634E+06	671.9	1.47	15.73
4.69	217.68	.795E+06	777.6	1.35	17.05
5.06	218.05	.108E+07	1216.3	1.56	14.83

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1393)	654.14	4.68	9.83	20.77	0.84	0.66
OUTFLOW: ID= 1 (3111)	654.14	4.59	10.42	20.77	0.83	0.66

ROUTE CHN(2879)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	210.33	0.0600	
9.12	210.19	0.0500	Main Channel
45.58	210.03	0.0500	Main Channel
93.02	208.25	0.0500	Main Channel
118.49	207.67	0.0500	Main Channel
142.80	207.88	0.0500	Main Channel
154.95	208.18	0.0500	Main Channel
191.41	210.02	0.0500	Main Channel
203.56	210.51	0.0500	Main Channel
216.22	210.67	0.0500	Main Channel
245.08	210.48	0.0500	Main Channel
289.65	210.84	0.0500	Main Channel
323.79	210.98	0.0500	Main Channel
349.39	210.84	0.0500	Main Channel
363.06	210.65	0.0500	Main Channel
413.99	210.93	0.0500	Main Channel
477.40	212.37	0.0500	Main Channel
515.84	212.52	0.0500	Main Channel
536.22	212.49	0.0500 /0.0600	Main Channel
548.31	212.30	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.24	207.91	.297E+04	1.8	0.40	28.26
0.47	208.14	.102E+05	10.2	0.67	16.67
0.71	208.38	.203E+05	27.6	0.92	12.22
0.94	208.61	.321E+05	54.0	1.13	9.91
1.18	208.85	.457E+05	89.3	1.31	8.53
1.42	209.09	.610E+05	134.0	1.48	7.59
1.65	209.32	.781E+05	188.9	1.62	6.89
1.89	209.56	.969E+05	254.4	1.76	6.35
2.12	209.79	.117E+06	331.3	1.90	5.91
2.36	210.03	.140E+06	420.0	2.02	5.55
2.64	210.31	.173E+06	555.1	2.16	5.18
2.91	210.58	.211E+06	642.0	2.04	5.49
3.19	210.86	.266E+06	691.0	1.75	6.41
3.47	211.14	.341E+06	913.7	1.80	6.22
3.74	211.41	.421E+06	1271.2	2.03	5.52
4.02	211.69	.503E+06	1678.4	2.24	4.99
4.30	211.97	.587E+06	2133.9	2.44	4.59
4.57	212.24	.674E+06	2636.9	2.63	4.26
4.85	212.52	.765E+06	2990.5	2.63	4.27

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3111)	654.14	4.59	10.42	20.77	0.32	0.46
OUTFLOW: ID= 1 (2879)	654.14	4.56	10.75	20.77	0.31	0.46

CALIB	STANDHYD (0610)	ID= 1 DT= 5.0 min	Area (ha)= 45.53	Total Imp(%)= 25.80	Dir. Conn.(%)= 18.70

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.75	33.78
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.48	2.48
Length	(m)=	550.94	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	17.18
over (min)		10.00	25.00
Storage Coeff. (min)=		10.45 (ii)	23.84 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.11	0.05
			TOTALS
PEAK FLOW	(cms)=	0.46	1.29 1.715 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33 5.25
RUNOFF VOLUME	(mm)=	40.00	25.53 28.24
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.61 0.67

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2711)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
102.88	217.28	0.0600	
110.05	217.21	0.0500	Main Channel
116.38	217.11	0.0500	Main Channel
124.93	216.97	0.0500	Main Channel
129.89	216.90	0.0500	Main Channel
139.81	216.60	0.0500	Main Channel
143.39	216.47	0.0500	Main Channel
154.69	215.99	0.0500	Main Channel
156.89	215.97	0.0500	Main Channel
169.57	216.23	0.0500	Main Channel
170.40	216.23	0.0500	Main Channel
178.47	216.32	0.0500	Main Channel
183.90	216.37	0.0500	Main Channel
184.45	216.38	0.0500	Main Channel
197.40	216.52	0.0500	Main Channel
210.91	216.79	0.0500	Main Channel
214.21	216.84	0.0500	Main Channel
224.41	216.98	0.0500	Main Channel
229.10	217.04	0.0500 /0.0600	Main Channel
237.91	217.22	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	216.03	.226E+03	0.0	0.14	111.90
0.13	216.10	.745E+03	0.2	0.22	72.69
0.19	216.16	.154E+04	0.5	0.28	56.61
0.25	216.22	.261E+04	0.9	0.34	47.32
0.31	216.28	.406E+04	1.5	0.37	43.74
0.38	216.35	.596E+04	2.5	0.40	39.90
0.44	216.41	.832E+04	3.8	0.44	36.20
0.50	216.47	.111E+05	5.6	0.48	33.17
0.57	216.54	.144E+05	7.9	0.53	30.48
0.63	216.60	.179E+05	10.8	0.58	27.76
0.69	216.66	.218E+05	14.2	0.62	25.71
0.76	216.73	.261E+05	18.1	0.67	24.04
0.82	216.79	.306E+05	22.5	0.71	22.64
0.88	216.85	.355E+05	27.3	0.74	21.61
0.94	216.91	.407E+05	32.6	0.77	20.82
1.01	216.98	.465E+05	38.2	0.79	20.29
1.07	217.04	.528E+05	44.6	0.81	19.72
1.13	217.10	.596E+05	53.2	0.86	18.66
1.22	217.19	.700E+05	68.5	0.94	17.03

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0610)	45.53	1.72	5.25	28.24	0.33	0.37
OUTFLOW: ID= 1 (2711)	45.53	1.20	5.58	28.23	0.28	

0.35

ROUTE CHN(2415)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
85.94	213.79	0.0600	
99.24	213.34	0.0500	Main Channel
112.48	212.95	0.0500	Main Channel
142.81	212.92	0.0500	Main Channel
157.97	212.83	0.0500	Main Channel
165.76	212.75	0.0500	Main Channel
173.14	212.72	0.0500	Main Channel
179.06	212.68	0.0500	Main Channel
188.30	212.64	0.0500	Main Channel
192.36	212.61	0.0500	Main Channel
218.63	212.48	0.0500	Main Channel
221.34	212.37	0.0500	Main Channel
232.27	211.82	0.0500	Main Channel
248.96	212.20	0.0500	Main Channel
272.17	212.72	0.0500	Main Channel
285.47	212.88	0.0500	Main Channel
298.78	213.02	0.0500	Main Channel
312.08	213.15	0.0500	Main Channel
338.68	213.47	0.0500 /0.0600	Main Channel
353.40	213.69	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.09	211.91	.221E+03	0.0	0.17	75.03
0.19	212.01	.884E+03	0.3	0.28	47.26
0.28	212.10	.199E+04	0.9	0.36	36.07
0.38	212.20	.353E+04	2.0	0.44	29.77
0.47	212.29	.553E+04	3.6	0.51	25.69
0.57	212.39	.796E+04	5.8	0.57	22.79
0.66	212.48	.109E+05	8.8	0.63	20.68
0.75	212.57	.149E+05	11.1	0.58	22.39
0.85	212.67	.205E+05	15.6	0.59	21.89
0.94	212.76	.278E+05	22.2	0.62	20.89
1.04	212.86	.366E+05	31.6	0.67	19.30
1.13	212.95	.473E+05	39.1	0.65	20.18
1.24	213.06	.627E+05	60.0	0.75	17.42
1.34	213.16	.793E+05	85.0	0.84	15.55
1.45	213.27	.970E+05	114.7	0.92	14.10
1.55	213.37	.116E+06	148.6	1.00	12.97
1.66	213.48	.135E+06	187.3	1.08	12.04
1.76	213.58	.156E+06	234.8	1.18	11.07
1.87	213.69	.177E+06	287.0	1.26	10.30

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2711)	45.53	1.20	5.58	28.23	0.31	0.38
OUTFLOW: ID= 1 (2415)	45.53	1.00	6.08	28.22	0.29	0.37

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| ROUTE CHN(  3219)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                154.22         209.93       0.0600
                164.98         209.82       0.0500      Main Channel
                172.00         209.69       0.0500      Main Channel
                175.74         209.61       0.0500      Main Channel
                181.45         209.50       0.0500      Main Channel
                186.49         209.40       0.0500      Main Channel
                189.79         209.31       0.0500      Main Channel
                197.24         209.11       0.0500      Main Channel
                207.57         208.76       0.0500      Main Channel
                208.64         208.72       0.0500      Main Channel
                218.75         208.31       0.0500      Main Channel
                225.36         208.30       0.0500      Main Channel
                229.50         208.27       0.0500      Main Channel
                235.84         208.55       0.0500      Main Channel
                240.26         208.74       0.0500      Main Channel
                243.14         208.86       0.0500      Main Channel
                251.01         209.19       0.0500      Main Channel
                260.92         209.60       0.0500      Main Channel
                263.04         209.67    0.0500 /0.0600  Main Channel
                272.51         209.92       0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.08   208.35    .287E+03          0.2         0.29      23.85
       0.16   208.43    .822E+03          1.0         0.50      13.99
       0.25   208.52    .149E+04          2.3         0.64      10.76
       0.33   208.60    .229E+04          4.2         0.77       9.03
       0.41   208.68    .323E+04          6.8         0.88       7.91
       0.49   208.76    .430E+04         10.1         0.97       7.13
       0.58   208.85    .552E+04         14.0         1.06       6.56
       0.66   208.93    .689E+04         18.9         1.14       6.09
       0.74   209.01    .841E+04         24.6         1.22       5.69
       0.82   209.09    .101E+05         31.4         1.29       5.36
       0.91   209.18    .119E+05         39.0         1.36       5.10
       0.99   209.26    .139E+05         47.7         1.42       4.87
       1.07   209.34    .161E+05         57.6         1.49       4.66
       1.15   209.42    .184E+05         68.6         1.55       4.48
       1.24   209.51    .210E+05         80.6         1.60       4.34
       1.32   209.59    .238E+05         94.0         1.65       4.21
       1.40   209.67    .267E+05        109.0         1.70       4.09
       1.53   209.80    .317E+05        142.2         1.87       3.72
       1.65   209.92    .374E+05        180.8         2.01       3.45

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2415)     45.53     1.00    6.08  28.22      0.17
0.50
  OUTFLOW: ID= 1 (  3219)     45.53     1.00    6.25  28.21      0.17
0.50


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| ADD HYD  (  1461)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2879):    654.14      4.557       10.75       20.77
     + ID2= 2 (  3219):     45.53      0.997        6.25       28.21
       ==========================================================
       ID = 3 (  1461):    699.67      4.733       10.58       21.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  1461)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
-------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1461):    699.67      4.733       10.58       21.26
     + ID2= 2 (  0608):     47.19      0.483        7.25       17.00
       ==========================================================
       ID = 1 (  1461):    746.86      4.914       10.42       20.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  1461)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1461):    746.86      4.914       10.42       20.99
     + ID2= 2 (  0609):     73.72      0.832        7.42       20.03
       ==========================================================
       ID = 3 (  1461):    820.58      5.337       10.00       20.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN(  2880)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
              <---- DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         210.33       0.0600
                 9.12         210.19       0.0500      Main Channel
                45.58         210.03       0.0500      Main Channel
                93.02         208.25       0.0500      Main Channel
               118.49         207.67       0.0500      Main Channel
               142.80         207.88       0.0500      Main Channel
               154.95         208.18       0.0500      Main Channel
               191.41         210.02       0.0500      Main Channel
               203.56         210.51       0.0500      Main Channel
               216.22         210.67       0.0500      Main Channel
               245.08         210.48       0.0500      Main Channel
               289.65         210.84       0.0500      Main Channel
               323.79         210.98       0.0500      Main Channel
               349.39         210.84       0.0500      Main Channel
               363.06         210.65       0.0500      Main Channel
               413.99         210.93       0.0500      Main Channel
               477.40         212.37       0.0500      Main Channel
```



```
               515.84         212.52       0.0500      Main Channel
               536.22         212.49    0.0500 /0.0600  Main Channel
               548.31         212.30       0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.24   207.91    .492E+04          1.3         0.30      61.52
       0.47   208.14    .169E+05          7.8         0.51      36.29
       0.71   208.38    .335E+05         21.0         0.70      26.61
       0.94   208.61    .531E+05         41.0         0.86      21.59
       1.18   208.85    .756E+05         67.8         1.00      18.58
       1.42   209.09    .101E+06        101.9         1.12      16.53
       1.65   209.32    .129E+06        143.5         1.23      15.01
       1.89   209.56    .160E+06        193.4         1.34      13.82
       2.12   209.79    .194E+06        251.8         1.44      12.87
       2.36   210.03    .231E+06        319.2         1.53      12.08
       2.64   210.31    .286E+06        421.9         1.64      11.29
       2.91   210.58    .350E+06        488.0         1.55      11.94
       3.19   210.86    .440E+06        525.2         1.33      13.95
       3.47   211.14    .564E+06        694.5         1.37      13.54
       3.74   211.41    .696E+06        966.2         1.54      12.01
       4.02   211.69    .832E+06       1275.6         1.71      10.87
       4.30   211.97    .971E+06       1621.8         1.86       9.98
       4.57   212.24    .111E+07       2004.1         2.00       9.27
       4.85   212.52    .127E+07       2272.8         2.00       9.29

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1461)     820.58     5.34   10.00  20.90      0.38
0.40
  OUTFLOW: ID= 1 (  2880)     820.58     5.22   10.58  20.90      0.38
0.40


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| ADD HYD  (  1819)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2880):    820.58      5.225       10.58       20.90
     + ID2= 2 (  0607):    163.14      1.552        8.58       22.57
       ==========================================================
       ID = 3 (  1819):    983.72      6.512       10.17       21.18

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ROUTE CHN(  3678)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         203.35       0.0600
                32.92         203.42       0.0500      Main Channel
               108.52         202.44       0.0500      Main Channel
               172.57         201.72       0.0500      Main Channel
               216.99         199.88       0.0500      Main Channel
```



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               247.77         199.30       0.0500      Main Channel
               279.99         198.91       0.0500      Main Channel
               290.74         198.88       0.0500      Main Channel
               312.22         200.15       0.0500      Main Channel
               428.40         199.89       0.0500      Main Channel
               448.89         200.18       0.0500      Main Channel
               490.61         200.19       0.0500      Main Channel
               507.38         200.85       0.0500      Main Channel
               515.77         200.54       0.0500      Main Channel
               602.51         201.38       0.0500      Main Channel
               674.20         202.35       0.0500      Main Channel
               767.36         202.32       0.0500      Main Channel
               838.07         203.18       0.0500      Main Channel
               899.52         202.52    0.0500 /0.0600  Main Channel
               963.21         203.17       0.0600

     <---------------------- TRAVEL TIME TABLE ----------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.24   199.12    .307E+04          1.8         0.38      28.98
       0.47   199.35    .990E+04          8.8         0.59      18.84
       0.71   199.59    .197E+05         23.0         0.77      14.26
       0.95   199.83    .320E+05         45.0         0.93      11.86
       1.19   200.07    .520E+05         60.1         0.76      14.42
       1.42   200.30    .916E+05        117.2         0.85      13.02
       1.66   200.54    .138E+06        224.6         1.08      10.21
       1.90   200.78    .188E+06        345.2         1.22       9.07
       2.14   201.02    .244E+06        502.2         1.36       8.11
       2.37   201.25    .306E+06        692.6         1.50       7.35
       2.61   201.49    .371E+06        918.9         1.64       6.74
       2.85   201.73    .441E+06       1181.1         1.77       6.23
       3.09   201.97    .516E+06       1451.9         1.86       5.92
       3.32   202.20    .597E+06       1759.6         1.95       5.65
       3.56   202.44    .690E+06       1929.6         1.85       5.96
       3.80   202.68    .800E+06       2375.8         1.97       5.61
       4.04   202.92    .926E+06       2877.7         2.06       5.36
       4.29   203.17    .107E+07       3444.4         2.14       5.16
       4.53   203.41    .122E+07       4202.2         2.29       4.82

                                      <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1819)     983.72     6.51   10.17  21.18      0.40
0.50
  OUTFLOW: ID= 1 (  3678)     983.72     6.48   10.33  21.18      0.40
0.50


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-------------------
| ROUTE CHN(  3895)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
-------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         199.48       0.0600
                 9.06         199.45       0.0500      Main Channel
                28.48         199.19       0.0500      Main Channel
                48.78         198.78       0.0500      Main Channel
                58.87         198.70       0.0500      Main Channel
                63.87         198.44       0.0500      Main Channel
                68.97         198.41       0.0500      Main Channel
```

78.97	197.79	0.0500		Main Channel
86.04	197.50	0.0500		Main Channel
89.04	197.30	0.0500		Main Channel
99.10	197.05	0.0500		Main Channel
119.20	196.74	0.0500		Main Channel
139.28	196.86	0.0500		Main Channel
149.69	196.73	0.0500		Main Channel
162.75	196.63	0.0500		Main Channel
169.82	196.61	0.0500		Main Channel
179.91	197.01	0.0500		Main Channel
210.08	198.74	0.0500		Main Channel
220.14	199.07	0.0500	/0.0600	Main Channel
240.24	199.27	0.0600		

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	196.75	.119E+04	0.5	0.22	44.22
0.27	196.88	.516E+04	2.8	0.32	30.91
0.41	197.02	.111E+05	8.9	0.47	20.80
0.55	197.16	.178E+05	18.3	0.61	16.21
0.68	197.29	.252E+05	30.9	0.72	13.62
0.82	197.43	.331E+05	47.2	0.84	11.72
0.96	197.57	.414E+05	66.2	0.95	10.43
1.09	197.70	.502E+05	87.9	1.04	9.51
1.23	197.84	.594E+05	112.8	1.12	8.77
1.37	197.98	.689E+05	141.0	1.21	8.15
1.50	198.11	.789E+05	172.2	1.29	7.63
1.64	198.25	.892E+05	206.4	1.37	7.20
1.78	198.39	.999E+05	243.6	1.44	6.84
1.91	198.52	.111E+06	278.5	1.48	6.66
2.05	198.66	.123E+06	322.2	1.55	6.37
2.19	198.80	.136E+06	355.6	1.55	6.36
2.32	198.93	.149E+06	399.8	1.58	6.23
2.46	199.07	.164E+06	448.5	1.62	6.09
2.60	199.21	.180E+06	509.6	1.68	5.88

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3678)	983.72	6.48	10.33	21.18	0.36	0.40
OUTFLOW: ID= 1 (3895)	983.72	6.44	10.67	21.18	0.35	0.40

ROUTE CHN(3896)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	199.48	0.0600	
9.06	199.45	0.0500	Main Channel
28.48	199.19	0.0500	Main Channel
48.78	198.78	0.0500	Main Channel
58.87	198.70	0.0500	Main Channel
63.87	198.44	0.0500	Main Channel
68.97	198.41	0.0500	Main Channel
78.97	197.79	0.0500	Main Channel
86.04	197.50	0.0500	Main Channel

89.04	197.30	0.0500		Main Channel
99.10	197.05	0.0500		Main Channel
119.20	196.74	0.0500		Main Channel
139.28	196.86	0.0500		Main Channel
149.69	196.73	0.0500		Main Channel
162.75	196.63	0.0500		Main Channel
169.82	196.61	0.0500		Main Channel
179.91	197.01	0.0500		Main Channel
210.08	198.74	0.0500		Main Channel
220.14	199.07	0.0500	/0.0600	Main Channel
240.24	199.27	0.0600		

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	196.75	.794E+03	0.4	0.21	31.96
0.27	196.88	.343E+04	2.6	0.29	22.34
0.41	197.02	.735E+04	8.2	0.44	15.03
0.55	197.16	.119E+05	16.9	0.56	11.72
0.68	197.29	.168E+05	28.4	0.67	9.84
0.82	197.43	.220E+05	43.4	0.77	8.47
0.96	197.57	.276E+05	60.9	0.87	7.54
1.09	197.70	.334E+05	80.9	0.95	6.88
1.23	197.84	.395E+05	103.8	1.03	6.34
1.37	197.98	.459E+05	129.8	1.11	5.89
1.50	198.11	.525E+05	158.5	1.19	5.52
1.64	198.25	.593E+05	189.9	1.26	5.21
1.78	198.39	.665E+05	224.1	1.33	4.94
1.91	198.52	.740E+05	256.2	1.36	4.81
2.05	198.66	.819E+05	296.5	1.42	4.60
2.19	198.80	.902E+05	327.2	1.43	4.60
2.32	198.93	.993E+05	367.9	1.46	4.50
2.46	199.07	.109E+06	412.7	1.49	4.40
2.60	199.21	.120E+06	469.0	1.54	4.25

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3895)	983.72	6.44	10.67	21.18	0.37	0.38
OUTFLOW: ID= 1 (3896)	983.72	6.43	10.83	21.18	0.37	0.38

CALIB NASHYD (0631) ID= 1 DT= 5.0 min	Area (ha)= 25.55	Curve Number (CN)= 99.0
	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 1.11	

Unit Hyd Qpeak (cms)= 0.879

PEAK FLOW	(cms)=	0.644 (i)
TIME TO PEAK	(hrs)=	6.167
RUNOFF VOLUME	(mm)=	29.625
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.705

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2194)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	198.72	0.0600	
9.70	198.70	0.0500	Main Channel
19.40	198.64	0.0500	Main Channel
38.81	198.39	0.0500	Main Channel
48.51	198.29	0.0500	Main Channel
67.92	198.14	0.0500	Main Channel
77.62	198.09	0.0500	Main Channel
87.32	198.01	0.0500	Main Channel
97.02	197.90	0.0500	Main Channel
126.13	197.49	0.0500	Main Channel
135.83	197.37	0.0500	Main Channel
145.54	197.42	0.0500	Main Channel
164.94	197.63	0.0500	Main Channel
174.64	197.78	0.0500	Main Channel
184.35	197.97	0.0500	Main Channel
194.05	198.19	0.0500	Main Channel
203.75	198.38	0.0500	Main Channel
213.45	198.52	0.0500	Main Channel
223.15	198.56	0.0500	/0.0600 Main Channel
242.56	198.54	0.0600	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.06	197.43	.473E+03	0.1	0.17	100.15
0.12	197.49	.168E+04	0.5	0.28	60.52
0.18	197.55	.350E+04	1.3	0.36	46.30
0.24	197.61	.590E+04	2.6	0.43	38.51
0.30	197.67	.887E+04	4.5	0.51	33.07
0.36	197.73	.123E+05	7.0	0.57	29.18
0.42	197.79	.163E+05	10.3	0.64	26.30
0.48	197.85	.207E+05	14.4	0.70	23.94
0.54	197.91	.256E+05	19.3	0.76	22.11
0.60	197.97	.309E+05	24.9	0.81	20.68
0.66	198.03	.367E+05	31.4	0.86	19.50
0.72	198.08	.430E+05	38.4	0.89	18.69
0.78	198.14	.501E+05	45.7	0.91	18.27
0.84	198.20	.579E+05	55.1	0.95	17.52
0.90	198.26	.663E+05	65.7	0.99	16.84
0.96	198.32	.754E+05	78.0	1.04	16.12
1.02	198.38	.850E+05	91.9	1.08	15.42
1.08	198.44	.951E+05	106.9	1.13	14.83
1.14	198.50	.106E+06	123.3	1.17	14.29

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0631)	25.55	0.64	6.17	29.62	0.13	0.29
OUTFLOW: ID= 1 (2194)	25.55	0.52	7.00	29.60	0.12	0.28

CALIB STANDHYD (0629) ID= 1 DT= 5.0 min	Area (ha)= 38.42	
	Total Imp(%)= 41.30	Dir. Conn.(%)= 32.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.87	22.55
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.36	3.36
Length	(m)=	506.10	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	19.04
over (min)		10.00	25.00
Storage Coeff. (min)=		9.07 (ii)	20.80 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05

		TOTALS
PEAK FLOW	(cms)=	0.67 1.01 1.659 (iii)
TIME TO PEAK	(hrs)=	5.25 5.33 5.25
RUNOFF VOLUME	(mm)=	40.00 27.41 31.49
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.65 0.75

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0630) ID= 1 DT= 5.0 min	Area (ha)= 32.01	
	Total Imp(%)= 65.70	Dir. Conn.(%)= 60.10

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	21.03	10.98
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.55	2.55
Length	(m)=	461.95	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	22.30
over (min)		10.00	25.00
Storage Coeff. (min)=		9.33 (ii)	21.29 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05

		TOTALS
PEAK FLOW	(cms)=	1.03 0.62 1.653 (iii)
TIME TO PEAK	(hrs)=	5.25 5.25 5.25
RUNOFF VOLUME	(mm)=	40.00 35.62 38.25
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.85 0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1962)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2194):	25.55	0.515	7.00	29.60
+ ID2= 2 (3896):	983.72	6.431	10.83	21.18
ID = 3 (1962):	1009.27	6.567	10.83	21.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1962)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1962):	1009.27	6.567	10.83	21.39
+ ID2= 2 (0629):	38.42	1.659	5.25	31.49
ID = 1 (1962):	1047.69	6.610	10.83	21.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1962)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1962):	1047.69	6.610	10.83	21.76
+ ID2= 2 (0630):	32.01	1.653	5.25	38.25
ID = 3 (1962):	1079.70	6.648	10.83	22.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3897)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	199.48	0.0600	
9.06	199.45	0.0500	Main Channel
28.48	199.19	0.0500	Main Channel
48.78	198.78	0.0500	Main Channel
58.87	198.70	0.0500	Main Channel
63.87	198.44	0.0500	Main Channel
68.97	198.41	0.0500	Main Channel
78.97	197.79	0.0500	Main Channel
86.04	197.50	0.0500	Main Channel
89.04	197.30	0.0500	Main Channel
99.10	197.05	0.0500	Main Channel
119.20	196.74	0.0500	Main Channel
139.28	196.86	0.0500	Main Channel
149.69	196.73	0.0500	Main Channel
162.75	196.63	0.0500	Main Channel
169.82	196.61	0.0500	Main Channel
179.91	197.01	0.0500	Main Channel
210.08	198.74	0.0500	Main Channel
220.14	199.07	0.0500 /0.0600	Main Channel

240.24 199.27 0.0600

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.14	196.75	.953E+03	0.6	0.28	28.08
0.27	196.88	.412E+04	3.5	0.40	19.63
0.41	197.02	.882E+04	11.1	0.60	13.21
0.55	197.16	.142E+05	23.0	0.76	10.30
0.68	197.29	.201E+05	38.8	0.91	8.65
0.82	197.43	.265E+05	59.3	1.06	7.44
0.96	197.57	.331E+05	83.2	1.19	6.63
1.09	197.70	.400E+05	110.4	1.30	6.04
1.23	197.84	.474E+05	141.7	1.41	5.57
1.37	197.98	.550E+05	177.2	1.52	5.18
1.50	198.11	.630E+05	216.4	1.62	4.85
1.64	198.25	.712E+05	259.4	1.72	4.58
1.78	198.39	.797E+05	306.1	1.81	4.34
1.91	198.52	.888E+05	349.9	1.86	4.23
2.05	198.66	.983E+05	404.8	1.95	4.05
2.19	198.80	.108E+06	446.9	1.95	4.04
2.32	198.93	.119E+06	502.4	1.99	3.95
2.46	199.07	.131E+06	563.5	2.03	3.87
2.60	199.21	.143E+06	640.4	2.11	3.73

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1962)	1079.70	6.65	10.83	22.25	0.33	0.46
OUTFLOW: ID= 1 (3897)	1079.70	6.63	11.00	22.25	0.33	0.46

CALIB			
STANDHYD (0628)	Area (ha)=	61.63	
ID= 1 DT= 5.0 min	Total Imp(%)=	59.60	Dir. Conn.(%)= 54.90

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	36.73	24.90
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.50	3.50
Length	(m)=	640.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	18.31
over (min)		10.00	25.00
Storage Coeff. (min)=		10.32 (ii)	22.09 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.11	0.05
			TOTALS
PEAK FLOW	(cms)=	1.81	1.05 2.843 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33 5.25
RUNOFF VOLUME	(mm)=	40.00	27.05 34.16
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.64 0.81

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1853)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3897):	1079.70	6.627	11.00	22.25
+ ID2= 2 (0628):	61.63	2.843	5.25	34.16
ID = 3 (1853):	1141.33	6.696	11.00	22.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3734)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	194.41	0.0600	
49.15	193.82	0.0500	Main Channel
81.22	193.31	0.0500	Main Channel
107.52	193.35	0.0500	Main Channel
135.96	192.98	0.0500	Main Channel
159.43	192.18	0.0500	Main Channel
210.71	189.97	0.0500	Main Channel
214.96	189.73	0.0500	Main Channel
223.56	189.73	0.0500	Main Channel
247.03	191.27	0.0500	Main Channel
249.86	191.20	0.0500	Main Channel
262.67	191.38	0.0500	Main Channel
309.58	192.83	0.0500	Main Channel
327.39	192.99	0.0500	Main Channel
341.61	193.23	0.0500	Main Channel
365.86	192.76	0.0500	Main Channel
392.16	192.84	0.0500	Main Channel
451.88	193.42	0.0500	Main Channel
483.92	193.02	0.0500 /0.0600	Main Channel
491.73	193.13	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.17	189.90	.169E+04	0.6	0.32	44.92
0.35	190.08	.425E+04	2.3	0.46	30.98
0.52	190.25	.778E+04	5.2	0.57	24.95
0.69	190.42	.123E+05	9.6	0.67	21.28
0.87	190.60	.178E+05	15.8	0.76	18.74
1.04	190.77	.243E+05	24.0	0.84	16.86
1.21	190.94	.317E+05	34.3	0.92	15.40
1.39	191.12	.402E+05	47.1	1.00	14.22
1.56	191.29	.500E+05	58.2	0.99	14.32
1.73	191.46	.623E+05	75.5	1.03	13.75
1.90	191.63	.762E+05	98.6	1.10	12.87
2.08	191.81	.915E+05	125.8	1.17	12.12
2.25	191.98	.108E+06	157.2	1.24	11.47
2.42	192.15	.126E+06	193.2	1.30	10.90
2.60	192.33	.146E+06	233.1	1.36	10.43
2.77	192.50	.167E+06	278.1	1.42	10.02

2.94	192.67	.190E+06	328.5	1.47	9.63
3.12	192.85	.215E+06	345.3	1.37	10.40
3.29	193.02	.249E+06	378.7	1.30	10.97

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1853)	1141.33	6.70	11.00	22.89	0.58	0.60
OUTFLOW: ID= 1 (3734)	1141.33	6.65	11.42	22.89	0.58	0.60

ROUTE CHN(3644)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	192.78	0.0600	
53.45	192.17	0.0500	Main Channel
72.92	192.14	0.0500	Main Channel
95.75	192.34	0.0500	Main Channel
108.56	191.90	0.0500	Main Channel
172.07	190.34	0.0500	Main Channel
182.70	190.37	0.0500	Main Channel
197.80	190.28	0.0500	Main Channel
215.62	189.94	0.0500	Main Channel
248.68	188.36	0.0500	Main Channel
261.50	186.96	0.0500	Main Channel
274.33	186.39	0.0500	Main Channel
280.74	186.01	0.0500	Main Channel
299.97	186.20	0.0500	Main Channel
324.99	189.00	0.0500	Main Channel
394.14	190.23	0.0500	Main Channel
440.02	190.59	0.0500	Main Channel
459.25	190.57	0.0500	Main Channel
524.12	190.29	0.0500 /0.0600	Main Channel
554.80	190.32	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	186.24	.129E+04	0.9	0.31	23.35
0.45	186.46	.389E+04	5.0	0.56	13.09
0.68	186.69	.717E+04	11.9	0.73	10.06
0.90	186.91	.111E+05	22.0	0.87	8.43
1.13	187.14	.157E+05	36.5	1.02	7.18
1.35	187.36	.207E+05	54.8	1.16	6.31
1.58	187.59	.261E+05	76.6	1.29	5.68
1.80	187.81	.319E+05	102.2	1.41	5.21
2.03	188.04	.381E+05	131.5	1.51	4.83
2.25	188.26	.447E+05	164.8	1.62	4.52
2.48	188.49	.518E+05	199.7	1.69	4.32
2.70	188.71	.595E+05	237.4	1.75	4.17
2.93	188.94	.678E+05	280.3	1.81	4.03
3.15	189.16	.771E+05	313.8	1.79	4.10
3.38	189.39	.881E+05	352.9	1.76	4.16
3.60	189.61	.101E+06	403.6	1.76	4.16
3.83	189.84	.115E+06	465.8	1.78	4.12
4.05	190.06	.131E+06	532.5	1.78	4.11

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      4.28   190.29    .150E+06        598.4          1.75       4.18

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3734)    1141.33     6.65   11.42  22.89      0.51
0.59
   OUTFLOW: ID= 1 (  3644)    1141.33     6.64   11.50  22.89      0.51
0.59


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| CALIB            |
| NASHYD   (  0626)|   Area    (ha)=      6.62   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.41

     Unit Hyd Qpeak  (cms)=     0.617

     PEAK FLOW       (cms)=     0.101 (i)
     TIME TO PEAK    (hrs)=     5.417
     RUNOFF VOLUME    (mm)=    11.667
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.278

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1696)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3644):   1141.33      6.639       11.50       22.89
     + ID2= 2 (  0626):      6.62      0.101        5.42       11.67
       ========================================================
       ID = 3 (  1696):   1147.95      6.644       11.50       22.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD (  0627)|   Area    (ha)=      7.39
|ID= 1 DT= 5.0 min |   Total Imp(%)=     71.80   Dir. Conn.(%)=  66.80
--------------------

                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=          5.31           2.08
     Dep. Storage     (mm)=          2.00           5.00
     Average Slope     (%)=          5.45           5.45
     Length            (m)=        221.96          40.00
     Mannings n           =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=         19.32          19.57
           over (min)              5.00          15.00
     Storage Coeff.  (min)=         4.78 (ii)     14.82 (ii)
     Unit Hyd. Tpeak (min)=         5.00          15.00
     Unit Hyd. peak  (cms)=         0.22           0.08
                                                          *TOTALS*
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     PEAK FLOW       (cms)=         0.26           0.11          0.370 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.25           5.25
     RUNOFF VOLUME    (mm)=        40.00          27.66          35.90
     TOTAL RAINFALL   (mm)=        42.00          42.00          42.00
     RUNOFF COEFFICIENT   =         0.95           0.66           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4024)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |    (cms)          (ha.m.)
                             0.0000        0.0000   |      0.1400
0.2213
                             0.0600        0.0964   |      0.1900
0.2846
                             0.0900        0.1486   |      1.9000
0.3162

                                AREA        QPEAK        TPEAK       R.V.
                                (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0627)     7.390        0.370         5.25       35.90
   OUTFLOW: ID= 1 (  4024)     7.390        0.094         6.33       35.85

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.47
                TIME SHIFT OF PEAK FLOW         (min)= 65.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1550

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| ADD HYD  (  1695)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1696):   1147.95      6.644       11.50       22.83
     + ID2= 2 (  4024):      7.39      0.094        6.33       35.85
       ========================================================
       ID = 3 (  1695):   1155.34      6.689       11.50       22.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3645)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
------------------
               <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         192.78        0.0600
                53.45         192.17        0.0500      Main Channel
                72.92         192.14        0.0500      Main Channel
                95.75         192.34        0.0500      Main Channel
               108.56         191.90        0.0500      Main Channel
               172.07         190.34        0.0500      Main Channel
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              182.70         190.37        0.0500      Main Channel
              197.80         190.28        0.0500      Main Channel
              215.62         189.94        0.0500      Main Channel
              248.68         188.36        0.0500      Main Channel
              261.50         186.96        0.0500      Main Channel
              274.33         186.39        0.0500      Main Channel
              280.74         186.01        0.0500      Main Channel
              299.97         186.20        0.0500      Main Channel
              324.99         189.00        0.0500      Main Channel
              394.14         190.23        0.0500      Main Channel
              440.02         190.59        0.0500      Main Channel
              459.25         190.57        0.0500      Main Channel
              524.12         190.29    0.0500 /0.0600  Main Channel
              554.80         190.32        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.23   186.24    .987E+03          0.9         0.29      19.24
       0.45   186.46    .298E+04          4.6         0.52      10.79
       0.68   186.69    .548E+04         11.0         0.68       8.29
       0.90   186.91    .852E+04         20.4         0.81       6.95
       1.13   187.14    .120E+05         33.9         0.95       5.92
       1.35   187.36    .159E+05         50.8         1.08       5.20
       1.58   187.59    .200E+05         71.1         1.20       4.68
       1.80   187.81    .244E+05         94.8         1.30       4.29
       2.03   188.04    .292E+05        122.1         1.41       3.98
       2.25   188.26    .342E+05        153.0         1.50       3.73
       2.48   188.49    .396E+05        185.4         1.57       3.56
       2.70   188.71    .455E+05        220.4         1.63       3.44
       2.93   188.94    .519E+05        260.2         1.68       3.32
       3.15   189.16    .590E+05        291.3         1.66       3.38
       3.38   189.39    .674E+05        327.6         1.63       3.43
       3.60   189.61    .771E+05        374.7         1.63       3.43
       3.83   189.84    .882E+05        432.4         1.65       3.40
       4.05   190.06    .101E+06        494.3         1.65       3.39
       4.28   190.29    .115E+06        555.5         1.62       3.45

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1695)    1155.34     6.69   11.50  22.91      0.52
0.56
   OUTFLOW: ID= 1 (  3645)    1155.34     6.68   11.67  22.91      0.52
0.56


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--------------------
| ROUTE CHN(  3556)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
------------------
               <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                 0.00         190.82        0.0600
                22.56         190.83        0.0500      Main Channel
                58.78         190.15        0.0500      Main Channel
                69.60         189.11        0.0500      Main Channel
               119.25         187.95        0.0500      Main Channel
               154.98         186.16        0.0500      Main Channel
               167.21         184.89        0.0500      Main Channel
               180.45         183.39        0.0500      Main Channel
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              203.48         183.53        0.0500      Main Channel
              227.47         183.05        0.0500      Main Channel
              253.67         184.89        0.0500      Main Channel
              275.32         187.01        0.0500      Main Channel
              287.10         187.50        0.0500      Main Channel
              335.49         188.20        0.0500      Main Channel
              359.47         188.82        0.0500      Main Channel
              371.13         188.43        0.0500      Main Channel
              418.17         187.97        0.0500      Main Channel
              467.98         188.34        0.0500      Main Channel
              503.71         188.38    0.0500 /0.0600  Main Channel
              526.94         188.68        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.38   183.43    .533E+04          1.7         0.35      53.48
       0.76   183.81    .283E+05         17.2         0.67      27.45
       1.14   184.19    .562E+05         49.3         0.97      19.00
       1.52   184.57    .878E+05         95.8         1.21      15.27
       1.90   184.95    .123E+06        157.1         1.42      13.06
       2.28   185.33    .162E+06        234.5         1.61      11.50
       2.66   185.71    .204E+06        327.0         1.78      10.38
       3.05   186.10    .249E+06        435.1         1.94       9.53
       3.43   186.48    .298E+06        551.1         2.06       9.00
       3.81   186.86    .351E+06        684.0         2.16       8.56
       4.19   187.24    .410E+06        826.1         2.24       8.27
       4.57   187.62    .476E+06        965.8         2.25       8.22
       4.95   188.00    .555E+06       1076.3         2.15       8.60
       5.33   188.38    .673E+06       1022.9         1.69      10.96
       5.71   188.76    .845E+06       1369.0         1.80      10.29
       6.20   189.25    .109E+07       2005.8         2.04       9.06
       6.69   189.74    .134E+07       2794.4         2.31       8.00
       7.18   190.23    .160E+07       3693.2         2.57       7.20
       7.67   190.72    .186E+07       4721.3         2.82       6.57

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                               (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3645)    1155.34     6.68   11.67  22.91      0.50
0.41
   OUTFLOW: ID= 1 (  3556)    1155.34     6.52   12.25  22.91      0.50
0.41


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| CALIB            |
| NASHYD   (  0624)|   Area    (ha)=     15.77   Curve Number   (CN)= 89.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.87

     Unit Hyd Qpeak  (cms)=     0.692

     PEAK FLOW       (cms)=     0.226 (i)
     TIME TO PEAK    (hrs)=     6.083
     RUNOFF VOLUME    (mm)=    16.153
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.385

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| STANDHYD (  0620)|   Area    (ha)=     22.70
|ID= 1 DT= 5.0 min |   Total Imp(%)=     55.10   Dir. Conn.(%)=  50.70
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        12.51          10.19
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         2.66           2.66
     Length            (m)=       389.02          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          20.00
               over (min)          10.00          25.00
     Storage Coeff.  (min)=         8.31 (ii)     20.64 (ii)
     Unit Hyd. Tpeak (min)=        10.00          25.00
     Unit Hyd. peak  (cms)=         0.13           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.62           0.50     1.113 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.33     5.25
     RUNOFF VOLUME    (mm)=        40.00          31.44    35.78
     TOTAL RAINFALL   (mm)=        42.00          42.00    42.00
     RUNOFF COEFFICIENT   =         0.95           0.75     0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  97.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0623)|   Area    (ha)=     38.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=     66.50   Dir. Conn.(%)=  61.90
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        25.80          13.00
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         3.27           3.27
     Length            (m)=       508.59          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          21.80
               over (min)          10.00          25.00
     Storage Coeff.  (min)=         9.17 (ii)     20.37 (ii)
     Unit Hyd. Tpeak (min)=        10.00          25.00
     Unit Hyd. peak  (cms)=         0.12           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=         1.29           0.73     2.013 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.25     5.25
     RUNOFF VOLUME    (mm)=        40.00          35.48    38.28
     TOTAL RAINFALL   (mm)=        42.00          42.00    42.00
     RUNOFF COEFFICIENT   =         0.95           0.84     0.91


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| STANDHYD (  0625)|   Area    (ha)=     65.00
|ID= 1 DT= 5.0 min |   Total Imp(%)=     67.50   Dir. Conn.(%)=  61.30
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        43.88          21.12
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         3.72           3.72
     Length            (m)=       658.28          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          21.23
               over (min)          10.00          25.00
     Storage Coeff.  (min)=        10.30 (ii)     21.19 (ii)
     Unit Hyd. Tpeak (min)=        10.00          25.00
     Unit Hyd. peak  (cms)=         0.11           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=         2.13           1.08     3.206 (iii)
     TIME TO PEAK    (hrs)=         5.25           5.33     5.25
     RUNOFF VOLUME    (mm)=        40.00          30.60    36.36
     TOTAL RAINFALL   (mm)=        42.00          42.00    42.00
     RUNOFF COEFFICIENT   =         0.95           0.73     0.87


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  96.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  2117)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0620):     22.70      1.113        5.25       35.78
     + ID2= 2 (  0623):     38.80      2.013        5.25       38.28
       ========================================================
       ID = 3 (  2117):     61.50      3.126        5.25       37.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  2117)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  2117):     61.50      3.126        5.25       37.35
     + ID2= 2 (  0624):     15.77      0.226        6.08       16.15
       ========================================================
       ID = 1 (  2117):     77.27      3.246        5.25       33.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  2117)|
```



```
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2117):     77.27      3.246        5.25       33.03
     + ID2= 2 (  0625):     65.00      3.206        5.25       36.36
       ========================================================
       ID = 3 (  2117):    142.27      6.452        5.25       34.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  4023)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |   (cms)          (ha.m.)
                             0.0000        0.0000   |      1.7900
4.6606
                             0.7600        2.1306   |      2.3600
5.9922
                             1.1600        3.1626   |     23.6000
6.6580

                                 AREA        QPEAK        TPEAK        R.V.
                                 (ha)        (cms)        (hrs)        (mm)
   INFLOW : ID= 2 (  2117)     142.270        6.452         5.25       34.55
   OUTFLOW: ID= 1 (  4023)     142.270        1.188         7.25       34.55

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.41
                TIME SHIFT OF PEAK FLOW         (min)=120.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  3.2289

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--------------------
| ADD HYD  (  1389)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------           (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3556):   1155.34      6.521       12.25       22.91
     + ID2= 2 (  4023):    142.27      1.188        7.25       34.55
       ========================================================
       ID = 3 (  1389):   1297.61      7.281       12.17       24.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3103)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation      Manning
                 0.00         184.38        0.0600
                72.25         184.55        0.0500     Main Channel
                99.20         184.21        0.0500     Main Channel
               126.14         183.63        0.0500     Main Channel
               148.25         182.65        0.0500     Main Channel
               169.82         181.41        0.0500     Main Channel
               202.14         180.76        0.0500     Main Channel
               234.51         179.39        0.0500     Main Channel
               256.62         178.69        0.0500     Main Channel
               278.18         178.88        0.0500     Main Channel
               321.58         178.57        0.0500     Main Channel
```



```
               349.83         182.01        0.0500     Main Channel
               365.14         182.72        0.0500     Main Channel
               408.45         183.02        0.0500     Main Channel
               440.77         183.34        0.0500     Main Channel
               505.95         182.73        0.0500     Main Channel
               570.69         183.38        0.0500     Main Channel
               588.33         183.94        0.0500     Main Channel
               668.47         183.85    0.0500 /0.0600 Main Channel
               683.71         183.97        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE     VELOCITYTRAV.TIME
       (m)      (m)     (cu.m.)          (cms)         (m/s)      (min)
      0.31   178.88    .309E+04          4.3           0.44      12.04
      0.62   179.19    .109E+05         31.5           0.91       5.76
      0.93   179.50    .199E+05         79.2           1.26       4.19
      1.24   179.81    .300E+05        146.5           1.54       3.41
      1.55   180.12    .410E+05        232.7           1.79       2.93
      1.86   180.43    .529E+05        338.0           2.02       2.61
      2.17   180.74    .659E+05        462.9           2.22       2.37
      2.48   181.05    .802E+05        592.2           2.33       2.26
      2.80   181.37    .962E+05        745.7           2.45       2.15
      3.11   181.68    .114E+06        950.1           2.64       1.99
      3.42   181.99    .132E+06       1183.2           2.83       1.86
      3.73   182.30    .151E+06       1425.4           2.98       1.77
      4.04   182.61    .171E+06       1692.9           3.12       1.69
      4.35   182.92    .195E+06       1710.3           2.77       1.90
      4.66   183.23    .229E+06       1812.9           2.50       2.10
      4.97   183.54    .271E+06       2223.5           2.59       2.03
      5.28   183.85    .316E+06       2779.7           2.78       1.90
      5.63   184.20    .378E+06       3282.5           2.74       1.92
      5.98   184.55    .446E+06       4254.0           3.01       1.75

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)
(m/s)
   INFLOW : ID= 2 (  1389)  1297.61     7.28   12.17  24.19      0.34
0.46
   OUTFLOW: ID= 1 (  3103)  1297.61     7.27   12.33  24.19      0.34
0.46


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--------------------
| CALIB            |
| STANDHYD (  0621)|   Area    (ha)=      5.64
|ID= 1 DT= 5.0 min |   Total Imp(%)=     67.70   Dir. Conn.(%)=  67.70
--------------------
                               IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         3.82           1.82
     Dep. Storage     (mm)=         2.00           5.00
     Average Slope     (%)=         2.84           2.84
     Length            (m)=       193.91          40.00
     Mannings n           =        0.013          0.250

     Max.Eff.Inten.(mm/hr)=        19.32          18.01
               over (min)          5.00           20.00
     Storage Coeff.  (min)=         5.36 (ii)     17.98 (ii)
     Unit Hyd. Tpeak (min)=         5.00           20.00
     Unit Hyd. peak  (cms)=         0.21           0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.20           0.08     0.288 (iii)
```

```
     TIME TO PEAK    (hrs)=        5.25          5.25           5.25
     RUNOFF VOLUME    (mm)=       40.00         30.52          36.94
     TOTAL RAINFALL   (mm)=       42.00         42.00          42.00
     RUNOFF COEFFICIENT   =        0.95          0.73           0.88


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  97.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0619)|   Area    (ha)=     13.67
|ID= 1 DT= 5.0 min |   Total Imp(%)=     25.00   Dir. Conn.(%)=  24.50
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        3.42          10.25
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        4.28           4.28
     Length            (m)=      301.88          40.00
     Mannings n            =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.32          17.46
               over (min)         5.00          20.00
     Storage Coeff.  (min)=        6.19 (ii)     17.48 (ii)
     Unit Hyd. Tpeak (min)=        5.00          20.00
     Unit Hyd. peak  (cms)=        0.19           0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.18           0.45           0.627 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.25           5.25
     RUNOFF VOLUME    (mm)=       40.00          28.84          31.58
     TOTAL RAINFALL   (mm)=       42.00          42.00          42.00
     RUNOFF COEFFICIENT   =        0.95           0.69           0.75


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  96.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1690)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3103):   1297.61      7.271       12.33       24.19
     + ID2= 2 (  0619):     13.67      0.627        5.25       31.58
       ============================================================
       ID = 3 (  1690):   1311.28      7.284       12.25       24.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1690)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
```



```
       ID1= 3 (  1690):   1311.28      7.284       12.25       24.26
     + ID2= 2 (  0621):      5.64      0.288        5.25       36.94
       ============================================================
       ID = 1 (  1690):   1316.92      7.291       12.25       24.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3104)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         184.38        0.0600
                 72.25         184.55        0.0500      Main Channel
                 99.20         184.21        0.0500      Main Channel
                126.14         183.63        0.0500      Main Channel
                148.25         182.65        0.0500      Main Channel
                169.82         181.41        0.0500      Main Channel
                202.14         180.76        0.0500      Main Channel
                234.51         179.39        0.0500      Main Channel
                256.62         178.69        0.0500      Main Channel
                278.18         178.88        0.0500      Main Channel
                321.58         178.57        0.0500      Main Channel
                349.83         182.01        0.0500      Main Channel
                365.14         182.72        0.0500      Main Channel
                408.45         183.02        0.0500      Main Channel
                440.77         183.34        0.0500      Main Channel
                505.95         182.73        0.0500      Main Channel
                570.69         183.38        0.0500      Main Channel
                588.33         183.94        0.0500      Main Channel
                668.47         183.85    0.0500 /0.0600  Main Channel
                683.71         183.97        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
       0.31   178.88    .685E+04          3.4           0.34       33.92
       0.62   179.19    .242E+05         24.8           0.72       16.23
       0.93   179.50    .442E+05         62.3           0.99       11.81
       1.24   179.81    .664E+05        115.3           1.22        9.60
       1.55   180.12    .908E+05        183.1           1.41        8.26
       1.86   180.43    .117E+06        265.9           1.59        7.35
       2.17   180.74    .146E+06        364.2           1.75        6.68
       2.48   181.05    .178E+06        466.0           1.84        6.35
       2.80   181.37    .213E+06        586.8           1.93        6.05
       3.11   181.68    .252E+06        747.6           2.08        5.61
       3.42   181.99    .292E+06        931.1           2.23        5.23
       3.73   182.30    .335E+06       1121.6           2.35        4.97
       4.04   182.61    .380E+06       1332.1           2.45        4.75
       4.35   182.92    .432E+06       1345.8           2.18        5.35
       4.66   183.23    .507E+06       1426.5           1.97        5.92
       4.97   183.54    .601E+06       1749.7           2.04        5.73
       5.28   183.85    .701E+06       2187.3           2.18        5.34
       5.63   184.20    .838E+06       2583.0           2.16        5.41
       5.98   184.55    .989E+06       3347.4           2.37        4.92

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1690)    1316.92     7.29   12.25  24.32      0.37
```



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0.38
   OUTFLOW: ID= 1 (  3104)    1316.92     7.21   12.75  24.32      0.37
0.38


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--------------------
| ROUTE CHN(  2935)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         181.20        0.0600
                  3.85         181.23        0.0500      Main Channel
                 15.60         180.91        0.0500      Main Channel
                 19.05         180.67        0.0500      Main Channel
                 27.34         179.79        0.0500      Main Channel
                 39.09         173.83        0.0500      Main Channel
                 40.70         173.73        0.0500      Main Channel
                 50.84         172.60        0.0500      Main Channel
                 62.59         173.57        0.0500      Main Channel
                 86.09         174.03        0.0500      Main Channel
                102.01         174.59        0.0500      Main Channel
                109.59         174.82        0.0500      Main Channel
                133.35         179.42        0.0500      Main Channel
                144.84         180.58        0.0500      Main Channel
                156.58         180.82        0.0500      Main Channel
                203.58         180.49        0.0500      Main Channel
                238.83         180.60        0.0500      Main Channel
                250.58         180.83        0.0500      Main Channel
                274.07         181.55    0.0500 /0.0600  Main Channel
                285.74         181.69        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
       0.44   173.04    .726E+03          0.8           0.38       15.73
       0.87   173.47    .290E+04          4.9           0.61        9.91
       1.31   173.91    .737E+04         13.5           0.66        9.07
       1.75   174.35    .153E+05         36.5           0.86        6.97
       2.19   174.79    .254E+05         73.3           1.04        5.77
       2.62   175.22    .370E+05        132.6           1.29        4.65
       3.06   175.66    .492E+05        206.8           1.52        3.96
       3.50   176.10    .618E+05        294.7           1.72        3.50
       3.94   176.54    .749E+05        395.9           1.91        3.15
       4.37   176.97    .885E+05        510.0           2.08        2.89
       4.81   177.41    .103E+06        637.1           2.24        2.69
       5.25   177.85    .117E+06        777.0           2.39        2.52
       5.69   178.29    .132E+06        929.7           2.54        2.37
       6.12   178.72    .148E+06       1095.2           2.67        2.25
       6.56   179.16    .164E+06       1273.7           2.80        2.15
       7.00   179.60    .181E+06       1458.0           2.91        2.06
       7.44   180.03    .198E+06       1630.3           2.97        2.03
       7.87   180.47    .217E+06       1808.1           3.01        2.00
       8.31   180.91    .247E+06       1459.7           2.13        2.82

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3104)    1316.92     7.21   12.75  24.32      0.99
0.62
   OUTFLOW: ID= 1 (  2935)    1316.92     7.20   12.92  24.32      0.99
```



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0.62


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| CALIB            |
| NASHYD   (  0616)|   Area    (ha)=     23.03   Curve Number   (CN)= 93.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      1.01

     Unit Hyd Qpeak  (cms)=     0.871

     PEAK FLOW       (cms)=     0.387 (i)
     TIME TO PEAK    (hrs)=     6.250
     RUNOFF VOLUME    (mm)=    20.032
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.477

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0618)|   Area    (ha)=     19.91
|ID= 1 DT= 5.0 min |   Total Imp(%)=     92.90   Dir. Conn.(%)=  92.90
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       18.50           1.41
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        3.27           3.27
     Length            (m)=      364.33          40.00
     Mannings n            =       0.013          0.250

     Max.Eff.Inten.(mm/hr)=       19.32          19.13
               over (min)        10.00          15.00
     Storage Coeff.  (min)=        7.51 (ii)     11.71 (ii)
     Unit Hyd. Tpeak (min)=       10.00          15.00
     Unit Hyd. peak  (cms)=        0.13           0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.99           0.07           1.066 (iii)
     TIME TO PEAK    (hrs)=        5.25           5.25           5.25
     RUNOFF VOLUME    (mm)=       40.00          34.60          39.62
     TOTAL RAINFALL   (mm)=       42.00          42.00          42.00
     RUNOFF COEFFICIENT   =        0.95           0.82           0.94


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| CALIB            |
| STANDHYD (  0622)|   Area    (ha)=     19.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=     59.40   Dir. Conn.(%)=  58.30
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=       11.30           7.73
     Dep. Storage     (mm)=        2.00           5.00
     Average Slope     (%)=        2.75           2.75
     Length            (m)=      356.18          40.00
```

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	19.32	19.64
over (min)		10.00	25.00
Storage Coeff. (min)	=	7.80 (ii)	20.10 (ii)
Unit Hyd. Tpeak (min)	=	10.00	25.00
Unit Hyd. peak (cms)	=	0.13	0.05

				TOTALS
PEAK FLOW	(cms)=	0.60	0.39	0.983 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	34.79	37.83
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.83	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0757)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0618):		19.91	1.066	5.25	39.62
+ ID2= 2 (0622):		19.03	0.983	5.25	37.83
ID = 3 (0757):		38.94	2.050	5.25	38.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2221)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	180.83	0.0600	
9.76	180.74	0.0500	Main Channel
19.52	180.50	0.0500	Main Channel
29.28	180.41	0.0500	Main Channel
39.04	180.29	0.0500	Main Channel
48.80	180.18	0.0500	Main Channel
58.56	180.10	0.0500	Main Channel
68.32	179.91	0.0500	Main Channel
78.08	179.41	0.0500	Main Channel
87.83	178.86	0.0500	Main Channel
97.59	178.36	0.0500	Main Channel
107.35	177.88	0.0500	Main Channel
117.11	177.95	0.0500	Main Channel
126.87	178.87	0.0500	Main Channel
136.63	179.87	0.0500	Main Channel
146.39	180.25	0.0500	Main Channel
156.15	180.53	0.0500	Main Channel
195.19	181.17	0.0500	Main Channel
204.95	181.35	0.0500 /0.0600	Main Channel
214.71	181.45	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITYTRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.15	178.03	.336E+03	0.8	0.56	7.06
0.31	178.18	.926E+03	3.5	0.90	4.39
0.46	178.34	.169E+04	8.2	1.15	3.42
0.62	178.49	.263E+04	15.2	1.37	2.88
0.77	178.65	.373E+04	24.6	1.56	2.52
0.93	178.80	.501E+04	36.8	1.74	2.27
1.08	178.96	.645E+04	52.1	1.91	2.06
1.23	179.11	.805E+04	70.6	2.08	1.90
1.39	179.26	.980E+04	92.5	2.24	1.77
1.54	179.42	.117E+05	117.8	2.38	1.66
1.70	179.57	.138E+05	146.5	2.52	1.57
1.85	179.73	.160E+05	179.1	2.65	1.49
2.01	179.88	.184E+05	215.5	2.77	1.42
2.16	180.04	.211E+05	244.4	2.74	1.44
2.31	180.19	.243E+05	269.7	2.63	1.50
2.47	180.34	.282E+05	308.2	2.59	1.52
2.62	180.50	.327E+05	355.1	2.57	1.54
2.79	180.67	.384E+05	441.5	2.72	1.45
2.96	180.83	.449E+05	539.2	2.85	1.39

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0757)	38.94	2.05	5.25	38.74	0.23	0.68
OUTFLOW: ID= 1 (2221)	38.94	2.04	5.25	38.74	0.22	0.68

CALIB
STANDHYD (0617) | Area (ha)= 24.70
ID= 1 DT= 5.0 min | Total Imp(%)= 37.50 Dir. Conn.(%)= 32.20

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.26	15.44
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.79	4.79
Length	(m)=	405.79	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	19.32	20.77
over (min)		5.00	20.00
Storage Coeff. (min)	=	7.14 (ii)	17.33 (ii)
Unit Hyd. Tpeak (min)	=	5.00	20.00
Unit Hyd. peak (cms)	=	0.17	0.06

				TOTALS
PEAK FLOW	(cms)=	0.43	0.85	1.277 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	35.17	36.72
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.84	0.87

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1959)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2221):		38.94	2.041	5.25	38.74
+ ID2= 2 (2935):		1316.92	7.205	12.92	24.32
ID = 3 (1959):		1355.86	7.211	12.83	24.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1959)
3 + 2 = 1

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1959):		1355.86	7.211	12.83	24.73
+ ID2= 2 (0616):		23.03	0.387	6.25	20.03
ID = 1 (1959):		1378.89	7.232	12.83	24.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1959)
1 + 2 = 3

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1959):		1378.89	7.232	12.83	24.65
+ ID2= 2 (0617):		24.70	1.277	5.25	36.72
ID = 3 (1959):		1403.59	7.236	12.83	24.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2936)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	181.20	0.0600	
3.85	181.23	0.0500	Main Channel
15.60	180.91	0.0500	Main Channel
19.05	180.67	0.0500	Main Channel
27.34	179.79	0.0500	Main Channel
39.09	173.83	0.0500	Main Channel
40.70	173.73	0.0500	Main Channel
50.84	172.60	0.0500	Main Channel
62.59	173.57	0.0500	Main Channel
86.09	174.03	0.0500	Main Channel
102.01	174.59	0.0500	Main Channel
109.59	174.82	0.0500	Main Channel
133.35	179.42	0.0500	Main Channel
144.84	180.58	0.0500	Main Channel
156.58	180.82	0.0500	Main Channel
203.58	180.49	0.0500	Main Channel

238.83	180.60	0.0500	Main Channel
250.58	180.83	0.0500	Main Channel
274.07	181.55	0.0500 /0.0600	Main Channel
285.74	181.69	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITYTRAV.TIME (m/s)	(min)
0.44	173.04	.913E+03	0.7	0.36	21.00
0.87	173.47	.365E+04	4.6	0.57	13.23
1.31	173.91	.927E+04	12.8	0.62	12.11
1.75	174.35	.192E+05	34.4	0.81	9.31
2.19	174.79	.319E+05	69.0	0.98	7.71
2.62	175.22	.466E+05	124.8	1.22	6.22
3.06	175.66	.618E+05	194.7	1.43	5.29
3.50	176.10	.777E+05	277.5	1.62	4.67
3.94	176.54	.942E+05	372.8	1.80	4.21
4.37	176.97	.111E+06	480.3	1.96	3.86
4.81	177.41	.129E+06	600.0	2.11	3.59
5.25	177.85	.147E+06	731.7	2.25	3.36
5.69	178.29	.166E+06	875.5	2.39	3.17
6.12	178.72	.186E+06	1031.4	2.52	3.01
6.56	179.16	.206E+06	1199.5	2.64	2.87
7.00	179.60	.227E+06	1373.1	2.74	2.76
7.44	180.03	.249E+06	1535.3	2.80	2.70
7.87	180.47	.273E+06	1702.7	2.84	2.67
8.31	180.91	.311E+06	1374.6	2.01	3.77

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1959)	1403.59	7.24	12.83	24.87	1.02	0.59
OUTFLOW: ID= 1 (2936)	1403.59	7.22	13.00	24.87	1.01	0.59

ROUTE CHN(2416)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	181.41	0.0600	
7.81	181.38	0.0500	Main Channel
30.67	180.40	0.0500	Main Channel
47.19	179.87	0.0500	Main Channel
96.84	179.40	0.0500	Main Channel
134.70	178.75	0.0500	Main Channel
146.10	178.70	0.0500	Main Channel
185.36	177.61	0.0500	Main Channel
195.36	176.61	0.0500	Main Channel
198.19	176.11	0.0500	Main Channel
223.24	170.87	0.0500	Main Channel
228.24	170.64	0.0500	Main Channel
274.13	169.05	0.0500	Main Channel
286.96	170.27	0.0500	Main Channel
299.19	173.91	0.0500	Main Channel
324.87	172.99	0.0500	Main Channel
337.68	173.89	0.0500	Main Channel
362.72	176.78	0.0500	Main Channel

```
   400.54       177.72    0.0500 /0.0600  Main Channel
   441.20       177.56       0.0600
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<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.43	169.48	.181E+04	1.3	0.35	23.15
0.87	169.92	.722E+04	8.3	0.56	14.59
1.30	170.35	.162E+05	24.5	0.74	11.05
1.73	170.78	.284E+05	53.4	0.92	8.87
2.17	171.22	.425E+05	99.3	1.14	7.13
2.60	171.65	.574E+05	158.2	1.35	6.04
3.03	172.08	.730E+05	228.7	1.53	5.32
3.47	172.52	.894E+05	310.7	1.70	4.79
3.90	172.95	.106E+06	403.9	1.85	4.39
4.34	173.39	.126E+06	462.0	1.79	4.54
4.77	173.82	.150E+06	544.1	1.77	4.60
5.20	174.25	.178E+06	687.9	1.89	4.30
5.64	174.69	.207E+06	859.6	2.03	4.00
6.07	175.12	.237E+06	1049.6	2.16	3.76
6.50	175.55	.268E+06	1258.0	2.29	3.55
6.94	175.99	.301E+06	1485.3	2.41	3.37
7.37	176.42	.335E+06	1729.8	2.52	3.22
7.80	176.85	.370E+06	1968.4	2.60	3.13
8.24	177.29	.409E+06	2149.1	2.57	3.17

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2936)	1403.59	7.22	13.00	24.87	0.80	0.51
OUTFLOW: ID= 1 (2416)	1403.59	7.21	13.08	24.87	0.80	0.51

ROUTE CHN(3612)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	177.86	0.0600	
40.49	177.49	0.0500	Main Channel
61.08	177.16	0.0500	Main Channel
73.79	176.72	0.0500	Main Channel
141.49	174.13	0.0500	Main Channel
148.20	174.17	0.0500	Main Channel
152.67	173.77	0.0500	Main Channel
169.68	169.46	0.0500	Main Channel
175.06	168.79	0.0500	Main Channel
197.94	167.52	0.0500	Main Channel
209.27	167.61	0.0500	Main Channel
220.45	168.27	0.0500	Main Channel
227.16	170.14	0.0500	Main Channel
231.63	170.82	0.0500	Main Channel
235.23	172.26	0.0500	Main Channel
242.85	174.37	0.0500	Main Channel
288.10	175.24	0.0500	Main Channel
310.55	176.14	0.0500	Main Channel
344.73	175.99	0.0500 /0.0600	Main Channel
360.38	176.31	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	167.97	.300E+04	3.9	0.53	12.82
0.89	168.41	.894E+04	18.0	0.82	8.26
1.34	168.86	.169E+05	45.2	1.09	6.21
1.78	169.30	.260E+05	86.9	1.35	4.99
2.23	169.75	.360E+05	142.4	1.60	4.22
2.67	170.19	.467E+05	210.4	1.83	3.70
3.12	170.64	.581E+05	288.0	2.01	3.36
3.57	171.09	.703E+05	381.4	2.20	3.07
4.01	171.53	.830E+05	489.5	2.39	2.83
4.46	171.98	.962E+05	609.8	2.57	2.63
4.90	172.42	.110E+06	741.5	2.73	2.47
5.35	172.87	.124E+06	884.0	2.88	2.35
5.80	173.32	.139E+06	1039.3	3.02	2.24
6.24	173.76	.155E+06	1207.7	3.16	2.14
6.69	174.21	.172E+06	1291.7	3.05	2.21
7.13	174.65	.192E+06	1338.0	2.82	2.39
7.58	175.10	.219E+06	1419.3	2.63	2.57
8.02	175.54	.251E+06	1617.8	2.61	2.59
8.47	175.99	.288E+06	1883.8	2.65	2.55

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2416)	1403.59	7.21	13.08	24.87	0.55	0.57
OUTFLOW: ID= 1 (3612)	1403.59	7.20	13.25	24.87	0.55	0.57

CALIB
NASHYD (0615) | Area (ha)= 47.19 Curve Number (CN)= 98.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.58

Unit Hyd Qpeak (cms)= 1.141

PEAK FLOW (cms)= 0.861 (i)
TIME TO PEAK (hrs)= 6.833
RUNOFF VOLUME (mm)= 27.539
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.656

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7591)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (3612):	1403.59	7.203	13.25	24.87
	+ ID2= 2 (0615):	47.19	0.861	6.83	27.54
	ID = 3 (7591):	1450.78	7.267	13.25	24.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0632) | Area (ha)= 226.69 Curve Number (CN)= 95.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 3.45

Unit Hyd Qpeak (cms)= 2.510

PEAK FLOW (cms)= 1.882 (i)
TIME TO PEAK (hrs)= 9.250
RUNOFF VOLUME (mm)= 22.571
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.537

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0633) | Area (ha)= 129.13 Curve Number (CN)= 98.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 2.15

Unit Hyd Qpeak (cms)= 2.294

PEAK FLOW (cms)= 1.894 (i)
TIME TO PEAK (hrs)= 7.583
RUNOFF VOLUME (mm)= 27.539
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.656

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0634) | Area (ha)= 63.04 Curve Number (CN)= 94.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 2.76

Unit Hyd Qpeak (cms)= 0.872

PEAK FLOW (cms)= 0.582 (i)
TIME TO PEAK (hrs)= 8.500
RUNOFF VOLUME (mm)= 21.239
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.506

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0635) | Area (ha)= 24.96 Curve Number (CN)= 95.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.00

Unit Hyd Qpeak (cms)= 0.953

PEAK FLOW (cms)= 0.485 (i)
TIME TO PEAK (hrs)= 6.167
RUNOFF VOLUME (mm)= 22.571
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.537

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0636) | Area (ha)= 39.74 Curve Number (CN)= 99.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.63

Unit Hyd Qpeak (cms)= 0.931

PEAK FLOW (cms)= 0.772 (i)
TIME TO PEAK (hrs)= 6.833
RUNOFF VOLUME (mm)= 29.625
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.705

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0637) | Area (ha)= 35.79 Curve Number (CN)= 92.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 1.17

Unit Hyd Qpeak (cms)= 1.168

PEAK FLOW (cms)= 0.518 (i)
TIME TO PEAK (hrs)= 6.500
RUNOFF VOLUME (mm)= 18.932
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.451

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
NASHYD (0638) | Area (ha)= 35.71 Curve Number (CN)= 99.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.93

Unit Hyd Qpeak (cms)= 1.467

PEAK FLOW (cms)= 1.011 (i)
TIME TO PEAK (hrs)= 5.917
RUNOFF VOLUME (mm)= 29.625
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.705

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

| STANDHYD (0639)| Area (ha)= 34.03
|ID= 1 DT= 5.0 min | Total Imp(%)= 76.10 Dir. Conn.(%)= 74.80

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	25.90	8.13
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.37	2.37
Length (m)=	476.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	20.18
over (min)	10.00	25.00
Storage Coeff. (min)=	9.71 (ii)	22.43 (ii)
Unit Hyd. Tpeak (min)=	10.00	25.00
Unit Hyd. peak (cms)=	0.11	0.05
		TOTALS
PEAK FLOW (cms)=	1.36	0.41 1.774 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	40.00	34.97 38.73
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.95	0.83 0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(4042)|
| IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.5600	1.3249
	0.2400	0.6579	0.7400	1.6447
	0.3600	0.9320	7.4000	1.8274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0639)	34.030	1.774	5.25	38.73
OUTFLOW: ID= 1 (4042)	34.030	0.335	6.67	38.71

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.85
TIME SHIFT OF PEAK FLOW (min)= 85.00
MAXIMUM STORAGE USED (ha.m.)= 0.8739

| CALIB |
| STANDHYD (0642)| Area (ha)= 145.26
|ID= 1 DT= 5.0 min | Total Imp(%)= 84.90 Dir. Conn.(%)= 84.50

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	123.33	21.93
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.97	2.97
Length (m)=	984.07	40.00
Mannings n =	0.013	0.250

	IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=	19.32	18.55
over (min)	15.00	30.00
Storage Coeff. (min)=	14.03 (ii)	26.32 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04
		TOTALS
PEAK FLOW (cms)=	6.50	0.92 7.390 (iii)
TIME TO PEAK (hrs)=	5.25	5.42 5.25
RUNOFF VOLUME (mm)=	40.00	30.78 38.57
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.95	0.73 0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(4043)|
| IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	9.4000	4.3604
	2.6700	2.6940	12.6100	4.9991
	5.3300	3.4716	126.1000	5.5546

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0642)	145.260	7.390	5.25	38.57
OUTFLOW: ID= 1 (4043)	145.260	2.896	5.92	38.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.19
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 2.7604

| ROUTE CHN(3913)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	241.59	0.0600	
27.15	240.88	0.0500	Main Channel
221.02	240.81	0.0500	Main Channel
274.87	240.35	0.0500	Main Channel
424.96	238.90	0.0500	Main Channel
445.03	237.03	0.0500	Main Channel
485.17	236.37	0.0500	Main Channel
536.45	237.30	0.0500	Main Channel
565.46	238.13	0.0500	Main Channel
585.53	239.01	0.0500	Main Channel
595.57	241.11	0.0500	Main Channel
602.24	240.84	0.0500	Main Channel
615.64	239.47	0.0500	Main Channel

665.82	240.30	0.0500	Main Channel	
739.10	240.93	0.0500	Main Channel	
804.42	240.68	0.0500	Main Channel	
946.78	241.65	0.0500	Main Channel	
978.74	242.01	0.0500 /0.0600	Main Channel	
1025.59	242.34	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	236.63	.351E+04	1.0	0.26	56.22
0.52	236.89	.141E+05	6.6	0.42	35.41
0.78	237.15	.313E+05	20.1	0.57	25.97
1.04	237.41	.537E+05	40.3	0.67	22.18
1.31	237.68	.811E+05	77.3	0.85	17.48
1.57	237.94	.110E+06	124.0	1.00	14.77
1.83	238.20	.140E+06	179.7	1.14	13.01
2.09	238.46	.173E+06	243.2	1.25	11.82
2.35	238.72	.207E+06	316.2	1.36	10.90
2.61	238.98	.243E+06	387.5	1.41	10.47
2.87	239.24	.286E+06	456.0	1.42	10.45
3.13	239.50	.335E+06	539.3	1.43	10.35
3.40	239.77	.393E+06	622.4	1.41	10.53
3.66	240.03	.462E+06	734.3	1.41	10.49
3.92	240.29	.542E+06	875.1	1.43	10.33
4.18	240.55	.635E+06	1023.6	1.43	10.34
4.44	240.81	.745E+06	1138.8	1.36	10.91
4.83	241.20	.102E+07	1573.0	1.37	10.84
5.22	241.59	.134E+07	2230.4	1.48	9.98

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (4043)	145.26	2.90	5.92	38.57	0.35	0.30
OUTFLOW: ID= 1 (3913)	145.26	2.45	6.92	38.57	0.33	0.29

| ROUTE CHN(3914)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	241.59	0.0600	
27.15	240.88	0.0500	Main Channel
221.02	240.81	0.0500	Main Channel
274.87	240.35	0.0500	Main Channel
424.96	238.90	0.0500	Main Channel
445.03	237.03	0.0500	Main Channel
485.17	236.37	0.0500	Main Channel
536.45	237.30	0.0500	Main Channel
555.42	237.40	0.0500	Main Channel
565.46	238.13	0.0500	Main Channel
585.53	239.01	0.0500	Main Channel
595.57	241.11	0.0500	Main Channel
602.24	240.84	0.0500	Main Channel
615.64	239.47	0.0500	Main Channel
665.82	240.30	0.0500	Main Channel
739.10	240.93	0.0500	Main Channel

804.42	240.68	0.0500	Main Channel	
946.78	241.65	0.0500	Main Channel	
978.74	242.01	0.0500 /0.0600	Main Channel	
1025.59	242.34	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	236.63	.305E+04	1.0	0.26	48.80
0.52	236.89	.122E+05	6.6	0.42	30.74
0.78	237.15	.272E+05	20.1	0.57	22.54
1.04	237.41	.466E+05	40.3	0.67	19.26
1.31	237.68	.704E+05	77.3	0.85	15.17
1.57	237.94	.954E+05	124.0	1.00	12.82
1.83	238.20	.122E+06	179.7	1.14	11.29
2.09	238.46	.150E+06	243.2	1.25	10.26
2.35	238.72	.179E+06	316.2	1.36	9.46
2.61	238.98	.211E+06	387.5	1.41	9.09
2.87	239.24	.248E+06	456.0	1.42	9.07
3.13	239.50	.291E+06	539.3	1.43	8.98
3.40	239.77	.341E+06	622.4	1.41	9.14
3.66	240.03	.401E+06	734.3	1.41	9.11
3.92	240.29	.471E+06	875.1	1.43	8.97
4.18	240.55	.551E+06	1023.6	1.43	8.97
4.44	240.81	.647E+06	1138.8	1.36	9.47
4.83	241.20	.888E+06	1573.0	1.37	9.41
5.22	241.59	.116E+07	2230.4	1.48	8.67

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3913)	145.26	2.45	6.92	38.57	0.33	0.29
OUTFLOW: ID= 1 (3914)	145.26	2.29	7.83	38.57	0.32	0.29

| CALIB |
| STANDHYD (0640)| Area (ha)= 64.79
|ID= 1 DT= 5.0 min | Total Imp(%)= 43.10 Dir. Conn.(%)= 42.70

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	27.92	36.87
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	3.74	3.74
Length (m)=	657.22	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	14.05
over (min)	10.00	25.00
Storage Coeff. (min)=	10.27 (ii)	23.10 (ii)
Unit Hyd. Tpeak (min)=	10.00	25.00
Unit Hyd. peak (cms)=	0.11	0.05
		TOTALS
PEAK FLOW (cms)=	1.48	1.12 2.568 (iii)
TIME TO PEAK (hrs)=	5.25	5.33 5.25
RUNOFF VOLUME (mm)=	40.00	22.13 29.76
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.95	0.53 0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 91.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0641) Area (ha)= 202.72
ID= 1 DT= 5.0 min Total Imp(%)= 21.90 Dir. Conn.(%)= 21.70

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	44.40	158.32
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	3.08	3.08
Length (m)=	1162.53	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	15.26
over (min)	15.00	30.00
Storage Coeff. (min)=	15.33 (ii)	28.48 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.07	0.04

		TOTALS
PEAK FLOW (cms)=	2.32	4.95	7.065 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.33
RUNOFF VOLUME (mm)=	40.00	24.43	27.81
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.58	0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0850)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3914):	145.26	2.292	7.83	38.57
+ ID2= 2 (0640):	64.79	2.568	5.25	29.76
ID = 3 (0850):	210.05	3.081	5.25	35.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0850)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0850):	210.05	3.081	5.25	35.85
+ ID2= 2 (0641):	202.72	7.065	5.33	27.81
ID = 1 (0850):	412.77	10.074	5.33	31.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3915)
IN= 2---> OUT= 1 Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	241.59	0.0600	
27.15	240.88	0.0500	Main Channel
221.02	240.81	0.0500	Main Channel
274.87	240.35	0.0500	Main Channel
424.96	238.90	0.0500	Main Channel
445.03	237.03	0.0500	Main Channel
485.17	236.37	0.0500	Main Channel
536.45	237.30	0.0500	Main Channel
555.42	237.40	0.0500	Main Channel
565.46	238.13	0.0500	Main Channel
585.53	239.01	0.0500	Main Channel
595.57	241.11	0.0500	Main Channel
602.24	240.84	0.0500	Main Channel
615.64	239.47	0.0500	Main Channel
665.82	240.30	0.0500	Main Channel
739.10	240.93	0.0500	Main Channel
804.42	240.68	0.0500	Main Channel
946.78	241.65	0.0500	Main Channel
978.74	242.01	0.0500 /0.0600	Main Channel
1025.59	242.34	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	236.63	.971E+03	1.4	0.36	11.31
0.52	236.89	.388E+04	9.1	0.57	7.13
0.78	237.15	.864E+04	27.6	0.78	5.23
1.04	237.41	.148E+05	55.4	0.92	4.46
1.31	237.68	.224E+05	106.1	1.16	3.52
1.57	237.94	.304E+05	170.2	1.38	2.97
1.83	238.20	.387E+05	246.6	1.56	2.62
2.09	238.46	.477E+05	333.8	1.72	2.38
2.35	238.72	.571E+05	433.9	1.86	2.19
2.61	238.98	.672E+05	531.8	1.94	2.11
2.87	239.24	.790E+05	625.9	1.95	2.10
3.13	239.50	.925E+05	740.2	1.96	2.08
3.40	239.77	.109E+06	854.2	1.93	2.12
3.66	240.03	.128E+06	1007.7	1.94	2.11
3.92	240.29	.150E+06	1200.9	1.97	2.08
4.18	240.55	.175E+06	1404.9	1.97	2.08
4.44	240.81	.206E+06	1563.0	1.86	2.20
4.83	241.20	.283E+06	2158.8	1.87	2.18
5.22	241.59	.369E+06	3061.1	2.04	2.01

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0850)	412.77	10.07	5.33	31.90	0.54	0.58
OUTFLOW: ID= 1 (3915)	412.77	9.87	5.33	31.90	0.53	0.58

ADD HYD (0854)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3915):	412.77	9.867	5.33	31.90
+ ID2= 2 (4042):	34.03	0.335	6.67	38.71
ID = 3 (0854):	446.80	10.122	5.33	32.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0854)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0854):	446.80	10.122	5.33	32.42
+ ID2= 2 (0638):	35.71	1.011	5.92	29.62
ID = 1 (0854):	482.51	10.931	5.42	32.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3916)
IN= 2---> OUT= 1 Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	241.59	0.0600	
27.15	240.88	0.0500	Main Channel
221.02	240.81	0.0500	Main Channel
274.87	240.35	0.0500	Main Channel
424.96	238.90	0.0500	Main Channel
445.03	237.03	0.0500	Main Channel
485.17	236.37	0.0500	Main Channel
536.45	237.30	0.0500	Main Channel
555.42	237.40	0.0500	Main Channel
565.46	238.13	0.0500	Main Channel
585.53	239.01	0.0500	Main Channel
595.57	241.11	0.0500	Main Channel
602.24	240.84	0.0500	Main Channel
615.64	239.47	0.0500	Main Channel
665.82	240.30	0.0500	Main Channel
739.10	240.93	0.0500	Main Channel
804.42	240.68	0.0500	Main Channel
946.78	241.65	0.0500	Main Channel
978.74	242.01	0.0500 /0.0600	Main Channel
1025.59	242.34	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	236.63	.332E+04	1.4	0.36	38.68
0.52	236.89	.133E+05	9.1	0.57	24.37
0.78	237.15	.296E+05	27.6	0.78	17.87
1.04	237.41	.507E+05	55.4	0.92	15.27
1.31	237.68	.766E+05	106.1	1.16	12.03
1.57	237.94	.104E+06	170.3	1.38	10.16

1.83	238.20	.133E+06	246.7	1.56	8.95
2.09	238.46	.163E+06	333.9	1.72	8.14
2.35	238.72	.195E+06	434.0	1.87	7.50
2.61	238.98	.230E+06	531.9	1.94	7.20
2.87	239.24	.270E+06	626.0	1.95	7.19
3.13	239.50	.316E+06	740.3	1.96	7.12
3.40	239.77	.371E+06	854.4	1.93	7.25
3.66	240.03	.437E+06	1007.9	1.94	7.22
3.92	240.29	.512E+06	1201.2	1.97	7.11
4.18	240.55	.600E+06	1405.2	1.97	7.11
4.44	240.81	.704E+06	1563.3	1.86	7.51
4.83	241.20	.967E+06	2159.2	1.87	7.46
5.22	241.59	.126E+07	3061.7	2.04	6.87

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0854)	482.51	10.93	5.42	32.21	0.55	0.59
OUTFLOW: ID= 1 (3916)	482.51	9.65	5.67	32.21	0.53	0.58

ADD HYD (1836)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3916):	482.51	9.652	5.67	32.21
+ ID2= 2 (0637):	35.79	0.518	6.50	18.93
ID = 3 (1836):	518.30	10.036	5.67	31.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3703)
IN= 2---> OUT= 1 Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	232.32	0.0600	
66.22	231.67	0.0500	Main Channel
91.51	231.65	0.0500	Main Channel
164.26	231.08	0.0500	Main Channel
285.49	229.51	0.0500	Main Channel
333.98	227.73	0.0500	Main Channel
406.72	227.67	0.0500	Main Channel
437.67	228.67	0.0500	Main Channel
479.46	228.42	0.0500	Main Channel
503.71	225.97	0.0500	Main Channel
552.20	226.02	0.0500	Main Channel
612.82	229.10	0.0500	Main Channel
637.07	229.46	0.0500	Main Channel
727.56	229.71	0.0500	Main Channel
797.79	229.87	0.0500	Main Channel
864.25	230.12	0.0500	Main Channel
1038.35	231.12	0.0500	Main Channel
1045.43	232.07	0.0500	Main Channel

1059.58	231.47	0.0500 /0.0600	Main Channel
1075.84	231.58	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	226.26	.412E+04	7.6	0.55	9.03
0.58	226.55	.934E+04	27.1	0.87	5.75
0.87	226.84	.153E+05	56.7	1.11	4.50
1.16	227.13	.220E+05	96.4	1.31	3.80
1.45	227.42	.294E+05	146.6	1.49	3.35
1.74	227.71	.379E+05	163.0	1.29	3.87
2.03	228.00	.538E+05	237.5	1.32	3.77
2.32	228.29	.719E+05	356.0	1.48	3.37
2.61	228.58	.929E+05	476.4	1.53	3.25
2.89	228.86	.118E+06	662.7	1.67	2.98
3.18	229.15	.145E+06	901.5	1.85	2.69
3.47	229.44	.174E+06	1155.6	1.98	2.52
3.76	229.73	.209E+06	1285.6	1.83	2.71
4.05	230.02	.256E+06	1537.5	1.80	2.77
4.34	230.31	.311E+06	1951.8	1.88	2.65
4.63	230.60	.372E+06	2462.3	1.98	2.52
4.92	230.89	.440E+06	3057.9	2.08	2.40
5.21	231.18	.514E+06	3758.0	2.18	2.28
5.50	231.47	.593E+06	4626.5	2.33	2.13

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1836)	518.30	10.04	5.67	31.30	0.33	0.58
OUTFLOW: ID= 1 (3703)	518.30	9.80	5.83	31.30	0.32	0.57

ADD HYD (0862)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3703):	518.30	9.801	5.83	31.30
+ ID2= 2 (0636):	39.74	0.772	6.83	29.62
ID = 3 (0862):	558.04	10.359	5.83	31.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3704)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	232.32	0.0600	
66.22	231.67	0.0500	Main Channel
91.51	231.65	0.0500	Main Channel
164.26	231.08	0.0500	Main Channel
285.49	229.51	0.0500	Main Channel
333.98	227.73	0.0500	Main Channel

406.72	227.67	0.0500	Main Channel
437.67	228.67	0.0500	Main Channel
479.46	228.42	0.0500	Main Channel
503.71	225.97	0.0500	Main Channel
552.20	226.02	0.0500	Main Channel
612.82	229.10	0.0500	Main Channel
637.07	229.46	0.0500	Main Channel
727.56	229.71	0.0500	Main Channel
797.79	229.87	0.0500	Main Channel
864.25	230.12	0.0500	Main Channel
1038.35	231.12	0.0500	Main Channel
1045.43	232.07	0.0500	Main Channel
1059.58	231.47	0.0500 /0.0600	Main Channel
1075.84	231.58	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	226.26	.828E+04	7.6	0.55	18.13
0.58	226.55	.188E+05	27.1	0.87	11.55
0.87	226.84	.307E+05	56.7	1.11	9.04
1.16	227.13	.442E+05	96.4	1.31	7.64
1.45	227.42	.591E+05	146.6	1.49	6.72
1.74	227.71	.761E+05	163.0	1.29	7.78
2.03	228.00	.108E+06	237.5	1.32	7.58
2.32	228.29	.144E+06	356.0	1.48	6.77
2.61	228.58	.187E+06	476.4	1.53	6.53
2.89	228.86	.238E+06	662.7	1.67	5.98
3.18	229.15	.292E+06	901.6	1.85	5.40
3.47	229.44	.350E+06	1155.7	1.98	5.05
3.76	229.73	.421E+06	1285.8	1.83	5.45
4.05	230.02	.514E+06	1537.7	1.80	5.57
4.34	230.31	.624E+06	1952.0	1.88	5.33
4.63	230.60	.748E+06	2462.5	1.98	5.06
4.92	230.89	.884E+06	3058.2	2.08	4.82
5.21	231.18	.103E+07	3758.4	2.18	4.58
5.50	231.47	.119E+07	4627.0	2.33	4.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0862)	558.04	10.36	5.83	31.18	0.33	0.58
OUTFLOW: ID= 1 (3704)	558.04	9.62	6.17	31.18	0.32	0.57

ADD HYD (0857)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3704):	558.04	9.616	6.17	31.18
+ ID2= 2 (0634):	63.04	0.582	8.50	21.24
ID = 3 (0857):	621.08	9.888	6.17	30.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0857)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0857):	621.08	9.888	6.17	30.17
+ ID2= 2 (0635):	24.96	0.485	6.17	22.57
ID = 1 (0857):	646.04	10.373	6.17	29.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3705)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	232.32	0.0600	
66.22	231.67	0.0500	Main Channel
91.51	231.65	0.0500	Main Channel
164.26	231.08	0.0500	Main Channel
285.49	229.51	0.0500	Main Channel
333.98	227.73	0.0500	Main Channel
406.72	227.67	0.0500	Main Channel
437.67	228.67	0.0500	Main Channel
479.46	228.42	0.0500	Main Channel
503.71	225.97	0.0500	Main Channel
552.20	226.02	0.0500	Main Channel
612.82	229.10	0.0500	Main Channel
637.07	229.46	0.0500	Main Channel
727.56	229.71	0.0500	Main Channel
797.79	229.87	0.0500	Main Channel
864.25	230.12	0.0500	Main Channel
1038.35	231.12	0.0500	Main Channel
1045.43	232.07	0.0500	Main Channel
1059.58	231.47	0.0500 /0.0600	Main Channel
1075.84	231.58	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.29	226.26	.156E+05	7.8	0.56	33.42
0.58	226.55	.354E+05	27.7	0.89	21.30
0.87	226.84	.580E+05	58.0	1.13	16.66
1.16	227.13	.833E+05	98.6	1.34	14.08
1.45	227.42	.112E+06	150.0	1.52	12.39
1.74	227.71	.143E+06	166.7	1.31	14.34
2.03	228.00	.204E+06	242.9	1.35	13.97
2.32	228.29	.273E+06	364.1	1.51	12.47
2.61	228.58	.352E+06	487.3	1.57	12.03
2.89	228.86	.449E+06	677.8	1.71	11.03
3.18	229.15	.551E+06	922.1	1.89	9.96
3.47	229.44	.661E+06	1182.0	2.02	9.31
3.76	229.73	.793E+06	1315.0	1.88	10.05
4.05	230.02	.969E+06	1572.7	1.84	10.27
4.34	230.31	.118E+07	1996.4	1.92	9.83
4.63	230.60	.141E+07	2518.5	2.02	9.33
4.92	230.89	.167E+07	3127.8	2.12	8.88
5.21	231.18	.195E+07	3843.9	2.23	8.44
5.50	231.47	.224E+07	4732.2	2.39	7.90

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0857)	646.04	10.37	6.17	29.87	0.33	0.59
OUTFLOW: ID= 1 (3705)	646.04	9.30	6.92	29.87	0.31	0.58

ADD HYD (1458)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3705):	646.04	9.295	6.92	29.87
+ ID2= 2 (0633):	129.13	1.894	7.58	27.54
ID = 3 (1458):	775.17	11.081	7.00	29.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3194)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	221.23	0.0600	
21.92	221.42	0.0500	Main Channel
63.77	221.05	0.0500	Main Channel
189.32	220.72	0.0500	Main Channel
352.43	219.40	0.0500	Main Channel
386.43	218.71	0.0500	Main Channel
409.03	217.71	0.0500	Main Channel
429.96	215.53	0.0500	Main Channel
461.35	213.58	0.0500	Main Channel
471.81	214.66	0.0500	Main Channel
509.76	214.70	0.0500	Main Channel
534.59	217.37	0.0500	Main Channel
545.05	218.18	0.0500	Main Channel
576.44	218.14	0.0500	Main Channel
648.83	218.62	0.0500	Main Channel
678.27	218.97	0.0500	Main Channel
748.03	219.07	0.0500	Main Channel
828.51	219.72	0.0500	Main Channel
928.67	220.17	0.0500 /0.0600	Main Channel
966.83	220.50	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.41	213.99	.504E+04	1.0	0.44	87.20
0.82	214.40	.202E+05	6.1	0.70	54.93
1.24	214.82	.571E+05	15.8	0.64	60.35
1.65	215.23	.128E+06	55.1	0.99	38.71
2.06	215.64	.209E+06	115.2	1.27	30.18
2.47	216.05	.297E+06	196.8	1.53	25.19
2.88	216.46	.394E+06	298.1	1.75	22.00
3.29	216.87	.497E+06	419.5	1.95	19.75
3.71	217.29	.608E+06	561.2	2.13	18.06
4.12	217.70	.727E+06	720.3	2.28	16.82

4.53	218.11	.857E+06	883.0	2.38	16.17
4.94	218.52	.105E+07	875.4	1.92	20.00
5.35	218.93	.131E+07	1100.1	1.94	19.84
5.77	219.35	.167E+07	1303.6	1.80	21.35
6.18	219.76	.212E+07	1683.8	1.83	20.99
6.59	220.17	.269E+07	2135.4	1.83	21.00
7.00	220.58	.337E+07	2938.1	2.01	19.14
7.42	221.00	.415E+07	3707.0	2.06	18.67
7.84	221.42	.504E+07	4987.6	2.28	16.84

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1458)	775.17	11.08	7.00	29.48	1.04	0.67
OUTFLOW: ID= 1 (3194)	775.17	9.69	8.25	29.48	0.98	0.67

ADD HYD (1012)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3194):	775.17	9.692	8.25	29.48
+ ID2= 2 (0632):	226.69	1.882	9.25	22.57
ID = 3 (1012):	1001.86	11.463	8.33	27.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2605)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	209.19	0.0600	
66.81	209.82	0.0500	Main Channel
87.75	209.76	0.0500	Main Channel
112.83	209.41	0.0500	Main Channel
153.68	208.50	0.0500	Main Channel
193.24	208.48	0.0500	Main Channel
232.80	207.59	0.0500	Main Channel
266.23	207.49	0.0500	Main Channel
272.37	207.33	0.0500	Main Channel
296.91	205.66	0.0500	Main Channel
312.25	204.31	0.0500	Main Channel
338.30	205.09	0.0500	Main Channel
358.27	205.38	0.0500	Main Channel
373.61	205.27	0.0500	Main Channel
377.86	205.65	0.0500	Main Channel
388.95	207.72	0.0500	Main Channel
391.05	207.95	0.0500	Main Channel
443.80	208.23	0.0500	Main Channel
465.65	208.42	0.0500 /0.0600	Main Channel
500.44	208.47	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	204.58	.188E+04	0.6	0.37	49.89
0.55	204.86	.750E+04	4.0	0.59	31.43
0.82	205.13	.169E+05	11.5	0.76	24.59
1.10	205.41	.335E+05	22.8	0.76	24.50
1.37	205.68	.574E+05	53.2	1.03	18.00
1.64	205.95	.832E+05	94.3	1.27	14.69
1.92	206.23	.111E+06	145.6	1.47	12.66
2.19	206.50	.140E+06	206.7	1.65	11.26
2.47	206.78	.170E+06	277.7	1.82	10.23
2.74	207.05	.203E+06	358.7	1.97	9.43
3.01	207.32	.237E+06	449.7	2.12	8.78
3.29	207.60	.276E+06	470.9	1.91	9.76
3.56	207.87	.325E+06	585.9	2.01	9.26
3.84	208.15	.384E+06	649.3	1.89	9.85
4.11	208.42	.459E+06	764.6	1.86	10.01
4.38	208.69	.562E+06	931.1	1.85	10.06
4.73	209.04	.704E+06	1289.3	2.04	9.10
5.08	209.39	.854E+06	1704.3	2.23	8.35
5.43	209.74	.103E+07	2154.0	2.34	7.94

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1012)	1001.86	11.46	8.33	27.92	0.82	0.76
OUTFLOW: ID= 1 (2605)	1001.86	11.35	8.67	27.92	0.82	0.75

ROUTE CHN(3187)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	206.19	0.0600	
30.23	205.94	0.0500	Main Channel
55.86	205.37	0.0500	Main Channel
193.62	203.89	0.0500	Main Channel
223.93	202.65	0.0500	Main Channel
264.33	201.68	0.0500	Main Channel
279.78	200.21	0.0500	Main Channel
294.64	199.25	0.0500	Main Channel
315.14	198.01	0.0500	Main Channel
324.94	199.14	0.0500	Main Channel
365.35	201.89	0.0500	Main Channel
375.45	202.25	0.0500	Main Channel
454.49	202.57	0.0500	Main Channel
543.25	202.44	0.0500	Main Channel
590.98	203.07	0.0500	Main Channel
617.88	203.22	0.0500	Main Channel
662.15	203.63	0.0500	Main Channel
750.67	204.03	0.0500	Main Channel
778.69	204.47	0.0500 /0.0600	Main Channel
812.45	204.24	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.32	198.33	.523E+03	0.4	0.33	19.93
0.65	198.66	.209E+04	2.8	0.53	12.55
0.97	198.98	.471E+04	8.2	0.69	9.58
1.29	199.30	.840E+04	17.4	0.83	8.03
1.61	199.62	.133E+05	31.7	0.95	7.00
1.94	199.95	.195E+05	52.3	1.07	6.22
2.26	200.27	.269E+05	80.3	1.19	5.59
2.58	200.59	.355E+05	117.1	1.31	5.05
2.91	200.92	.451E+05	162.2	1.43	4.63
3.23	201.24	.557E+05	216.2	1.54	4.30
3.55	201.56	.674E+05	279.7	1.65	4.02
3.88	201.89	.804E+05	341.2	1.69	3.93
4.20	202.21	.959E+05	404.5	1.68	3.95
4.52	202.53	.119E+06	346.6	1.16	5.72
4.84	202.85	.162E+06	502.8	1.23	5.38
5.17	203.18	.210E+06	717.0	1.36	4.89
5.49	203.50	.265E+06	978.7	1.47	4.51
5.81	203.82	.326E+06	1261.6	1.54	4.30
6.14	204.15	.397E+06	1593.6	1.60	4.15

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2605)	1001.86	11.35	8.67	27.92	1.08	0.73
OUTFLOW: ID= 1 (3187)	1001.86	11.32	8.83	27.92	1.08	0.73

ROUTE CHN(3905)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	203.59	0.0600	
12.21	203.73	0.0500	Main Channel
25.07	203.70	0.0500	Main Channel
58.71	202.97	0.0500	Main Channel
92.34	203.01	0.0500	Main Channel
109.55	202.72	0.0500	Main Channel
136.83	201.85	0.0500	Main Channel
149.64	201.22	0.0500	Main Channel
224.34	195.98	0.0500	Main Channel
227.95	196.16	0.0500	Main Channel
236.55	197.08	0.0500	Main Channel
261.57	197.72	0.0500	Main Channel
273.78	198.98	0.0500	Main Channel
278.02	199.82	0.0500	Main Channel
286.62	200.81	0.0500	Main Channel
298.83	201.48	0.0500	Main Channel
323.86	201.17	0.0500	Main Channel
362.60	201.78	0.0500	Main Channel
413.50	202.02	0.0500 /0.0600	Main Channel
443.54	202.33	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	196.38	.165E+04	1.1	0.45	24.40
0.81	196.79	.591E+04	6.3	0.70	15.58

1.21	197.19	.128E+05	16.7	0.85	12.77
1.61	197.59	.245E+05	35.5	0.95	11.51
2.01	197.99	.411E+05	72.7	1.16	9.42
2.42	198.40	.604E+05	126.6	1.37	7.96
2.82	198.80	.823E+05	196.1	1.56	7.00
3.22	199.20	.107E+06	283.6	1.74	6.27
3.62	199.60	.133E+06	389.5	1.91	5.70
4.03	200.01	.162E+06	511.0	2.07	5.27
4.43	200.41	.193E+06	649.0	2.21	4.94
4.83	200.81	.226E+06	806.5	2.34	4.67
5.23	201.21	.262E+06	943.3	2.35	4.63
5.64	201.62	.311E+06	1003.0	2.11	5.17
6.04	202.02	.374E+06	1122.8	1.96	5.55
6.44	202.42	.455E+06	1487.1	2.14	5.10
6.87	202.85	.547E+06	1920.2	2.29	4.75
7.30	203.28	.653E+06	2284.0	2.29	4.76
7.73	203.71	.768E+06	2875.6	2.45	4.45

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3187)	1001.86	11.32	8.83	27.92	1.00	0.77
OUTFLOW: ID= 1 (3905)	1001.86	11.27	9.00	27.92	1.00	0.77

ROUTE CHN(3855)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	200.69	0.0600	
51.29	199.85	0.0500	Main Channel
112.74	198.77	0.0500	Main Channel
125.00	198.32	0.0500	Main Channel
161.75	198.55	0.0500	Main Channel
185.38	197.36	0.0500	Main Channel
203.16	196.85	0.0500	Main Channel
238.52	194.48	0.0500	Main Channel
248.52	194.20	0.0500	Main Channel
255.73	194.69	0.0500	Main Channel
285.20	193.87	0.0500	Main Channel
297.43	194.87	0.0500	Main Channel
321.90	197.59	0.0500	Main Channel
334.11	197.90	0.0500	Main Channel
358.60	197.90	0.0500	Main Channel
383.05	198.51	0.0500	Main Channel
407.49	198.38	0.0500	Main Channel
430.54	199.09	0.0500	Main Channel
493.05	199.20	0.0500 /0.0600	Main Channel
533.31	199.18	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.27	194.14	.188E+04	0.5	0.27	64.37
0.54	194.41	.873E+04	3.2	0.38	46.17
0.82	194.69	.227E+05	11.3	0.52	33.51
1.09	194.96	.409E+05	27.8	0.72	24.46

1.36	195.23	.610E+05	50.9	0.88	19.94
1.63	195.50	.829E+05	80.4	1.02	17.20
1.91	195.78	.107E+06	116.1	1.15	15.31
2.18	196.05	.132E+06	158.5	1.26	13.92
2.45	196.32	.160E+06	207.6	1.37	12.84
2.72	196.59	.189E+06	263.6	1.46	11.97
2.99	196.86	.221E+06	326.2	1.56	11.27
3.27	197.14	.255E+06	387.4	1.60	10.95
3.54	197.41	.292E+06	459.6	1.66	10.59
3.81	197.68	.332E+06	541.9	1.72	10.22
4.08	197.95	.378E+06	570.6	1.59	11.04
4.36	198.23	.434E+06	679.4	1.65	10.64
4.63	198.50	.499E+06	695.5	1.47	11.96
4.90	198.77	.585E+06	848.6	1.53	11.48
5.31	199.18	.727E+06	1070.9	1.55	11.32

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3905)	1001.86	11.27	9.00	27.92	0.82	0.52
OUTFLOW: ID= 1 (3855)	1001.86	10.99	9.50	27.92	0.80	0.51

ROUTE CHN(3693)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	195.54	0.0600	
26.06	195.13	0.0500	Main Channel
88.22	194.15	0.0500	Main Channel
110.45	193.89	0.0500	Main Channel
138.52	193.48	0.0500	Main Channel
168.71	193.28	0.0500	Main Channel
184.71	192.87	0.0500	Main Channel
204.83	192.02	0.0500	Main Channel
225.90	191.24	0.0500	Main Channel
248.96	190.66	0.0500	Main Channel
258.02	190.72	0.0500	Main Channel
289.07	190.17	0.0500	Main Channel
310.12	190.24	0.0500	Main Channel
331.35	190.30	0.0500	Main Channel
353.00	190.51	0.0500	Main Channel
365.24	191.70	0.0500	Main Channel
409.73	192.86	0.0500	Main Channel
463.08	193.83	0.0500	Main Channel
499.36	194.56	0.0500 /0.0600	Main Channel
511.57	194.56	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.22	190.39	.532E+04	2.3	0.27	38.90
0.44	190.61	.166E+05	12.1	0.47	22.82
0.66	190.83	.314E+05	29.9	0.61	17.51
0.88	191.05	.484E+05	57.8	0.77	13.96
1.11	191.28	.669E+05	94.0	0.90	11.87
1.33	191.50	.868E+05	139.3	1.03	10.38

1.55	191.72	.108E+06	192.3	1.14	9.34
1.77	191.94	.131E+06	249.0	1.22	8.74
1.99	192.16	.155E+06	315.2	1.30	8.21
2.21	192.38	.182E+06	391.2	1.38	7.75
2.43	192.60	.211E+06	476.9	1.45	7.36
2.65	192.82	.241E+06	573.0	1.52	7.01
2.87	193.04	.274E+06	670.4	1.57	6.81
3.10	193.27	.310E+06	778.7	1.61	6.63
3.32	193.49	.350E+06	862.1	1.58	6.77
3.54	193.71	.395E+06	997.7	1.62	6.60
3.76	193.93	.445E+06	1150.8	1.66	6.44
3.98	194.15	.498E+06	1318.0	1.70	6.30
4.20	194.37	.555E+06	1546.6	1.79	5.98

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3855)	1001.86	10.99	9.50	27.92	0.42	0.43
OUTFLOW: ID= 1 (3693)	1001.86	10.91	9.67	27.92	0.41	0.43

CALIB	
STANDHYD (0653)	Area (ha)= 44.62
ID= 1 DT= 5.0 min	Total Imp(%)= 56.00 Dir. Conn.(%)= 51.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	24.99	19.63	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.04	2.49	
Length	(m)=	545.41	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	21.33	
over (min)		10.00	25.00	
Storage Coeff. (min)=		10.38 (ii)	22.64 (ii)	
Unit Hyd. Tpeak (min)=		10.00	25.00	
Unit Hyd. peak (cms)=		0.11	0.05	
				TOTALS
PEAK FLOW	(cms)=	1.22	1.05	2.268 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	35.34	37.72
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.84	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0654)	Area (ha)= 9.65
ID= 1 DT= 5.0 min	Total Imp(%)= 61.50 Dir. Conn.(%)= 55.90

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	5.93	3.72	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.04	2.04	
Length	(m)=	253.64	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	21.95	
over (min)		5.00	20.00	
Storage Coeff. (min)=		6.96 (ii)	19.83 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.17	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.29	0.21	0.502 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	35.52	38.02
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.85	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2121)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0653):	44.62	2.268	5.25	37.72
+ ID2= 2 (0654):	9.65	0.502	5.25	38.02
ID = 3 (2121):	54.27	2.770	5.25	37.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(4027)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4600	2.3079
	0.1900	1.0813	0.6100	2.9050
	0.3000	1.5816	12.2000	3.2278

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2121)	54.270	2.770	5.25	37.77
OUTFLOW: ID= 1 (4027)	54.270	0.297	7.83	37.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.73
TIME SHIFT OF PEAK FLOW (min)=155.00
MAXIMUM STORAGE USED (ha.m.)= 1.5694

CALIB	
STANDHYD (0655)	Area (ha)= 4.40
ID= 1 DT= 5.0 min	Total Imp(%)= 70.70 Dir. Conn.(%)= 64.20

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	3.11	1.29	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	4.05	4.05	
Length	(m)=	171.27	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	22.50	
over (min)		5.00	15.00	
Storage Coeff. (min)=		4.48 (ii)	14.85 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.23	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.15	0.08	0.229 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25	5.25
RUNOFF VOLUME	(mm)=	40.00	32.41	37.28
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.77	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0656)	Area (ha)= 131.84
ID= 1 DT= 5.0 min	Total Imp(%)= 49.50 Dir. Conn.(%)= 45.20

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	65.26	66.58	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.54	3.54	
Length	(m)=	937.51	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	19.07	
over (min)		15.00	25.00	
Storage Coeff. (min)=		12.92 (ii)	24.46 (ii)	
Unit Hyd. Tpeak (min)=		15.00	25.00	
Unit Hyd. peak (cms)=		0.08	0.05	
				TOTALS
PEAK FLOW	(cms)=	3.17	2.93	6.054 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	29.66	34.33
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.71	0.82

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 96.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD (  0657)|   Area    (ha)=     43.26
|ID= 1 DT= 5.0 min |   Total Imp(%)=     63.60   Dir. Conn.(%)=  58.10
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        27.51           15.75
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         2.61            2.61
     Length            (m)=       537.03           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           21.07
               over (min)          10.00           25.00
     Storage Coeff.  (min)=        10.14 (ii)      22.29 (ii)
     Unit Hyd. Tpeak (min)=        10.00           25.00
     Unit Hyd. peak  (cms)=         0.11            0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=         1.35            0.80      2.143 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.33      5.25
     RUNOFF VOLUME    (mm)=        40.00           31.88     36.60
     TOTAL RAINFALL   (mm)=        42.00           42.00     42.00
     RUNOFF COEFFICIENT   =         0.95            0.76      0.87


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  97.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1766)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3693):   1001.86     10.909        9.67       27.92
     + ID2= 2 (  4027):     54.27      0.297        7.83       37.74
       ============================================================
       ID = 3 (  1766):   1056.13     11.191        9.67       28.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1766)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1766):   1056.13     11.191        9.67       28.42
     + ID2= 2 (  0655):      4.40      0.229        5.25       37.28
       ============================================================
       ID = 1 (  1766):   1060.53     11.196        9.67       28.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1766)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
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--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1766):   1060.53     11.196        9.67       28.46
     + ID2= 2 (  0656):    131.84      6.054        5.25       34.33
       ============================================================
       ID = 3 (  1766):   1192.37     11.437        9.58       29.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  1766)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1766):   1192.37     11.437        9.58       29.11
     + ID2= 2 (  0657):     43.26      2.143        5.25       36.60
       ============================================================
       ID = 1 (  1766):   1235.63     11.509        9.58       29.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3617)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         194.24        0.0600
                 44.30         193.97        0.0500      Main Channel
                 69.18         194.10        0.0500      Main Channel
                115.06         194.28        0.0500      Main Channel
                149.47         193.60        0.0500      Main Channel
                160.95         193.23        0.0500      Main Channel
                183.89         191.85        0.0500      Main Channel
                207.58         189.73        0.0500      Main Channel
                218.30         188.33        0.0500      Main Channel
                227.99         188.19        0.0500      Main Channel
                268.81         191.24        0.0500      Main Channel
                287.13         192.05        0.0500      Main Channel
                382.82         192.56        0.0500      Main Channel
                425.24         193.51        0.0500      Main Channel
                461.23         193.43        0.0500      Main Channel
                478.25         193.63        0.0500      Main Channel
                510.07         193.79        0.0500      Main Channel
                541.88         193.75        0.0500      Main Channel
                586.66         193.80    0.0500 /0.0600  Main Channel
                630.00         194.29        0.0600

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
       (m)      (m)     (cu.m.)         (cms)        (m/s)      (min)
      0.31   188.50    .284E+04          1.4         0.44       34.73
      0.62   188.82    .812E+04          6.2         0.70       21.93
      0.94   189.13    .153E+05         14.8         0.89       17.16
      1.25   189.44    .243E+05         28.0         1.06       14.47
      1.56   189.75    .353E+05         46.3         1.21       12.70
      1.87   190.06    .482E+05         69.7         1.33       11.53
      2.18   190.37    .634E+05         99.9         1.45       10.58
      2.49   190.69    .808E+05        137.4         1.56        9.80
      2.81   191.00    .100E+06        183.0         1.67        9.14
      3.12   191.31    .122E+06        236.2         1.78        8.62
      3.43   191.62    .147E+06        295.3         1.85        8.28
      3.74   191.93    .174E+06        364.7         1.92        7.96
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      4.05   192.25    .208E+06        385.4         1.70        9.00
      4.36   192.56    .259E+06        436.6         1.55        9.90
      4.68   192.87    .322E+06        592.1         1.69        9.07
      4.99   193.18    .391E+06        774.2         1.82        8.41
      5.30   193.49    .466E+06        906.7         1.79        8.57
      5.61   193.80    .565E+06        968.4         1.57        9.73
      5.92   194.12    .703E+06       1332.6         1.74        8.79

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1766)    1235.63    11.51    9.58  29.37      0.82
0.81
   OUTFLOW: ID= 1 (  3617)    1235.63    11.38    9.92  29.37      0.81
0.80


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| CALIB              |
| STANDHYD (  0652)|   Area    (ha)=     16.50
|ID= 1 DT= 5.0 min |   Total Imp(%)=     66.70   Dir. Conn.(%)=  60.30
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        11.01            5.49
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         3.71            3.71
     Length            (m)=       331.66           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           19.17
               over (min)           5.00           20.00
     Storage Coeff.  (min)=         6.83 (ii)      18.18 (ii)
     Unit Hyd. Tpeak (min)=         5.00           20.00
     Unit Hyd. peak  (cms)=         0.18            0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.53            0.26      0.789 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.25      5.25
     RUNOFF VOLUME    (mm)=        40.00           26.55     34.66
     TOTAL RAINFALL   (mm)=        42.00           42.00     42.00
     RUNOFF COEFFICIENT   =         0.95            0.63      0.83


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  4025)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------          (cms)        (ha.m.)   |    (cms)          (ha.m.)
                              0.0000        0.0000   |      0.2900
0.4772
                              0.1200        0.2055   |      0.3900
0.6269
                              0.1900        0.3135   |      3.9000
```



```
0.6966
                                    AREA        QPEAK        TPEAK       R.V.
                                    (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  0652)       16.500        0.789         5.25       34.66
   OUTFLOW: ID= 1 (  4025)       16.500        0.202         6.33       34.63

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.58
                TIME SHIFT OF PEAK FLOW         (min)= 65.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3331

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| CALIB              |
| STANDHYD (  0651)|   Area    (ha)=     21.65
|ID= 1 DT= 5.0 min |   Total Imp(%)=     23.00   Dir. Conn.(%)=  21.50
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         4.98           16.67
     Dep. Storage     (mm)=         2.00            5.00
     Average Slope     (%)=         5.34            5.34
     Length            (m)=       379.91           40.00
     Mannings n            =        0.013           0.250

     Max.Eff.Inten.(mm/hr)=        19.32           14.30
               over (min)           5.00           20.00
     Storage Coeff.  (min)=         6.64 (ii)      18.09 (ii)
     Unit Hyd. Tpeak (min)=         5.00           20.00
     Unit Hyd. peak  (cms)=         0.18            0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=         0.25            0.56      0.806 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.33      5.25
     RUNOFF VOLUME    (mm)=        40.00           22.29     26.10
     TOTAL RAINFALL   (mm)=        42.00           42.00     42.00
     RUNOFF COEFFICIENT   =         0.95            0.53      0.62


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  91.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1545)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3617):   1235.63     11.382        9.92       29.37
     + ID2= 2 (  4025):     16.50      0.202        6.33       34.63
       ============================================================
       ID = 3 (  1545):   1252.13     11.511        9.83       29.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1545)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1545):   1252.13     11.511        9.83       29.44
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     + ID2= 2 (  0651):    21.65      0.806        5.25       26.10
       ========================================================
       ID = 1 (  1545):   1273.78     11.537        9.83       29.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3294)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        191.29        0.0600
                 63.58        190.89        0.0500      Main Channel
                104.30        190.80        0.0500      Main Channel
                129.31        190.46        0.0500      Main Channel
                167.03        190.34        0.0500      Main Channel
                181.25        190.21        0.0500      Main Channel
                207.52        189.91        0.0500      Main Channel
                215.33        189.55        0.0500      Main Channel
                220.33        189.04        0.0500      Main Channel
                285.77        184.54        0.0500      Main Channel
                292.84        184.33        0.0500      Main Channel
                312.07        184.10        0.0500      Main Channel
                338.42        184.64        0.0500      Main Channel
                355.48        184.85        0.0500      Main Channel
                371.10        185.29        0.0500      Main Channel
                377.51        185.95        0.0500      Main Channel
                390.97        187.84        0.0500      Main Channel
                403.79        189.09        0.0500      Main Channel
                442.90        189.81    0.0500 /0.0600  Main Channel
                476.98        190.23        0.0600

      <---------------------- TRAVEL TIME TABLE ----------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)          (cms)          (m/s)       (min)
       0.32   184.42    .332E+04          1.3            0.20       43.68
       0.63   184.73    .115E+05          7.1            0.32       27.00
       0.95   185.05    .237E+05         19.6            0.42       20.15
       1.27   185.37    .387E+05         40.0            0.53       16.10
       1.59   185.69    .553E+05         69.0            0.64       13.35
       1.90   186.00    .731E+05        105.0            0.74       11.60
       2.22   186.32    .921E+05        148.4            0.83       10.34
       2.54   186.64    .112E+06        198.7            0.91        9.41
       2.86   186.96    .133E+06        256.1            0.98        8.68
       3.17   187.27    .156E+06        320.6            1.05        8.10
       3.49   187.59    .179E+06        392.4            1.12        7.61
       3.81   187.91    .204E+06        471.2            1.18        7.21
       4.12   188.22    .230E+06        556.1            1.24        6.88
       4.44   188.54    .257E+06        648.9            1.30        6.59
       4.76   188.86    .285E+06        749.8            1.35        6.34
       5.08   189.18    .315E+06        850.0            1.38        6.17
       5.39   189.49    .347E+06        935.2            1.38        6.19
       5.71   189.81    .383E+06       1027.2            1.37        6.22
       6.13   190.23    .440E+06       1175.1            1.37        6.24

                                       <---- hydrograph ---->   <-pipe /
channel->
                                 AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                 (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1545)    1273.78    11.54    9.83  29.38      0.75
0.35
```



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   OUTFLOW: ID= 1 (  3294)    1273.78    11.27   10.33  29.38      0.74
0.35


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-
--------------------
| CALIB            |
| NASHYD   (  0649)|   Area    (ha)=      8.59   Curve Number   (CN)= 84.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=     10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=      0.49

     Unit Hyd Qpeak  (cms)=     0.670

     PEAK FLOW       (cms)=     0.131 (i)
     TIME TO PEAK    (hrs)=     5.500
     RUNOFF VOLUME    (mm)=    12.738
     TOTAL RAINFALL   (mm)=    42.000
     RUNOFF COEFFICIENT   =     0.303

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0648)|   Area    (ha)=     45.16
|ID= 1 DT= 5.0 min |   Total Imp(%)=     77.40   Dir. Conn.(%)=  74.30
--------------------

                                   IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=           34.95           10.21
     Dep. Storage     (mm)=            2.00            5.00
     Average Slope     (%)=            3.36            3.36
     Length            (m)=          548.70           40.00
     Mannings n           =           0.013           0.250

     Max.Eff.Inten.(mm/hr)=           19.32           21.79
               over (min)             10.00           25.00
     Storage Coeff.  (min)=            9.52 (ii)      20.63 (ii)
     Unit Hyd. Tpeak (min)=           10.00           25.00
     Unit Hyd. peak  (cms)=            0.12            0.05
                                                                  *TOTALS*
     PEAK FLOW       (cms)=            1.80            0.57          2.366 (iii)
     TIME TO PEAK    (hrs)=            5.25            5.25           5.25
     RUNOFF VOLUME    (mm)=           40.00           35.47          38.84
     TOTAL RAINFALL   (mm)=           42.00           42.00          42.00
     RUNOFF COEFFICIENT   =            0.95            0.84           0.92

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-
--------------------
| CALIB            |
| STANDHYD (  0650)|   Area    (ha)=     67.75
|ID= 1 DT= 5.0 min |   Total Imp(%)=     61.50   Dir. Conn.(%)=  57.90
--------------------

                                   IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=           41.67           26.08
     Dep. Storage     (mm)=            2.00            5.00
     Average Slope     (%)=            3.93            3.93
```



```
     Length            (m)=         672.06          40.00
     Mannings n           =          0.013          0.250

     Max.Eff.Inten.(mm/hr)=          19.32          17.84
               over (min)            10.00          25.00
     Storage Coeff.  (min)=          10.26 (ii)     21.74 (ii)
     Unit Hyd. Tpeak (min)=          10.00          25.00
     Unit Hyd. peak  (cms)=           0.11           0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=           2.10           1.07          3.154 (iii)
     TIME TO PEAK    (hrs)=           5.25           5.33           5.25
     RUNOFF VOLUME    (mm)=          40.00          26.81          34.45
     TOTAL RAINFALL   (mm)=          42.00          42.00          42.00
     RUNOFF COEFFICIENT   =           0.95           0.64           0.82

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  94.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  2120)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  0648):     45.16      2.366        5.25       38.84
     + ID2= 2 (  0650):     67.75      3.154        5.25       34.45
       ========================================================
       ID = 3 (  2120):    112.91      5.520        5.25       36.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  4026)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------          (cms)        (ha.m.)   |    (cms)          (ha.m.)
                              0.0000        0.0000   |       0.8800
4.5893
                              0.3700        2.0361   |       1.1600
5.8174
                              0.5700        3.0057   |      23.2000
6.4638

                                 AREA        QPEAK        TPEAK       R.V.
                                 (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  2120)     112.910        5.520         5.25      36.20
   OUTFLOW: ID= 1 (  4026)     112.910        0.592         7.75      36.19

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.72
                  TIME SHIFT OF PEAK FLOW       (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  3.1158

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--------------------
| ADD HYD  (  1448)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
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--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3294):   1273.78     11.274       10.33       29.38
     + ID2= 2 (  4026):    112.91      0.592        7.75       36.19
       ========================================================
       ID = 1 (  1448):   1386.69     11.818       10.25       29.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-

--------------------
| ADD HYD  (  1448)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1448):   1386.69     11.818       10.25       29.94
     + ID2= 2 (  0649):      8.59      0.131        5.50       12.74
       ========================================================
       ID = 1 (  1448):   1395.28     11.825       10.25       29.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ROUTE CHN(  3179)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
                <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00        190.30        0.0600
                 65.80        190.42        0.0500      Main Channel
                 94.55        189.51        0.0500      Main Channel
                114.06        188.02        0.0500      Main Channel
                135.49        183.86        0.0500      Main Channel
                141.82        183.18        0.0500      Main Channel
                145.94        182.37        0.0500      Main Channel
                156.41        182.88        0.0500      Main Channel
                194.32        182.94        0.0500      Main Channel
                207.51        183.25        0.0500      Main Channel
                209.75        183.73        0.0500      Main Channel
                218.00        186.25        0.0500      Main Channel
                228.24        187.27        0.0500      Main Channel
                238.44        187.59        0.0500      Main Channel
                256.93        187.54        0.0500      Main Channel
                300.02        187.26        0.0500      Main Channel
                320.47        186.81        0.0500      Main Channel
                330.68        186.76        0.0500      Main Channel
                351.40        187.43    0.0500 /0.0600  Main Channel
                376.96        187.42        0.0600

      <---------------------- TRAVEL TIME TABLE ----------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
        (m)       (m)     (cu.m.)          (cms)          (m/s)       (min)
       0.42   182.79    .978E+03          0.9            0.39       18.55
       0.84   183.21    .904E+04         10.9            0.52       13.82
       1.27   183.64    .215E+05         42.9            0.86        8.34
       1.69   184.06    .349E+05         92.5            1.14        6.29
       2.11   184.48    .491E+05        158.1            1.38        5.17
       2.53   184.90    .639E+05        238.0            1.60        4.47
       2.95   185.32    .793E+05        331.8            1.80        3.98
       3.37   185.74    .954E+05        439.1            1.98        3.62
       3.80   186.17    .112E+06        559.9            2.14        3.34
       4.22   186.59    .130E+06        685.2            2.27        3.15
       4.64   187.01    .150E+06        722.7            2.07        3.46
       5.06   187.43    .178E+06        752.6            1.81        3.95
```

5.49	187.86	.225E+06	940.1	1.80	3.98
5.91	188.28	.273E+06	1266.7	1.99	3.59
6.34	188.71	.322E+06	1631.6	2.17	3.29
6.77	189.14	.373E+06	2036.9	2.35	3.05
7.20	189.57	.424E+06	2486.0	2.52	2.84
7.62	189.99	.478E+06	3005.9	2.70	2.65
8.05	190.42	.535E+06	3570.7	2.86	2.50

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1448)	1395.28	11.83	10.25	29.83	0.86	0.52
OUTFLOW: ID= 1 (3179)	1395.28	11.77	10.50	29.83	0.85	0.52

CALIB
NASHYD (0647) | Area (ha)= 7.70 | Curve Number (CN)= 99.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 | # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.51

Unit Hyd Qpeak (cms)= 0.577

PEAK FLOW (cms)= 0.315 (i)
TIME TO PEAK (hrs)= 5.417
RUNOFF VOLUME (mm)= 29.623
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.705

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1358)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3179):	1395.28	11.772	10.50	29.83
+ ID2= 2 (0647):	7.70	0.315	5.42	29.62
ID = 3 (1358):	1402.98	11.782	10.50	29.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(1358)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	189.42	0.0600	
36.13	188.83	0.0500	Main Channel
62.40	187.85	0.0500	Main Channel
70.89	187.86	0.0500	Main Channel
85.79	185.61	0.0500	Main Channel
89.39	184.69	0.0500	Main Channel

101.43	180.73	0.0500 Main Channel
102.85	180.61	0.0500 Main Channel
116.30	180.37	0.0500 Main Channel
156.04	180.54	0.0500 Main Channel
169.51	180.42	0.0500 Main Channel
176.58	180.71	0.0500 Main Channel
182.98	181.58	0.0500 Main Channel
191.47	183.48	0.0500 Main Channel
196.47	183.96	0.0500 Main Channel
221.97	184.77	0.0500 Main Channel
251.71	185.74	0.0500 Main Channel
282.23	186.26	0.0500 Main Channel
316.98	186.62	0.0500 /0.0600 Main Channel
351.79	187.19	0.0600

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.35	180.72	.899E+04	9.9	0.55	15.19
0.69	181.06	.225E+05	43.9	0.99	8.52
1.04	181.41	.366E+05	96.0	1.32	6.35
1.39	181.76	.513E+05	164.5	1.62	5.20
1.74	182.11	.665E+05	248.3	1.88	4.46
2.08	182.45	.821E+05	346.2	2.13	3.95
2.43	182.80	.983E+05	457.6	2.35	3.58
2.78	183.15	.115E+06	582.1	2.56	3.29
3.12	183.49	.132E+06	719.2	2.75	3.06
3.47	183.84	.150E+06	859.8	2.90	2.90
3.82	184.19	.168E+06	987.5	2.96	2.84
4.17	184.54	.189E+06	1121.3	2.99	2.81
4.51	184.88	.212E+06	1275.9	3.04	2.77
4.86	185.23	.237E+06	1453.0	3.09	2.72
5.21	185.58	.264E+06	1653.0	3.16	2.66
5.56	185.93	.294E+06	1837.9	3.16	2.66
5.90	186.27	.327E+06	2027.8	3.13	2.69
6.25	186.62	.365E+06	2190.8	3.02	2.78
6.82	187.19	.439E+06	2896.3	3.32	2.53

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1358)	1402.98	11.78	10.50	29.83	0.37	0.57
OUTFLOW: ID= 1 (3053)	1402.98	11.72	10.75	29.83	0.37	0.57

CALIB
STANDHYD (0645) | Area (ha)= 38.90
ID= 1 DT= 5.0 min | Total Imp(%)= 38.90 | Dir. Conn.(%)= 38.90

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.10	22.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	491.53	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	15.90
over (min)	10.00	20.00

Storage Coeff. (min)=	8.16 (ii)	19.71 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
			TOTALS
PEAK FLOW (cms)=	0.76	0.83	1.587 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	40.00	25.73	31.28
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.61	0.74

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 94.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0646) | Area (ha)= 33.59
ID= 1 DT= 5.0 min | Total Imp(%)= 58.70 | Dir. Conn.(%)= 58.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	19.72	13.87
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.22	4.22
Length	(m)=	473.22	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		19.32	19.21
over (min)		10.00	20.00
Storage Coeff. (min)=	8.14 (ii)	19.05 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
			TOTALS
PEAK FLOW (cms)=	1.05	0.70	1.749 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	34.64	37.77
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.82	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1307)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3053):	1402.98	11.721	10.75	29.83
+ ID2= 2 (0645):	36.24	1.587	5.25	31.28
ID = 3 (1307):	1439.22	11.761	10.75	29.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1307)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1307):	1439.22	11.761	10.75	29.87
+ ID2= 2 (0646):	33.59	1.749	5.25	37.77
ID = 1 (1307):	1472.81	11.801	10.75	30.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2986)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	185.35	0.0600	
34.10	184.63	0.0500	Main Channel
75.41	183.26	0.0500	Main Channel
85.85	182.64	0.0500	Main Channel
85.86	182.54	0.0500	Main Channel
96.05	180.94	0.0500	Main Channel
106.49	182.48	0.0500	Main Channel
112.82	182.57	0.0500	Main Channel
137.46	181.53	0.0500	Main Channel
154.22	179.65	0.0500	Main Channel
168.66	178.48	0.0500	Main Channel
189.38	178.37	0.0500	Main Channel
210.02	178.04	0.0500	Main Channel
241.19	177.21	0.0500	Main Channel
251.41	177.59	0.0500	Main Channel
261.85	183.27	0.0500	Main Channel
265.01	183.63	0.0500	Main Channel
272.08	185.25	0.0500	Main Channel
282.52	185.48	0.0500 /0.0600	Main Channel
291.74	185.48	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.40	177.61	.363E+04	2.5	0.48	24.21
0.81	178.02	.139E+05	15.0	0.80	14.35
1.21	178.42	.281E+05	37.4	0.92	12.52
1.61	178.82	.520E+05	91.2	1.22	9.50
2.02	179.23	.777E+05	171.0	1.52	7.58
2.42	179.63	.105E+06	271.6	1.79	6.45
2.82	180.03	.134E+06	394.8	2.04	5.65
3.23	180.44	.164E+06	537.9	2.28	5.08
3.63	180.84	.195E+06	700.5	2.49	4.64
4.03	181.24	.228E+06	865.6	2.63	4.39
4.44	181.65	.263E+06	1038.2	2.73	4.23
4.84	182.05	.303E+06	1217.2	2.78	4.15
5.24	182.45	.347E+06	1426.8	2.85	4.05
5.65	182.86	.395E+06	1680.3	2.94	3.92
6.05	183.26	.446E+06	2001.1	3.11	3.72
6.57	183.78	.518E+06	2504.7	3.35	3.44
7.09	184.30	.595E+06	3078.6	3.58	3.22
7.62	184.83	.680E+06	3718.2	3.79	3.05
8.14	185.35	.774E+06	4375.3	3.92	2.95

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1307)	1472.81	11.80	10.75	30.05	0.70	0.68
OUTFLOW: ID= 1 (2986)	1472.81	11.76	10.83	30.05	0.70	0.68

CALIB / STANDHYD (0644) / ID= 1 DT= 5.0 min	Area (ha)= 42.53	Total Imp(%)= 23.40	Dir. Conn.(%)= 22.70

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.95	32.58
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.08	4.08
Length	(m)=	532.48	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	18.20
over (min)		10.00	25.00
Storage Coeff. (min)=		8.82 (ii)	20.09 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.12	0.05

		TOTALS
PEAK FLOW	(cms)=	0.52	1.45	1.955 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	30.61	32.74
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.73	0.78

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1100)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (2986):	1472.81	11.764	10.83	30.05
+ ID2= 2 (0644):	42.53	1.955	5.25	32.74
ID = 3 (1100):	1515.34	11.813	10.83	30.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2709)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	181.55	0.0600	
31.08	180.93	0.0500	Main Channel
78.33	179.64	0.0500	Main Channel
102.22	179.20	0.0500	Main Channel
138.37	179.22	0.0500	Main Channel
173.94	178.58	0.0500	Main Channel
209.51	177.46	0.0500	Main Channel
231.18	175.65	0.0500	Main Channel
245.65	174.74	0.0500	Main Channel
277.69	174.17	0.0500	Main Channel
298.66	175.22	0.0500	Main Channel
303.76	176.38	0.0500	Main Channel
308.86	178.78	0.0500	Main Channel
329.83	179.86	0.0500	Main Channel
361.16	180.46	0.0500	Main Channel
371.80	180.57	0.0500	Main Channel
382.24	180.38	0.0500	Main Channel
413.57	181.26	0.0500	Main Channel
436.50	182.52	0.0500 /0.0600	Main Channel
465.98	183.30	0.0600	

31.08 180.93 0.0500 Main Channel
78.33 179.64 0.0500 Main Channel
102.22 179.20 0.0500 Main Channel
138.37 179.22 0.0500 Main Channel
173.94 178.58 0.0500 Main Channel
209.51 177.46 0.0500 Main Channel
231.18 175.65 0.0500 Main Channel
245.65 174.74 0.0500 Main Channel
277.69 174.17 0.0500 Main Channel
298.66 175.22 0.0500 Main Channel
303.76 176.38 0.0500 Main Channel
308.86 178.78 0.0500 Main Channel
329.83 179.86 0.0500 Main Channel
361.16 180.46 0.0500 Main Channel
371.80 180.57 0.0500 Main Channel
382.24 180.38 0.0500 Main Channel
413.57 181.26 0.0500 Main Channel
436.50 182.52 0.0500 /0.0600 Main Channel
465.98 183.30 0.0600

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.36	174.53	.386E+04	1.9	0.38	33.12
0.73	174.90	.150E+05	12.8	0.65	19.56
1.09	175.26	.305E+05	35.8	0.90	14.19
1.46	175.63	.486E+05	72.3	1.13	11.22
1.82	175.99	.686E+05	121.3	1.35	9.44
2.19	176.36	.903E+05	181.9	1.54	8.27
2.55	176.72	.114E+06	255.5	1.71	7.41
2.92	177.09	.138E+06	340.8	1.88	6.76
3.28	177.45	.164E+06	438.1	2.03	6.25
3.65	177.82	.193E+06	528.1	2.09	6.08
4.01	178.18	.225E+06	634.4	2.15	5.90
4.38	178.55	.260E+06	758.4	2.22	5.71
4.74	178.91	.300E+06	867.3	2.20	5.76
5.11	179.28	.349E+06	886.7	1.94	6.56
5.47	179.64	.414E+06	1091.9	2.01	6.32
5.95	180.12	.509E+06	1461.4	2.19	5.81
6.43	180.60	.622E+06	1795.5	2.20	5.77
6.90	181.07	.754E+06	2342.2	2.37	5.37
7.38	181.55	.900E+06	3003.7	2.54	5.00

	AREA	QPEAK	TPEAK	R.V.	<---- hydrograph ----> MAX DEPTH	<-pipe / MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1100)	1515.34	11.81	10.83	30.12	0.70	0.61
OUTFLOW: ID= 1 (2709)	1515.34	11.76	11.00	30.12	0.69	0.60

ROUTE CHN(3995)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	181.15	0.0600	
30.91	180.65	0.0500	Main Channel
43.12	180.09	0.0500	Main Channel

87.61 179.33 0.0500 Main Channel
166.51 177.70 0.0500 Main Channel
220.30 176.84 0.0500 Main Channel
250.50 176.90 0.0500 Main Channel
290.87 176.47 0.0500 Main Channel
301.04 175.82 0.0500 Main Channel
309.10 172.77 0.0500 Main Channel
354.34 169.64 0.0500 Main Channel
381.59 170.08 0.0500 Main Channel
387.59 171.13 0.0500 Main Channel
391.71 171.31 0.0500 Main Channel
398.78 173.44 0.0500 Main Channel
411.85 176.50 0.0500 Main Channel
452.08 177.43 0.0500 Main Channel
502.48 177.71 0.0500 Main Channel
552.76 178.23 0.0500 /0.0600 Main Channel
603.16 178.56 0.0600

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	170.09	.513E+04	3.7	0.48	22.96
0.90	170.54	.165E+05	22.3	0.89	12.34
1.36	171.00	.307E+05	54.9	1.18	9.30
1.81	171.45	.479E+05	100.9	1.38	7.92
2.26	171.90	.681E+05	167.4	1.61	6.78
2.71	172.35	.907E+05	251.3	1.82	6.02
3.16	172.80	.116E+06	354.5	2.01	5.44
3.62	173.26	.142E+06	489.1	2.26	4.84
4.07	173.71	.169E+06	640.9	2.49	4.40
4.52	174.16	.198E+06	809.7	2.69	4.07
4.97	174.61	.227E+06	996.0	2.89	3.79
5.43	175.07	.257E+06	1199.8	3.07	3.57
5.88	175.52	.288E+06	1421.0	3.25	3.37
6.33	175.97	.320E+06	1641.5	3.37	3.25
6.78	176.42	.354E+06	1847.0	3.43	3.19
7.23	176.87	.397E+06	1627.2	2.69	4.07
7.69	177.33	.466E+06	1763.7	2.48	4.41
8.14	177.78	.555E+06	1938.9	2.29	4.77
8.59	178.23	.668E+06	2350.6	2.31	4.74

	AREA	QPEAK	TPEAK	R.V.	<---- hydrograph ----> MAX DEPTH	<-pipe / MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2709)	1515.34	11.76	11.00	30.12	0.65	0.60
OUTFLOW: ID= 1 (3995)	1515.34	11.68	11.33	30.12	0.64	0.59

CALIB / NASHYD (0643) / ID= 1 DT= 5.0 min	Area (ha)= 63.55	Ia (mm)= 10.00	U.H. Tp(hrs)= 1.88	Curve Number (CN)= 92.0	# of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 1.291

PEAK FLOW	(cms)=	0.679 (i)
TIME TO PEAK	(hrs)=	7.417
RUNOFF VOLUME	(mm)=	18.932

TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.451

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7592)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (3995):	1515.34	11.685	11.33	30.12
+ ID2= 2 (0643):	63.55	0.679	7.42	18.93
ID = 3 (7592):	1578.89	11.902	11.25	29.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0727)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (7591):	1450.78	7.267	13.25	24.95
+ ID2= 2 (7592):	1578.89	11.902	11.25	29.67
ID = 3 (0727):	3029.67	18.218	11.75	27.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3089)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	174.74	0.0600	
20.61	174.67	0.0500	Main Channel
66.02	173.51	0.0500	Main Channel
88.98	173.16	0.0500	Main Channel
97.92	168.33	0.0500	Main Channel
100.16	167.24	0.0500	Main Channel
102.40	166.79	0.0500	Main Channel
111.34	163.92	0.0500	Main Channel
123.01	164.65	0.0500	Main Channel
163.39	164.91	0.0500	Main Channel
194.14	165.22	0.0500	Main Channel
223.88	165.79	0.0500	Main Channel
233.10	166.39	0.0500	Main Channel
238.76	167.87	0.0500	Main Channel
246.57	170.70	0.0500	Main Channel
254.38	173.38	0.0500	Main Channel
260.04	174.50	0.0500	Main Channel
286.96	174.81	0.0500	Main Channel
300.00	174.78	0.0500 /0.0600	Main Channel
317.71	174.31	0.0600	

<------------------- TRAVEL TIME TABLE ------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	164.48	.114E+04	0.9	0.31	20.34

1.13	165.05	.854E+04	7.8	0.34	18.34
1.69	165.61	.280E+05	41.7	0.56	11.20
2.26	166.18	.534E+05	110.7	0.78	8.03
2.82	166.74	.809E+05	214.1	1.00	6.30
3.38	167.30	.109E+06	345.8	1.19	5.27
3.95	167.87	.139E+06	505.5	1.37	4.58
4.51	168.43	.169E+06	690.9	1.54	4.07
5.08	169.00	.199E+06	900.0	1.70	3.69
5.64	169.56	.230E+06	1131.6	1.85	3.39
6.21	170.13	.262E+06	1385.0	1.99	3.15
6.77	170.69	.294E+06	1659.7	2.12	2.96
7.33	171.25	.327E+06	1954.6	2.25	2.79
7.90	171.82	.361E+06	2270.0	2.37	2.65
8.46	172.38	.394E+06	2605.7	2.49	2.52
9.03	172.95	.429E+06	2961.4	2.60	2.41
9.59	173.51	.466E+06	3087.5	2.50	2.51
10.24	174.16	.515E+06	3581.9	2.62	2.40
10.89	174.81	.576E+06	3684.5	2.41	2.61

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0727)	3029.67	18.22	11.75	27.41	1.30	0.39
OUTFLOW: ID= 1 (3089)	3029.67	18.14	12.08	27.41	1.30	0.39

CALIB
NASHYD (0671) | Area (ha)= 12.18 Curve Number (CN)= 99.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.52

Unit Hyd Qpeak (cms)= 0.895

PEAK FLOW (cms)= 0.493 (i)
TIME TO PEAK (hrs)= 5.417
RUNOFF VOLUME (mm)= 29.623
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.705

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0669) | Area (ha)= 24.01
ID= 1 DT= 5.0 min | Total Imp(%)= 31.90 Dir. Conn.(%)= 31.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.66	16.35
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	400.08	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	19.23
over (min)		5.00	20.00
Storage Coeff. (min)=		6.97 (ii)	17.30 (ii)

Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.17	0.06	
			TOTALS
PEAK FLOW (cms)=	0.41	0.83	1.238 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	40.00	34.64	36.33
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.82	0.87

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7589)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3089):	3029.67	18.138	12.08	27.41
+ ID2= 2 (0669):	24.01	1.238	5.25	36.33
ID = 3 (7589):	3053.68	18.166	12.08	27.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7589)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7589):	3053.68	18.166	12.08	27.48
+ ID2= 2 (0671):	12.18	0.493	5.42	29.62
ID = 1 (7589):	3065.86	18.181	12.08	27.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0723)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7589):	3065.86	18.181	12.08	27.49
+ ID2= 2 (7590):	14857.50	17.779	9.83	10.72
ID = 3 (0723):	17923.36	34.984	11.42	13.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2267)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>
Distance Elevation Manning

0.00	174.40	0.0600		
35.69	173.45	0.0500	Main Channel	
49.76	172.89	0.0500	Main Channel	
75.22	171.31	0.0500	Main Channel	
95.83	168.98	0.0500	Main Channel	
101.58	168.80	0.0500	Main Channel	
141.89	166.02	0.0500	Main Channel	
154.29	164.68	0.0500	Main Channel	
272.89	163.54	0.0500	Main Channel	
280.08	164.06	0.0500	Main Channel	
295.44	167.24	0.0500	Main Channel	
310.79	167.16	0.0500	Main Channel	
341.50	169.59	0.0500	Main Channel	
365.13	167.48	0.0500	Main Channel	
391.49	167.42	0.0500	Main Channel	
428.41	167.36	0.0500	Main Channel	
469.94	169.88	0.0500	Main Channel	
518.73	172.35	0.0500	Main Channel	
547.56	171.83	0.0500 /0.0600	Main Channel	
646.00	172.89	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.49	164.03	.428E+04	4.3	0.31	16.58
0.98	164.52	.169E+05	27.2	0.49	10.31
1.46	165.00	.358E+05	84.6	0.72	7.06
1.95	165.49	.562E+05	173.4	0.94	5.41
2.44	165.98	.777E+05	287.6	1.13	4.50
2.93	166.47	.100E+06	422.7	1.29	3.96
3.41	166.95	.124E+06	581.4	1.43	3.56
3.90	167.44	.152E+06	633.7	1.28	3.99
4.39	167.93	.192E+06	837.0	1.33	3.82
4.88	168.42	.236E+06	1114.9	1.44	3.53
5.36	168.90	.285E+06	1434.3	1.54	3.31
5.85	169.39	.337E+06	1812.8	1.64	3.10
6.34	169.88	.393E+06	2271.0	1.77	2.89
6.83	170.37	.451E+06	2789.5	1.89	2.70
7.32	170.85	.511E+06	3357.8	2.01	2.54
7.80	171.34	.574E+06	3974.8	2.12	2.41
8.29	171.83	.638E+06	4622.0	2.22	2.30
8.82	172.36	.718E+06	5204.4	2.22	2.30
9.35	172.89	.810E+06	6160.0	2.33	2.19

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0723)	17923.36	34.98	11.42	13.59	1.04	0.52
OUTFLOW: ID= 1 (2267)	17923.36	34.94	11.75	13.59	1.04	0.52

CALIB
NASHYD (0670) | Area (ha)= 26.20 Curve Number (CN)= 87.0
ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.66

Unit Hyd Qpeak (cms)= 1.516

PEAK FLOW (cms)= 0.394 (i)
TIME TO PEAK (hrs)= 5.750
RUNOFF VOLUME (mm)= 14.638
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.349

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0668) | Area (ha)= 20.76
ID= 1 DT= 5.0 min | Total Imp(%)= 35.30 Dir. Conn.(%)= 35.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	7.33	13.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.67	4.67
Length	(m)=	372.02	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	18.01
over (min)		5.00	20.00
Storage Coeff. (min)=		6.83 (ii)	17.69 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.18	0.06
			TOTALS
PEAK FLOW (cms)=		0.39	0.61	1.006 (iii)
TIME TO PEAK (hrs)=		5.25	5.25	5.25
RUNOFF VOLUME (mm)=		40.00	30.52	33.87
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.95	0.73	0.81

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (7637) | Area (ha)= 2.01
ID= 1 DT= 5.0 min | Total Imp(%)= 35.30 Dir. Conn.(%)= 35.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.71	1.30
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.67	4.67
Length	(m)=	115.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	18.01
over (min)		5.00	15.00
Storage Coeff. (min)=		3.39 (ii)	14.25 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.26	0.08
			TOTALS
PEAK FLOW (cms)=		0.04	0.06	0.100 (iii)
TIME TO PEAK (hrs)=		5.00	5.25	5.25
RUNOFF VOLUME (mm)=		40.00	30.52	33.86
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.95	0.73	0.81

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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  97.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD (  7638)|   Area    (ha)=      1.39
|ID= 1 DT= 5.0 min |   Total Imp(%)=     35.30   Dir. Conn.(%)=  35.30
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         0.49          0.90
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         4.67          4.67
     Length            (m)=        96.26         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        19.32         18.01
               over (min)          5.00          15.00
     Storage Coeff. (min)=         3.04 (ii)     13.90 (ii)
     Unit Hyd. Tpeak (min)=        5.00          15.00
     Unit Hyd. peak  (cms)=        0.27          0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.03          0.04       0.069 (iii)
     TIME TO PEAK    (hrs)=        4.92          5.25        5.25
     RUNOFF VOLUME    (mm)=       40.00         30.52       33.86
     TOTAL RAINFALL   (mm)=       42.00         42.00       42.00
     RUNOFF COEFFICIENT   =        0.95          0.73        0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  97.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  1442)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2267):  17923.36     34.944       11.75       13.59
     + ID2= 2 (  0668):     20.76      1.006        5.25       33.87
       ============================================================
       ID = 3 (  1442):  17944.12     34.968       11.75       13.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1442)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1442):  17944.12     34.968       11.75       13.61
     + ID2= 2 (  0670):     26.20      0.394        5.75       14.64
```



```
       ID = 1 (  1442):  17970.32     34.990       11.75       13.61

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1442)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  1442):  17970.32     34.990       11.75       13.61
     + ID2= 2 (  7637):      2.01      0.100        5.25       33.86
       ============================================================
       ID = 3 (  1442):  17972.33     34.992       11.75       13.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1442)|
|   3 +  2 =  1    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 3 (  1442):  17972.33     34.992       11.75       13.62
     + ID2= 2 (  7638):      1.39      0.069        5.25       33.86
       ============================================================
       ID = 1 (  1442):  17973.71     34.994       11.75       13.62

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR(  4013)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW       STORAGE   |     OUTFLOW
STORAGE
--------------------         (cms)        (ha.m.)   |    (cms)          (ha.m.)
                             0.0000        0.0000   |     262.0000
91.4780
                            56.0000       26.3215   |     307.0000
106.3129
                            88.0000       39.2665   |     410.0000
149.4229
                           128.0000       52.2115   |     516.0000
202.5755
                           171.0000       65.1565   |     645.0000
261.4671
                           217.0000       78.5330   |       0.0000
0.0000

                                  AREA        QPEAK        TPEAK       R.V.
                                  (ha)        (cms)        (hrs)       (mm)
   INFLOW : ID= 2 (  1442)    17973.715       34.994       11.75      13.62
   OUTFLOW: ID= 1 (  4013)    17973.715       33.638       12.75      13.62

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 96.13
                TIME SHIFT OF PEAK FLOW       (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)= 15.8120

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| ROUTE CHN(  2222)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   1.00         169.47        0.0600
                   2.00         167.20        0.0500      Main Channel
                  12.00         167.20        0.0500      Main Channel
                  13.00         164.99        0.0500      Main Channel
                  23.00         164.99        0.0500      Main Channel
                  24.00         162.43        0.0500      Main Channel
                  34.00         161.69        0.0500      Main Channel
                 108.00         160.69        0.0500      Main Channel
                 129.00         159.86        0.0500      Main Channel
                 130.00         157.57        0.0500      Main Channel
                 151.00         159.21        0.0500      Main Channel
                 162.00         159.69        0.0500      Main Channel
                 236.00         162.19        0.0500      Main Channel
                 246.00         162.19        0.0500      Main Channel
                 247.00         166.19        0.0500      Main Channel
                 267.00         167.12        0.0500      Main Channel
                 268.00         168.65        0.0500      Main Channel
                 278.00         168.65        0.0500      Main Channel
                 299.00         168.95    0.0500 /0.0600  Main Channel
                 306.00         170.56        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.60   158.17    .172E+04          2.0         0.85      14.05
       1.20   158.77    .690E+04         13.0         1.35       8.85
       1.81   159.38    .156E+05         37.1         1.70       7.02
       2.41   159.98    .301E+05         77.0         1.84       6.51
       3.01   160.58    .565E+05        154.0         1.95       6.12
       3.61   161.18    .101E+06        284.2         2.01       5.95
       4.21   161.78    .173E+06        547.9         2.28       5.26
       4.82   162.39    .262E+06        994.7         2.72       4.39
       5.42   162.99    .358E+06       1664.4         3.34       3.59
       6.02   163.59    .454E+06       2465.2         3.90       3.07
       6.62   164.19    .551E+06       3384.3         4.41       2.71
       7.22   164.79    .647E+06       4413.3         4.90       2.44
       7.83   165.40    .747E+06       5425.5         5.22       2.29
       8.43   166.00    .848E+06       6681.7         5.66       2.12
       9.03   166.60    .951E+06       7873.5         5.95       2.01
       9.63   167.20    .106E+07       9134.8         6.19       1.93
      10.39   167.96    .120E+07      11196.9         6.68       1.79
      11.14   168.71    .135E+07      12983.6         6.92       1.73
      11.90   169.47    .151E+07      15015.8         7.15       1.67

                                     <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  4013)   17973.71    33.64   12.75  13.62      1.72
1.64
   OUTFLOW: ID= 1 (  2222)   17973.71    33.63   12.92  13.62      1.71
1.64


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| CALIB              |
| STANDHYD (  0663)|   Area    (ha)=      4.72
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```
|ID= 1 DT= 5.0 min |   Total Imp(%)=     40.88   Dir. Conn.(%)=  40.72
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=         1.93          2.79
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         3.68          3.68
     Length            (m)=       177.39         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        19.32          8.31
               over (min)          5.00          25.00
     Storage Coeff.  (min)=         4.70 (ii)     20.60 (ii)
     Unit Hyd. Tpeak (min)=        5.00          25.00
     Unit Hyd. peak  (cms)=        0.22          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.10          0.05       0.151 (iii)
     TIME TO PEAK    (hrs)=        5.25          5.42        5.25
     RUNOFF VOLUME    (mm)=       40.00         13.22       24.12
     TOTAL RAINFALL   (mm)=       42.00         42.00       42.00
     RUNOFF COEFFICIENT   =        0.95          0.31        0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
| STANDHYD (  7633)|   Area    (ha)=    189.25
|ID= 1 DT= 5.0 min |   Total Imp(%)=     40.88   Dir. Conn.(%)=  40.72
--------------------
                              IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        77.37        111.88
     Dep. Storage     (mm)=         2.00          5.00
     Average Slope     (%)=         3.68          3.68
     Length            (m)=      1123.24         40.00
     Mannings n           =        0.013         0.250

     Max.Eff.Inten.(mm/hr)=        19.32          8.31
               over (min)          15.00         35.00
     Storage Coeff.  (min)=        14.24 (ii)    30.14 (ii)
     Unit Hyd. Tpeak (min)=        15.00         35.00
     Unit Hyd. peak  (cms)=         0.08          0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=         4.08          1.72       5.535 (iii)
     TIME TO PEAK    (hrs)=         5.25          5.58        5.25
     RUNOFF VOLUME    (mm)=        40.00         13.22       24.12
     TOTAL RAINFALL   (mm)=        42.00         42.00       42.00
     RUNOFF COEFFICIENT   =         0.95          0.31        0.57


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB              |
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STANDHYD (7634)	Area (ha)= 1.34		
ID= 1 DT= 5.0 min	Total Imp(%)= 40.88	Dir. Conn.(%)= 40.72	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.55	0.79	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.68	3.68	
Length	(m)=	94.52	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	8.31	
over (min)		5.00	20.00	
Storage Coeff. (min)=		3.22 (ii)	19.12 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.27	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.03	0.01	0.044 (iii)
TIME TO PEAK	(hrs)=	5.00	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	13.22	24.11
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.31	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2074)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2222):		17973.71	33.628	12.92	13.62
+ ID2= 2 (0663):		4.72	0.151	5.25	24.12
ID = 3 (2074):		17978.44	33.629	12.92	13.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2074)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (2074):		17978.44	33.629	12.92	13.62
+ ID2= 2 (7633):		189.25	5.535	5.25	24.12
ID = 1 (2074):		18167.69	33.685	12.75	13.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2074)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2074):		18167.69	33.685	12.75	13.73

+ ID2= 2 (7634):		1.34	0.044	5.25	24.11
ID = 3 (2074):		18169.03	33.685	12.75	13.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3984)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	168.75	0.0600	
46.00	167.08	0.0500	Main Channel
56.49	166.98	0.0500	Main Channel
77.75	167.67	0.0500	Main Channel
99.30	167.33	0.0500	Main Channel
102.46	165.53	0.0500	Main Channel
109.74	160.55	0.0500	Main Channel
131.30	156.90	0.0500	Main Channel
141.75	157.12	0.0500	Main Channel
162.96	158.74	0.0500	Main Channel
195.00	158.96	0.0500	Main Channel
227.03	158.61	0.0500	Main Channel
248.59	159.26	0.0500	Main Channel
291.02	159.05	0.0500	Main Channel
302.80	160.21	0.0500	Main Channel
328.45	166.21	0.0500	Main Channel
344.31	167.28	0.0500	Main Channel
355.09	167.79	0.0500	Main Channel
376.33	166.74	0.0500 /0.0600	Main Channel
405.24	167.31	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.55	157.45	.371E+04	2.7	0.44	23.08
1.09	157.99	.114E+05	12.7	0.68	14.86
1.64	158.54	.224E+05	32.1	0.87	11.63
2.19	159.09	.492E+05	52.7	0.65	15.58
2.73	159.63	.106E+06	152.1	0.87	11.57
3.28	160.18	.167E+06	316.5	1.14	8.80
3.83	160.73	.231E+06	533.3	1.39	7.22
4.37	161.27	.296E+06	797.4	1.63	6.19
4.92	161.82	.362E+06	1103.4	1.84	5.47
5.47	162.37	.429E+06	1449.0	2.04	4.94
6.01	162.91	.497E+06	1832.6	2.22	4.52
6.56	163.46	.567E+06	2252.8	2.40	4.19
7.11	164.01	.637E+06	2708.8	2.57	3.92
7.65	164.55	.708E+06	3199.5	2.73	3.69
8.20	165.10	.780E+06	3724.4	2.88	3.49
8.75	165.65	.854E+06	4282.5	3.03	3.32
9.29	166.19	.928E+06	4872.3	3.17	3.17
9.84	166.74	.100E+07	5417.6	3.26	3.09
10.41	167.31	.110E+07	5722.4	3.15	3.20

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2074)		18169.03	33.68	12.75	13.73	1.68	0.84

OUTFLOW: ID= 1 (3984)		18169.03	33.63	13.08	13.73	1.67	0.85

ROUTE CHN (3928)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	167.38	0.0600	
61.39	167.43	0.0500	Main Channel
68.96	166.74	0.0500	Main Channel
105.17	156.71	0.0500	Main Channel
177.59	155.82	0.0500	Main Channel
201.72	155.18	0.0500	Main Channel
237.93	158.32	0.0500	Main Channel
262.07	158.58	0.0500	Main Channel
298.28	158.39	0.0500	Main Channel
358.63	158.28	0.0500	Main Channel
400.69	158.36	0.0500	Main Channel
420.90	158.19	0.0500	Main Channel
429.42	158.95	0.0500	Main Channel
508.21	159.23	0.0500	Main Channel
558.82	160.50	0.0500	Main Channel
605.53	163.36	0.0500	Main Channel
643.81	165.00	0.0500	Main Channel
678.01	165.13	0.0500	Main Channel
700.47	166.18	0.0500 /0.0600	Main Channel
762.00	167.63	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.61	155.79	.884E+04	4.3	0.47	34.03
1.22	156.40	.425E+05	29.5	0.67	23.99
1.83	157.01	.106E+06	108.9	0.99	16.22
2.44	157.62	.178E+06	246.7	1.33	12.05
3.05	158.24	.256E+06	419.1	1.57	10.20
3.67	158.85	.424E+06	555.5	1.26	12.73
4.28	159.46	.649E+06	957.6	1.42	11.29
4.89	160.07	.904E+06	1599.2	1.70	9.42
5.50	160.68	.117E+07	2395.7	1.96	8.17
6.11	161.29	.145E+07	3362.8	2.22	7.21
6.72	161.90	.174E+07	4464.8	2.46	6.50
7.33	162.51	.204E+07	5697.7	2.69	5.96
7.94	163.12	.234E+07	7058.4	2.90	5.52
8.55	163.73	.265E+07	8519.5	3.09	5.18
9.16	164.34	.296E+07	10089.2	3.27	4.90
9.77	164.95	.329E+07	11783.8	3.44	4.66
10.39	165.57	.365E+07	13240.9	3.49	4.59
11.00	166.18	.401E+07	15269.2	3.66	4.38
11.61	166.79	.439E+07	17652.6	3.86	4.14

<---- hydrograph ----> <-pipe / channel->

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3984)		18169.03	33.63	13.08	13.73	1.25	0.68
OUTFLOW: ID= 1 (3928)		18169.03	33.51	13.33	13.73	1.25	0.68

CALIB			
STANDHYD (0660)	Area (ha)=	275.06	
ID= 1 DT= 5.0 min	Total Imp(%)=	33.28	Dir. Conn.(%)= 31.04

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	91.54	183.52	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.47	3.47	
Length	(m)=	1354.15	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	10.66	
over (min)		15.00	35.00	
Storage Coeff. (min)=		16.21 (ii)	30.86 (ii)	
Unit Hyd. Tpeak (min)=		15.00	35.00	
Unit Hyd. peak (cms)=		0.07	0.04	
				TOTALS
PEAK FLOW	(cms)=	4.48	3.57	7.593 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.33
RUNOFF VOLUME	(mm)=	40.00	16.12	23.53
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.38	0.56

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0661)	Area (ha)=	194.58	
ID= 1 DT= 5.0 min	Total Imp(%)=	45.60	Dir. Conn.(%)= 41.28

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	88.73	105.85	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.09	3.09	
Length	(m)=	1138.95	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	11.46	
over (min)		15.00	30.00	
Storage Coeff. (min)=		15.13 (ii)	29.87 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.07	0.04	
				TOTALS
PEAK FLOW	(cms)=	4.23	2.30	6.307 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	16.66	26.30
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.63

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0662)	Area (ha)=	163.58	
ID= 1 DT= 5.0 min	Total Imp(%)=	38.00	Dir. Conn.(%)= 36.24

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	62.16	101.42	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	4.05	4.05	
Length	(m)=	1044.29	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	9.86	
over (min)		15.00	30.00	
Storage Coeff. (min)=		13.24 (ii)	27.67 (ii)	
Unit Hyd. Tpeak (min)=		15.00	30.00	
Unit Hyd. peak (cms)=		0.08	0.04	
				TOTALS
PEAK FLOW	(cms)=	3.15	1.92	4.874 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	14.96	24.04
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.36	0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1971)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3928):		18169.03	33.510	13.33	13.73
+ ID2= 2 (0660):		275.06	7.593	5.33	23.53
ID = 3 (1971):		18444.09	33.546	13.33	13.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1971)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1971):		18444.09	33.546	13.33	13.88
+ ID2= 2 (0661):		194.58	6.307	5.25	26.30
ID = 1 (1971):		18638.67	33.565	13.33	14.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1971)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1971):	18638.67	33.565	13.33	14.01
+ ID2= 2 (0662):	163.58	4.874	5.25	24.04
ID = 3 (1971):	18802.25	33.579	13.33	14.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3858)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	167.05	0.0600	
20.03	166.85	0.0500	Main Channel
38.51	165.71	0.0500	Main Channel
58.55	165.02	0.0500	Main Channel
96.98	156.99	0.0500	Main Channel
122.03	154.87	0.0500	Main Channel
147.67	153.44	0.0500	Main Channel
173.32	154.11	0.0500	Main Channel
200.36	153.81	0.0500	Main Channel
249.61	152.34	0.0500	Main Channel
288.06	153.54	0.0500	Main Channel
326.52	153.69	0.0500	Main Channel
351.54	152.26	0.0500	Main Channel
378.63	154.13	0.0500	Main Channel
402.84	162.59	0.0500	Main Channel
410.65	164.80	0.0500	Main Channel
430.70	165.12	0.0500	Main Channel
466.34	166.61	0.0500	Main Channel
530.64	166.11	0.0500 /0.0600	Main Channel
558.66	166.42	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.71	152.97	.282E+05	7.9	0.38	59.13
1.42	153.68	.127E+06	49.4	0.52	42.77
2.12	154.38	.339E+06	202.9	0.80	27.87
2.83	155.09	.583E+06	482.8	1.11	20.12
3.54	155.80	.837E+06	860.2	1.38	16.23
4.25	156.51	.110E+07	1325.0	1.62	13.86
4.96	157.22	.138E+07	1879.3	1.84	12.20
5.66	157.92	.166E+07	2527.6	2.05	10.92
6.37	158.63	.194E+07	3254.0	2.26	9.94
7.08	159.34	.223E+07	4055.9	2.45	9.17
7.79	160.05	.253E+07	4931.2	2.62	8.54
8.49	160.75	.283E+07	5878.3	2.80	8.02
9.20	161.46	.314E+07	6895.9	2.96	7.58
9.91	162.17	.345E+07	7983.1	3.12	7.20
10.62	162.88	.376E+07	9135.8	3.27	6.86
11.33	163.59	.408E+07	10351.9	3.41	6.58
12.03	164.29	.441E+07	11635.8	3.55	6.32
12.74	165.00	.475E+07	12712.1	3.60	6.22
13.45	165.71	.512E+07	13405.8	3.53	6.36

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	1971)	18802.25	33.58	13.33	14.09	1.15	0.46
OUTFLOW: ID= 1 (	3858)	18802.25	33.25	13.83	14.09	1.14	0.46

ROUTE CHN(3708)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	161.04	0.0600	
40.11	160.93	0.0500	Main Channel
69.92	161.43	0.0500	Main Channel
77.56	160.54	0.0500	Main Channel
100.59	158.48	0.0500	Main Channel
115.36	156.07	0.0500	Main Channel
128.83	153.15	0.0500	Main Channel
137.54	152.82	0.0500	Main Channel
204.77	152.91	0.0500	Main Channel
227.62	152.52	0.0500	Main Channel
271.81	152.53	0.0500	Main Channel
286.73	151.39	0.0500	Main Channel
293.94	150.39	0.0500	Main Channel
316.40	152.13	0.0500	Main Channel
331.36	160.74	0.0500	Main Channel
344.04	163.40	0.0500	Main Channel
381.85	165.14	0.0500	Main Channel
443.24	165.45	0.0500	Main Channel
502.65	165.99	0.0500 /0.0600	Main Channel
536.92	165.93	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.79	151.18	.626E+04	3.0	0.48	35.06
1.58	151.97	.260E+05	18.8	0.72	23.02
2.37	152.76	.711E+05	49.0	0.69	24.22
3.15	153.54	.211E+06	198.7	0.94	17.69
3.94	154.33	.364E+06	485.3	1.33	12.51
4.73	155.12	.522E+06	867.3	1.66	10.02
5.52	155.91	.683E+06	1335.8	1.96	8.52
6.31	156.70	.848E+06	1880.7	2.22	7.52
7.10	157.49	.102E+07	2501.5	2.46	6.79
7.89	158.28	.119E+07	3197.1	2.68	6.22
8.67	159.06	.138E+07	3937.5	2.87	5.82
9.46	159.85	.156E+07	4742.0	3.03	5.50
10.25	160.64	.176E+07	5625.6	3.20	5.22
11.04	161.43	.199E+07	6592.3	3.31	5.03
11.95	162.34	.230E+07	7992.8	3.48	4.79
12.86	163.25	.261E+07	9545.3	3.66	4.56
13.78	164.17	.293E+07	10950.6	3.74	4.46
14.69	165.08	.327E+07	12463.0	3.82	4.37
15.60	165.99	.368E+07	12253.6	3.34	5.00

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	3858)	18802.25	33.25	13.83	14.09	1.95	0.71
OUTFLOW: ID= 1 (	3708)	18802.25	33.14	14.17	14.09	1.95	0.71

ROUTE CHN(3548)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	161.17	0.0600	
32.16	160.32	0.0500	Main Channel
71.57	160.40	0.0500	Main Channel
101.04	161.41	0.0500	Main Channel
137.36	160.69	0.0500	Main Channel
152.26	161.66	0.0500	Main Channel
181.21	160.51	0.0500	Main Channel
203.32	154.58	0.0500	Main Channel
217.74	152.10	0.0500	Main Channel
290.72	149.55	0.0500	Main Channel
312.83	149.54	0.0500	Main Channel
329.51	147.50	0.0500	Main Channel
393.01	148.80	0.0500	Main Channel
415.64	150.94	0.0500	Main Channel
444.66	160.43	0.0500	Main Channel
460.04	162.14	0.0500	Main Channel
467.28	161.73	0.0500	Main Channel
539.76	162.53	0.0500	Main Channel
583.89	162.55	0.0500 /0.0600	Main Channel
639.97	162.97	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.72	148.22	.511E+04	10.0	0.68	8.51
1.43	148.93	.203E+05	65.7	1.13	5.16
2.15	149.65	.420E+05	168.8	1.40	4.15
2.87	150.37	.741E+05	375.2	1.77	3.29
3.58	151.08	.113E+06	676.7	2.09	2.79
4.30	151.80	.158E+06	1088.9	2.40	2.42
5.02	152.52	.208E+06	1647.2	2.76	2.11
5.73	153.23	.260E+06	2339.9	3.13	1.86
6.45	153.95	.314E+06	3133.6	3.48	1.67
7.17	154.67	.369E+06	4027.5	3.80	1.53
7.88	155.38	.426E+06	5032.9	4.12	1.41
8.60	156.10	.484E+06	6132.7	4.42	1.32
9.32	156.82	.543E+06	7325.4	4.71	1.24
10.03	157.53	.603E+06	8609.6	4.98	1.17
10.75	158.25	.665E+06	9984.4	5.24	1.11
11.47	158.97	.727E+06	11449.0	5.49	1.06
12.18	159.68	.791E+06	13003.0	5.73	1.01
12.90	160.40	.857E+06	14646.3	5.96	0.98
13.67	161.17	.952E+06	14344.2	5.26	1.11

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3708)	18802.25	33.14	14.17	14.09	1.01	

0.82
OUTFLOW: ID= 1 (3548) 18802.25 33.13 14.33 14.09 1.01
0.82

| ROUTE CHN(3549)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	161.17	0.0600	
32.16	160.32	0.0500	Main Channel
71.57	160.40	0.0500	Main Channel
101.04	161.41	0.0500	Main Channel
137.36	160.69	0.0500	Main Channel
152.26	161.66	0.0500	Main Channel
181.21	160.51	0.0500	Main Channel
203.32	154.58	0.0500	Main Channel
217.74	152.10	0.0500	Main Channel
290.72	149.55	0.0500	Main Channel
312.83	149.54	0.0500	Main Channel
329.51	147.50	0.0500	Main Channel
393.01	148.80	0.0500	Main Channel
415.64	150.94	0.0500	Main Channel
444.66	160.43	0.0500	Main Channel
460.04	162.14	0.0500	Main Channel
467.28	161.73	0.0500	Main Channel
539.76	162.53	0.0500	Main Channel
583.89	162.55	0.0500 /0.0600	Main Channel
639.97	162.97	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.72	148.22	.927E+04	6.9	0.47	22.51
1.43	148.93	.369E+05	45.1	0.77	13.64
2.15	149.65	.762E+05	115.9	0.96	10.96
2.87	150.37	.134E+06	257.6	1.21	8.70
3.58	151.08	.205E+06	464.6	1.43	7.36
4.30	151.80	.287E+06	747.6	1.65	6.40
5.02	152.52	.378E+06	1130.9	1.89	5.57
5.73	153.23	.473E+06	1606.4	2.15	4.91
6.45	153.95	.570E+06	2151.3	2.39	4.42
7.17	154.67	.671E+06	2765.1	2.61	4.04
7.88	155.38	.773E+06	3455.3	2.83	3.73
8.60	156.10	.878E+06	4210.4	3.04	3.48
9.32	156.82	.986E+06	5029.2	3.23	3.27
10.03	157.53	.109E+07	5910.9	3.42	3.09
10.75	158.25	.121E+07	6854.7	3.60	2.93
11.47	158.97	.132E+07	7860.3	3.77	2.80
12.18	159.68	.144E+07	8927.1	3.94	2.68
12.90	160.40	.156E+07	10055.3	4.09	2.58
13.67	161.17	.173E+07	9847.9	3.61	2.92

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3548)	18802.25	33.13	14.33	14.09	1.21	0.64
OUTFLOW: ID= 1 (3549)	18802.25	33.10	14.42	14.09	1.21	0.64

0.64

| ROUTE CHN(3171)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	158.81	0.0600	
57.23	159.23	0.0500	Main Channel
101.40	159.08	0.0500	Main Channel
126.86	157.88	0.0500	Main Channel
191.08	150.22	0.0500	Main Channel
226.87	148.89	0.0500	Main Channel
241.01	145.28	0.0500	Main Channel
255.49	144.63	0.0500	Main Channel
347.66	144.77	0.0500	Main Channel
420.34	145.63	0.0500	Main Channel
449.54	146.79	0.0500	Main Channel
470.26	154.92	0.0500	Main Channel
496.47	158.01	0.0500	Main Channel
515.09	158.53	0.0500	Main Channel
548.37	157.49	0.0500	Main Channel
599.12	159.83	0.0500	Main Channel
621.66	158.95	0.0500	Main Channel
649.86	158.47	0.0500	Main Channel
716.66	157.82	0.0500 /0.0600	Main Channel
770.82	158.28	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.78	145.41	.861E+05	86.7	0.98	16.54
1.55	146.18	.224E+06	373.9	1.62	10.00
2.33	146.96	.381E+06	849.3	2.17	7.47
3.10	147.73	.545E+06	1519.3	2.71	5.98
3.88	148.51	.713E+06	2340.6	3.19	5.07
4.66	149.29	.886E+06	3230.4	3.54	4.57
5.43	150.06	.108E+07	4195.4	3.79	4.27
6.21	150.84	.128E+07	5437.4	4.13	3.92
6.98	151.61	.149E+07	6858.9	4.47	3.61
7.76	152.39	.170E+07	8425.8	4.80	3.37
8.53	153.16	.193E+07	10137.2	5.11	3.17
9.31	153.94	.215E+07	11992.3	5.40	2.99
10.09	154.72	.239E+07	13991.2	5.68	2.85
10.86	155.49	.263E+07	16035.5	5.91	2.73
11.64	156.27	.288E+07	18196.0	6.12	2.64
12.41	157.04	.315E+07	20512.3	6.33	2.56
13.19	157.82	.342E+07	22313.1	6.33	2.55
14.19	158.82	.393E+07	21663.1	5.35	3.02
15.20	159.83	.463E+07	25764.6	5.40	3.00

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3549)	18802.25	33.10	14.42	14.09	0.30	0.98
OUTFLOW: ID= 1 (3171)	18802.25	33.05	14.67	14.09	0.30	0.98

| ROUTE CHN(3010)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	156.35	0.0600	
16.35	155.67	0.0500	Main Channel
62.01	156.14	0.0500	Main Channel
112.93	154.91	0.0500	Main Channel
150.86	155.15	0.0500	Main Channel
158.07	154.29	0.0500	Main Channel
179.70	143.10	0.0500	Main Channel
186.95	141.98	0.0500	Main Channel
216.64	140.41	0.0500	Main Channel
223.86	139.50	0.0500	Main Channel
245.99	139.23	0.0500	Main Channel
260.85	142.44	0.0500	Main Channel
277.86	147.99	0.0500	Main Channel
297.82	153.19	0.0500	Main Channel
312.60	155.41	0.0500	Main Channel
336.11	155.84	0.0500	Main Channel
393.68	156.19	0.0500	Main Channel
468.40	155.87	0.0500	Main Channel
520.27	156.63	0.0500 /0.0600	Main Channel
552.65	156.34	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.89	140.12	.937E+04	21.8	1.09	7.17
1.78	141.01	.256E+05	85.8	1.57	4.96
2.67	141.90	.503E+05	208.8	1.94	4.01
3.56	142.79	.817E+05	427.6	2.44	3.18
4.45	143.68	.116E+06	735.0	2.95	2.64
5.34	144.57	.153E+06	1119.3	3.41	2.28
6.23	145.46	.192E+06	1572.8	3.83	2.03
7.12	146.35	.232E+06	2094.1	4.21	1.85
8.01	147.24	.274E+06	2683.0	4.57	1.70
8.90	148.13	.318E+06	3337.4	4.89	1.59
9.79	149.02	.365E+06	4049.7	5.19	1.50
10.68	149.91	.413E+06	4832.2	5.47	1.42
11.57	150.80	.463E+06	5686.2	5.73	1.36
12.46	151.69	.516E+06	6613.3	5.99	1.30
13.35	152.58	.570E+06	7615.1	6.23	1.25
14.24	153.47	.627E+06	8663.1	6.45	1.21
15.13	154.36	.687E+06	9711.7	6.60	1.18
16.02	155.25	.756E+06	9012.1	5.56	1.40
16.91	156.14	.873E+06	7427.3	3.97	1.96

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3171)	18802.25	33.05	14.67	14.09	1.05	1.15
OUTFLOW: ID= 1 (3010)	18802.25	33.04	14.75	14.09	1.04	1.15

| CALIB |
| STANDHYD (0659)| Area (ha)= 230.86
|ID= 1 DT= 5.0 min | Total Imp(%)= 35.92 Dir. Conn.(%)= 33.28

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	82.92	147.94
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.26	4.26
Length	(m)=	1240.59	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.07
over (min)		15.00	30.00
Storage Coeff. (min)=		14.46 (ii)	28.55 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	6.606 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	23.40
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.56

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (7573)|
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3010):	18802.25	33.043	14.75	14.09
+ ID2= 2 (0659):	230.86	6.606	5.25	23.40
ID = 3 (7573):	19033.11	33.044	14.75	14.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB |
| NASHYD (0667)| Area (ha)= 211.65 Curve Number (CN)= 86.1
|ID= 1 DT= 5.0 min | Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
| U.H. Tp(hrs)= 2.37

Unit Hyd Qpeak	(cms)=	3.411
PEAK FLOW	(cms)=	1.411 (i)
TIME TO PEAK	(hrs)=	8.167
RUNOFF VOLUME	(mm)=	14.046
TOTAL RAINFALL	(mm)=	42.000
RUNOFF COEFFICIENT	=	0.334

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2241)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ----->

Distance	Elevation	Manning	
0.00	171.90	0.0600	
9.99	171.98	0.0500	Main Channel
19.98	172.13	0.0500	Main Channel
29.97	172.22	0.0500	Main Channel
39.95	172.13	0.0500	Main Channel
49.94	171.76	0.0500	Main Channel
69.92	170.86	0.0500	Main Channel
79.91	170.58	0.0500	Main Channel
99.89	169.88	0.0500	Main Channel
109.88	169.72	0.0500	Main Channel
119.86	170.01	0.0500	Main Channel
129.85	170.59	0.0500	Main Channel
139.84	171.02	0.0500	Main Channel
159.82	171.68	0.0500	Main Channel
169.81	171.88	0.0500	Main Channel
209.76	172.29	0.0500	Main Channel
219.75	172.21	0.0500	Main Channel
229.74	172.09	0.0500	Main Channel
239.73	172.00	0.0500 /0.0600	Main Channel
249.72	171.96	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.13	169.85	.102E+04	0.2	0.27	71.70
0.27	169.99	.381E+04	1.5	0.45	42.28
0.40	170.12	.780E+04	4.2	0.62	31.16
0.54	170.26	.127E+05	8.3	0.75	25.55
0.67	170.39	.186E+05	14.1	0.87	22.08
0.81	170.53	.255E+05	21.6	0.98	19.67
0.94	170.66	.333E+05	30.7	1.06	18.07
1.07	170.79	.424E+05	41.9	1.14	16.87
1.21	170.93	.526E+05	55.9	1.23	15.67
1.34	171.06	.638E+05	72.8	1.31	14.62
1.48	171.20	.761E+05	92.0	1.39	13.79
1.61	171.33	.895E+05	114.1	1.47	13.07
1.75	171.47	.104E+06	139.3	1.55	12.43
1.88	171.60	.119E+06	167.7	1.62	11.87
2.01	171.73	.136E+06	198.4	1.68	11.44
2.15	171.87	.154E+06	230.7	1.72	11.15
2.28	172.00	.175E+06	260.6	1.71	11.22
2.42	172.15	.205E+06	282.1	1.59	12.12
2.57	172.29	.243E+06	314.8	1.50	12.85

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0667)	211.65	1.41	8.17	14.05	0.26	0.43
OUTFLOW: ID= 1 (2241)	211.65	1.36	8.67	14.05	0.25	0.42

CALIB	

STANDHYD (0666)	Area (ha)= 27.03
ID= 1 DT= 5.0 min	Total Imp(%)= 55.36 Dir. Conn.(%)= 54.72

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	14.96	12.07
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	424.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.70
over (min)		10.00	25.00
Storage Coeff. (min)=		8.26 (ii)	23.20 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.13	0.05

		TOTALS
PEAK FLOW	(cms)=	0.79 0.27 1.048 (iii)
TIME TO PEAK	(hrs)=	5.25 5.42 5.25
RUNOFF VOLUME	(mm)=	40.00 16.48 29.35
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.39 0.70

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7635)	Area (ha)= 143.42
ID= 1 DT= 5.0 min	Total Imp(%)= 55.36 Dir. Conn.(%)= 54.72

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	79.40	64.02
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	977.82	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.70
over (min)		15.00	30.00
Storage Coeff. (min)=		13.62 (ii)	28.57 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04

		TOTALS
PEAK FLOW	(cms)=	4.16 1.31 5.346 (iii)
TIME TO PEAK	(hrs)=	5.25 5.50 5.25
RUNOFF VOLUME	(mm)=	40.00 16.48 29.35
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.39 0.70

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	

STANDHYD (7636)	Area (ha)= 2.04
ID= 1 DT= 5.0 min	Total Imp(%)= 55.36 Dir. Conn.(%)= 54.72

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.13	0.91
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	116.62	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.70
over (min)		5.00	20.00
Storage Coeff. (min)=		3.80 (ii)	18.75 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.25	0.06

		TOTALS
PEAK FLOW	(cms)=	0.06 0.02 0.081 (iii)
TIME TO PEAK	(hrs)=	5.08 5.33 5.25
RUNOFF VOLUME	(mm)=	40.00 16.48 29.34
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.95 0.39 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1495)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2241):		211.65	1.357	8.67	14.05
+ ID2= 2 (0666):		27.03	1.048	5.25	29.35
ID = 3 (1495):		238.68	1.444	8.33	15.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1495)					
3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1495):		238.68	1.444	8.33	15.78
+ ID2= 2 (7635):		143.42	5.346	5.25	29.35
ID = 1 (1495):		382.10	6.422	5.25	20.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1495)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1495):		382.10	6.422	5.25	20.87

+ ID2= 2 (7636):	2.04	0.081	5.25	29.34
ID = 3 (1495):	384.14	6.503	5.25	20.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3441)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<---- DATA FOR SECTION (1.1) ----->

Distance	Elevation	Manning	
174.67	169.61	0.0600	
178.05	169.57	0.0500	Main Channel
182.70	169.47	0.0500	Main Channel
188.49	169.06	0.0500	Main Channel
190.73	168.87	0.0500	Main Channel
198.23	168.64	0.0500	Main Channel
198.76	168.63	0.0500	Main Channel
198.93	168.62	0.0500	Main Channel
206.80	168.64	0.0500	Main Channel
209.37	168.63	0.0500	Main Channel
214.83	168.69	0.0500	Main Channel
219.81	168.72	0.0500	Main Channel
222.86	168.65	0.0500	Main Channel
230.25	167.61	0.0500	Main Channel
230.89	167.65	0.0500	Main Channel
233.03	168.08	0.0500	Main Channel
238.92	169.31	0.0500 /0.0600	Main Channel
240.69	169.68	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.10	167.71	.139E+03	0.0	0.24	99.73
0.20	167.81	.468E+03	0.1	0.38	64.29
0.30	167.91	.973E+03	0.3	0.49	49.97
0.40	168.01	.165E+04	0.7	0.58	41.74
0.50	168.11	.251E+04	1.2	0.67	36.25
0.60	168.21	.354E+04	1.8	0.75	32.25
0.70	168.31	.475E+04	2.7	0.83	29.22
0.80	168.41	.612E+04	3.8	0.91	26.81
0.90	168.51	.767E+04	5.1	0.98	24.86
1.00	168.61	.940E+04	6.7	1.05	23.22
1.10	168.71	.132E+05	5.7	0.63	38.72
1.20	168.81	.193E+05	9.7	0.73	33.08
1.30	168.91	.260E+05	15.3	0.86	28.36
1.40	169.01	.329E+05	22.1	0.98	24.79
1.50	169.11	.401E+05	30.0	1.09	22.26
1.60	169.21	.475E+05	38.9	1.19	20.37
1.70	169.31	.553E+05	48.8	1.29	18.87
1.80	169.41	.633E+05	60.1	1.38	17.55
1.95	169.56	.760E+05	80.0	1.53	15.83

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1495)	384.14	6.50	5.25	20.92	0.98	1.04
OUTFLOW: ID= 1 (3441)	384.14	5.68	5.33	20.92	0.93	1.00

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--------------------
| ROUTE CHN(  3063)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                 203.80        163.27        0.0600
                 209.97        162.23        0.0500      Main Channel
                 213.97        161.92        0.0500      Main Channel
                 222.47        158.73        0.0500      Main Channel
                 224.15        158.12        0.0500      Main Channel
                 231.45        159.30        0.0500      Main Channel
                 234.32        159.89        0.0500      Main Channel
                 234.98        160.01        0.0500      Main Channel
                 244.49        162.42        0.0500      Main Channel
                 247.48        162.48        0.0500      Main Channel
                 254.66        162.85    0.0500 /0.0600  Main Channel
                 259.98        162.91        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
       (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
      0.24   158.36    .102E+03          0.1          0.31      22.04
      0.47   158.59    .408E+03          0.5          0.49      13.88
      0.71   158.83    .917E+03          1.4          0.64      10.59
      0.95   159.07    .163E+04          3.1          0.77       8.73
      1.19   159.31    .254E+04          5.6          0.90       7.52
      1.42   159.54    .364E+04          9.2          1.02       6.58
      1.66   159.78    .491E+04         13.9          1.14       5.90
      1.90   160.02    .636E+04         19.6          1.25       5.39
      2.14   160.26    .797E+04         26.9          1.36       4.94
      2.37   160.49    .973E+04         35.4          1.47       4.58
      2.61   160.73    .116E+05         45.2          1.57       4.29
      2.85   160.97    .137E+05         56.5          1.67       4.04
      3.09   161.21    .159E+05         69.2          1.76       3.83
      3.32   161.44    .183E+05         83.6          1.85       3.65
      3.56   161.68    .208E+05         99.5          1.93       3.48
      3.80   161.92    .235E+05        117.1          2.02       3.34
      4.04   162.16    .264E+05        138.3          2.12       3.18
      4.37   162.49    .310E+05        162.4          2.11       3.19
      4.70   162.82    .368E+05        188.6          2.07       3.25

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3441)     384.14     5.68    5.33  20.92      1.19
0.90
   OUTFLOW: ID= 1 (  3063)     384.14     5.58    5.42  20.92      1.18
0.89


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--------------------
| ROUTE CHN(  3062)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
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```
                 203.80        163.27        0.0600
                 209.97        162.23        0.0500      Main Channel
                 213.97        161.92        0.0500      Main Channel
                 222.47        158.73        0.0500      Main Channel
                 224.15        158.12        0.0500      Main Channel
                 231.45        159.30        0.0500      Main Channel
                 234.32        159.89        0.0500      Main Channel
                 234.98        160.01        0.0500      Main Channel
                 244.49        162.42        0.0500      Main Channel
                 247.48        162.48        0.0500      Main Channel
                 254.66        162.85    0.0500 /0.0600  Main Channel
                 259.98        162.91        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
       (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
      0.24   158.36    .261E+03          0.1          0.33      51.89
      0.47   158.59    .104E+04          0.5          0.53      32.69
      0.71   158.83    .235E+04          1.6          0.69      24.93
      0.95   159.07    .417E+04          3.4          0.84      20.57
      1.19   159.31    .651E+04          6.1          0.97      17.71
      1.42   159.54    .933E+04         10.0          1.11      15.48
      1.66   159.78    .126E+05         15.1          1.24      13.89
      1.90   160.02    .163E+05         21.4          1.36      12.70
      2.14   160.26    .204E+05         29.2          1.48      11.64
      2.37   160.49    .249E+05         38.5          1.60      10.80
      2.61   160.73    .298E+05         49.2          1.71      10.10
      2.85   160.97    .351E+05         61.4          1.81       9.52
      3.09   161.21    .408E+05         75.3          1.91       9.02
      3.32   161.44    .468E+05         90.9          2.01       8.58
      3.56   161.68    .533E+05        108.2          2.10       8.20
      3.80   161.92    .601E+05        127.4          2.20       7.86
      4.04   162.16    .676E+05        150.4          2.30       7.49
      4.37   162.49    .795E+05        176.7          2.30       7.50
      4.70   162.82    .943E+05        205.2          2.25       7.66

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3063)     384.14     5.58    5.42  20.92      1.14
0.94
   OUTFLOW: ID= 1 (  3062)     384.14     5.10    5.67  20.92      1.10
0.92


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--------------------
| ROUTE CHN(  2589)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                 155.31        155.53        0.0600
                 165.48        155.40        0.0500      Main Channel
                 172.57        155.17        0.0500      Main Channel
                 175.65        155.11        0.0500      Main Channel
                 189.74        154.66        0.0500      Main Channel
                 206.16        153.87        0.0500      Main Channel
                 216.33        153.97        0.0500      Main Channel
                 232.64        154.00        0.0500      Main Channel
                 246.84        154.10        0.0500      Main Channel
                 249.80        153.66        0.0500      Main Channel
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                 257.01        153.26        0.0500      Main Channel
                 258.38        153.02        0.0500      Main Channel
                 267.18        151.07        0.0500      Main Channel
                 277.35        154.28        0.0500      Main Channel
                 284.13        154.88        0.0500      Main Channel
                 287.52        155.21        0.0500      Main Channel
                 292.71        155.25        0.0500      Main Channel
                 297.69        155.39        0.0500      Main Channel
                 301.29        155.42    0.0500 /0.0600  Main Channel
                 307.86        155.56        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
       (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
      0.23   151.30    .735E+02          0.1          0.38      16.12
      0.46   151.53    .294E+03          0.5          0.61      10.16
      0.68   151.75    .662E+03          1.4          0.79       7.75
      0.91   151.98    .118E+04          3.1          0.96       6.40
      1.14   152.21    .184E+04          5.6          1.12       5.51
      1.37   152.44    .265E+04          9.0          1.26       4.88
      1.59   152.66    .360E+04         13.6          1.40       4.41
      1.82   152.89    .471E+04         19.5          1.53       4.03
      2.05   153.12    .596E+04         26.5          1.64       3.74
      2.28   153.35    .739E+04         33.8          1.69       3.64
      2.51   153.58    .919E+04         41.9          1.68       3.66
      2.73   153.80    .114E+05         54.8          1.78       3.45
      2.96   154.03    .145E+05         47.2          1.20       5.13
      3.19   154.26    .208E+05         74.3          1.32       4.67
      3.42   154.49    .278E+05        113.4          1.51       4.08
      3.64   154.71    .354E+05        159.9          1.67       3.68
      3.87   154.94    .437E+05        213.3          1.80       3.41
      4.10   155.17    .528E+05        274.4          1.92       3.21
      4.33   155.40    .632E+05        345.3          2.01       3.05

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3062)     384.14     5.10    5.67  20.92      1.10
1.08
   OUTFLOW: ID= 1 (  2589)     384.14     5.06    5.75  20.92      1.09
1.08


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--------------------
| ROUTE CHN(  2591)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                 155.31        155.53        0.0600
                 165.48        155.40        0.0500      Main Channel
                 172.57        155.17        0.0500      Main Channel
                 175.65        155.11        0.0500      Main Channel
                 189.74        154.66        0.0500      Main Channel
                 206.16        153.87        0.0500      Main Channel
                 216.33        153.97        0.0500      Main Channel
                 232.64        154.00        0.0500      Main Channel
                 246.84        154.10        0.0500      Main Channel
                 249.80        153.66        0.0500      Main Channel
                 257.01        153.26        0.0500      Main Channel
                 258.38        153.02        0.0500      Main Channel
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                 267.18        151.07        0.0500      Main Channel
                 277.35        154.28        0.0500      Main Channel
                 284.13        154.88        0.0500      Main Channel
                 287.52        155.21        0.0500      Main Channel
                 292.71        155.25        0.0500      Main Channel
                 297.69        155.39        0.0500      Main Channel
                 301.29        155.42    0.0500 /0.0600  Main Channel
                 307.86        155.56        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH    ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
       (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
      0.23   151.30    .133E+03          0.1          0.37      29.96
      0.46   151.53    .534E+03          0.5          0.59      18.87
      0.68   151.75    .120E+04          1.4          0.78      14.40
      0.91   151.98    .214E+04          3.0          0.94      11.89
      1.14   152.21    .334E+04          5.4          1.09      10.25
      1.37   152.44    .481E+04          8.8          1.23       9.07
      1.59   152.66    .654E+04         13.3          1.36       8.19
      1.82   152.89    .854E+04         19.0          1.49       7.49
      2.05   153.12    .108E+05         25.9          1.61       6.96
      2.28   153.35    .134E+05         33.0          1.65       6.77
      2.51   153.58    .167E+05         40.9          1.64       6.79
      2.73   153.80    .206E+05         53.5          1.74       6.41
      2.96   154.03    .264E+05         46.1          1.17       9.54
      3.19   154.26    .378E+05         72.6          1.29       8.68
      3.42   154.49    .504E+05        110.8          1.47       7.59
      3.64   154.71    .642E+05        156.3          1.63       6.85
      3.87   154.94    .793E+05        208.4          1.76       6.34
      4.10   155.17    .959E+05        268.2          1.87       5.96
      4.33   155.40    .115E+06        337.4          1.97       5.67

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2589)     384.14     5.06    5.75  20.92      1.10
1.06
   OUTFLOW: ID= 1 (  2591)     384.14     4.93    5.83  20.92      1.09
1.05


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-
--------------------
| CALIB            |
| STANDHYD (  0665)|   Area    (ha)=    284.92
|ID= 1 DT= 5.0 min |   Total Imp(%)=     56.64   Dir. Conn.(%)=  53.68
--------------------
                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        161.38          123.54
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          3.29            3.29
     Length            (m)=       1378.21           40.00
     Mannings n           =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32           10.52
               over (min)           15.00           35.00
     Storage Coeff.  (min)=        16.65 (ii)      31.61 (ii)
     Unit Hyd. Tpeak (min)=        15.00           35.00
     Unit Hyd. peak  (cms)=         0.07            0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=         8.00            2.35      10.016 (iii)
     TIME TO PEAK    (hrs)=         5.25            5.58        5.25
```

RUNOFF VOLUME	(mm)=	40.00	15.42	28.62
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.37	0.68

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1478)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2591):	384.14	4.929	5.83	20.92
+ ID2= 2 (0665):	284.92	10.016	5.25	28.62
ID = 3 (1478):	669.06	13.205	5.33	24.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2590)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
155.31	155.53	0.0600	
165.48	155.40	0.0500	Main Channel
172.57	155.17	0.0500	Main Channel
175.65	155.11	0.0500	Main Channel
189.74	154.66	0.0500	Main Channel
206.16	153.87	0.0500	Main Channel
216.33	153.97	0.0500	Main Channel
232.64	154.00	0.0500	Main Channel
246.84	154.10	0.0500	Main Channel
249.80	153.66	0.0500	Main Channel
257.01	153.26	0.0500	Main Channel
258.38	153.02	0.0500	Main Channel
267.18	151.07	0.0500	Main Channel
277.35	154.28	0.0500	Main Channel
284.13	154.88	0.0500	Main Channel
287.52	155.21	0.0500	Main Channel
292.71	155.25	0.0500	Main Channel
297.69	155.39	0.0500	Main Channel
301.29	155.42	0.0500 /0.0600	Main Channel
307.86	155.56	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	151.30	.534E+02	0.1	0.71	6.25
0.46	151.53	.214E+03	0.9	1.13	3.94
0.68	151.75	.481E+03	2.7	1.49	3.01
0.91	151.98	.854E+03	5.7	1.80	2.48
1.14	152.21	.133E+04	10.4	2.09	2.14
1.37	152.44	.192E+04	16.9	2.36	1.89
1.59	152.66	.262E+04	25.5	2.61	1.71
1.82	152.89	.342E+04	36.4	2.86	1.56
2.05	153.12	.433E+04	49.7	3.08	1.45

2.28	153.35	.537E+04	63.3	3.16	1.41
2.51	153.58	.668E+04	78.4	3.15	1.42
2.73	153.80	.824E+04	102.6	3.34	1.34
2.96	154.03	.106E+05	88.4	2.24	1.99
3.19	154.26	.151E+05	139.1	2.46	1.81
3.42	154.49	.202E+05	212.3	2.82	1.58
3.64	154.71	.257E+05	299.4	3.13	1.43
3.87	154.94	.317E+05	399.4	3.37	1.32
4.10	155.17	.384E+05	513.8	3.59	1.24
4.33	155.40	.459E+05	646.5	3.77	1.18

channel->		<---- hydrograph ---->			<-pipe /	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1478)	669.06	13.21	5.33	24.19	1.24	2.20
OUTFLOW: ID= 1 (2590)	669.06	13.19	5.33	24.19	1.24	2.20

CALIB
STANDHYD (0664) Area (ha)= 358.60
ID= 1 DT= 5.0 min | Total Imp(%)= 61.12 Dir. Conn.(%)= 59.44

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	219.18	139.42
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.00	3.00
Length	(m)=	1546.18	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.60
over (min)		20.00	35.00
Storage Coeff. (min)=		18.34 (ii)	33.67 (ii)
Unit Hyd. Tpeak (min)=		20.00	35.00
Unit Hyd. peak (cms)=		0.06	0.03

		TOTALS
PEAK FLOW	(cms)=	13.262 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	30.36
TOTAL RAINFALL	(mm)=	42.00
RUNOFF COEFFICIENT	=	0.72

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7572)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2590):	669.06	13.190	5.33	24.19
+ ID2= 2 (0664):	358.60	13.262	5.25	30.36

ID = 3 (7572): 1027.66 26.383 5.33 26.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1028)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7572):	1027.66	26.383	5.33	26.35
+ ID2= 2 (7573):	19033.11	33.044	14.75	14.21
ID = 3 (1028):	20060.77	35.630	5.33	14.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3011)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	156.35	0.0600	
16.35	155.67	0.0500	Main Channel
62.01	156.14	0.0500	Main Channel
112.93	154.91	0.0500	Main Channel
150.86	155.15	0.0500	Main Channel
158.07	154.29	0.0500	Main Channel
179.70	143.10	0.0500	Main Channel
186.95	141.98	0.0500	Main Channel
216.64	140.41	0.0500	Main Channel
223.86	139.50	0.0500	Main Channel
245.99	139.23	0.0500	Main Channel
260.85	142.44	0.0500	Main Channel
277.86	147.99	0.0500	Main Channel
297.82	153.19	0.0500	Main Channel
312.60	155.41	0.0500	Main Channel
336.11	155.84	0.0500	Main Channel
393.68	156.19	0.0500	Main Channel
468.40	155.87	0.0500	Main Channel
520.27	156.63	0.0500 /0.0600	Main Channel
552.65	156.34	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.89	140.12	.138E+05	24.1	1.20	9.53
1.78	141.01	.375E+05	94.9	1.73	6.59
2.67	141.90	.738E+05	230.7	2.14	5.33
3.56	142.79	.120E+06	472.5	2.70	4.23
4.45	143.68	.171E+06	812.1	3.26	3.51
5.34	144.57	.225E+06	1236.8	3.77	3.03
6.23	145.46	.281E+06	1737.9	4.23	2.70
7.12	146.35	.341E+06	2314.0	4.66	2.45
8.01	147.24	.403E+06	2964.7	5.05	2.26
8.90	148.13	.467E+06	3687.8	5.41	2.11
9.79	149.02	.535E+06	4474.9	5.73	1.99
10.68	149.91	.606E+06	5339.5	6.04	1.89
11.57	150.80	.680E+06	6283.2	6.33	1.80
12.46	151.69	.757E+06	7307.6	6.62	1.73
13.35	152.58	.837E+06	8414.6	6.89	1.66
14.24	153.47	.921E+06	9572.6	7.13	1.60

15.13	154.36	.101E+07	10731.3	7.29	1.57
16.02	155.25	.111E+07	9958.2	6.15	1.86
16.91	156.14	.128E+07	8207.0	4.39	2.60

channel->		<---- hydrograph ---->			<-pipe /	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1028)	20060.77	35.63	5.33	14.83	1.04	1.26
OUTFLOW: ID= 1 (3011)	20060.77	34.42	5.42	14.83	1.02	1.26

ROUTE CHN(2664)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	150.21	0.0600	
32.35	150.14	0.0500	Main Channel
85.18	149.19	0.0500	Main Channel
105.56	149.76	0.0500	Main Channel
135.87	145.20	0.0500	Main Channel
145.94	140.89	0.0500	Main Channel
156.15	137.89	0.0500	Main Channel
176.46	136.19	0.0500	Main Channel
186.52	134.69	0.0500	Main Channel
196.62	131.82	0.0500	Main Channel
237.44	135.08	0.0500	Main Channel
269.22	141.37	0.0500	Main Channel
298.55	148.85	0.0500	Main Channel
318.74	150.44	0.0500	Main Channel
339.04	149.60	0.0500	Main Channel
389.73	150.82	0.0500	Main Channel
422.24	150.99	0.0500	Main Channel
469.89	151.86	0.0500	Main Channel
491.16	149.87	0.0500 /0.0600	Main Channel
508.35	148.89	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.02	132.84	.290E+04	7.3	0.87	6.63
2.04	133.86	.116E+05	46.2	1.38	4.18
3.07	134.89	.261E+05	135.3	1.79	3.21
4.09	135.91	.463E+05	299.8	2.24	2.57
5.11	136.93	.712E+05	530.3	2.57	2.24
6.13	137.95	.102E+06	852.0	2.88	2.00
7.15	138.97	.138E+06	1319.7	3.31	1.74
8.17	139.99	.176E+06	1886.2	3.70	1.56
9.20	141.02	.218E+06	2555.9	4.06	1.42
10.22	142.04	.262E+06	3351.9	4.42	1.30
11.24	143.06	.309E+06	4257.3	4.77	1.21
12.26	144.08	.357E+06	5267.4	5.10	1.13
13.28	145.10	.408E+06	6383.6	5.40	1.07
14.30	146.12	.462E+06	7503.1	5.61	1.03
15.33	147.15	.520E+06	8737.3	5.81	0.99
16.35	148.17	.582E+06	10103.3	6.00	0.96
17.37	149.19	.648E+06	11496.3	6.14	0.94
18.70	150.52	.786E+06	11362.8	5.00	1.15

```
     20.04   151.86    .998E+06      13227.2          4.58       1.26

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3011)   20060.77    34.42    5.42  14.83      1.73
1.17
   OUTFLOW: ID= 1 (  2664)   20060.77    34.24    5.50  14.83      1.72
1.16


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--------------------
| ROUTE CHN(  2665)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         150.21        0.0600
                 32.35         150.14        0.0500      Main Channel
                 85.18         149.19        0.0500      Main Channel
                105.56         149.76        0.0500      Main Channel
                135.87         145.20        0.0500      Main Channel
                145.94         140.89        0.0500      Main Channel
                156.15         137.89        0.0500      Main Channel
                176.46         136.19        0.0500      Main Channel
                186.52         134.69        0.0500      Main Channel
                196.62         131.82        0.0500      Main Channel
                237.44         135.08        0.0500      Main Channel
                269.22         141.37        0.0500      Main Channel
                298.55         148.85        0.0500      Main Channel
                318.74         150.44        0.0500      Main Channel
                339.04         149.60        0.0500      Main Channel
                389.73         150.82        0.0500      Main Channel
                422.24         150.99        0.0500      Main Channel
                469.89         151.86        0.0500      Main Channel
                491.16         149.87    0.0500 /0.0600  Main Channel
                508.35         148.89        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
       1.02   132.84    .306E+04          6.7          0.80       7.62
       2.04   133.86    .122E+05         42.4          1.27       4.80
       3.07   134.89    .275E+05        124.3          1.65       3.69
       4.09   135.91    .488E+05        275.3          2.06       2.96
       5.11   136.93    .752E+05        486.8          2.36       2.57
       6.13   137.95    .108E+06        782.2          2.65       2.30
       7.15   138.97    .145E+06       1211.6          3.04       2.00
       8.17   139.99    .186E+06       1731.6          3.40       1.79
       9.20   141.02    .230E+06       2346.4          3.73       1.63
      10.22   142.04    .277E+06       3077.2          4.06       1.50
      11.24   143.06    .326E+06       3908.4          4.38       1.39
      12.26   144.08    .377E+06       4835.6          4.68       1.30
      13.28   145.10    .431E+06       5860.4          4.96       1.23
      14.30   146.12    .488E+06       6888.1          5.15       1.18
      15.33   147.15    .549E+06       8021.1          5.33       1.14
      16.35   148.17    .614E+06       9275.2          5.51       1.10
      17.37   149.19    .684E+06      10554.0          5.63       1.08
      18.70   150.52    .830E+06      10431.4          4.59       1.33
      20.04   151.86    .105E+07      12143.0          4.21       1.45
```



```
                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2664)   20060.77    34.24    5.50  14.83      1.81
1.12
   OUTFLOW: ID= 1 (  2665)   20060.77    33.88    5.50  14.83      1.80
1.11


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--------------------
| ROUTE CHN(  2394)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         147.53        0.0600
                 51.60         147.02        0.0500      Main Channel
                 92.08         147.58        0.0500      Main Channel
                122.54         144.75        0.0500      Main Channel
                152.98         139.69        0.0500      Main Channel
                173.28         135.95        0.0500      Main Channel
                213.72         135.14        0.0500      Main Channel
                254.14         130.37        0.0500      Main Channel
                284.37         128.37        0.0500      Main Channel
                314.70         128.22        0.0500      Main Channel
                335.27         128.99        0.0500      Main Channel
                365.51         129.63        0.0500      Main Channel
                385.78         129.13        0.0500      Main Channel
                416.09         129.34        0.0500      Main Channel
                426.15         131.68        0.0500      Main Channel
                436.23         138.29        0.0500      Main Channel
                441.33         139.34        0.0500      Main Channel
                446.43         141.59        0.0500      Main Channel
                496.97         141.34    0.0500 /0.0600  Main Channel
                530.35         142.40        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
       1.01   129.23    .222E+05         51.3          1.05       7.22
       2.02   130.24    .890E+05        357.0          1.82       4.16
       3.03   131.25    .167E+06        967.0          2.62       2.88
       4.04   132.26    .251E+06       1826.1          3.29       2.29
       5.05   133.27    .340E+06       2916.0          3.89       1.94
       6.06   134.28    .433E+06       4222.6          4.42       1.71
       7.06   135.28    .531E+06       5643.6          4.81       1.57
       8.07   136.29    .645E+06       7049.3          4.95       1.52
       9.08   137.30    .766E+06       9223.0          5.45       1.38
      10.09   138.31    .891E+06      11640.9          5.92       1.28
      11.10   139.32    .102E+07      14215.5          6.32       1.19
      12.11   140.33    .115E+07      17100.5          6.73       1.12
      13.12   141.34    .129E+07      20220.2          7.11       1.06
      14.16   142.38    .146E+07      22063.8          6.84       1.10
      15.20   143.42    .165E+07      26332.6          7.24       1.04
      16.24   144.46    .184E+07      30960.0          7.63       0.99
      17.28   145.50    .203E+07      35734.5          7.97       0.95
      18.32   146.54    .223E+07      40775.7          8.28       0.91
      19.36   147.58    .245E+07      46178.5          8.55       0.88

                                    <---- hydrograph ---->   <-pipe /
channel->
```



```
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2665)   20060.77    33.88    5.50  14.83      0.67
1.05
   OUTFLOW: ID= 1 (  2394)   20060.77    33.60   15.00  14.83      0.66
1.05


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--------------------
| ROUTE CHN(  3697)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         143.58        0.0600
                 22.49         145.51        0.0500      Main Channel
                143.41         146.89        0.0500      Main Channel
                166.69         139.36        0.0500      Main Channel
                252.84         126.91        0.0500      Main Channel
                293.69         127.53        0.0500      Main Channel
                416.02         126.71        0.0500      Main Channel
                437.61         127.76        0.0500      Main Channel
                514.67         126.01        0.0500      Main Channel
                617.51         126.67        0.0500      Main Channel
                631.90         132.61        0.0500      Main Channel
                696.97         132.42        0.0500      Main Channel
                725.18         129.47        0.0500      Main Channel
                757.77         131.94        0.0500      Main Channel
                827.36         131.98        0.0500      Main Channel
                844.70         133.69        0.0500      Main Channel
                867.48         132.42        0.0500      Main Channel
                957.74         136.99        0.0500      Main Channel
                987.83         136.55    0.0500 /0.0600  Main Channel
               1053.00         138.98        0.0600

     <---------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)      (m)     (cu.m.)         (cms)         (m/s)      (min)
       1.05   127.07    .709E+05         97.2          0.88      12.15
       2.11   128.12    .297E+06        742.9          1.60       6.65
       3.16   129.17    .554E+06       2065.8          2.39       4.47
       4.22   130.23    .821E+06       3810.0          2.97       3.59
       5.27   131.28    .111E+07       5982.3          3.44       3.10
       6.32   132.34    .144E+07       8040.7          3.57       2.99
       7.38   133.39    .187E+07      10830.9          3.71       2.87
       8.43   134.44    .233E+07      15157.4          4.16       2.56
       9.49   135.50    .282E+07      20244.3          4.59       2.32
      10.54   136.55    .332E+07      25983.9          5.00       2.13
      11.69   137.70    .392E+07      32759.6          5.34       1.99
      12.84   138.85    .455E+07      41324.6          5.81       1.84
      13.98   140.00    .520E+07      50888.8          6.26       1.70
      15.13   141.14    .585E+07      61382.4          6.70       1.59
      16.28   142.29    .651E+07      72695.9          7.14       1.49
      17.43   143.44    .717E+07      84800.1          7.56       1.41
      18.58   144.59    .783E+07      97675.0          7.97       1.34
      19.73   145.74    .851E+07     111322.5          8.36       1.27
      20.87   146.89    .925E+07     125828.7          8.70       1.22

                                    <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
```



```
                              (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2394)   20060.77    33.60   15.00  14.83      0.36
0.88
   OUTFLOW: ID= 1 (  3697)   20060.77    33.58   15.17  14.83      0.36
0.88


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--------------------
| CALIB              |
| STANDHYD (  0658)|   Area    (ha)=    248.60
|ID= 1 DT= 5.0 min |   Total Imp(%)=     41.20   Dir. Conn.(%)=  37.68
--------------------
                                  IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        102.42          146.18
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          4.64            4.64
     Length            (m)=       1287.37           40.00
     Mannings n           =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32           10.04
               over (min)           15.00           30.00
     Storage Coeff.  (min)=         14.41 (ii)      28.17 (ii)
     Unit Hyd. Tpeak (min)=         15.00           30.00
     Unit Hyd. peak  (cms)=          0.08            0.04
                                                                  *TOTALS*
     PEAK FLOW       (cms)=          4.95            2.80          7.469 (iii)
     TIME TO PEAK    (hrs)=          5.25            5.50          5.25
     RUNOFF VOLUME    (mm)=         40.00           14.81         24.30
     TOTAL RAINFALL   (mm)=         42.00           42.00         42.00
     RUNOFF COEFFICIENT   =          0.95            0.35          0.58

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  80.9    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  7569)|
|  1 +  2 =  3     |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3697):  20060.77     33.580       15.17       14.83
     + ID2= 2 (  0658):    248.60      7.469        5.25       24.30
       ========================================================
       ID = 3 (  7569):  20309.37     35.538        5.83       14.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  1319)|
|  1 +  2 =  3     |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  7569):  20309.37     35.538        5.83       14.94
     + ID2= 2 (  7570):  50351.04     53.391        9.50        9.01
       ========================================================
       ID = 3 (  1319):  70660.41     79.016       10.67       10.71
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2642)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	142.04	0.0600	
239.98	135.48	0.0500	Main Channel
326.13	134.95	0.0500	Main Channel
424.90	131.54	0.0500	Main Channel
463.66	126.05	0.0500	Main Channel
547.22	126.07	0.0500	Main Channel
644.55	126.10	0.0500	Main Channel
683.31	123.53	0.0500	Main Channel
864.20	124.68	0.0500	Main Channel
894.64	122.27	0.0500	Main Channel
910.43	125.48	0.0500	Main Channel
1068.08	126.21	0.0500	Main Channel
1119.50	123.76	0.0500	Main Channel
1136.97	125.69	0.0500	Main Channel
1259.05	124.65	0.0500	Main Channel
1406.83	125.83	0.0500	Main Channel
1482.87	126.36	0.0500	Main Channel
1523.56	132.54	0.0500	Main Channel
1595.80	142.51	0.0500 /0.0600	Main Channel
1658.00	148.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.98	123.25	.773E+04	3.3	0.39	39.46
1.95	124.22	.721E+05	29.6	0.38	40.60
2.93	125.20	.333E+06	203.5	0.56	27.29
3.90	126.18	.898E+06	610.6	0.63	24.52
4.88	127.15	.182E+07	1918.0	0.97	15.81
5.85	128.13	.275E+07	3796.2	1.27	12.09
6.83	129.10	.370E+07	6160.1	1.54	10.02
7.80	130.08	.466E+07	8968.5	1.78	8.66
8.78	131.05	.563E+07	12193.0	2.00	7.70
9.75	132.03	.662E+07	15721.6	2.19	7.02
10.73	133.00	.763E+07	19531.1	2.36	6.51
11.70	133.98	.868E+07	23708.0	2.52	6.10
12.68	134.95	.976E+07	28254.7	2.67	5.75
13.86	136.13	.112E+08	34838.5	2.88	5.34
15.04	137.32	.126E+08	42086.5	3.07	5.01
16.22	138.50	.142E+08	49984.9	3.25	4.73
17.40	139.68	.158E+08	58532.2	3.42	4.49
18.58	140.86	.174E+08	67729.6	3.59	4.29
19.76	142.04	.191E+08	77580.0	3.74	4.11

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1319)	70660.41	79.02	10.67	10.71	2.23	0.42
OUTFLOW: ID= 1 (2642)	70660.41	78.51	11.25	10.71	2.22	0.42

ROUTE CHN(2592)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	143.00	0.0600	
24.58	142.13	0.0500	Main Channel
96.63	141.00	0.0500	Main Channel
146.95	141.03	0.0500	Main Channel
178.90	139.38	0.0500	Main Channel
209.55	130.47	0.0500	Main Channel
251.66	124.18	0.0500	Main Channel
548.32	123.55	0.0500	Main Channel
579.16	124.40	0.0500	Main Channel
661.40	123.36	0.0500	Main Channel
886.25	128.08	0.0500	Main Channel
1007.81	128.77	0.0500	Main Channel
1086.87	129.55	0.0500	Main Channel
1129.90	131.26	0.0500	Main Channel
1196.21	129.72	0.0500	Main Channel
1262.63	130.19	0.0500	Main Channel
1306.99	135.73	0.0500	Main Channel
1384.52	133.90	0.0500	Main Channel
1451.13	134.64	0.0500 /0.0600	Main Channel
1476.66	136.70	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.66	124.02	.573E+05	21.9	0.26	43.57
1.33	124.69	.254E+06	202.2	0.54	20.89
1.99	125.35	.475E+06	549.0	0.78	14.43
2.65	126.01	.713E+06	1031.9	0.98	11.52
3.32	126.68	.967E+06	1643.5	1.15	9.81
3.98	127.34	.124E+07	2381.1	1.30	8.66
4.64	128.00	.152E+07	3244.2	1.44	7.83
5.31	128.67	.184E+07	4005.7	1.47	7.66
5.97	129.33	.221E+07	5066.7	1.55	7.25
6.64	130.00	.260E+07	6243.9	1.62	6.94
7.30	130.66	.304E+07	7677.3	1.71	6.61
7.96	131.32	.351E+07	9443.2	1.82	6.20
8.63	131.99	.399E+07	11632.5	1.97	5.72
9.29	132.65	.447E+07	14004.6	2.12	5.32
9.95	133.31	.496E+07	16553.8	2.26	4.99
10.62	133.98	.545E+07	19159.0	2.38	4.74
11.28	134.64	.597E+07	21088.0	2.39	4.72
12.31	135.67	.683E+07	25583.5	2.53	4.45
13.34	136.70	.772E+07	31204.2	2.73	4.12

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2642)	70660.41	78.51	11.25	10.71	0.87	0.31
OUTFLOW: ID= 1 (2592)	70660.41	78.10	11.67	10.71	0.87	0.31

ROUTE CHN(2551)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	139.56	0.0600	
60.68	139.76	0.0500	Main Channel
114.92	138.24	0.0500	Main Channel
136.33	138.19	0.0500	Main Channel
180.59	135.60	0.0500	Main Channel
224.84	135.23	0.0500	Main Channel
300.77	134.09	0.0500	Main Channel
335.77	135.24	0.0500	Main Channel
345.77	133.64	0.0500	Main Channel
386.86	123.73	0.0500	Main Channel
420.86	121.17	0.0500	Main Channel
460.93	122.92	0.0500	Main Channel
560.99	123.03	0.0500	Main Channel
591.04	123.85	0.0500	Main Channel
611.04	129.64	0.0500	Main Channel
721.14	130.68	0.0500	Main Channel
792.93	130.06	0.0500	Main Channel
948.04	129.40	0.0500	Main Channel
968.72	129.36	0.0500 /0.0600	Main Channel
1158.80	138.27	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.91	122.08	.794E+04	9.6	0.64	13.79
1.82	122.99	.329E+05	41.5	0.67	13.20
2.73	123.90	.122E+06	269.1	1.17	7.55
3.64	124.81	.223E+06	716.8	1.71	5.17
4.55	125.72	.326E+06	1327.9	2.16	4.10
5.46	126.63	.434E+06	2087.0	2.55	3.46
6.37	127.54	.544E+06	2984.8	2.91	3.04
7.28	128.45	.658E+06	4015.7	3.23	2.73
8.19	129.36	.775E+06	5175.4	3.54	2.50
9.23	130.40	.101E+07	4655.2	2.45	3.60
10.27	131.44	.136E+07	6996.5	2.73	3.23
11.31	132.48	.173E+07	10231.3	3.14	2.81
12.35	133.52	.211E+07	13987.5	3.51	2.52
13.39	134.56	.252E+07	17485.0	3.68	2.40
14.43	135.60	.299E+07	20702.8	3.68	2.40
15.47	136.64	.350E+07	26278.8	3.97	2.22
16.51	137.68	.405E+07	32470.9	4.25	2.08
17.55	138.72	.461E+07	39062.3	4.49	1.97
18.59	139.76	.521E+07	47258.1	4.81	1.84

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2592)	70660.41	78.10	11.67	10.71	1.97	0.72
OUTFLOW: ID= 1 (2551)	70660.41	78.06	11.83	10.71	1.96	0.72

CALIB	STANDHYD (0709)	ID= 1 DT= 5.0 min	Area (ha)= 489.75	Total Imp(%)= 50.96	Dir. Conn.(%)= 48.72

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	249.58	240.17
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.92	3.92
Length	(m)=	1806.93	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.38
over (min)		20.00	35.00
Storage Coeff. (min)=		18.58 (ii)	34.13 (ii)
Unit Hyd. Tpeak (min)=		20.00	35.00
Unit Hyd. peak (cms)=		0.06	0.03
			TOTALS
PEAK FLOW (cms)=		12.27	3.57 15.248 (iii)
TIME TO PEAK (hrs)=		5.25	5.58 5.25
RUNOFF VOLUME (mm)=		40.00	12.82 26.06
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.31 0.62

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7616)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2551):		70660.41	78.057	11.83	10.71
+ ID2= 2 (0709):		489.75	15.248	5.25	26.06
ID = 3 (7616):		71150.16	78.506	11.83	10.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (0707)	ID= 1 DT= 5.0 min	Area (ha)= 130.67	Total Imp(%)= 46.72	Dir. Conn.(%)= 44.32

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	61.05	69.62
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	5.27	5.27
Length	(m)=	933.35	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.80
over (min)		10.00	25.00
Storage Coeff. (min)=		11.44 (ii)	24.81 (ii)
Unit Hyd. Tpeak (min)=		10.00	25.00
Unit Hyd. peak (cms)=		0.10	0.05
			TOTALS
PEAK FLOW (cms)=		3.09	1.38 4.390 (iii)
TIME TO PEAK (hrs)=		5.25	5.42 5.25

RUNOFF VOLUME	(mm)=	40.00	14.65	25.88
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.35	0.62

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0708)	Area (ha)=	428.54	
ID= 1 DT= 5.0 min	Total Imp(%)=	61.92	Dir. Conn.(%)= 59.36

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	265.35	163.19
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.41	3.41
Length	(m)=	1690.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	9.93
over (min)		20.00	35.00
Storage Coeff. (min)=		18.62 (ii)	33.76 (ii)
Unit Hyd. Tpeak (min)=		20.00	35.00
Unit Hyd. peak (cms)=		0.06	0.03

				TOTALS
PEAK FLOW	(cms)=	13.08	2.92	15.548 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	14.90	29.80
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.35	0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.9 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2619)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
86.28	148.24	0.0600	
92.49	148.18	0.0500	Main Channel
97.01	148.10	0.0500	Main Channel
99.89	147.83	0.0500	Main Channel
107.74	147.44	0.0500	Main Channel
120.08	145.15	0.0500	Main Channel
129.20	143.36	0.0500	Main Channel
135.01	143.04	0.0500	Main Channel
139.93	142.22	0.0500	Main Channel
150.66	143.54	0.0500	Main Channel
152.56	143.55	0.0500	Main Channel
161.39	143.75	0.0500	Main Channel
193.58	143.77	0.0500	Main Channel
202.85	144.09	0.0500	Main Channel

215.04	145.12	0.0500	Main Channel
225.77	146.10	0.0500	Main Channel
230.44	146.58	0.0500	Main Channel
236.50	147.23	0.0500	Main Channel
240.35	147.56	0.0500 /0.0600	Main Channel
247.23	148.05	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	142.52	.743E+03	0.3	0.47	42.47
0.59	142.81	.297E+04	1.9	0.74	26.75
0.89	143.11	.672E+04	5.3	0.94	21.24
1.19	143.41	.128E+05	11.7	1.09	18.33
1.48	143.70	.217E+05	20.9	1.15	17.27
1.78	144.00	.441E+05	38.9	1.05	18.89
2.08	144.30	.718E+05	82.8	1.38	14.44
2.37	144.59	.101E+06	141.4	1.67	11.95
2.67	144.89	.133E+06	213.2	1.92	10.37
2.97	145.19	.166E+06	298.3	2.15	9.26
3.26	145.48	.201E+06	396.6	2.36	8.43
3.56	145.78	.237E+06	508.0	2.56	7.78
3.86	146.08	.276E+06	632.6	2.74	7.26
4.15	146.37	.315E+06	771.8	2.92	6.81
4.45	146.67	.357E+06	924.7	3.10	6.43
4.75	146.97	.400E+06	1091.6	3.26	6.11
5.04	147.26	.445E+06	1271.7	3.42	5.83
5.34	147.56	.491E+06	1449.8	3.53	5.65
5.64	147.86	.541E+06	1652.4	3.65	5.46

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (0708)	428.54	15.55	5.25	29.80	1.31	1.11
OUTFLOW: ID= 1 (2619)	428.54	14.27	5.42	29.80	1.27	1.10

ROUTE CHN(3723)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
112.30	138.48	0.0600	
116.89	138.99	0.0500 /0.0500	Main Channel
133.00	137.41	0.0500	Main Channel
149.55	134.57	0.0500	Main Channel
157.71	134.28	0.0500	Main Channel
165.88	133.21	0.0500	Main Channel
174.42	133.60	0.0500	Main Channel
182.20	134.44	0.0500	Main Channel
184.77	134.91	0.0500	Main Channel
195.13	135.51	0.0500	Main Channel
198.53	135.43	0.0500	Main Channel
205.48	136.15	0.0500	Main Channel
206.69	135.99	0.0500	Main Channel
211.21	136.24	0.0500	Main Channel
215.83	136.30	0.0500	Main Channel
223.02	135.92	0.0500	Main Channel

231.18	136.01	0.0500	Main Channel
246.89	136.57	0.0500	Main Channel
263.84	137.70	0.0500 /0.0600	Main Channel
288.31	138.73	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.30	133.51	.911E+03	0.9	0.70	16.27
0.60	133.81	.345E+04	6.0	1.20	9.54
0.90	134.11	.707E+04	16.4	1.59	7.18
1.20	134.41	.119E+05	31.2	1.81	6.32
1.50	134.71	.185E+05	56.4	2.09	5.46
1.80	135.01	.261E+05	92.0	2.42	4.72
2.10	135.31	.349E+05	134.4	2.64	4.33
2.40	135.61	.455E+05	183.2	2.76	4.14
2.70	135.91	.577E+05	257.8	3.06	3.73
3.00	136.21	.735E+05	299.6	2.79	4.09
3.30	136.51	.942E+05	403.7	2.94	3.89
3.60	136.81	.117E+06	555.1	3.25	3.51
3.90	137.11	.141E+06	731.7	3.56	3.21
4.20	137.41	.166E+06	931.9	3.84	2.98
4.52	137.73	.195E+06	1180.1	4.15	2.75
4.83	138.04	.225E+06	1483.4	4.52	2.53
5.15	138.36	.258E+06	1819.3	4.84	2.36
5.46	138.67	.293E+06	2189.4	5.13	2.23
5.78	138.99	.330E+06	2598.6	5.39	2.12

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2619)	428.54	14.27	5.42	29.80	0.84	1.49
OUTFLOW: ID= 1 (3723)	428.54	14.14	5.50	29.80	0.83	1.48

ADD HYD (7568)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3723):	428.54	14.138	5.50	29.80
+ ID2= 2 (0707):	130.67	4.390	5.25	25.88
ID = 3 (7568):	559.21	17.500	5.33	28.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1005)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7568):	559.21	17.500	5.33	28.88
+ ID2= 2 (7616):	71150.16	78.506	11.83	10.82
ID = 3 (1005):	71709.37	79.104	11.75	10.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2534)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	140.01	0.0600	
11.31	140.17	0.0500	Main Channel
139.43	135.80	0.0500	Main Channel
171.95	136.51	0.0500	Main Channel
196.09	130.50	0.0500	Main Channel
227.98	130.02	0.0500	Main Channel
256.26	124.85	0.0500	Main Channel
270.41	123.04	0.0500	Main Channel
339.25	123.92	0.0500	Main Channel
367.53	123.30	0.0500	Main Channel
381.67	121.93	0.0500	Main Channel
425.51	122.23	0.0500	Main Channel
453.69	120.53	0.0500	Main Channel
504.61	128.29	0.0500	Main Channel
552.69	146.33	0.0500	Main Channel
595.05	146.01	0.0500	Main Channel
697.06	146.43	0.0500	Main Channel
948.82	147.90	0.0500	Main Channel
1010.22	148.78	0.0500 /0.0600	Main Channel
1050.41	148.48	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.39	121.92	.170E+05	11.0	0.49	25.69
2.78	123.31	.111E+06	101.0	0.69	18.37
4.16	124.69	.320E+06	402.7	0.96	13.22
5.55	126.08	.565E+06	991.6	1.34	9.50
6.94	127.47	.829E+06	1792.9	1.65	7.70
8.33	128.86	.111E+07	2808.9	1.93	6.58
9.72	130.25	.140E+07	3919.6	2.13	5.97
11.11	131.64	.174E+07	5298.3	2.32	5.47
12.49	133.02	.208E+07	7028.3	2.57	4.94
13.88	134.41	.244E+07	8964.7	2.80	4.53
15.27	135.80	.280E+07	11103.6	3.02	4.21
16.89	137.42	.330E+07	13398.3	3.09	4.11
18.52	139.05	.388E+07	16839.8	3.31	3.84
20.14	140.67	.451E+07	20753.0	3.50	3.63
21.76	142.29	.518E+07	25191.5	3.70	3.43
23.38	143.91	.585E+07	30071.7	3.91	3.24
25.01	145.54	.653E+07	35369.7	4.13	3.08
26.63	147.16	.735E+07	31571.9	3.27	3.88
28.25	148.78	.852E+07	34911.0	3.12	4.07

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1005)	71709.37	79.10	11.75	10.96	2.44	0.63
OUTFLOW: ID= 1 (2534)	71709.37	78.92	12.00	10.96	2.43	0.63

| ROUTE CHN(2510)| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	138.12	0.0600	
58.68	139.82	0.0500	Main Channel
90.09	140.14	0.0500	Main Channel
121.47	137.30	0.0500	Main Channel
189.31	137.83	0.0500	Main Channel
236.65	140.62	0.0500	Main Channel
299.44	140.59	0.0500	Main Channel
330.80	133.71	0.0500	Main Channel
348.53	124.96	0.0500	Main Channel
362.18	119.93	0.0500	Main Channel
419.88	122.76	0.0500	Main Channel
539.80	122.42	0.0500	Main Channel
623.52	125.91	0.0500	Main Channel
717.65	138.68	0.0500	Main Channel
728.13	138.27	0.0500	Main Channel
811.81	141.73	0.0500	Main Channel
882.92	140.26	0.0500	Main Channel
937.45	140.18	0.0500	Main Channel
1082.88	143.13	0.0500 /0.0600	Main Channel
1197.52	146.20	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.92	120.85	.703E+04	3.6	0.37	32.10
1.84	121.77	.281E+05	23.2	0.59	20.22
2.76	122.69	.729E+05	46.2	0.46	26.28
3.67	123.60	.207E+06	219.1	0.76	15.75
4.59	124.52	.358E+06	508.5	1.02	11.74
5.51	125.44	.526E+06	903.4	1.24	9.70
6.43	126.36	.708E+06	1424.1	1.45	8.28
7.35	127.28	.897E+06	2069.8	1.66	7.22
8.27	128.20	.109E+07	2815.1	1.86	6.46
9.19	129.12	.129E+07	3656.8	2.04	5.89
10.10	130.03	.150E+07	4592.7	2.21	5.44
11.02	130.95	.171E+07	5621.3	2.37	5.07
11.94	131.87	.193E+07	6741.7	2.52	4.77
12.86	132.79	.215E+07	7953.3	2.67	4.51
13.78	133.71	.238E+07	9255.8	2.80	4.29
14.70	134.63	.262E+07	10611.2	2.92	4.11
15.62	135.55	.286E+07	12059.5	3.04	3.95
16.54	136.47	.311E+07	13601.8	3.15	3.81
17.45	137.38	.337E+07	14950.8	3.20	3.75

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2534)	71709.37	78.92	12.00	10.96	2.93	0.49
OUTFLOW: ID= 1 (2510)	71709.37	78.70	12.25	10.96	2.93	0.49

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(2482)| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	134.22	0.0600	
52.89	133.18	0.0500	Main Channel
113.85	134.07	0.0500	Main Channel
164.60	133.26	0.0500	Main Channel
225.56	134.40	0.0500	Main Channel
266.23	133.37	0.0500	Main Channel
296.71	129.16	0.0500	Main Channel
316.98	127.20	0.0500	Main Channel
357.66	122.83	0.0500	Main Channel
393.02	121.39	0.0500	Main Channel
417.48	121.65	0.0500	Main Channel
454.74	119.69	0.0500	Main Channel
492.39	123.87	0.0500	Main Channel
541.90	126.17	0.0500	Main Channel
578.55	128.20	0.0500	Main Channel
598.61	128.70	0.0500	Main Channel
646.96	133.11	0.0500	Main Channel
664.49	135.57	0.0500	Main Channel
705.58	137.71	0.0500 /0.0600	Main Channel
722.11	139.45	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.76	120.45	.385E+04	5.5	0.69	11.61
1.51	121.20	.154E+05	35.1	1.09	7.31
2.27	121.96	.413E+05	105.3	1.22	6.54
3.03	122.72	.809E+05	276.0	1.64	4.88
3.78	123.47	.128E+06	548.2	2.05	3.90
4.54	124.23	.181E+06	895.4	2.38	3.37
5.30	124.99	.242E+06	1321.7	2.63	3.05
6.05	125.74	.311E+06	1853.5	2.86	2.80
6.81	126.50	.388E+06	2507.1	3.10	2.58
7.57	127.26	.474E+06	3290.0	3.33	2.40
8.33	128.02	.567E+06	4193.5	3.55	2.25
9.08	128.77	.669E+06	5129.7	3.68	2.17
9.84	129.53	.781E+06	6416.2	3.95	2.03
10.60	130.29	.897E+06	7860.4	4.21	1.90
11.35	131.04	.102E+07	9449.1	4.45	1.80
12.11	131.80	.114E+07	11184.4	4.69	1.71
12.87	132.56	.128E+07	13068.7	4.91	1.63
13.62	133.31	.141E+07	14965.3	5.08	1.57
14.38	134.07	.160E+07	15008.1	4.51	1.77

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2510)	71709.37	78.70	12.25	10.96	1.98	1.17
OUTFLOW: ID= 1 (2482)	71709.37	78.67	12.42	10.96	1.98	1.17

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(2419)| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	135.06	0.0600	
19.11	135.93	0.0500	Main Channel
101.94	134.95	0.0500	Main Channel
135.96	135.29	0.0500	Main Channel
194.39	135.45	0.0500	Main Channel
239.14	136.85	0.0500	Main Channel
280.30	133.33	0.0500	Main Channel
296.63	121.68	0.0500	Main Channel
307.74	118.84	0.0500	Main Channel
325.85	116.50	0.0500	Main Channel
403.77	119.15	0.0500	Main Channel
428.09	122.14	0.0500	Main Channel
513.53	133.33	0.0500	Main Channel
540.97	134.22	0.0500	Main Channel
588.76	136.60	0.0500	Main Channel
623.29	138.72	0.0500	Main Channel
637.00	140.14	0.0500	Main Channel
760.48	145.21	0.0500	Main Channel
801.64	146.45	0.0500 /0.0600	Main Channel
831.00	148.74	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.97	117.47	.127E+05	10.5	0.60	20.27
1.94	118.44	.510E+05	66.6	0.95	12.77
2.91	119.41	.114E+06	203.2	1.30	9.33
3.88	120.39	.189E+06	439.2	1.69	7.17
4.86	121.36	.272E+06	755.6	2.02	6.01
5.83	122.33	.364E+06	1160.3	2.32	5.22
6.80	123.30	.461E+06	1651.3	2.61	4.66
7.77	124.27	.565E+06	2223.5	2.86	4.24
8.74	125.24	.675E+06	2877.8	3.10	3.91
9.71	126.21	.792E+06	3615.8	3.33	3.65
10.68	127.18	.914E+06	4439.2	3.54	3.43
11.65	128.15	.104E+07	5349.9	3.73	3.25
12.62	129.13	.118E+07	6350.0	3.93	3.09
13.59	130.10	.132E+07	7441.7	4.11	2.95
14.57	131.07	.147E+07	8627.0	4.28	2.83
15.54	132.04	.162E+07	9908.2	4.45	2.72
16.51	133.01	.178E+07	11287.5	4.62	2.63
17.48	133.98	.195E+07	12118.6	4.52	2.68
18.45	134.95	.215E+07	13147.7	4.46	2.72

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2482)	71709.37	78.67	12.42	10.96	2.03	0.97
OUTFLOW: ID= 1 (2419)	71709.37	78.62	12.50	10.96	2.02	0.97

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(2397)| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	132.48	0.0600	
15.64	132.20	0.0500	Main Channel
55.38	132.47	0.0500	Main Channel
81.70	130.00	0.0500	Main Channel
127.85	127.79	0.0500	Main Channel
199.62	126.65	0.0500	Main Channel
225.89	127.19	0.0500	Main Channel
253.57	116.96	0.0500	Main Channel
318.16	115.36	0.0500	Main Channel
360.12	113.82	0.0500	Main Channel
370.75	113.97	0.0500	Main Channel
383.56	124.51	0.0500	Main Channel
390.63	127.00	0.0500	Main Channel
449.58	128.46	0.0500	Main Channel
529.82	132.40	0.0500	Main Channel
580.95	133.91	0.0500	Main Channel
622.91	135.83	0.0500	Main Channel
659.82	138.14	0.0500	Main Channel
712.37	141.75	0.0500 /0.0600	Main Channel
735.85	142.48	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.98	114.80	.865E+04	30.1	1.30	4.79
1.96	115.78	.283E+05	142.3	1.88	3.31
2.94	116.76	.620E+05	391.3	2.35	2.64
3.93	117.75	.106E+06	901.2	3.16	1.97
4.91	118.73	.152E+06	1604.0	3.92	1.58
5.89	119.71	.200E+06	2464.8	4.60	1.35
6.87	120.69	.249E+06	3473.6	5.21	1.19
7.85	121.67	.299E+06	4624.0	5.77	1.08
8.83	122.65	.351E+06	5911.2	6.28	0.99
9.82	123.64	.404E+06	7332.2	6.77	0.92
10.80	124.62	.458E+06	8878.9	7.22	0.86
11.78	125.60	.515E+06	10510.9	7.62	0.82
12.76	126.58	.573E+06	12277.5	7.99	0.78
13.74	127.56	.652E+06	10880.3	6.23	1.00
14.72	128.54	.765E+06	12279.1	5.99	1.04
15.71	129.53	.896E+06	14857.1	6.18	1.01
16.69	130.51	.104E+07	18017.9	6.45	0.96
17.67	131.49	.120E+07	21742.3	6.76	0.92
18.65	132.47	.137E+07	25886.1	7.04	0.88

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2419)	71709.37	78.62	12.50	10.96	1.41	1.50
OUTFLOW: ID= 1 (2397)	71709.37	78.61	12.58	10.96	1.40	1.50

| CALIB | STANDHYD (0703)| Area (ha)= 222.32

|ID= 1 DT= 5.0 min | Total Imp(%)= 46.80 Dir. Conn.(%)= 43.44

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	104.05	118.27
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	5.16	5.16
Length (m)=	1217.43	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	6.70
over (min)	15.00	30.00
Storage Coeff. (min)=	13.50 (ii)	29.16 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04

		TOTALS
PEAK FLOW (cms)=	5.12	1.50	6.436 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	40.00	10.12	23.10
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.24	0.55

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 70.5 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0706)	Area (ha)= 426.33
ID= 1 DT= 5.0 min	Total Imp(%)= 42.08 Dir. Conn.(%)= 40.48

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	179.40	246.93
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	4.88	4.88
Length (m)=	1685.88	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	8.90
over (min)	15.00	35.00
Storage Coeff. (min)=	16.69 (ii)	30.91 (ii)
Unit Hyd. Tpeak (min)=	15.00	35.00
Unit Hyd. peak (cms)=	0.07	0.04

		TOTALS
PEAK FLOW (cms)=	9.03	3.95	12.374 (iii)
TIME TO PEAK (hrs)=	5.25	5.58	5.25
RUNOFF VOLUME (mm)=	40.00	13.50	24.23
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.32	0.58

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (1631)|

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2397):	71709.37	78.609	12.58	10.96
+ ID2= 2 (0703):	222.32	6.436	5.25	23.10
ID = 3 (1631):	71931.69	78.725	12.42	11.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1631)	
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1631):	71931.69	78.725	12.42	11.00
+ ID2= 2 (0706):	426.33	12.374	5.25	24.23
ID = 1 (1631):	72358.02	79.061	12.33	11.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2376)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	126.45	0.0600	
71.39	126.07	0.0600	Main Channel
150.24	125.15	0.0600	Main Channel
163.69	122.70	0.0600	Main Channel
189.99	120.12	0.0600	Main Channel
216.26	114.41	0.0600	Main Channel
244.17	114.12	0.0600	Main Channel
305.96	114.29	0.0600	Main Channel
374.19	113.62	0.0600	Main Channel
426.78	111.37	0.0600	Main Channel
453.05	112.49	0.0600	Main Channel
479.35	124.43	0.0600	Main Channel
522.26	125.19	0.0600	Main Channel
572.02	126.48	0.0600	Main Channel
611.74	128.96	0.0600	Main Channel
703.63	135.20	0.0600	Main Channel
769.70	138.52	0.0600	Main Channel
795.97	139.39	0.0600	Main Channel
874.83	143.53	0.0600 /0.0600	Main Channel
931.64	145.23	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.77	112.14	.188E+05	8.4	0.61	37.26
1.53	112.90	.728E+05	55.1	1.04	22.03
2.30	113.67	.149E+06	147.8	1.36	16.84
3.06	114.43	.306E+06	246.3	1.10	20.71
3.83	115.20	.562E+06	668.4	1.63	14.02
4.59	115.96	.824E+06	1245.2	2.07	11.02
5.36	116.73	.109E+07	1960.2	2.47	9.27
6.12	117.49	.136E+07	2803.2	2.82	8.10
6.89	118.26	.164E+07	3767.4	3.15	7.26
7.66	119.03	.192E+07	4847.8	3.46	6.62
8.42	119.79	.221E+07	6040.6	3.74	6.11

9.19	120.56	.251E+07	7305.3	4.00	5.72
9.95	121.32	.281E+07	8649.9	4.22	5.42
10.72	122.09	.313E+07	10103.3	4.43	5.16
11.48	122.85	.345E+07	11683.5	4.64	4.92
12.25	123.62	.378E+07	13441.9	4.87	4.69
13.01	124.38	.412E+07	15309.2	5.10	4.49
13.78	125.15	.449E+07	16177.7	4.95	4.62
14.55	125.92	.492E+07	17752.0	4.95	4.62

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1631)	72358.02	79.06	12.33	11.08	1.73	1.11
OUTFLOW: ID= 1 (2376)	72358.02	78.90	12.58	11.08	1.73	1.10

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	
STANDHYD (0704)	Area (ha)= 168.03
ID= 1 DT= 5.0 min	Total Imp(%)= 56.10 Dir. Conn.(%)= 51.10

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	94.26	73.77
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	4.02	4.02
Length (m)=	1058.40	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.46
over (min)	15.00	30.00
Storage Coeff. (min)=	13.38 (ii)	28.08 (ii)
Unit Hyd. Tpeak (min)=	15.00	30.00
Unit Hyd. peak (cms)=	0.08	0.04

		TOTALS
PEAK FLOW (cms)=	4.56	1.32	5.742 (iii)
TIME TO PEAK (hrs)=	5.25	5.50	5.25
RUNOFF VOLUME (mm)=	40.00	13.32	26.95
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.32	0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 77.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0705)	Area (ha)= 648.73
ID= 1 DT= 5.0 min	Total Imp(%)= 76.10 Dir. Conn.(%)= 73.60

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	493.68	155.05
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	2.16	2.16

Length (m)=	2079.63	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.18
over (min)	25.00	45.00
Storage Coeff. (min)=	24.18 (ii)	41.38 (ii)
Unit Hyd. Tpeak (min)=	25.00	45.00
Unit Hyd. peak (cms)=	0.05	0.03

		TOTALS
PEAK FLOW (cms)=	23.29	2.56	25.326 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.33
RUNOFF VOLUME (mm)=	40.00	14.79	33.34
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.35	0.79

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(3038)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
160.68	150.57	0.0600	
166.85	150.56	0.0600	Main Channel
173.01	150.05	0.0600	Main Channel
177.00	149.08	0.0600	Main Channel
185.34	149.19	0.0600	Main Channel
187.16	149.18	0.0600	Main Channel
207.47	146.25	0.0600	Main Channel
227.77	144.04	0.0600	Main Channel
237.93	143.07	0.0600	Main Channel
248.08	142.70	0.0600	Main Channel
268.39	142.40	0.0600	Main Channel
271.66	142.47	0.0600	Main Channel
278.55	141.77	0.0600	Main Channel
283.99	141.90	0.0600	Main Channel
288.70	142.42	0.0600	Main Channel
310.69	142.84	0.0600	Main Channel
320.98	145.87	0.0600	Main Channel
329.32	149.24	0.0600	Main Channel
333.31	149.49	0.0600 /0.0600	Main Channel
339.47	150.76	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.45	142.22	.466E+04	1.8	0.50	42.87
0.91	142.68	.207E+05	8.5	0.53	40.56
1.36	143.13	.600E+05	39.8	0.86	25.14
1.82	143.59	.106E+06	96.5	1.18	18.23
2.27	144.04	.155E+06	173.5	1.45	14.86
2.72	144.49	.207E+06	271.0	1.69	12.76
3.18	144.95	.264E+06	387.9	1.90	11.32
3.63	145.40	.323E+06	524.1	2.10	10.27
4.09	145.86	.386E+06	679.8	2.28	9.46
4.54	146.31	.452E+06	857.4	2.45	8.78
5.00	146.77	.520E+06	1059.1	2.63	8.19
5.45	147.22	.592E+06	1280.7	2.80	7.70

5.90	147.67	.665E+06	1522.0	2.96	7.29
6.36	148.13	.742E+06	1783.4	3.11	6.93
6.81	148.58	.821E+06	2065.0	3.25	6.62
7.27	149.04	.902E+06	2367.0	3.39	6.35
7.72	149.49	.987E+06	2623.2	3.43	6.27
8.26	150.03	.110E+07	3012.0	3.55	6.06
8.80	150.57	.121E+07	3528.1	3.76	5.73

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0705)	648.73	25.33	5.33	33.34	1.15	0.67
OUTFLOW: ID= 1 (3038)	648.73	20.86	5.58	33.34	1.09	0.62

ROUTE CHN(2808) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
168.82	145.21	0.0600	
179.85	144.69	0.0600	Main Channel
179.99	144.68	0.0600	Main Channel
191.03	144.10	0.0600	Main Channel
201.44	143.64	0.0600	Main Channel
213.23	143.11	0.0600	Main Channel
222.89	142.11	0.0600	Main Channel
224.33	142.00	0.0600	Main Channel
225.89	141.45	0.0600	Main Channel
235.44	137.86	0.0600	Main Channel
244.34	138.95	0.0600	Main Channel
246.54	138.99	0.0600	Main Channel
248.90	139.21	0.0600	Main Channel
257.64	140.05	0.0600	Main Channel
265.78	142.23	0.0600	Main Channel
268.74	142.96	0.0600	Main Channel
271.92	143.45	0.0600	Main Channel
279.85	144.43	0.0600	Main Channel
287.23	145.59	0.0600 /0.0600	Main Channel
290.95	146.14	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	138.24	.300E+03	0.4	0.45	14.18
0.76	138.62	.120E+04	2.2	0.72	8.93
1.14	139.00	.272E+04	6.1	0.86	7.45
1.52	139.38	.516E+04	14.5	1.08	5.94
1.89	139.75	.834E+04	27.6	1.28	5.03
2.27	140.13	.122E+05	46.8	1.48	4.36
2.65	140.51	.166E+05	73.5	1.71	3.76
3.03	140.89	.213E+05	105.9	1.92	3.35
3.41	141.27	.263E+05	144.0	2.11	3.05
3.79	141.65	.318E+05	188.0	2.28	2.82
4.17	142.03	.375E+05	237.0	2.44	2.64
4.55	142.41	.440E+05	284.2	2.50	2.58
4.93	142.79	.511E+05	341.0	2.57	2.50
5.30	143.16	.591E+05	402.0	2.63	2.45

5.68	143.54	.684E+05	457.5	2.58	2.49
6.06	143.92	.793E+05	529.2	2.57	2.50
6.44	144.30	.920E+05	622.6	2.61	2.46
6.82	144.68	.106E+06	738.6	2.69	2.39
7.20	145.06	.122E+06	907.4	2.88	2.24

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3038)	648.73	20.86	5.58	33.34	1.70	1.17
OUTFLOW: ID= 1 (2808)	648.73	20.67	5.67	33.34	1.69	1.17

ROUTE CHN(2806) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
168.82	145.21	0.0600	
179.85	144.69	0.0600	Main Channel
179.99	144.68	0.0600	Main Channel
191.03	144.10	0.0600	Main Channel
201.44	143.64	0.0600	Main Channel
213.23	143.11	0.0600	Main Channel
222.89	142.11	0.0600	Main Channel
224.33	142.00	0.0600	Main Channel
225.89	141.45	0.0600	Main Channel
235.44	137.86	0.0600	Main Channel
244.34	138.95	0.0600	Main Channel
246.54	138.99	0.0600	Main Channel
248.90	139.21	0.0600	Main Channel
257.64	140.05	0.0600	Main Channel
265.78	142.23	0.0600	Main Channel
268.74	142.96	0.0600	Main Channel
271.92	143.45	0.0600	Main Channel
279.85	144.43	0.0600	Main Channel
287.23	145.59	0.0600 /0.0600	Main Channel
290.95	146.14	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	138.24	.232E+03	0.3	0.40	12.56
0.76	138.62	.926E+03	2.0	0.63	7.91
1.14	139.00	.210E+04	5.3	0.75	6.60
1.52	139.38	.399E+04	12.6	0.94	5.26
1.89	139.75	.644E+04	24.1	1.12	4.45
2.27	140.13	.944E+04	40.8	1.29	3.86
2.65	140.51	.128E+05	64.1	1.49	3.33
3.03	140.89	.164E+05	92.3	1.67	2.97
3.41	141.27	.203E+05	125.6	1.84	2.70
3.79	141.65	.245E+05	163.9	1.99	2.49
4.17	142.03	.290E+05	206.6	2.12	2.34
4.55	142.41	.339E+05	247.7	2.18	2.28
4.93	142.79	.395E+05	297.2	2.24	2.21
5.30	143.16	.456E+05	350.5	2.29	2.17
5.68	143.54	.528E+05	398.8	2.25	2.21
6.06	143.92	.613E+05	461.3	2.24	2.21

6.44	144.30	.710E+05	542.8	2.28	2.18
6.82	144.68	.819E+05	643.9	2.34	2.12
7.20	145.06	.939E+05	791.0	2.51	1.98

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2808)	648.73	20.67	5.67	33.34	1.78	1.06
OUTFLOW: ID= 1 (2806)	648.73	20.57	5.67	33.34	1.78	1.06

ROUTE CHN(2805) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
168.82	145.21	0.0600	
179.85	144.69	0.0600	Main Channel
179.99	144.68	0.0600	Main Channel
191.03	144.10	0.0600	Main Channel
201.44	143.64	0.0600	Main Channel
213.23	143.11	0.0600	Main Channel
222.89	142.11	0.0600	Main Channel
224.33	142.00	0.0600	Main Channel
225.89	141.45	0.0600	Main Channel
235.44	137.86	0.0600	Main Channel
244.34	138.95	0.0600	Main Channel
246.54	138.99	0.0600	Main Channel
248.90	139.21	0.0600	Main Channel
257.64	140.05	0.0600	Main Channel
265.78	142.23	0.0600	Main Channel
268.74	142.96	0.0600	Main Channel
271.92	143.45	0.0600	Main Channel
279.85	144.43	0.0600	Main Channel
287.23	145.59	0.0600 /0.0600	Main Channel
290.95	146.14	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.38	138.24	.333E+03	0.3	0.43	16.71
0.76	138.62	.133E+04	2.1	0.68	10.53
1.14	139.00	.301E+04	5.7	0.81	8.78
1.52	139.38	.573E+04	13.6	1.02	7.00
1.89	139.75	.924E+04	26.0	1.20	5.93
2.27	140.13	.136E+05	44.0	1.39	5.13
2.65	140.51	.184E+05	69.1	1.61	4.43
3.03	140.89	.236E+05	99.6	1.81	3.95
3.41	141.27	.292E+05	135.5	1.99	3.59
3.79	141.65	.352E+05	176.9	2.15	3.32
4.17	142.03	.416E+05	223.0	2.29	3.11
4.55	142.41	.487E+05	267.3	2.35	3.04
4.93	142.79	.567E+05	320.8	2.42	2.95
5.30	143.16	.655E+05	378.2	2.47	2.89
5.68	143.54	.758E+05	430.4	2.43	2.94
6.06	143.92	.880E+05	497.8	2.42	2.95
6.44	144.30	.102E+06	585.7	2.46	2.90
6.82	144.68	.118E+06	694.9	2.53	2.82

7.20	145.06	.135E+06	853.6	2.71	2.63

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2806)	648.73	20.57	5.67	33.34	1.73	1.11
OUTFLOW: ID= 1 (2805)	648.73	20.35	5.75	33.34	1.72	1.11

ROUTE CHN(3990) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
71.01	142.39	0.0600	
76.97	140.75	0.0600	Main Channel
83.41	138.90	0.0600	Main Channel
87.13	138.11	0.0600	Main Channel
95.82	136.37	0.0600	Main Channel
97.29	136.04	0.0600	Main Channel
104.01	134.92	0.0600	Main Channel
107.46	134.38	0.0600	Main Channel
108.22	134.17	0.0600	Main Channel
117.62	131.79	0.0600	Main Channel
120.62	131.61	0.0600	Main Channel
127.78	130.88	0.0600	Main Channel
133.02	130.58	0.0600	Main Channel
137.94	129.86	0.0600	Main Channel
145.42	130.49	0.0600	Main Channel
148.10	130.76	0.0600	Main Channel
158.26	133.33	0.0600	Main Channel
160.29	134.24	0.0600	Main Channel
168.43	138.05	0.0600 /0.0600	Main Channel
178.59	142.32	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.63	130.49	.356E+04	4.3	1.17	13.69
1.26	131.12	.148E+05	28.8	1.87	8.54
1.89	131.75	.320E+05	83.4	2.50	6.39
2.52	132.38	.541E+05	181.1	3.20	4.98
3.15	133.01	.793E+05	315.5	3.81	4.19
3.78	133.64	.107E+06	489.8	4.37	3.65
4.41	134.27	.138E+06	705.0	4.90	3.26
5.04	134.90	.171E+06	948.0	5.31	3.01
5.67	135.53	.207E+06	1233.0	5.70	2.80
6.30	136.16	.247E+06	1564.9	6.08	2.63
6.93	136.79	.289E+06	1949.8	6.47	2.47
7.56	137.42	.334E+06	2379.7	6.83	2.34
8.19	138.05	.381E+06	2858.2	7.18	2.22
8.82	138.68	.431E+06	3424.5	7.60	2.10
9.53	139.39	.491E+06	4193.9	8.18	1.95
10.24	140.10	.554E+06	5066.5	8.76	1.82
10.95	140.81	.620E+06	6015.8	9.30	1.72
11.67	141.53	.688E+06	7047.2	9.81	1.63
12.38	142.24	.759E+06	8159.9	10.29	1.55

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                                        <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2805)     648.73    20.35    5.75  33.34      1.04
1.55
   OUTFLOW: ID= 1 (  3990)     648.73    19.98    5.92  33.34      1.03
1.53


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--------------------
| ADD HYD  (  7565)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  3990):    648.73     19.979        5.92       33.34
     + ID2= 2 (  0704):    168.03      5.742        5.25       26.95
       ============================================================
       ID = 3 (  7565):    816.76     22.628        5.83       32.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0975)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
--------------------          (ha)      (cms)       (hrs)        (mm)
       ID1= 1 (  2376):  72358.02     78.896       12.58       11.08
     + ID2= 2 (  7565):    816.76     22.628        5.83       32.03
       ============================================================
       ID = 3 (  0975):  73174.78     79.839       12.42       11.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  2336)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         124.85        0.0600
                 55.26         124.37        0.0600      Main Channel
                 75.69         123.60        0.0600      Main Channel
                 85.89         113.75        0.0600      Main Channel
                 96.13         109.45        0.0600      Main Channel
                127.08         109.43        0.0600      Main Channel
                188.33         106.72        0.0600      Main Channel
                219.08         105.66        0.0600      Main Channel
                239.57         108.68        0.0600      Main Channel
                260.45         108.41        0.0600      Main Channel
                311.52         109.32        0.0600      Main Channel
                321.77         111.52        0.0600      Main Channel
                342.21         121.30        0.0600      Main Channel
                383.21         123.56        0.0600      Main Channel
                485.66         125.61        0.0600      Main Channel
                567.72         128.01        0.0600      Main Channel
                616.64         131.81        0.0600      Main Channel
                710.60         134.88        0.0600      Main Channel
```



```
                731.07         135.83     0.0600 /0.0600  Main Channel
                777.90         137.09        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
        1.00   106.66    .136E+05          12.6          0.71       18.04
        1.99   107.65    .523E+05          79.2          1.16       11.01
        2.99   108.65    .116E+06         193.1          1.27       10.04
        3.99   109.65    .247E+06         473.7          1.47        8.70
        4.98   110.64    .416E+06        1102.0          2.03        6.29
        5.98   111.64    .590E+06        1932.8          2.51        5.09
        6.98   112.64    .768E+06        2958.9          2.95        4.33
        7.97   113.63    .950E+06        4157.2          3.35        3.81
        8.97   114.63    .113E+07        5530.1          3.73        3.42
        9.97   115.63    .132E+07        7059.7          4.09        3.12
       10.96   116.62    .151E+07        8737.8          4.43        2.88
       11.96   117.62    .170E+07       10559.2          4.75        2.69
       12.96   118.62    .190E+07       12519.7          5.06        2.52
       13.95   119.61    .209E+07       14615.7          5.35        2.39
       14.95   120.61    .229E+07       16844.1          5.63        2.27
       15.95   121.61    .249E+07       18984.1          5.83        2.19
       16.94   122.60    .271E+07       20801.5          5.89        2.17
       17.94   123.60    .293E+07       22750.7          5.94        2.15
       19.19   124.85    .328E+07       24080.8          5.62        2.27

                                        <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  0975)   73174.78    79.84   12.42  11.31      2.00
1.16
   OUTFLOW: ID= 1 (  2336)   73174.78    79.79   12.58  11.31      2.00
1.16

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

--------------------------------------------------------------------------------
-
--------------------
| ROUTE CHN(  3987)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         124.13        0.0600
                107.73         123.23        0.0600      Main Channel
                130.58         125.75        0.0600      Main Channel
                188.59         122.27        0.0600      Main Channel
                211.97         119.98        0.0600      Main Channel
                258.21         113.90        0.0600      Main Channel
                292.76         109.71        0.0600      Main Channel
                316.10         105.32        0.0600      Main Channel
                374.09         104.13        0.0600      Main Channel
                418.62         104.38        0.0600      Main Channel
                469.41         103.68        0.0600      Main Channel
                509.86         102.73        0.0600      Main Channel
                530.12         109.49        0.0600      Main Channel
                570.77         113.72        0.0600      Main Channel
                604.25         113.81        0.0600      Main Channel
                686.25         120.90        0.0600      Main Channel
                746.17         122.04        0.0600      Main Channel
                773.53         124.50        0.0600      Main Channel
                803.85         128.79     0.0600 /0.0600  Main Channel
```



```
                909.27         129.47        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
        1.10   103.83    .171E+05          20.9          0.75       13.61
        2.19   104.92    .103E+06         187.3          1.12        9.15
        3.29   106.02    .238E+06         690.2          1.79        5.74
        4.38   107.11    .381E+06        1469.8          2.38        4.32
        5.48   108.21    .530E+06        2479.5          2.88        3.56
        6.58   109.31    .685E+06        3704.3          3.33        3.08
        7.67   110.40    .849E+06        5048.9          3.66        2.80
        8.77   111.50    .103E+07        6582.0          3.95        2.60
        9.87   112.60    .122E+07        8339.5          4.23        2.43
       10.96   113.69    .142E+07       10330.7          4.49        2.29
       12.06   114.79    .166E+07       12028.7          4.47        2.29
       13.15   115.88    .191E+07       14684.7          4.74        2.17
       14.25   116.98    .218E+07       17631.6          4.99        2.06
       15.35   118.08    .246E+07       20878.1          5.23        1.96
       16.44   119.17    .275E+07       24433.5          5.47        1.88
       17.54   120.27    .306E+07       28277.7          5.69        1.80
       18.64   121.37    .339E+07       31614.3          5.74        1.79
       19.73   122.46    .376E+07       35170.9          5.76        1.78
       20.83   123.56    .415E+07       40076.1          5.94        1.73

                                        <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  2336)   73174.78    79.79   12.58  11.31      1.48
0.85
   OUTFLOW: ID= 1 (  3987)   73174.78    79.75   12.75  11.31      1.48
0.85

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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-
--------------------
| ROUTE CHN(  3922)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         124.54        0.0600
                 39.65         124.81        0.0600      Main Channel
                 68.89         123.75        0.0600      Main Channel
                112.92         123.42        0.0600      Main Channel
                173.06         123.89        0.0600      Main Channel
                213.73         103.20        0.0600      Main Channel
                246.11         100.07        0.0600      Main Channel
                307.34         100.57        0.0600      Main Channel
                325.46          99.95        0.0600      Main Channel
                414.66          98.83        0.0600      Main Channel
                530.13         100.55        0.0600      Main Channel
                570.74          99.78        0.0600      Main Channel
                601.14          97.76        0.0600      Main Channel
                672.40         100.76        0.0600      Main Channel
                702.80         105.79        0.0600      Main Channel
                815.96         108.38        0.0600      Main Channel
                881.12         107.49        0.0600      Main Channel
                929.15         108.62        0.0600      Main Channel
                970.23         111.35     0.0600 /0.0600  Main Channel
               1108.78         116.68        0.0600
```



```
      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME        FLOW RATE     VELOCITYTRAV.TIME
         (m)      (m)     (cu.m.)          (cms)         (m/s)       (min)
        1.36    99.12    .132E+05          33.6          0.80        6.53
        2.72   100.48    .112E+06         454.8          1.28        4.09
        4.08   101.84    .299E+06        2168.4          2.28        2.30
        5.44   103.20    .496E+06        4884.5          3.09        1.69
        6.80   104.56    .700E+06        8542.5          3.83        1.37
        8.15   105.91    .909E+06       12919.4          4.46        1.17
        9.51   107.27    .114E+07       17307.6          4.78        1.09
       10.87   108.63    .141E+07       20948.8          4.66        1.12
       12.23   109.99    .173E+07       28688.2          5.22        1.00
       13.59   111.35    .205E+07       37457.5          5.73        0.91
       15.09   112.85    .242E+07       49055.3          6.35        0.82
       16.58   114.34    .282E+07       62015.0          6.91        0.76
       18.08   115.84    .323E+07       76372.2          7.43        0.70
       19.57   117.33    .366E+07       92233.8          7.92        0.66
       21.07   118.83    .409E+07      109599.0          8.41        0.62
       22.56   120.32    .453E+07      128296.6          8.90        0.59
       24.06   121.82    .496E+07      148273.0          9.38        0.56
       25.55   123.31    .540E+07      169484.7          9.85        0.53
       27.05   124.81    .589E+07      180005.0          9.60        0.54

                                        <---- hydrograph ---->   <-pipe /
channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL                           (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3987)   73174.78    79.75   12.75  11.31      1.51
0.84
   OUTFLOW: ID= 1 (  3922)   73174.78    79.73   12.83  11.31      1.51
0.84

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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-
--------------------
| ROUTE CHN(  3923)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation      Manning
                  0.00         124.54        0.0600
                 39.65         124.81        0.0600      Main Channel
                 68.89         123.75        0.0600      Main Channel
                112.92         123.42        0.0600      Main Channel
                173.06         123.89        0.0600      Main Channel
                213.73         103.20        0.0600      Main Channel
                246.11         100.07        0.0600      Main Channel
                307.34         100.57        0.0600      Main Channel
                325.46          99.95        0.0600      Main Channel
                414.66          98.83        0.0600      Main Channel
                530.13         100.55        0.0600      Main Channel
                570.74          99.78        0.0600      Main Channel
                601.14          97.76        0.0600      Main Channel
                672.40         100.76        0.0600      Main Channel
                702.80         105.79        0.0600      Main Channel
                815.96         108.38        0.0600      Main Channel
                881.12         107.49        0.0600      Main Channel
                929.15         108.62        0.0600      Main Channel
                970.23         111.35     0.0600 /0.0600  Main Channel
               1108.78         116.68        0.0600
```

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.36	99.12	.356E+05	21.6	0.52	27.41
2.72	100.48	.302E+06	292.6	0.82	17.20
4.08	101.84	.808E+06	1395.0	1.47	9.65
5.44	103.20	.134E+07	3142.4	1.99	7.11
6.80	104.56	.189E+07	5495.7	2.46	5.74
8.15	105.91	.246E+07	8311.5	2.87	4.93
9.51	107.27	.307E+07	11134.6	3.08	4.59
10.87	108.63	.381E+07	13477.0	3.00	4.72
12.23	109.99	.467E+07	18456.1	3.36	4.21
13.59	111.35	.554E+07	24097.7	3.69	3.83
15.09	112.85	.655E+07	31558.9	4.09	3.46
16.58	114.34	.761E+07	39896.4	4.45	3.18
18.08	115.84	.872E+07	49132.8	4.78	2.96
19.57	117.33	.988E+07	59337.1	5.09	2.78
21.07	118.83	.111E+08	70508.7	5.41	2.61
22.56	120.32	.122E+08	82537.5	5.72	2.47
24.06	121.82	.134E+08	95389.0	6.03	2.34
25.55	123.31	.146E+08	109035.2	6.34	2.23
27.05	124.81	.159E+08	115803.3	6.18	2.29

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3922)	73174.78	79.73	12.83	11.31	1.65	0.56
OUTFLOW: ID= 1 (3923)	73174.78	79.55	13.25	11.31	1.65	0.56

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB / STANDHYD (0713)	Area (ha)= 525.54	Total Imp(%)= 54.50	Dir. Conn.(%)= 49.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	286.42	239.12
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.25	3.25
Length	(m)=	1871.79	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.57
over (min)		20.00	40.00
Storage Coeff. (min)=		20.08 (ii)	35.07 (ii)
Unit Hyd. Tpeak (min)=		20.00	40.00
Unit Hyd. peak (cms)=		0.06	0.03
			TOTALS
PEAK FLOW (cms)=		13.19	4.32	16.738 (iii)
TIME TO PEAK (hrs)=		5.25	5.67	5.33
RUNOFF VOLUME (mm)=		40.00	14.89	27.27
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.95	0.35	0.65

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (0714)	Area (ha)= 390.40	Total Imp(%)= 45.70	Dir. Conn.(%)= 42.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	178.41	211.99
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.03	3.03
Length	(m)=	1613.28	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.09
over (min)		20.00	40.00
Storage Coeff. (min)=		18.76 (ii)	39.26 (ii)
Unit Hyd. Tpeak (min)=		20.00	40.00
Unit Hyd. peak (cms)=		0.06	0.03
			TOTALS
PEAK FLOW (cms)=		8.58	1.80	9.943 (iii)
TIME TO PEAK (hrs)=		5.25	5.67	5.25
RUNOFF VOLUME (mm)=		40.00	8.03	21.71
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.95	0.19	0.52

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1957)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3923):	73174.78	79.550	13.25	11.31
+ ID2= 2 (0713):	525.54	16.738	5.33	27.27
ID = 3 (1957):	73700.33	79.654	13.08	11.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1957)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1957):	73700.33	79.654	13.08	11.42
+ ID2= 2 (0714):	390.40	9.943	5.25	21.71
ID = 1 (1957):	74090.72	79.729	13.00	11.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3837) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	122.32	0.0600	
5.45	123.74	0.0600	Main Channel
40.43	120.46	0.0600	Main Channel
77.03	114.47	0.0600	Main Channel
200.50	108.67	0.0600	Main Channel
234.20	96.55	0.0600	Main Channel
291.78	96.40	0.0600	Main Channel
310.02	94.13	0.0600	Main Channel
318.45	96.42	0.0600	Main Channel
395.39	95.58	0.0600	Main Channel
529.07	96.19	0.0600	Main Channel
670.14	95.65	0.0600	Main Channel
711.04	95.95	0.0600	Main Channel
731.49	93.38	0.0600	Main Channel
772.40	93.38	0.0600	Main Channel
825.93	99.14	0.0600	Main Channel
946.24	101.78	0.0600	Main Channel
1009.30	106.91	0.0600	Main Channel
1079.17	124.40	0.0600 /0.0600	Main Channel
1133.00	124.76	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.50	94.88	.343E+05	56.0	0.66	10.20
3.01	96.38	.169E+06	226.2	0.54	12.45
4.51	97.89	.518E+06	1327.3	1.04	6.50
6.02	99.39	.881E+06	3117.2	1.44	4.71
7.52	100.90	.128E+07	5365.9	1.71	3.96
9.03	102.40	.171E+07	8348.3	1.98	3.42
10.53	103.91	.217E+07	12124.5	2.27	2.98
12.04	105.41	.264E+07	16483.4	2.53	2.67
13.54	106.92	.312E+07	21407.6	2.78	2.43
15.05	108.42	.362E+07	27106.1	3.04	2.23
16.55	109.93	.413E+07	32821.5	3.23	2.09
18.06	111.43	.465E+07	38980.2	3.40	1.99
19.56	112.94	.521E+07	45695.5	3.56	1.90
21.07	114.44	.578E+07	52979.3	3.72	1.82
22.57	115.95	.638E+07	61650.0	3.93	1.72
24.07	117.45	.698E+07	70903.8	4.13	1.64
25.58	118.95	.759E+07	80716.2	4.32	1.57
27.08	120.46	.821E+07	91081.9	4.50	1.50
28.94	122.32	.899E+07	105332.6	4.76	1.42

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1957)	74090.72	79.73	13.00	11.48	1.71	0.64
OUTFLOW: ID= 1 (3837)	74090.72	79.67	13.25	11.48	1.71	0.64

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB / NASHYD (0693)	Area (ha)= 15.74	Curve Number (CN)= 58.4
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.74	

Unit Hyd Qpeak (cms)= 0.812

PEAK FLOW (cms)= 0.067 (i)
TIME TO PEAK (hrs)= 5.917
RUNOFF VOLUME (mm)= 4.809
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.114

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (0673)	Area (ha)= 149.29	Total Imp(%)= 37.24	Dir. Conn.(%)= 36.53

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	55.60	93.69
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.01	3.01
Length	(m)=	997.63	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.83
over (min)		15.00	40.00
Storage Coeff. (min)=		14.08 (ii)	35.07 (ii)
Unit Hyd. Tpeak (min)=		15.00	40.00
Unit Hyd. peak (cms)=		0.08	0.03
			TOTALS
PEAK FLOW (cms)=		2.89	0.79	3.488 (iii)
TIME TO PEAK (hrs)=		5.25	5.67	5.25
RUNOFF VOLUME (mm)=		40.00	7.91	19.64
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.95	0.19	0.47

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB / STANDHYD (0674)	Area (ha)= 32.83	Total Imp(%)= 73.78	Dir. Conn.(%)= 73.78

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	24.22	8.61
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.29	1.29
Length	(m)=	467.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.57
over (min)		10.00	40.00
Storage Coeff. (min)=		11.53 (ii)	39.20 (ii)
Unit Hyd. Tpeak (min)=		10.00	40.00

Unit Hyd. peak	(cms)=	0.10	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.29	0.07	1.345 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	7.82	31.56
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.75

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0676) | Area (ha)= 60.96
ID= 1 DT= 5.0 min | Total Imp(%)= 55.47 Dir. Conn.(%)= 55.47

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	33.81	27.15
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.13	2.13
Length	(m)=	637.50	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.72
over (min)		10.00	40.00
Storage Coeff. (min)=		11.94 (ii)	35.43 (ii)
Unit Hyd. Tpeak (min)=		10.00	40.00
Unit Hyd. peak (cms)=		0.10	0.03

				TOTALS
PEAK FLOW	(cms)=	1.80	0.22	1.974 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	7.82	25.67
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.61

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0682) | Area (ha)= 120.33
ID= 1 DT= 5.0 min | Total Imp(%)= 73.87 Dir. Conn.(%)= 73.78

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	88.88	31.45
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.83	1.83
Length	(m)=	895.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.33
over (min)		15.00	40.00
Storage Coeff. (min)=		15.33 (ii)	38.75 (ii)
Unit Hyd. Tpeak (min)=		15.00	40.00

Unit Hyd. peak	(cms)=	0.07	0.03	
				TOTALS
PEAK FLOW	(cms)=	4.67	0.28	4.886 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	8.78	31.81
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.21	0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 68.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (2188)

		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0674):		32.83	1.345	5.25	31.56
+ ID2= 2 (0676):		60.96	1.974	5.25	25.67
ID = 3 (2188):		93.79	3.319	5.25	27.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (2188)

		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (2188):		93.79	3.319	5.25	27.73
+ ID2= 2 (0682):		120.33	4.886	5.25	31.81
ID = 1 (2188):		214.12	8.205	5.25	30.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(4093)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	14.3500	6.2157
4.5900	3.8553	19.0200	7.0812
8.4900	4.9175	190.2000	7.8680

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2188)	214.120	8.205	5.25	30.03
OUTFLOW: ID= 1 (4093)	214.120	3.457	5.83	30.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 42.13
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 2.9040

CALIB
STANDHYD (0675) | Area (ha)= 61.32
ID= 1 DT= 5.0 min | Total Imp(%)= 34.58 Dir. Conn.(%)= 34.58

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	21.20	40.12
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.96	3.96
Length	(m)=	639.37	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.87
over (min)		10.00	30.00
Storage Coeff. (min)=		9.93 (ii)	29.19 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.11	0.04

				TOTALS
PEAK FLOW	(cms)=	1.14	0.36	1.452 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	7.82	18.95
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.45

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0679) | Area (ha)= 21.06
ID= 1 DT= 5.0 min | Total Imp(%)= 74.93 Dir. Conn.(%)= 74.93

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	15.78	5.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.98	1.98
Length	(m)=	374.70	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.86
over (min)		10.00	35.00
Storage Coeff. (min)=		8.87 (ii)	32.61 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.12	0.03

				TOTALS
PEAK FLOW	(cms)=	0.85	0.05	0.884 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	8.04	31.99
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0680) | Area (ha)= 47.71
ID= 1 DT= 5.0 min | Total Imp(%)= 49.16 Dir. Conn.(%)= 49.16

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	23.45	24.26
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.07	2.07
Length	(m)=	563.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.00
over (min)		10.00	35.00
Storage Coeff. (min)=		11.19 (ii)	34.35 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.10	0.03

				TOTALS
PEAK FLOW	(cms)=	1.25	0.22	1.429 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	8.27	23.87
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.20	0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 66.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(2192)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	190.69	0.0600	
19.86	190.28	0.0600	Main Channel
39.73	189.97	0.0600	Main Channel
69.52	189.58	0.0600	Main Channel
79.45	189.35	0.0600	Main Channel
109.25	188.84	0.0600	Main Channel
119.18	188.77	0.0600	Main Channel
129.11	188.85	0.0600	Main Channel
148.98	188.66	0.0600	Main Channel
158.91	188.39	0.0600	Main Channel
168.84	187.73	0.0600	Main Channel
198.63	186.65	0.0600	Main Channel
208.57	187.07	0.0600	Main Channel
218.50	187.34	0.0600	Main Channel
228.43	187.47	0.0600	Main Channel
258.22	188.60	0.0600	Main Channel
288.02	189.63	0.0600	Main Channel
307.88	190.19	0.0600	Main Channel
317.81	190.40	0.0600 /0.0600	Main Channel
347.61	190.71	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.21	186.86	.102E+04	0.4	0.34	45.09	
0.41	187.07	.408E+04	2.4	0.54	28.40	
0.62	187.28	.943E+04	7.0	0.68	22.41	
0.83	187.48	.177E+05	15.0	0.78	19.60	
1.04	187.69	.289E+05	30.0	0.95	16.05	
1.24	187.90	.420E+05	51.4	1.12	13.64	
1.45	188.11	.569E+05	78.9	1.28	12.01	
1.66	188.31	.733E+05	112.8	1.41	10.83	
1.87	188.52	.915E+05	151.0	1.52	10.10	
2.07	188.73	.112E+06	190.9	1.56	9.81	
2.28	188.93	.140E+06	223.3	1.47	10.45	
2.49	189.14	.173E+06	296.2	1.57	9.73	
2.69	189.35	.209E+06	382.4	1.68	9.13	
2.90	189.56	.249E+06	486.5	1.80	8.53	
3.11	189.76	.292E+06	594.7	1.87	8.18	
3.32	189.97	.339E+06	717.9	1.94	7.88	
3.52	190.18	.391E+06	887.7	2.09	7.34	
3.76	190.42	.455E+06	1101.2	2.22	6.89	
4.00	190.65	.526E+06	1369.4	2.39	6.40	

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0680)	47.71	1.43	5.25	23.87	0.32	0.42
OUTFLOW: ID= 1 (2192)	47.71	1.13	5.33	23.86	0.28	0.39

ADD HYD (0941)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2192):	47.71	1.127	5.33	23.86
+ ID2= 2 (4093):	214.12	3.457	5.83	30.02
ID = 3 (0941):	261.83	4.418	5.58	28.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0941)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0941):	261.83	4.418	5.58	28.90
+ ID2= 2 (0675):	61.32	1.452	5.25	18.95
ID = 1 (0941):	323.15	5.567	5.33	27.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0941)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

INFLOW : ID= 2 (0941)	344.21	6.35	5.25	27.32	0.59	0.66
OUTFLOW: ID= 1 (2193)	344.21	5.64	5.50	27.32	0.56	0.63

CALIB			
STANDHYD (0677)	Area (ha)=	12.51	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.56	Dir. Conn.(%)= 75.56

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	9.45	3.06	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	1.57	1.57	
Length	(m)=	288.79	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	4.44	
over (min)		10.00	35.00	
Storage Coeff. (min)=		8.14 (ii)	34.52 (ii)	
Unit Hyd. Tpeak (min)=		10.00	35.00	
Unit Hyd. peak (cms)=		0.13	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.51	0.02	0.527 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	7.61	32.08
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.18	0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4092)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.6400	0.4866
	0.1200	0.3419	0.9300	0.5544
	0.3000	0.3912	9.3000	0.6160

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0677)	12.510	0.527	5.25	32.08
OUTFLOW: ID= 1 (4092)	12.510	0.094	6.75	32.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.85
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.2681

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0941):	323.15	5.567	5.33	27.01
+ ID2= 2 (0679):	21.06	0.884	5.25	31.99
ID = 3 (0941):	344.21	6.350	5.25	27.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2193)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	190.69	0.0600	
19.86	190.28	0.0600	Main Channel
39.73	189.97	0.0600	Main Channel
69.52	189.58	0.0600	Main Channel
79.45	189.35	0.0600	Main Channel
109.25	188.84	0.0600	Main Channel
119.18	188.77	0.0600	Main Channel
129.11	188.85	0.0600	Main Channel
148.98	188.66	0.0600	Main Channel
158.91	188.39	0.0600	Main Channel
168.84	187.73	0.0600	Main Channel
198.63	186.65	0.0600	Main Channel
208.57	187.07	0.0600	Main Channel
218.50	187.34	0.0600	Main Channel
228.43	187.47	0.0600	Main Channel
258.22	188.60	0.0600	Main Channel
288.02	189.63	0.0600	Main Channel
307.88	190.19	0.0600	Main Channel
317.81	190.40	0.0600 /0.0600	Main Channel
347.61	190.71	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	186.86	.957E+03	0.4	0.34	42.30
0.41	187.07	.383E+04	2.4	0.54	26.64
0.62	187.28	.884E+04	7.0	0.68	21.03
0.83	187.48	.166E+05	15.0	0.78	18.38
1.04	187.69	.271E+05	30.0	0.95	15.06
1.24	187.90	.394E+05	51.4	1.12	12.79
1.45	188.11	.533E+05	78.9	1.28	11.26
1.66	188.31	.687E+05	112.8	1.41	10.16
1.87	188.52	.859E+05	151.0	1.52	9.48
2.07	188.73	.105E+06	190.9	1.56	9.20
2.28	188.93	.131E+06	223.2	1.47	9.80
2.49	189.14	.162E+06	296.2	1.57	9.13
2.69	189.35	.196E+06	382.4	1.68	8.56
2.90	189.56	.234E+06	486.5	1.80	8.00
3.11	189.76	.274E+06	594.7	1.87	7.67
3.32	189.97	.318E+06	717.9	1.94	7.39
3.52	190.18	.367E+06	887.7	2.09	6.88
3.76	190.42	.427E+06	1101.1	2.22	6.46
4.00	190.65	.493E+06	1369.4	2.39	6.00

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

CALIB			
STANDHYD (0681)	Area (ha)=	343.15	
ID= 1 DT= 5.0 min	Total Imp(%)=	70.67	Dir. Conn.(%)= 70.58

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	242.49	100.66	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	1.63	1.63	
Length	(m)=	1512.50	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	4.59	
over (min)		20.00	50.00	
Storage Coeff. (min)=		21.73 (ii)	47.46 (ii)	
Unit Hyd. Tpeak (min)=		20.00	50.00	
Unit Hyd. peak (cms)=		0.05	0.02	
				TOTALS
PEAK FLOW	(cms)=	12.19	0.72	12.643 (iii)
TIME TO PEAK	(hrs)=	5.25	5.83	5.25
RUNOFF VOLUME	(mm)=	40.00	7.85	30.54
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0683)	Area (ha)=	36.92	
ID= 1 DT= 5.0 min	Total Imp(%)=	51.64	Dir. Conn.(%)= 51.64

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	19.07	17.85	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.42	3.42	
Length	(m)=	496.12	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	4.72	
over (min)		10.00	30.00	
Storage Coeff. (min)=		8.91 (ii)	29.29 (ii)	
Unit Hyd. Tpeak (min)=		10.00	30.00	
Unit Hyd. peak (cms)=		0.12	0.04	
				TOTALS
PEAK FLOW	(cms)=	1.02	0.16	1.163 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	7.82	24.44
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.58

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0684)	Area (ha)=	71.88			
ID= 1 DT= 5.0 min	Total Imp(%)=	74.40	Dir. Conn.(%)=	74.40	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	53.48	18.40	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.22	2.22	
Length	(m)=	692.24	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	4.72	
over (min)		10.00	40.00	
Storage Coeff. (min)=		12.39 (ii)	35.59 (ii)	
Unit Hyd. Tpeak (min)=		10.00	40.00	
Unit Hyd. peak (cms)=		0.10	0.03	
				TOTALS
PEAK FLOW	(cms)=	2.85	0.15	2.966 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	7.82	31.76
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.76

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4088)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW	STORAGE		OUTFLOW	STORAGE
	(cms)	(ha.m.)		(cms)	(ha.m.)
	0.0000	0.0000		4.6900	2.1905
	1.3100	1.3639		6.2900	2.4799
	2.6500	1.7635		62.9000	2.7554

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0684)	71.880	2.966	5.25	31.76
OUTFLOW: ID= 1 (4088)	71.880	1.087	5.83	31.76

PEAK FLOW REDUCTION [Qout/Qin](%)= 36.64
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 1.1317

CALIB					
STANDHYD (0685)	Area (ha)=	42.17			
ID= 1 DT= 5.0 min	Total Imp(%)=	64.00	Dir. Conn.(%)=	64.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	26.99	15.18
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.04	2.04
Length	(m)=	530.22	40.00

Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	4.86	
over (min)		10.00	35.00	
Storage Coeff. (min)=		10.83 (ii)	34.36 (ii)	
Unit Hyd. Tpeak (min)=		10.00	35.00	
Unit Hyd. peak (cms)=		0.11	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.44	0.13	1.550 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	8.04	28.50
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.68

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0686)	Area (ha)=	88.14			
ID= 1 DT= 5.0 min	Total Imp(%)=	25.69	Dir. Conn.(%)=	25.07	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	22.64	65.50	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.28	2.28	
Length	(m)=	766.55	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	4.80	
over (min)		15.00	40.00	
Storage Coeff. (min)=		13.07 (ii)	35.93 (ii)	
Unit Hyd. Tpeak (min)=		15.00	40.00	
Unit Hyd. peak (cms)=		0.08	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.17	0.54	1.586 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	7.89	15.94
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.38

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0687)	Area (ha)=	19.40			
ID= 1 DT= 5.0 min	Total Imp(%)=	58.04	Dir. Conn.(%)=	53.16	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	11.26	8.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.42	2.42
Length	(m)=	359.63	40.00

Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	6.75	
over (min)		10.00	30.00	
Storage Coeff. (min)=		8.15 (ii)	27.75 (ii)	
Unit Hyd. Tpeak (min)=		10.00	30.00	
Unit Hyd. peak (cms)=		0.13	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.55	0.11	0.646 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	9.74	25.82
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.23	0.61

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 68.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0688)	Area (ha)=	181.61			
ID= 1 DT= 5.0 min	Total Imp(%)=	51.91	Dir. Conn.(%)=	48.09	

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	94.28	87.33	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.50	2.50	
Length	(m)=	1100.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	5.65	
over (min)		15.00	40.00	
Storage Coeff. (min)=		15.79 (ii)	36.63 (ii)	
Unit Hyd. Tpeak (min)=		15.00	40.00	
Unit Hyd. peak (cms)=		0.07	0.03	
				TOTALS
PEAK FLOW	(cms)=	4.59	0.85	5.240 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	8.69	23.74
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.21	0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4089)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW	STORAGE		OUTFLOW	STORAGE
	(cms)	(ha.m.)		(cms)	(ha.m.)
	0.0000	0.0000		1.5600	7.7340
	0.6870	3.6492		2.0400	9.8037

		1.0220	5.2831		40.8000 10.8930

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0688)	181.610	5.240	5.25	23.74
OUTFLOW: ID= 1 (4089)	181.610	0.611	8.33	23.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.66
TIME SHIFT OF PEAK FLOW (min)=185.00
MAXIMUM STORAGE USED (ha.m.)= 3.2453

ADD HYD (0805)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4089):	181.61	0.611	8.33	23.74
+ ID2= 2 (0687):	19.40	0.646	5.25	25.82
ID = 3 (0805):	201.01	0.992	5.25	23.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2252)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1,1) ------>

Distance	Elevation	Manning	
28.50	210.02	0.0600	
47.35	209.86	0.0600	Main Channel
51.00	209.76	0.0600	Main Channel
60.44	209.54	0.0600	Main Channel
65.44	209.60	0.0600	Main Channel
72.65	209.41	0.0600	Main Channel
95.97	208.53	0.0600	Main Channel
103.18	208.38	0.0600	Main Channel
108.18	208.33	0.0600	Main Channel
116.25	208.08	0.0600	Main Channel
122.09	207.92	0.0600	Main Channel
131.52	207.65	0.0600	Main Channel
149.56	208.22	0.0600	Main Channel
155.39	208.49	0.0600	Main Channel
177.88	208.58	0.0600	Main Channel
190.96	208.73	0.0600	Main Channel
195.96	208.72	0.0600	Main Channel
226.50	209.32	0.0600	Main Channel
238.71	209.46	0.0600 /0.0600	Main Channel
251.40	209.70	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	207.75	.531E+03	0.1	0.15	158.99
0.21	207.86	.213E+04	0.4	0.24	100.16
0.32	207.97	.479E+04	1.0	0.31	76.78
0.43	208.07	.856E+04	2.2	0.37	63.63
0.53	208.18	.134E+05	4.1	0.44	54.35
0.64	208.29	.193E+05	6.8	0.50	47.49
0.75	208.39	.261E+05	9.8	0.54	44.24
0.85	208.50	.344E+05	13.8	0.57	41.46

0.96	208.61	.458E+05	17.6	0.55	43.43
1.07	208.71	.598E+05	25.2	0.60	39.61
1.17	208.82	.761E+05	34.3	0.64	36.96
1.28	208.93	.938E+05	46.4	0.70	33.72
1.39	209.03	.113E+06	60.3	0.76	31.17
1.49	209.14	.133E+06	76.1	0.81	29.11
1.60	209.25	.154E+06	94.0	0.86	27.40
1.71	209.35	.177E+06	113.3	0.91	26.08
1.81	209.46	.202E+06	133.4	0.94	25.20
1.93	209.58	.232E+06	161.2	0.99	23.94
2.05	209.70	.264E+06	193.8	1.04	22.73

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	0805)	201.01	0.99	5.25	23.94	0.31	0.30
OUTFLOW: ID= 1 (	2252)	201.01	0.67	8.25	23.94	0.26	0.27

ADD HYD (1543)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (	2252):	201.01	0.674	8.25	23.94
+ ID2= 2 (	0685):	42.17	1.550	5.25	28.50
ID = 3 (	1543):	243.18	2.018	5.25	24.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1543)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (	1543):	243.18	2.018	5.25	24.73
+ ID2= 2 (	0686):	88.14	1.586	5.25	15.94
ID = 1 (	1543):	331.32	3.604	5.25	22.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2257)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
28.50	210.02	0.0600	
47.35	209.86	0.0600	Main Channel
51.00	209.76	0.0600	Main Channel
60.44	209.54	0.0600	Main Channel
65.44	209.60	0.0600	Main Channel
72.65	209.41	0.0600	Main Channel

95.97	208.53	0.0600	Main Channel	
103.18	208.38	0.0600	Main Channel	
108.18	208.33	0.0600	Main Channel	
116.25	208.08	0.0600	Main Channel	
122.09	207.92	0.0600	Main Channel	
131.52	207.65	0.0600	Main Channel	
149.56	208.22	0.0600	Main Channel	
155.39	208.49	0.0600	Main Channel	
177.88	208.58	0.0600	Main Channel	
190.96	208.73	0.0600	Main Channel	
195.96	208.72	0.0600	Main Channel	
226.50	209.32	0.0600	Main Channel	
238.71	209.46	0.0600 /0.0600	Main Channel	
251.40	209.70	0.0600		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	207.75	.143E+03	0.0	0.11	57.43
0.21	207.86	.574E+03	0.3	0.18	36.18
0.32	207.97	.129E+04	0.8	0.23	27.73
0.43	208.07	.231E+04	1.7	0.28	22.98
0.53	208.18	.362E+04	3.1	0.33	19.63
0.64	208.29	.520E+04	5.1	0.37	17.15
0.75	208.39	.706E+04	7.4	0.40	15.98
0.85	208.50	.929E+04	10.3	0.43	14.98
0.96	208.61	.124E+05	13.2	0.41	15.69
1.07	208.71	.162E+05	18.8	0.45	14.31
1.17	208.82	.206E+05	25.7	0.48	13.35
1.28	208.93	.253E+05	34.7	0.53	12.18
1.39	209.03	.305E+05	45.1	0.57	11.26
1.49	209.14	.359E+05	56.9	0.61	10.52
1.60	209.25	.417E+05	70.2	0.65	9.90
1.71	209.35	.479E+05	84.7	0.68	9.42
1.81	209.46	.545E+05	99.7	0.70	9.10
1.93	209.58	.625E+05	120.5	0.74	8.65
2.05	209.70	.714E+05	144.9	0.78	8.21

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	1543)	331.32	3.60	5.25	22.39	0.56	0.34
OUTFLOW: ID= 1 (	2257)	331.32	3.25	5.33	22.39	0.54	0.33

ADD HYD (1540)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (	2257):	331.32	3.253	5.33	22.39
+ ID2= 2 (	4088):	71.88	1.087	5.83	31.76
ID = 3 (	1540):	403.20	4.242	5.33	24.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1540)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (	1540):	403.20	4.242	5.33	24.06
+ ID2= 2 (	0683):	36.92	1.163	5.25	24.44
ID = 1 (	1540):	440.12	5.287	5.33	24.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2255)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
28.50	210.02	0.0600	
47.35	209.86	0.0600	Main Channel
51.00	209.76	0.0600	Main Channel
60.44	209.54	0.0600	Main Channel
65.44	209.60	0.0600	Main Channel
72.65	209.41	0.0600	Main Channel
95.97	208.53	0.0600	Main Channel
103.18	208.38	0.0600	Main Channel
108.18	208.33	0.0600	Main Channel
116.25	208.08	0.0600	Main Channel
122.09	207.92	0.0600	Main Channel
131.52	207.65	0.0600	Main Channel
149.56	208.22	0.0600	Main Channel
155.39	208.49	0.0600	Main Channel
177.88	208.58	0.0600	Main Channel
190.96	208.73	0.0600	Main Channel
195.96	208.72	0.0600	Main Channel
226.50	209.32	0.0600	Main Channel
238.71	209.46	0.0600 /0.0600	Main Channel
251.40	209.70	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	207.75	.601E+03	0.0	0.09	296.74
0.21	207.86	.241E+04	0.2	0.14	186.94
0.32	207.97	.542E+04	0.6	0.19	143.30
0.43	208.07	.969E+04	1.4	0.23	118.76
0.53	208.18	.152E+05	2.5	0.26	101.43
0.64	208.29	.218E+05	4.1	0.30	88.63
0.75	208.39	.296E+05	6.0	0.32	82.56
0.85	208.50	.389E+05	8.4	0.35	77.38
0.96	208.61	.519E+05	10.7	0.33	81.06
1.07	208.71	.677E+05	15.3	0.36	73.93
1.17	208.82	.861E+05	20.8	0.39	68.98
1.28	208.93	.106E+06	28.1	0.43	62.93
1.39	209.03	.128E+06	36.6	0.46	58.18
1.49	209.14	.150E+06	46.2	0.49	54.34
1.60	209.25	.175E+06	57.0	0.52	51.14
1.71	209.35	.201E+06	68.7	0.55	48.67
1.81	209.46	.228E+06	80.9	0.57	47.04
1.93	209.58	.262E+06	97.7	0.60	44.68
2.05	209.70	.299E+06	117.5	0.63	42.43

<---- hydrograph ----> <-pipe /

channel->

		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (	1540)	440.12	5.29	5.33	24.09	0.71	0.32
OUTFLOW: ID= 1 (	2255)	440.12	3.08	6.33	24.09	0.57	0.28

ROUTE CHN(2296)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	204.60	0.0600	
2.24	204.58	0.0600	Main Channel
10.30	203.90	0.0600	Main Channel
36.31	203.83	0.0600	Main Channel
47.49	204.24	0.0600	Main Channel
59.15	204.34	0.0600	Main Channel
65.86	204.04	0.0600	Main Channel
81.51	203.05	0.0600	Main Channel
93.18	202.84	0.0600	Main Channel
104.40	202.89	0.0600	Main Channel
117.82	202.66	0.0600	Main Channel
126.76	202.26	0.0600	Main Channel
138.43	200.25	0.0600	Main Channel
149.61	199.94	0.0600	Main Channel
172.61	203.72	0.0600	Main Channel
194.97	203.80	0.0600	Main Channel
217.87	204.71	0.0600	Main Channel
229.05	205.01	0.0600	Main Channel
240.71	205.02	0.0600 /0.0600	Main Channel
284.60	205.56	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	200.17	.380E+03	0.1	0.13	44.52
0.47	200.40	.141E+04	0.9	0.23	24.80
0.70	200.64	.268E+04	2.5	0.31	18.09
0.93	200.87	.418E+04	4.7	0.38	14.85
1.17	201.10	.589E+04	7.6	0.43	12.87
1.40	201.34	.782E+04	11.3	0.49	11.49
1.63	201.57	.996E+04	15.9	0.53	10.46
1.87	201.80	.123E+05	21.3	0.58	9.65
2.10	202.04	.149E+05	27.6	0.62	9.00
2.33	202.27	.177E+05	34.8	0.66	8.49
2.57	202.50	.209E+05	41.1	0.66	8.47
2.80	202.74	.246E+05	47.5	0.65	8.64
3.03	202.97	.299E+05	49.4	0.55	10.10
3.27	203.20	.368E+05	65.3	0.60	9.38
3.50	203.44	.440E+05	85.1	0.65	8.62
3.73	203.67	.517E+05	107.5	0.70	8.02
3.97	203.90	.613E+05	105.9	0.58	9.65
4.20	204.14	.744E+05	136.6	0.62	9.08
4.55	204.49	.973E+05	192.3	0.66	8.43

<---- hydrograph ----> <-pipe /

channel->		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

	(ha)	(cms)	(hrs)	(mm)	(m)	
(m/s)						
INFLOW : ID= 2 (2255)	440.12	3.08	6.33	24.09	0.76	0.33
OUTFLOW: ID= 1 (2296)	440.12	3.02	6.67	24.09	0.76	0.32

ADD HYD (1532)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2296):	440.12	3.016	6.67	24.09
+ ID2= 2 (0681):	343.15	12.643	5.25	30.54
ID = 3 (1532):	783.27	14.367	5.33	26.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2300) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	204.60	0.0600	
2.24	204.58	0.0600	Main Channel
10.30	203.90	0.0600	Main Channel
36.31	203.83	0.0600	Main Channel
47.49	204.24	0.0600	Main Channel
59.15	204.34	0.0600	Main Channel
65.86	204.04	0.0600	Main Channel
81.51	203.05	0.0600	Main Channel
93.18	202.84	0.0600	Main Channel
104.40	202.89	0.0600	Main Channel
117.82	202.66	0.0600	Main Channel
126.76	202.26	0.0600	Main Channel
138.43	200.25	0.0600	Main Channel
149.61	199.94	0.0600	Main Channel
172.61	203.72	0.0600	Main Channel
194.97	203.80	0.0600	Main Channel
217.87	204.71	0.0600	Main Channel
229.05	205.01	0.0600	Main Channel
240.71	205.02	0.0600 /0.0600	Main Channel
284.60	205.56	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	200.17	.588E+03	0.1	0.13	68.56
0.47	200.40	.217E+04	0.9	0.23	38.19
0.70	200.64	.415E+04	2.5	0.31	27.85
0.93	200.87	.646E+04	4.7	0.38	22.87
1.17	201.10	.910E+04	7.7	0.44	19.81
1.40	201.34	.121E+05	11.4	0.49	17.69
1.63	201.57	.154E+05	15.9	0.54	16.11
1.87	201.80	.191E+05	21.4	0.58	14.87
2.10	202.04	.231E+05	27.7	0.62	13.86
2.33	202.27	.274E+05	34.9	0.66	13.07
2.57	202.50	.323E+05	41.3	0.66	13.05
2.80	202.74	.381E+05	47.7	0.65	13.31

3.03	202.97	.462E+05	49.6	0.56	15.55
3.27	203.20	.568E+05	65.6	0.60	14.44
3.50	203.44	.681E+05	85.5	0.65	13.28
3.73	203.67	.800E+05	108.0	0.70	12.35
3.97	203.90	.948E+05	106.3	0.58	14.86
4.20	204.14	.115E+06	137.1	0.62	13.98
4.55	204.49	.150E+06	193.1	0.67	12.99

	<---- hydrograph ---->				<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1532)	783.27	14.37	5.33	26.92	1.55	0.52
OUTFLOW: ID= 1 (2300)	783.27	13.19	5.42	26.92	1.49	0.51

ROUTE CHN(2297) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	204.60	0.0600	
2.24	204.58	0.0600	Main Channel
10.30	203.90	0.0600	Main Channel
36.31	203.83	0.0600	Main Channel
47.49	204.24	0.0600	Main Channel
59.15	204.34	0.0600	Main Channel
65.86	204.04	0.0600	Main Channel
81.51	203.05	0.0600	Main Channel
93.18	202.84	0.0600	Main Channel
104.40	202.89	0.0600	Main Channel
117.82	202.66	0.0600	Main Channel
126.76	202.26	0.0600	Main Channel
138.43	200.25	0.0600	Main Channel
149.61	199.94	0.0600	Main Channel
172.61	203.72	0.0600	Main Channel
194.97	203.80	0.0600	Main Channel
217.87	204.71	0.0600	Main Channel
229.05	205.01	0.0600	Main Channel
240.71	205.02	0.0600 /0.0600	Main Channel
284.60	205.56	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.23	200.17	.921E+03	0.2	0.15	91.52
0.47	200.40	.341E+04	1.1	0.27	50.98
0.70	200.64	.650E+04	2.9	0.36	37.18
0.93	200.87	.101E+05	5.5	0.44	30.53
1.17	201.10	.143E+05	9.0	0.51	26.45
1.40	201.34	.189E+05	13.4	0.57	23.62
1.63	201.57	.241E+05	18.7	0.63	21.51
1.87	201.80	.299E+05	25.1	0.68	19.85
2.10	202.04	.361E+05	32.5	0.73	18.50
2.33	202.27	.429E+05	41.0	0.78	17.45
2.57	202.50	.506E+05	48.4	0.78	17.42
2.80	202.74	.597E+05	56.0	0.76	17.77
3.03	202.97	.724E+05	58.1	0.65	20.76
3.27	203.20	.890E+05	77.0	0.70	19.28

3.50	203.44	.107E+06	100.3	0.76	17.72
3.73	203.67	.125E+06	126.7	0.82	16.48
3.97	203.90	.148E+06	124.7	0.68	19.84
4.20	204.14	.180E+06	160.9	0.73	18.67
4.55	204.49	.236E+06	226.6	0.78	17.34

	<---- hydrograph ---->				<-pipe / channel->
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2300)	783.27	13.19	5.42	26.92	1.39	0.57
OUTFLOW: ID= 1 (2297)	783.27	11.50	5.58	26.91	1.30	0.54

RESERVOIR(4015) | IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	45.9000	15.6514
	3.5700	5.9177	100.0000	16.9514
	15.7400	10.6464	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2297)	783.270	11.504	5.58	26.91
OUTFLOW: ID= 1 (4015)	783.270	5.686	7.83	26.91

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.42
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 6.7399

ADD HYD (1517)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (4015):	783.27	5.686	7.83	26.91
+ ID2= 2 (4092):	12.51	0.094	6.75	32.02
ID = 3 (1517):	795.78	5.778	7.83	26.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB | STANDHYD (0678) | Area (ha)= 93.63
ID= 1 DT= 5.0 min | Total Imp(%)= 69.96 Dir. Conn.(%)= 69.96

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	65.50	28.13
Dep. Storage	(mm)=	2.00	5.00

Average Slope	(%)=	2.34	2.34
Length	(m)=	790.06	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.59
over (min)		15.00	40.00
Storage Coeff. (min)=		13.21 (ii)	36.30 (ii)
Unit Hyd. Tpeak (min)=		15.00	40.00
Unit Hyd. peak (cms)=		0.08	0.03

		TOTALS
PEAK FLOW	(cms)=	3.48	0.22	3.645 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	7.61	30.27
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.18	0.72

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1514)

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1517):	795.78	5.778	7.83	26.99
+ ID2= 2 (0678):	93.63	3.645	5.25	30.27
ID = 3 (1514):	889.41	6.197	7.67	27.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2875) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	204.68	0.0600	
3.24	204.67	0.0600	Main Channel
51.26	203.93	0.0600	Main Channel
66.07	203.18	0.0600	Main Channel
87.42	203.39	0.0600	Main Channel
132.09	202.47	0.0600	Main Channel
165.30	201.66	0.0600	Main Channel
213.87	200.24	0.0600	Main Channel
259.32	199.43	0.0600	Main Channel
266.86	197.71	0.0600	Main Channel
276.16	196.93	0.0600	Main Channel
304.50	197.16	0.0600	Main Channel
307.31	197.98	0.0600	Main Channel
311.09	198.45	0.0600	Main Channel
329.41	198.06	0.0600	Main Channel
371.71	200.22	0.0600	Main Channel
378.80	200.32	0.0600	Main Channel
411.13	199.51	0.0600	Main Channel
421.51	202.47	0.0600 /0.0600	Main Channel
461.76	202.80	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.31	197.24	.601E+04	2.9	0.48	34.74
0.62	197.55	.166E+05	14.3	0.86	19.33
0.92	197.85	.286E+05	33.3	1.16	14.35
1.23	198.16	.419E+05	54.1	1.29	12.89
1.54	198.47	.611E+05	79.0	1.29	12.89
1.85	198.78	.849E+05	128.2	1.50	11.03
2.15	199.08	.111E+06	189.0	1.70	9.78
2.46	199.39	.139E+06	261.7	1.87	8.87
2.77	199.70	.172E+06	312.7	1.81	9.19
3.08	200.01	.217E+06	385.5	1.77	9.36
3.39	200.32	.272E+06	487.1	1.78	9.31
3.69	200.62	.336E+06	666.0	1.97	8.41
4.00	200.93	.403E+06	872.3	2.15	7.71
4.31	201.24	.474E+06	1105.3	2.32	7.15
4.62	201.55	.549E+06	1365.6	2.48	6.70
4.92	201.85	.627E+06	1648.6	2.62	6.34
5.23	202.16	.710E+06	1957.6	2.75	6.04
5.54	202.47	.796E+06	2296.3	2.87	5.78
5.87	202.80	.901E+06	2690.0	2.97	5.58

<---- hydrograph ----> <-pipe / channel->

VEL (m/s)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1514)	889.41	6.20	7.67	27.34	0.40	0.55
OUTFLOW: ID= 1 (2875)	889.41	6.03	8.17	27.34	0.39	0.54

ROUTE CHN(2874) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	204.68	0.0600	
3.24	204.67	0.0600	Main Channel
51.26	203.93	0.0600	Main Channel
66.07	203.18	0.0600	Main Channel
87.42	203.39	0.0600	Main Channel
132.09	202.47	0.0600	Main Channel
165.30	201.66	0.0600	Main Channel
213.87	200.24	0.0600	Main Channel
259.32	199.43	0.0600	Main Channel
266.86	197.71	0.0600	Main Channel
276.16	196.93	0.0600	Main Channel
304.50	197.16	0.0600	Main Channel
307.31	197.98	0.0600	Main Channel
311.09	198.45	0.0600	Main Channel
329.41	198.06	0.0600	Main Channel
371.71	200.22	0.0600	Main Channel
378.80	200.32	0.0600	Main Channel
411.13	199.51	0.0600	Main Channel
421.51	202.47	0.0600 /0.0600	Main Channel
461.76	202.80	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.31	197.24	.142E+04	2.0	0.34	11.61
0.62	197.55	.392E+04	10.1	0.61	6.46
0.92	197.85	.675E+04	23.5	0.82	4.80
1.23	198.16	.988E+04	38.2	0.91	4.31
1.54	198.47	.144E+05	55.8	0.91	4.31
1.85	198.78	.200E+05	90.5	1.06	3.69
2.15	199.08	.262E+05	133.4	1.20	3.27
2.46	199.39	.328E+05	184.7	1.32	2.96
2.77	199.70	.407E+05	220.7	1.27	3.07
3.08	200.01	.511E+05	272.1	1.25	3.13
3.39	200.32	.642E+05	343.8	1.26	3.11
3.69	200.62	.793E+05	470.1	1.39	2.81
4.00	200.93	.952E+05	615.6	1.52	2.58
4.31	201.24	.112E+06	780.1	1.64	2.39
4.62	201.55	.130E+06	963.8	1.75	2.24
4.92	201.85	.148E+06	1163.6	1.85	2.12
5.23	202.16	.167E+06	1381.6	1.94	2.02
5.54	202.47	.188E+06	1620.7	2.03	1.93
5.87	202.80	.213E+06	1898.5	2.10	1.87

<---- hydrograph ----> <-pipe / channel->

VEL (m/s)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2875)	889.41	6.03	8.17	27.34	0.46	0.43
OUTFLOW: ID= 1 (2874)	889.41	6.02	8.25	27.34	0.46	0.43

ROUTE CHN(2827) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	195.83	0.0600	
99.07	194.20	0.0600	Main Channel
113.59	192.27	0.0600	Main Channel
142.55	191.67	0.0600	Main Channel
161.88	190.42	0.0600	Main Channel
166.23	191.29	0.0600	Main Channel
185.40	192.11	0.0600	Main Channel
206.34	192.46	0.0600	Main Channel
212.60	190.31	0.0600	Main Channel
237.67	187.55	0.0600	Main Channel
264.71	188.37	0.0600	Main Channel
286.57	187.70	0.0600	Main Channel
323.07	188.09	0.0600	Main Channel
328.94	189.01	0.0600	Main Channel
367.52	191.79	0.0600	Main Channel
392.86	191.56	0.0600	Main Channel
419.40	192.28	0.0600	Main Channel
520.94	193.48	0.0600	Main Channel
539.26	193.08	0.0600 /0.0600	Main Channel
577.82	192.47	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	187.80	.720E+03	0.6	0.32	19.73

0.50	188.05	.482E+04	7.2	0.57	11.10
0.75	188.30	.121E+05	27.4	0.85	7.40
0.99	188.54	.210E+05	64.1	1.15	5.47
1.24	188.79	.303E+05	114.9	1.43	4.39
1.49	189.04	.400E+05	177.5	1.67	3.75
1.74	189.29	.501E+05	249.6	1.88	3.34
1.99	189.54	.607E+05	332.9	2.07	3.04
2.24	189.79	.719E+05	427.5	2.24	2.80
2.48	190.03	.837E+05	533.4	2.40	2.61
2.73	190.28	.959E+05	650.7	2.56	2.46
2.98	190.53	.109E+06	776.0	2.69	2.33
3.23	190.78	.122E+06	904.6	2.79	2.25
3.48	191.03	.137E+06	1046.7	2.89	2.18
3.73	191.28	.152E+06	1202.8	2.98	2.11
3.97	191.52	.168E+06	1354.3	3.03	2.07
4.22	191.77	.187E+06	1382.4	2.78	2.26
4.47	192.02	.210E+06	1546.8	2.77	2.27
4.72	192.27	.236E+06	1730.4	2.76	2.28

<---- hydrograph ----> <-pipe / channel->

VEL (m/s)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2874)	889.41	6.02	8.25	27.34	0.45	0.50
OUTFLOW: ID= 1 (2827)	889.41	6.01	8.33	27.34	0.45	0.49

CALIB STANDHYD (0672) ID= 1 DT= 5.0 min	Area (ha)= 52.67	Total Imp(%)= 18.22	Dir. Conn.(%)= 18.22

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	9.60	43.07	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.15	3.15	
Length	(m)=	592.57	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	4.59	
over (min)		10.00	35.00	
Storage Coeff. (min)=		10.16 (ii)	31.29 (ii)	
Unit Hyd. Tpeak (min)=		10.00	35.00	
Unit Hyd. peak (cms)=		0.11	0.03	
				TOTALS
PEAK FLOW	(cms)=	0.51	0.36	0.812 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	7.61	13.51
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.18	0.32

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1503)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (2193):	344.21	5.637	5.50	27.32
+ ID2= 2 (2827):	889.41	6.009	8.33	27.34
ID = 3 (1503):	1233.62	9.229	5.92	27.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1503)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1				
ID1= 3 (1503):	1233.62	9.229	5.92	27.33
+ ID2= 2 (0672):	52.67	0.812	5.25	13.51
ID = 1 (1503):	1286.29	9.709	5.83	26.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1503)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (1503):	1286.29	9.709	5.83	26.77
+ ID2= 2 (0673):	149.29	3.488	5.25	19.64
ID = 3 (1503):	1435.58	12.311	5.42	26.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2828) / IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	195.83	0.0600	
99.07	194.20	0.0600	Main Channel
113.59	192.27	0.0600	Main Channel
142.55	191.67	0.0600	Main Channel
161.88	190.42	0.0600	Main Channel
166.23	191.29	0.0600	Main Channel
185.40	192.11	0.0600	Main Channel
206.34	192.46	0.0600	Main Channel
212.60	190.31	0.0600	Main Channel
237.67	187.55	0.0600	Main Channel
264.71	188.37	0.0600	Main Channel
286.57	187.70	0.0600	Main Channel
323.07	188.09	0.0600	Main Channel
328.94	189.01	0.0600	Main Channel
367.52	191.79	0.0600	Main Channel
392.86	191.56	0.0600	Main Channel

419.40	192.28	0.0600		Main Channel
520.94	193.48	0.0600		Main Channel
539.26	193.08	0.0600 /0.0600		Main Channel
577.82	192.47	0.0600		

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	187.80	.852E+03	0.4	0.20	37.70
0.50	188.05	.570E+04	4.5	0.35	21.22
0.75	188.30	.144E+05	16.9	0.53	14.13
0.99	188.54	.249E+05	39.7	0.71	10.44
1.24	188.79	.358E+05	71.2	0.89	8.40
1.49	189.04	.473E+05	109.9	1.04	7.17
1.74	189.29	.592E+05	154.5	1.16	6.39
1.99	189.54	.719E+05	206.1	1.28	5.81
2.24	189.79	.851E+05	264.7	1.39	5.36
2.48	190.03	.990E+05	330.2	1.49	4.99
2.73	190.28	.113E+06	402.9	1.58	4.69
2.98	190.53	.129E+06	480.5	1.67	4.46
3.23	190.78	.145E+06	560.1	1.73	4.30
3.48	191.03	.162E+06	648.1	1.79	4.16
3.73	191.28	.180E+06	744.7	1.85	4.03
3.97	191.52	.199E+06	838.5	1.88	3.96
4.22	191.77	.222E+06	855.9	1.72	4.32
4.47	192.02	.249E+06	957.7	1.72	4.33
4.72	192.27	.279E+06	1071.4	1.71	4.35

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1503)	1435.58	12.31	5.42	26.03	0.65	0.44
OUTFLOW: ID= 1 (2828)	1435.58	11.63	5.75	26.03	0.64	0.43

CALIB			
STANDHYD (0692)	Area (ha)=	25.74	
ID= 1 DT= 5.0 min	Total Imp(%)=	71.38	Dir. Conn.(%)= 71.38

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	18.37	7.37
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.47	1.47
Length	(m)=	414.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.57
over (min)		10.00	40.00
Storage Coeff. (min)=		10.31 (ii)	36.91 (ii)
Unit Hyd. Tpeak (min)=		10.00	40.00
Unit Hyd. peak (cms)=		0.11	0.03

		TOTALS
PEAK FLOW	(cms)=	0.98	0.06	1.028 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	7.82	30.79
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.73

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4091)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	1.4300	0.9264
	0.3100	0.6039	2.0100	1.0553
	0.7300	0.7446	20.1000	1.1726

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0692)	25.740	1.028	5.25	30.79
OUTFLOW: ID= 1 (4091)	25.740	0.246	6.50	30.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.93
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.4797

CALIB			
STANDHYD (0694)	Area (ha)=	74.95	
ID= 1 DT= 5.0 min	Total Imp(%)=	46.76	Dir. Conn.(%)= 46.76

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	35.04	39.91
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.78	2.78
Length	(m)=	706.87	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	4.59
over (min)		10.00	35.00
Storage Coeff. (min)=		11.73 (ii)	33.66 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.10	0.03

		TOTALS
PEAK FLOW	(cms)=	1.87	0.33	2.138 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	7.61	22.75
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.18	0.54

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(4090)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	5.0300	1.3809
	1.4400	0.7499	6.7000	1.6461
	2.8800	1.0517	67.0000	1.8290

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0694)	74.950	2.138	5.25	22.75
OUTFLOW: ID= 1 (4090)	74.950	1.165	5.58	22.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.50
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.6070

ADD HYD (1567)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2828):	1435.58	11.631	5.75	26.03
+ ID2= 2 (4090):	74.95	1.165	5.58	22.75
ID = 3 (1567):	1510.53	12.786	5.75	25.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1567)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1567):	1510.53	12.786	5.75	25.86
+ ID2= 2 (4091):	25.74	0.246	6.50	30.77
ID = 1 (1567):	1536.27	13.021	5.75	25.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1567)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1567):	1536.27	13.021	5.75	25.95
+ ID2= 2 (0693):	15.74	0.067	5.92	4.81
ID = 3 (1567):	1552.01	13.086	5.75	25.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2756)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	189.04	0.0600	
108.74	184.95	0.0600	Main Channel
117.72	184.42	0.0600	Main Channel
137.43	183.45	0.0600	Main Channel
145.74	182.44	0.0600	Main Channel
155.23	179.61	0.0600	Main Channel
163.22	178.24	0.0600	Main Channel
196.14	178.24	0.0600	Main Channel
201.89	178.98	0.0600	Main Channel
227.68	179.14	0.0600	Main Channel
235.62	180.05	0.0600	Main Channel
246.55	184.89	0.0600	Main Channel
253.37	185.80	0.0600	Main Channel
264.42	185.64	0.0600	Main Channel
306.71	187.58	0.0600	Main Channel
427.26	188.44	0.0600	Main Channel
443.76	189.43	0.0600	Main Channel
458.53	189.72	0.0600	Main Channel
474.66	189.38	0.0600 /0.0600	Main Channel
495.58	188.39	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.56	178.80	.173E+05	11.4	0.55	25.28
1.12	179.36	.445E+05	37.2	0.70	19.92
1.69	179.93	.807E+05	94.1	0.98	14.30
2.25	180.49	.120E+06	175.4	1.23	11.37
2.81	181.05	.160E+06	277.9	1.46	9.61
3.37	181.61	.202E+06	399.4	1.66	8.43
3.93	182.17	.246E+06	539.5	1.84	7.59
4.49	182.73	.291E+06	691.6	2.00	7.01
5.06	183.30	.338E+06	856.8	2.12	6.58
5.62	183.86	.390E+06	1015.3	2.18	6.40
6.18	184.42	.447E+06	1190.0	2.23	6.26
6.84	185.08	.522E+06	1505.3	2.42	5.78
7.50	185.74	.608E+06	1765.1	2.44	5.74
8.17	186.41	.716E+06	2070.5	2.43	5.77
8.83	187.07	.843E+06	2475.4	2.47	5.67
9.49	187.73	.988E+06	2798.8	2.38	5.88
10.15	188.39	.118E+07	2927.4	2.08	6.73
10.82	189.06	.142E+07	3750.4	2.21	6.31
11.48	189.72	.168E+07	4576.5	2.28	6.12

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1567)	1552.01	13.09	5.75	25.73	0.60	0.56
OUTFLOW: ID= 1 (2756)	1552.01	12.29	6.42	25.73	0.58	0.56

ROUTE CHN(2746)

| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<-------- DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	188.14	0.0600	
50.42	187.46	0.0600	Main Channel
106.94	187.32	0.0600	Main Channel
126.38	187.06	0.0600	Main Channel
143.94	185.96	0.0600	Main Channel
171.07	180.71	0.0600	Main Channel
182.43	177.54	0.0600	Main Channel
201.86	177.07	0.0600	Main Channel
224.71	177.17	0.0600	Main Channel
238.84	176.95	0.0600	Main Channel
245.32	176.27	0.0600	Main Channel
260.32	178.59	0.0600	Main Channel
282.69	184.46	0.0600	Main Channel
301.64	186.60	0.0600	Main Channel
313.69	187.35	0.0600	Main Channel
368.61	188.02	0.0600	Main Channel
431.80	187.73	0.0600	Main Channel
451.35	185.59	0.0600	Main Channel
476.96	188.86	0.0600 /0.0600	Main Channel
509.41	187.26	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.65	176.92	.223E+04	1.3	0.39	28.45
1.30	177.57	.226E+05	17.3	0.50	21.83
1.95	178.22	.546E+05	70.7	0.85	12.87
2.60	178.87	.893E+05	152.9	1.13	9.74
3.25	179.52	.126E+06	261.8	1.37	8.03
3.90	180.17	.165E+06	395.3	1.58	6.96
4.55	180.82	.206E+06	552.1	1.76	6.22
5.20	181.47	.250E+06	729.9	1.93	5.70
5.85	182.12	.295E+06	932.0	2.08	5.28
6.50	182.77	.344E+06	1158.7	2.22	4.94
7.15	183.42	.395E+06	1410.7	2.36	4.66
7.80	184.07	.448E+06	1688.6	2.48	4.42
8.45	184.72	.504E+06	1981.0	2.59	4.24
9.10	185.37	.564E+06	2285.1	2.67	4.11
9.75	186.02	.628E+06	2541.5	2.67	4.12
10.40	186.67	.703E+06	2759.4	2.59	4.25
11.05	187.32	.792E+06	2903.3	2.42	4.55
11.70	187.97	.941E+06	2850.3	2.00	5.50
12.47	188.74	.119E+07	3832.5	2.12	5.18

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2756)	1552.01	12.29	6.42	25.73	1.10	0.46
OUTFLOW: ID= 1 (2746)	1552.01	11.83	6.83	25.73	1.08	0.46

| ROUTE CHN(2710) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	187.72	0.0600	
3.61	187.70	0.0600	Main Channel
61.75	185.39	0.0600	Main Channel
88.42	185.22	0.0600	Main Channel
117.45	184.71	0.0600	Main Channel
126.50	183.93	0.0600	Main Channel
161.79	184.17	0.0600	Main Channel
176.44	182.60	0.0600	Main Channel
181.01	180.83	0.0600	Main Channel
191.10	175.55	0.0600	Main Channel
204.06	171.81	0.0600	Main Channel
223.21	172.15	0.0600	Main Channel
268.97	173.65	0.0600	Main Channel
285.46	174.88	0.0600	Main Channel
308.31	184.05	0.0600	Main Channel
319.35	184.76	0.0600	Main Channel
352.27	184.98	0.0600	Main Channel
406.87	184.38	0.0600	Main Channel
468.56	183.36	0.0600 /0.0600	Main Channel
498.18	183.82	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.61	172.42	.708E+04	5.3	0.52	22.39
1.22	173.03	.240E+05	28.3	0.82	14.15
1.82	173.63	.497E+05	75.5	1.06	10.97
2.43	174.24	.821E+05	158.9	1.35	8.61
3.04	174.85	.119E+06	271.8	1.60	7.29
3.65	175.46	.159E+06	427.3	1.88	6.19
4.26	176.07	.200E+06	615.0	2.15	5.42
4.86	176.67	.242E+06	831.0	2.40	4.86
5.47	177.28	.286E+06	1073.8	2.63	4.44
6.08	177.89	.331E+06	1342.9	2.84	4.10
6.69	178.50	.376E+06	1637.6	3.05	3.83
7.29	179.10	.423E+06	1957.6	3.24	3.60
7.90	179.71	.471E+06	2302.6	3.42	3.41
8.51	180.32	.521E+06	2672.5	3.59	3.25
9.12	180.93	.571E+06	3066.1	3.76	3.10
9.73	181.54	.623E+06	3479.5	3.91	2.98
10.33	182.14	.676E+06	3918.1	4.06	2.87
10.94	182.75	.730E+06	4360.4	4.18	2.79
11.55	183.36	.787E+06	4768.4	4.24	2.75

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2746)	1552.01	11.83	6.83	25.73	0.78	0.58
OUTFLOW: ID= 1 (2710)	1552.01	11.62	7.17	25.73	0.77	0.58

| ROUTE CHN(2666) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning

0.00	181.14	0.0600	
22.75	180.79	0.0600	Main Channel
81.42	179.54	0.0600	Main Channel
143.96	177.24	0.0600	Main Channel
149.83	176.33	0.0600	Main Channel
166.93	172.66	0.0600	Main Channel
176.43	168.73	0.0600	Main Channel
192.87	167.98	0.0600	Main Channel
209.18	167.99	0.0600	Main Channel
222.09	168.21	0.0600	Main Channel
225.33	168.49	0.0600	Main Channel
241.60	167.88	0.0600	Main Channel
252.29	168.02	0.0600	Main Channel
297.10	169.08	0.0600	Main Channel
298.74	169.29	0.0600	Main Channel
325.64	178.85	0.0600	Main Channel
340.87	179.52	0.0600	Main Channel
345.55	179.99	0.0600	Main Channel
349.48	179.98	0.0600 /0.0600	Main Channel
453.38	178.02	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	168.41	.935E+04	18.0	0.72	8.65
1.06	168.94	.294E+05	97.0	1.23	5.05
1.59	169.47	.535E+05	249.9	1.74	3.57
2.12	170.00	.784E+05	465.2	2.21	2.81
2.65	170.53	.104E+06	731.9	2.63	2.36
3.18	171.06	.130E+06	1046.4	3.01	2.07
3.71	171.59	.156E+06	1406.1	3.35	1.85
4.24	172.12	.184E+06	1809.0	3.68	1.69
4.77	172.65	.211E+06	2253.9	3.98	1.56
5.30	173.18	.239E+06	2727.8	4.25	1.46
5.83	173.71	.269E+06	3241.9	4.50	1.38
6.36	174.24	.298E+06	3796.4	4.74	1.31
6.89	174.77	.329E+06	4391.1	4.98	1.25
7.42	175.30	.361E+06	5026.2	5.20	1.20
7.95	175.83	.393E+06	5701.7	5.41	1.15
8.48	176.36	.426E+06	6416.5	5.62	1.11
9.01	176.89	.460E+06	7150.8	5.80	1.07
9.54	177.42	.495E+06	7823.9	5.90	1.05
10.07	177.95	.532E+06	8366.5	5.86	1.06

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2710)	1552.01	11.62	7.17	25.73	0.34	0.72
OUTFLOW: ID= 1 (2666)	1552.01	11.59	7.42	25.73	0.34	0.72

| ROUTE CHN(2668) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	181.14	0.0600	
22.75	180.79	0.0600	Main Channel

81.42	179.54	0.0600	Main Channel
143.96	177.24	0.0600	Main Channel
149.83	176.33	0.0600	Main Channel
166.93	172.66	0.0600	Main Channel
176.43	168.73	0.0600	Main Channel
192.87	167.98	0.0600	Main Channel
209.18	167.99	0.0600	Main Channel
222.09	168.21	0.0600	Main Channel
225.33	168.49	0.0600	Main Channel
241.60	167.88	0.0600	Main Channel
252.29	168.02	0.0600	Main Channel
297.10	169.08	0.0600	Main Channel
298.74	169.29	0.0600	Main Channel
325.64	178.85	0.0600	Main Channel
340.87	179.52	0.0600	Main Channel
345.55	179.99	0.0600	Main Channel
349.48	179.98	0.0600 /0.0600	Main Channel
453.38	178.02	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	168.41	.938E+04	15.6	0.62	9.99
1.06	168.94	.295E+05	84.1	1.07	5.83
1.59	169.47	.536E+05	216.7	1.51	4.12
2.12	170.00	.786E+05	403.5	1.92	3.25
2.65	170.53	.104E+06	634.9	2.28	2.73
3.18	171.06	.130E+06	907.6	2.61	2.39
3.71	171.59	.157E+06	1219.6	2.91	2.14
4.24	172.12	.184E+06	1569.1	3.19	1.95
4.77	172.65	.212E+06	1954.9	3.45	1.81
5.30	173.18	.240E+06	2366.0	3.69	1.69
5.83	173.71	.269E+06	2812.0	3.91	1.60
6.36	174.24	.299E+06	3292.9	4.12	1.51
6.89	174.77	.330E+06	3808.8	4.32	1.44
7.42	175.30	.362E+06	4359.6	4.51	1.38
7.95	175.83	.394E+06	4945.5	4.70	1.33
8.48	176.36	.427E+06	5565.5	4.88	1.28
9.01	176.89	.461E+06	6202.4	5.03	1.24
9.54	177.42	.496E+06	6786.2	5.12	1.22
10.07	177.95	.534E+06	7256.9	5.08	1.23

<---- hydrograph ----> <-pipe / channel->

VEL	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2666)	1552.01	11.59	7.42	25.73	0.39	0.62
OUTFLOW: ID= 1 (2668)	1552.01	11.55	7.58	25.73	0.39	0.62

| CALIB | STANDHYD (0690) | ID= 1 DT= 5.0 min | Area (ha)= 231.55 | Total Imp(%)= 54.31 | Dir. Conn.(%)= 50.93

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	125.76	105.79
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.53	2.53
Length	(m)=	1242.44	40.00

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.29
over (min)		15.00	40.00
Storage Coeff. (min)=		16.93 (ii)	38.24 (ii)
Unit Hyd. Tpeak (min)=		15.00	40.00
Unit Hyd. peak (cms)=		0.07	0.03
			TOTALS
PEAK FLOW (cms)=		6.16	0.95 6.881 (iii)
TIME TO PEAK (hrs)=		5.25	5.67 5.25
RUNOFF VOLUME (mm)=		40.00	8.18 24.39
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.19 0.58

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0691)	Area (ha)=	321.21	
ID= 1 DT= 5.0 min	Total Imp(%)=	45.69	Dir. Conn.(%)= 42.93

		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		146.76	174.45
Dep. Storage (mm)=		2.00	5.00
Average Slope (%)=		3.28	3.28
Length (m)=		1463.35	40.00
Mannings n =		0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.52
over (min)		15.00	40.00
Storage Coeff. (min)=		17.27 (ii)	36.65 (ii)
Unit Hyd. Tpeak (min)=		15.00	40.00
Unit Hyd. peak (cms)=		0.07	0.03
			TOTALS
PEAK FLOW (cms)=		7.19	1.61 8.420 (iii)
TIME TO PEAK (hrs)=		5.25	5.67 5.25
RUNOFF VOLUME (mm)=		40.00	8.46 22.00
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.20 0.52

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 65.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1559)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2668):	1552.01	11.547	7.58	25.73
+ ID2= 2 (0690):	231.55	6.881	5.25	24.39
ID = 3 (1559):	1783.56	12.851	7.33	25.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1559)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (1559):	1783.56	12.851	7.33	25.56
+ ID2= 2 (0691):	321.21	8.420	5.25	22.00
ID = 1 (1559):	2104.77	17.114	5.25	25.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (2667) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	181.14	0.0600	
22.75	180.79	0.0600	Main Channel
81.42	179.54	0.0600	Main Channel
143.96	177.24	0.0600	Main Channel
149.83	176.33	0.0600	Main Channel
166.93	172.66	0.0600	Main Channel
176.43	168.73	0.0600	Main Channel
192.87	167.98	0.0600	Main Channel
209.18	167.99	0.0600	Main Channel
222.09	168.21	0.0600	Main Channel
225.33	168.49	0.0600	Main Channel
241.60	167.88	0.0600	Main Channel
252.29	168.02	0.0600	Main Channel
297.10	169.08	0.0600	Main Channel
298.74	169.29	0.0600	Main Channel
325.64	178.85	0.0600	Main Channel
340.87	179.52	0.0600	Main Channel
345.55	179.99	0.0600	Main Channel
349.48	179.98	0.0600 /0.0600	Main Channel
453.38	178.02	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.53	168.41	.471E+04	12.7	0.51	6.19
1.06	168.94	.148E+05	68.3	0.87	3.61
1.59	169.47	.270E+05	175.9	1.23	2.56
2.12	170.00	.395E+05	327.4	1.56	2.01
2.65	170.53	.523E+05	515.1	1.85	1.69
3.18	171.06	.655E+05	736.5	2.12	1.48
3.71	171.59	.788E+05	989.6	2.36	1.33
4.24	172.12	.925E+05	1273.2	2.59	1.21
4.77	172.65	.106E+06	1586.2	2.80	1.12
5.30	173.18	.121E+06	1919.8	2.99	1.05
5.83	173.71	.135E+06	2281.6	3.17	0.99
6.36	174.24	.150E+06	2671.9	3.34	0.94
6.89	174.77	.166E+06	3090.4	3.50	0.89
7.42	175.30	.182E+06	3537.4	3.66	0.86
7.95	175.83	.198E+06	4012.8	3.81	0.82
8.48	176.36	.215E+06	4515.9	3.96	0.79
9.01	176.89	.232E+06	5032.6	4.08	0.77
9.54	177.42	.249E+06	5506.3	4.15	0.75

10.07	177.95	.268E+06	5888.3	4.13	0.76	

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1559)	2104.77	17.11	5.25	25.01	0.57	0.52
OUTFLOW: ID= 1 (2667)	2104.77	16.83	5.33	25.01	0.57	0.52

ROUTE CHN (2626) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	173.63	0.0600	
14.98	173.19	0.0600	Main Channel
53.60	174.49	0.0600	Main Channel
97.40	174.35	0.0600	Main Channel
172.19	172.44	0.0600	Main Channel
213.91	161.64	0.0600	Main Channel
223.32	160.66	0.0600	Main Channel
242.53	159.80	0.0600	Main Channel
267.57	159.66	0.0600	Main Channel
275.10	159.47	0.0600	Main Channel
293.71	161.29	0.0600	Main Channel
315.70	167.92	0.0600	Main Channel
331.27	172.79	0.0600	Main Channel
356.62	175.11	0.0600	Main Channel
398.78	175.39	0.0600	Main Channel
434.81	175.68	0.0600	Main Channel
455.78	177.05	0.0600	Main Channel
480.72	177.31	0.0600	Main Channel
545.59	177.46	0.0600 /0.0600	Main Channel
557.37	177.70	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.72	160.19	.103E+05	14.3	0.70	11.98
1.43	160.90	.317E+05	74.3	1.18	7.12
2.15	161.62	.589E+05	187.0	1.60	5.25
2.86	162.33	.889E+05	355.9	2.02	4.16
3.58	163.05	.121E+06	569.9	2.38	3.53
4.29	163.76	.155E+06	827.5	2.70	3.11
5.01	164.48	.190E+06	1127.9	2.99	2.81
5.72	165.19	.228E+06	1471.3	3.26	2.58
6.44	165.91	.267E+06	1857.7	3.51	2.39
7.15	166.62	.308E+06	2287.8	3.74	2.24
7.87	167.34	.351E+06	2762.0	3.96	2.12
8.58	168.05	.396E+06	3281.5	4.18	2.01
9.30	168.77	.443E+06	3847.6	4.38	1.92
10.01	169.48	.491E+06	4460.2	4.58	1.84
10.73	170.20	.541E+06	5119.9	4.77	1.76
11.44	170.91	.594E+06	5827.7	4.95	1.70
12.16	171.63	.648E+06	6584.5	5.12	1.64
12.87	172.34	.703E+06	7391.0	5.30	1.59
13.59	173.06	.765E+06	7599.8	5.01	1.68

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2667)	2104.77	16.83	5.33	25.01	0.75	0.71
OUTFLOW: ID= 1 (2626)	2104.77	15.96	5.50	25.01	0.73	0.71

ROUTE CHN (2614) | IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	175.60	0.0600	
92.05	174.29	0.0600	Main Channel
118.09	173.29	0.0600	Main Channel
166.60	171.43	0.0600	Main Channel
192.50	171.66	0.0600	Main Channel
216.68	170.18	0.0600	Main Channel
270.72	160.97	0.0600	Main Channel
281.35	156.62	0.0600	Main Channel
312.85	155.69	0.0600	Main Channel
326.81	158.92	0.0600	Main Channel
356.29	162.55	0.0600	Main Channel
371.74	166.91	0.0600	Main Channel
390.74	174.86	0.0600	Main Channel
423.74	176.65	0.0600	Main Channel
480.45	176.86	0.0600	Main Channel
542.25	176.91	0.0600	Main Channel
548.99	177.68	0.0600	Main Channel
567.01	176.40	0.0600	Main Channel
611.64	178.12	0.0600 /0.0600	Main Channel
634.73	177.38	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.17	156.86	.140E+05	30.3	1.20	7.72
2.35	158.04	.408E+05	156.8	2.13	4.34
3.52	159.21	.728E+05	363.3	2.77	3.34
4.69	160.38	.112E+06	649.0	3.21	2.88
5.87	161.56	.160E+06	1028.0	3.57	2.59
7.04	162.73	.218E+06	1532.3	3.90	2.37
8.21	163.90	.284E+06	2220.5	4.33	2.13
9.39	165.08	.357E+06	3052.8	4.73	1.95
10.56	166.25	.438E+06	4038.0	5.11	1.81
11.73	167.42	.526E+06	5196.8	5.47	1.69
12.91	168.60	.620E+06	6537.3	5.84	1.58
14.08	169.77	.721E+06	8049.2	6.19	1.49
15.25	170.94	.829E+06	9483.6	6.34	1.46
16.43	172.12	.962E+06	10978.2	5.80	1.59
17.60	173.29	.113E+07	12000.2	5.90	1.56
18.81	174.50	.132E+07	15288.1	6.43	1.44
20.02	175.71	.156E+07	18538.7	6.59	1.40
21.22	176.91	.185E+07	17843.7	5.35	1.73
22.43	178.12	.225E+07	22691.2	5.60	1.65

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2626)	2104.77	15.96	5.50	25.01	0.62	1.20
OUTFLOW: ID= 1 (2614)	2104.77	15.54	5.58	25.01	0.60	1.20

ROUTE CHN(2615)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	175.60	0.0600	
92.05	174.29	0.0600	Main Channel
118.09	173.29	0.0600	Main Channel
166.60	171.43	0.0600	Main Channel
192.50	171.66	0.0600	Main Channel
216.68	170.18	0.0600	Main Channel
270.72	160.97	0.0600	Main Channel
281.35	156.62	0.0600	Main Channel
312.85	155.69	0.0600	Main Channel
326.81	158.92	0.0600	Main Channel
356.29	162.55	0.0600	Main Channel
371.74	166.91	0.0600	Main Channel
390.74	174.86	0.0600	Main Channel
423.74	176.65	0.0600	Main Channel
480.45	176.86	0.0600	Main Channel
542.25	176.91	0.0600	Main Channel
548.99	177.68	0.0600	Main Channel
567.01	176.40	0.0600	Main Channel
611.64	178.12	0.0600 /0.0600	Main Channel
634.73	177.38	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.17	156.86	.784E+04	19.4	0.77	6.73
2.35	158.04	.228E+05	100.3	1.36	3.78
3.52	159.21	.406E+05	232.5	1.77	2.91
4.69	160.38	.625E+05	415.3	2.05	2.51
5.87	161.56	.890E+05	657.8	2.28	2.26
7.04	162.73	.121E+06	980.4	2.50	2.06
8.21	163.90	.158E+06	1420.8	2.77	1.86
9.39	165.08	.199E+06	1953.4	3.03	1.70
10.56	166.25	.244E+06	2583.8	3.27	1.58
11.73	167.42	.293E+06	3325.2	3.50	1.47
12.91	168.60	.346E+06	4183.0	3.74	1.38
14.08	169.77	.402E+06	5150.4	3.96	1.30
15.25	170.94	.462E+06	6068.3	4.05	1.27
16.43	172.12	.537E+06	6448.7	3.71	1.39
17.60	173.29	.628E+06	7678.5	3.78	1.36
18.81	174.50	.735E+06	9782.3	4.11	1.25
20.02	175.71	.870E+06	11862.3	4.21	1.22
21.22	176.91	.103E+07	11417.6	3.42	1.50
22.43	178.12	.125E+07	14519.3	3.58	1.44

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2614)	2104.77	15.54	5.58	25.01	0.94	0.77
OUTFLOW: ID= 1 (2615)	2104.77	15.18	5.75	25.01	0.92	0.77

ROUTE CHN(2581)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	172.84	0.0600	
20.14	172.55	0.0600	Main Channel
48.40	170.38	0.0600	Main Channel
62.20	168.88	0.0600	Main Channel
89.33	161.35	0.0600	Main Channel
92.91	160.12	0.0600	Main Channel
118.37	152.95	0.0600	Main Channel
129.72	151.38	0.0600	Main Channel
181.41	151.37	0.0600	Main Channel
194.47	149.93	0.0600	Main Channel
222.33	154.73	0.0600	Main Channel
228.27	155.52	0.0600	Main Channel
236.02	157.85	0.0600	Main Channel
254.49	162.48	0.0600	Main Channel
263.26	163.74	0.0600	Main Channel
272.50	166.88	0.0600	Main Channel
283.72	169.83	0.0600	Main Channel
287.69	170.32	0.0600	Main Channel
311.66	171.53	0.0600 /0.0600	Main Channel
380.42	170.99	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.08	151.01	.531E+04	6.0	0.69	14.86
2.15	152.08	.434E+05	66.7	0.95	10.86
3.23	153.16	.103E+06	252.7	1.52	6.77
4.31	154.24	.169E+06	544.0	1.98	5.19
5.38	155.31	.243E+06	927.9	2.35	4.36
6.46	156.39	.323E+06	1425.7	2.72	3.78
7.53	157.46	.409E+06	2025.0	3.05	3.36
8.61	158.54	.499E+06	2715.9	3.35	3.06
9.69	159.62	.595E+06	3501.7	3.63	2.83
10.76	160.69	.696E+06	4392.9	3.89	2.64
11.84	161.77	.802E+06	5384.5	4.14	2.48
12.92	162.85	.913E+06	6445.9	4.35	2.36
13.99	163.92	.103E+07	7590.1	4.53	2.27
15.07	165.00	.116E+07	8939.6	4.76	2.15
16.14	166.07	.128E+07	10400.0	4.99	2.06
17.22	167.15	.142E+07	11964.9	5.20	1.98
18.30	168.23	.156E+07	13621.3	5.39	1.90
19.37	169.30	.170E+07	15296.3	5.54	1.85
20.45	170.38	.185E+07	16824.2	5.59	1.84

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2615)	2104.77	15.18	5.75	25.01	1.24	0.72
OUTFLOW: ID= 1 (2581)	2104.77	14.49	6.00	25.01	1.23	0.72

CALIB			
STANDHYD (0689)	Area (ha)=	595.69	
ID= 1 DT= 5.0 min	Total Imp(%)=	44.00	Dir. Conn.(%)= 40.71

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	262.10	333.59
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.37	3.37
Length	(m)=	1992.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.45
over (min)		20.00	40.00
Storage Coeff. (min)=		20.62 (ii)	39.95 (ii)
Unit Hyd. Tpeak (min)=		20.00	40.00
Unit Hyd. peak (cms)=		0.06	0.03
			TOTALS
PEAK FLOW (cms)=		12.30	2.93 14.522 (iii)
TIME TO PEAK (hrs)=		5.25	5.67 5.33
RUNOFF VOLUME (mm)=		40.00	8.29 21.20
TOTAL RAINFALL (mm)=		42.00	42.00 42.00
RUNOFF COEFFICIENT =		0.95	0.20 0.50

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0968)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2581):	2104.77	14.492	6.00	25.01
+ ID2= 2 (0689):	595.69	14.522	5.33	21.20
ID = 3 (0968):	2700.46	25.327	5.42	24.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2546)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	166.89	0.0600	
13.92	166.82	0.0600	Main Channel
32.75	162.28	0.0600	Main Channel
43.55	155.01	0.0600	Main Channel
51.83	152.22	0.0600	Main Channel

60.96	152.09	0.0600 Main Channel
86.86	148.11	0.0600 Main Channel
123.67	147.80	0.0600 Main Channel
131.01	149.27	0.0600 Main Channel
147.25	153.21	0.0600 Main Channel
155.03	153.48	0.0600 Main Channel
161.19	154.18	0.0600 Main Channel
179.06	153.39	0.0600 Main Channel
185.92	152.92	0.0600 Main Channel
209.91	160.42	0.0600 Main Channel
225.59	166.92	0.0600 Main Channel
244.04	167.82	0.0600 Main Channel
288.90	169.18	0.0600 Main Channel
336.09	173.95	0.0600 /0.0600 Main Channel
398.25	174.10	0.0600

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.97	148.77	.247E+05	24.7	0.74	16.64
1.93	149.73	.612E+05	97.4	1.17	10.47
2.90	150.70	.105E+06	214.2	1.50	8.17
3.86	151.66	.156E+06	377.0	1.78	6.90
4.83	152.63	.217E+06	571.6	1.94	6.33
5.79	153.59	.291E+06	783.2	1.98	6.19
6.76	154.56	.389E+06	1123.4	2.13	5.77
7.72	155.52	.495E+06	1637.5	2.44	5.03
8.69	156.49	.604E+06	2235.4	2.72	4.50
9.65	157.45	.716E+06	2910.8	2.99	4.10
10.62	158.42	.832E+06	3661.6	3.24	3.79
11.58	159.38	.951E+06	4486.6	3.47	3.53
12.55	160.35	.107E+07	5384.8	3.69	3.32
13.51	161.31	.120E+07	6368.9	3.91	3.13
14.48	162.28	.133E+07	7425.7	4.12	2.98
15.45	163.25	.146E+07	8601.4	4.35	2.82
16.60	164.40	.162E+07	10105.8	4.59	2.67
17.75	165.55	.179E+07	11722.7	4.82	2.54
18.90	166.70	.196E+07	13454.4	5.04	2.43

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (0968)	2700.46	25.33	5.42	24.17	0.97	0.74
OUTFLOW: ID= 1 (2546)	2700.46	23.47	5.75	24.17	0.92	0.74

ROUTE CHN(2522)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	172.28	0.0600	
50.29	171.22	0.0600	Main Channel
59.57	169.52	0.0600	Main Channel
86.35	166.62	0.0600	Main Channel
92.28	166.46	0.0600	Main Channel
143.47	147.43	0.0600	Main Channel
203.31	144.90	0.0600	Main Channel

227.37	150.21	0.0600		Main Channel
248.35	149.05	0.0600		Main Channel
273.08	150.17	0.0600		Main Channel
288.28	152.30	0.0600		Main Channel
312.46	160.13	0.0600		Main Channel
336.33	163.48	0.0600		Main Channel
354.14	166.46	0.0600		Main Channel
377.44	172.84	0.0600		Main Channel
411.73	172.90	0.0600		Main Channel
455.49	174.14	0.0600		Main Channel
507.11	175.24	0.0600		Main Channel
531.52	174.30	0.0600	/0.0600	Main Channel
544.55	174.72	0.0600		

<-------------------- TRAVEL TIME TABLE --------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.54	146.44	.212E+05	14.7	0.44	24.02
3.08	147.98	.829E+05	98.6	0.76	14.01
4.62	149.52	.165E+06	247.6	0.96	11.09
6.16	151.06	.294E+06	524.1	1.13	9.36
7.69	152.59	.444E+06	977.8	1.40	7.57
9.23	154.13	.605E+06	1574.5	1.66	6.40
10.77	155.67	.774E+06	2291.9	1.88	5.63
12.31	157.21	.952E+06	3127.8	2.09	5.07
13.85	158.75	.114E+07	4081.4	2.28	4.65
15.39	160.29	.133E+07	5142.8	2.45	4.32
16.93	161.83	.154E+07	6241.0	2.57	4.12
18.47	163.37	.176E+07	7473.5	2.69	3.93
20.00	164.90	.200E+07	8878.2	2.82	3.76
21.54	166.44	.225E+07	10427.0	2.95	3.60
23.08	167.98	.252E+07	11879.0	3.00	3.54
24.62	169.52	.281E+07	13621.0	3.08	3.44
26.53	171.43	.319E+07	16535.2	3.29	3.22
28.43	173.33	.365E+07	18159.5	3.17	3.35
30.34	175.24	.422E+07	19340.9	2.91	3.64

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2546)	2700.46	23.47	5.75	24.17	1.70	0.46
OUTFLOW: ID= 1 (2522)	2700.46	21.58	6.17	24.17	1.67	0.46

ROUTE CHN(2488)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	165.32	0.0600	
7.23	165.29	0.0600	Main Channel
22.33	163.94	0.0600	Main Channel
43.14	161.03	0.0600	Main Channel
71.96	147.22	0.0600	Main Channel
79.41	144.23	0.0600	Main Channel
92.33	143.31	0.0600	Main Channel
162.62	143.22	0.0600	Main Channel
228.37	143.47	0.0600	Main Channel

268.00	144.52	0.0600		Main Channel
357.33	149.24	0.0600		Main Channel
365.13	151.82	0.0600		Main Channel
402.00	166.06	0.0600		Main Channel
406.23	167.03	0.0600		Main Channel
424.33	169.08	0.0600		Main Channel
439.13	169.27	0.0600		Main Channel
463.94	170.23	0.0600		Main Channel
488.09	170.83	0.0600		Main Channel
522.03	170.15	0.0600	/0.0600	Main Channel
555.54	171.80	0.0600		

<-------------------- TRAVEL TIME TABLE --------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.15	144.37	.113E+06	225.3	1.34	8.39
2.30	145.52	.267E+06	855.8	2.16	5.21
3.45	146.67	.440E+06	1825.9	2.79	4.02
4.60	147.82	.633E+06	3124.7	3.33	3.37
5.76	148.98	.844E+06	4755.1	3.80	2.96
6.91	150.13	.107E+07	6889.6	4.34	2.59
8.06	151.28	.130E+07	9405.2	4.88	2.30
9.21	152.43	.153E+07	12243.5	5.38	2.09
10.36	153.58	.177E+07	15392.4	5.85	1.92
11.51	154.73	.202E+07	18837.4	6.29	1.78
12.66	155.88	.226E+07	22571.3	6.72	1.67
13.81	157.03	.252E+07	26588.0	7.12	1.58
14.96	158.18	.277E+07	30882.7	7.51	1.50
16.12	159.34	.303E+07	35451.7	7.88	1.43
17.27	160.49	.330E+07	40291.8	8.24	1.36
18.42	161.64	.357E+07	45161.2	8.54	1.32
19.57	162.79	.384E+07	50096.4	8.79	1.28
20.72	163.94	.413E+07	55319.3	9.03	1.24
21.87	165.09	.443E+07	61642.8	9.39	1.20

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2522)	2700.46	21.58	6.17	24.17	0.11	1.34
OUTFLOW: ID= 1 (2488)	2700.46	21.44	6.33	24.17	0.11	1.34

ROUTE CHN(2421)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	160.35	0.0600	
35.27	159.49	0.0600	Main Channel
73.24	158.46	0.0600	Main Channel
87.62	157.04	0.0600	Main Channel
127.61	154.41	0.0600	Main Channel
151.09	154.78	0.0600	Main Channel
173.63	153.43	0.0600	Main Channel
184.90	150.15	0.0600	Main Channel
207.44	141.55	0.0600	Main Channel
232.17	137.80	0.0600	Main Channel
266.24	143.93	0.0600	Main Channel

294.62	146.94	0.0600		Main Channel
314.17	151.02	0.0600		Main Channel
327.20	154.41	0.0600		Main Channel
359.83	158.21	0.0600		Main Channel
393.32	157.67	0.0600		Main Channel
404.16	158.37	0.0600		Main Channel
462.35	157.57	0.0600		Main Channel
522.91	157.10	0.0600	/0.0600	Main Channel
568.06	156.26	0.0600		

<-------------------- TRAVEL TIME TABLE --------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.97	138.77	.191E+04	2.8	0.49	11.47
1.93	139.73	.765E+04	17.7	0.78	7.22
2.90	140.70	.172E+05	52.0	1.02	5.51
3.86	141.66	.306E+05	112.7	1.25	4.52
4.83	142.63	.470E+05	207.5	1.49	3.78
5.79	143.59	.661E+05	333.4	1.71	3.30
6.76	144.56	.879E+05	484.5	1.86	3.02
7.72	145.52	.113E+06	671.5	2.00	2.82
8.69	146.49	.143E+06	903.9	2.14	2.63
9.65	147.45	.176E+06	1200.8	2.31	2.44
10.62	148.42	.211E+06	1559.6	2.50	2.26
11.58	149.38	.249E+06	1967.6	2.67	2.11
12.55	150.35	.289E+06	2424.4	2.83	1.99
13.51	151.31	.332E+06	2930.7	2.99	1.89
14.48	152.28	.377E+06	3500.0	3.14	1.79
15.44	153.24	.424E+06	4124.9	3.29	1.71
16.41	154.21	.475E+06	4634.5	3.30	1.71
17.37	155.17	.538E+06	4777.1	3.00	1.88
18.34	156.14	.613E+06	5554.5	3.06	1.84

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (2488)	2700.46	21.44	6.33	24.17	2.04	0.80
OUTFLOW: ID= 1 (2421)	2700.46	21.32	6.50	24.17	2.03	0.80

CALIB	STANDHYD (0702)	ID= 1 DT= 5.0 min	Area (ha)= 333.42	Total Imp(%)= 42.04	Dir. Conn.(%)= 39.38

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	140.18	193.24
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.68	3.68
Length	(m)=	1490.91	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.18
over (min)		15.00	40.00
Storage Coeff. (min)=		16.88 (ii)	36.09 (ii)
Unit Hyd. Tpeak (min)=		15.00	40.00
Unit Hyd. peak (cms)=		0.07	0.03
			TOTALS
PEAK FLOW (cms)=		6.86	1.67 8.140 (iii)

TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	7.97	20.58
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.19	0.49

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1617)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (2421):	2700.46	21.319	6.50	24.17
		+ ID2= 2 (0702):	333.42	8.140	5.25	20.58
		ID = 3 (1617):	3033.88	24.538	6.33	23.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2422)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	160.35	0.0600	
35.27	159.49	0.0600	Main Channel
73.24	158.46	0.0600	Main Channel
87.62	157.04	0.0600	Main Channel
127.61	154.41	0.0600	Main Channel
151.09	154.78	0.0600	Main Channel
173.63	153.43	0.0600	Main Channel
184.90	150.15	0.0600	Main Channel
207.44	141.55	0.0600	Main Channel
232.17	137.80	0.0600	Main Channel
266.24	143.93	0.0600	Main Channel
294.62	146.94	0.0600	Main Channel
314.17	151.02	0.0600	Main Channel
327.20	154.41	0.0600	Main Channel
359.83	158.21	0.0600	Main Channel
393.32	157.67	0.0600	Main Channel
404.16	158.37	0.0600	Main Channel
462.35	157.57	0.0600	Main Channel
522.91	157.10	0.0600	/0.0600 Main Channel
568.06	156.26	0.0600	

<-------------------- TRAVEL TIME TABLE --------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.97	138.77	.192E+04	3.7	0.65	8.77
1.93	139.73	.770E+04	23.2	1.03	5.53
2.90	140.70	.173E+05	68.4	1.34	4.22
3.86	141.66	.308E+05	148.2	1.64	3.46
4.83	142.63	.473E+05	272.9	1.96	2.89
5.79	143.59	.664E+05	438.5	2.24	2.53
6.76	144.56	.884E+05	637.2	2.45	2.31
7.72	145.52	.114E+06	883.1	2.63	2.15

8.69	146.49	.144E+06	1188.8	2.81	2.01
9.65	147.45	.177E+06	1579.2	3.04	1.87
10.62	148.42	.212E+06	2051.1	3.28	1.73
11.58	149.38	.250E+06	2587.6	3.51	1.61
12.55	150.35	.291E+06	3188.4	3.73	1.52
13.51	151.31	.334E+06	3854.3	3.93	1.44
14.48	152.28	.379E+06	4602.9	4.13	1.37
15.44	153.24	.426E+06	5424.8	4.32	1.31
16.41	154.21	.478E+06	6094.9	4.34	1.31
17.37	155.17	.541E+06	6282.4	3.95	1.44
18.34	156.14	.617E+06	7304.9	4.03	1.41

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
VEL	(ha)	(cms)	(hrs)	(mm)	(m)	
(m/s)						
INFLOW : ID= 2 (1617)	3033.88	24.54	6.33	23.78	1.96	
1.03						
OUTFLOW: ID= 1 (2422)	3033.88	24.44	6.42	23.78	1.96	
1.03						

ROUTE CHN(2408)	Routing time step (min)'= 5.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	144.85	0.0600	
49.73	143.28	0.0600	Main Channel
76.93	141.74	0.0600	Main Channel
88.66	141.01	0.0600	Main Channel
118.34	138.43	0.0600	Main Channel
128.32	137.84	0.0600	Main Channel
163.59	134.54	0.0600	Main Channel
170.25	134.71	0.0600	Main Channel
190.38	134.65	0.0600	Main Channel
299.10	134.82	0.0600	Main Channel
315.10	134.99	0.0600	Main Channel
336.22	138.99	0.0600	Main Channel
347.03	140.18	0.0600	Main Channel
357.84	139.23	0.0600	Main Channel
369.21	138.63	0.0600	Main Channel
396.03	138.47	0.0600	Main Channel
437.50	143.93	0.0600	Main Channel
441.55	144.21	0.0600	Main Channel
468.59	144.74	0.0600 /0.0600	Main Channel
486.32	143.80	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.48	135.02	.291E+05	22.0	0.51	22.03
0.96	135.50	.806E+05	116.5	0.97	11.53
1.44	135.98	.135E+06	265.5	1.32	8.45
1.92	136.46	.191E+06	462.1	1.62	6.89
2.40	136.94	.250E+06	703.2	1.88	5.92
2.88	137.42	.311E+06	987.0	2.12	5.25
3.36	137.90	.375E+06	1310.8	2.34	4.77
3.84	138.38	.442E+06	1665.1	2.52	4.42
4.32	138.86	.518E+06	1923.8	2.48	4.49
4.80	139.34	.604E+06	2353.6	2.60	4.27

5.28	139.82	.696E+06	2852.6	2.74	4.06
5.76	140.30	.794E+06	3427.0	2.88	3.86
6.24	140.78	.896E+06	4110.8	3.07	3.63
6.72	141.26	.100E+07	4841.3	3.23	3.44
7.20	141.74	.111E+07	5619.9	3.39	3.29
7.72	142.26	.123E+07	6611.2	3.59	3.10
8.23	142.77	.135E+07	7674.1	3.78	2.94
8.75	143.29	.148E+07	8810.3	3.97	2.81
9.26	143.80	.162E+07	10027.0	4.14	2.69

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
VEL	(ha)	(cms)	(hrs)	(mm)	(m)	
(m/s)						
INFLOW : ID= 2 (2422)	3033.88	24.44	6.42	23.78	0.49	
0.51						
OUTFLOW: ID= 1 (2408)	3033.88	23.66	6.75	23.78	0.49	
0.51						

ROUTE CHN(2379)	Routing time step (min)'= 5.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	141.41	0.0600	
45.44	141.58	0.0600	Main Channel
71.22	141.14	0.0600	Main Channel
92.69	139.68	0.0600	Main Channel
101.93	137.48	0.0600	Main Channel
109.48	132.69	0.0600	Main Channel
177.51	130.71	0.0600	Main Channel
210.87	130.60	0.0600	Main Channel
223.29	130.02	0.0600	Main Channel
224.80	130.29	0.0600	Main Channel
245.27	131.60	0.0600	Main Channel
252.17	135.19	0.0600	Main Channel
275.99	137.32	0.0600	Main Channel
280.81	138.68	0.0600	Main Channel
316.95	144.67	0.0600	Main Channel
354.27	144.57	0.0600	Main Channel
375.97	144.61	0.0600	Main Channel
439.81	143.76	0.0600	Main Channel
449.00	143.05	0.0600 /0.0600	Main Channel
468.17	142.27	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.74	130.76	.788E+04	5.6	0.48	23.33
1.48	131.50	.448E+05	72.9	1.08	10.25
2.22	132.24	.982E+05	225.5	1.53	7.25
2.97	132.99	.164E+06	484.3	1.97	5.64
3.71	133.73	.233E+06	858.6	2.45	4.52
4.45	134.47	.303E+06	1315.0	2.88	3.84
5.19	135.21	.375E+06	1846.0	3.27	3.39
5.93	135.95	.450E+06	2395.8	3.54	3.13
6.67	136.69	.529E+06	3019.2	3.79	2.92
7.41	137.43	.613E+06	3730.0	4.05	2.74
8.15	138.17	.701E+06	4557.4	4.33	2.56
8.90	138.92	.791E+06	5448.2	4.58	2.42

9.64	139.66	.884E+06	6393.4	4.81	2.31
10.38	140.40	.984E+06	7263.9	4.91	2.26
11.12	141.14	.109E+07	8230.8	5.02	2.21
12.00	142.02	.125E+07	9858.4	5.24	2.12
12.88	142.90	.143E+07	11716.5	5.44	2.04
13.77	143.79	.163E+07	13434.6	5.49	2.02
14.65	144.67	.185E+07	12665.3	4.55	2.44

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
VEL	(ha)	(cms)	(hrs)	(mm)	(m)	
(m/s)						
INFLOW : ID= 2 (2408)	3033.88	23.66	6.75	23.78	0.94	
0.56						
OUTFLOW: ID= 1 (2379)	3033.88	23.21	7.00	23.78	0.93	
0.56						

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2355)	Routing time step (min)'= 5.00
IN= 2---> OUT= 1	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	131.37	0.0600	
9.89	131.13	0.0600	Main Channel
19.79	129.57	0.0600	Main Channel
29.68	128.12	0.0600	Main Channel
39.57	127.09	0.0600	Main Channel
49.47	126.41	0.0600	Main Channel
59.36	126.38	0.0600	Main Channel
69.25	126.36	0.0600	Main Channel
79.14	125.96	0.0600	Main Channel
89.04	125.16	0.0600	Main Channel
98.93	124.70	0.0600	Main Channel
108.82	126.10	0.0600	Main Channel
118.72	126.51	0.0600	Main Channel
128.61	126.56	0.0600	Main Channel
138.50	126.74	0.0600	Main Channel
148.40	128.19	0.0600	Main Channel
158.29	129.23	0.0600	Main Channel
168.18	129.52	0.0600 /0.0600	Main Channel
178.08	129.70	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.25	124.96	.539E+03	0.3	0.28	35.24
0.51	125.21	.215E+04	1.6	0.45	21.78
0.76	125.46	.460E+04	4.8	0.61	16.01
1.01	125.72	.778E+04	9.9	0.74	13.16
1.27	125.97	.117E+05	17.1	0.85	11.39
1.52	126.23	.167E+05	25.3	0.89	11.00
1.78	126.48	.245E+05	32.7	0.78	12.48
2.03	126.73	.368E+05	53.0	0.84	11.57
2.28	126.99	.511E+05	88.2	1.01	9.66
2.54	127.24	.662E+05	131.5	1.16	8.39
2.79	127.49	.819E+05	182.6	1.30	7.47
3.04	127.75	.982E+05	241.0	1.43	6.79
3.30	128.00	.115E+06	306.5	1.56	6.26
3.55	128.26	.133E+06	379.6	1.67	5.82

3.81	128.51	.151E+06	459.4	1.78	5.47
4.06	128.76	.169E+06	546.3	1.88	5.17
4.31	129.02	.189E+06	640.5	1.98	4.91
4.57	129.27	.209E+06	738.6	2.07	4.71
4.82	129.52	.230E+06	826.7	2.10	4.64

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX
VEL	(ha)	(cms)	(hrs)	(mm)	(m)	
(m/s)						
INFLOW : ID= 2 (2379)	3033.88	23.21	7.00	23.78	1.46	
0.88						
OUTFLOW: ID= 1 (2355)	3033.88	23.03	7.25	23.78	1.45	
0.88						

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	
STANDHYD (0701)	Area (ha)= 582.53
ID= 1 DT= 5.0 min	Total Imp(%)= 52.80 Dir. Conn.(%)= 49.51

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	307.58	274.95
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.39	3.39
Length	(m)=	1970.67	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.41
over (min)		20.00	40.00
Storage Coeff. (min)=		20.45 (ii)	39.79 (ii)
Unit Hyd. Tpeak (min)=		20.00	40.00
Unit Hyd. peak (cms)=		0.06	0.03
			TOTALS
PEAK FLOW	(cms)=	14.65	2.40 16.458 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67 5.25
RUNOFF VOLUME	(mm)=	40.00	8.15 23.92
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.19 0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 64.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1612)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2355):	3033.88	23.028	7.25	23.78
+ ID2= 2 (0701):	582.53	16.458	5.25	23.92
ID = 3 (1612):	3616.41	26.986	7.00	23.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3974)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         132.20        0.0600
                  4.56         132.01        0.0600      Main Channel
                 11.42         130.19        0.0600      Main Channel
                 15.99         129.19        0.0600      Main Channel
                 60.58         127.70        0.0600      Main Channel
                103.81         126.64        0.0600      Main Channel
                149.11         126.63        0.0600      Main Channel
                155.27         126.55        0.0600      Main Channel
                177.58         126.88        0.0600      Main Channel
                218.96         126.32        0.0600      Main Channel
                253.92         125.56        0.0600      Main Channel
                281.44         124.12        0.0600      Main Channel
                321.96         123.85        0.0600      Main Channel
                340.30         121.09        0.0600      Main Channel
                360.92         124.45        0.0600      Main Channel
                396.02         124.30        0.0600      Main Channel
                414.89         124.30        0.0600      Main Channel
                430.26         129.11        0.0600      Main Channel
                433.76         130.02    0.0600 /0.0600  Main Channel
                459.66         130.01        0.0600

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.45   121.53    .212E+04          0.4         0.28      99.09
       0.89   121.98    .847E+04          2.3         0.44      62.43
       1.34   122.43    .191E+05          6.7         0.58      47.64
       1.79   122.87    .339E+05         14.4         0.71      39.33
       2.23   123.32    .529E+05         26.0         0.82      33.89
       2.68   123.77    .762E+05         42.3         0.93      30.01
       3.13   124.21    .118E+06         50.2         0.71      39.23
       3.57   124.66    .210E+06         87.7         0.70      39.82
       4.02   125.10    .321E+06        170.7         0.89      31.34
       4.46   125.55    .440E+06        276.7         1.05      26.49
       4.91   126.00    .570E+06        393.1         1.15      24.18
       5.36   126.44    .717E+06        529.3         1.23      22.59
       5.80   126.89    .919E+06        595.6         1.08      25.71
       6.25   127.34    .117E+07        858.7         1.22      22.73
       6.70   127.78    .144E+07       1167.7         1.35      20.53
       7.14   128.23    .172E+07       1528.7         1.48      18.72
       7.59   128.68    .201E+07       1933.5         1.60      17.30
       8.04   129.12    .231E+07       2381.9         1.72      16.15
       8.48   129.57    .262E+07       2910.6         1.85      14.99

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1612)    3616.41    26.99    7.00  23.80      2.26
0.82
   OUTFLOW: ID= 1 (  3974)    3616.41    26.36    7.33  23.80      2.24
0.82

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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| CALIB            |
| STANDHYD (  0700)|   Area    (ha)=    595.91
|ID= 1 DT= 5.0 min |   Total Imp(%)=     57.07   Dir. Conn.(%)=  53.78
--------------------
                                IMPERVIOUS      PERVIOUS (i)
     Surface Area     (ha)=        340.07          255.84
     Dep. Storage     (mm)=          2.00            5.00
     Average Slope     (%)=          2.63            2.63
     Length            (m)=       1993.17           40.00
     Mannings n            =         0.013           0.250

     Max.Eff.Inten.(mm/hr)=         19.32            4.38
               over (min)           20.00           45.00
     Storage Coeff.  (min)=         22.22 (ii)      44.93 (ii)
     Unit Hyd. Tpeak (min)=         20.00           45.00
     Unit Hyd. peak  (cms)=          0.05            0.03
                                                              *TOTALS*
     PEAK FLOW       (cms)=         16.07            1.74      17.273 (iii)
     TIME TO PEAK    (hrs)=          5.25            5.75        5.25
     RUNOFF VOLUME    (mm)=         40.00            6.79       24.65
     TOTAL RAINFALL   (mm)=         42.00           42.00       42.00
     RUNOFF COEFFICIENT   =          0.95            0.16        0.59


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  58.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  1593)|
|   1 +  2 =  3    |          AREA      QPEAK       TPEAK        R.V.
-------------------          (ha)      (cms)       (hrs)        (mm)
        ID1= 1 (  3974):   3616.41     26.356        7.33       23.80
      + ID2= 2 (  0700):    595.91     17.273        5.25       24.65
        ==========================================================
        ID = 3 (  1593):   4212.32     34.487        5.42       23.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ROUTE CHN(  3862)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         127.59        0.0600
                 20.03         127.54        0.0600      Main Channel
                 53.43         126.83        0.0600      Main Channel
                 85.91         125.87        0.0600      Main Channel
                104.98         124.46        0.0600      Main Channel
                125.01         120.69        0.0600      Main Channel
                145.00         118.90        0.0600      Main Channel
                150.03         118.75        0.0600      Main Channel
                160.03         121.28        0.0600      Main Channel
                205.51         121.77        0.0600      Main Channel
                225.97         121.40        0.0600      Main Channel
                234.09         121.74        0.0600      Main Channel
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                248.22         123.12        0.0600      Main Channel
                262.12         123.76        0.0600      Main Channel
                278.00         124.95        0.0600      Main Channel
                312.56         126.60        0.0600      Main Channel
                332.83         126.41        0.0600      Main Channel
                338.26         126.54        0.0600      Main Channel
                396.71         126.67    0.0600 /0.0600  Main Channel
                401.99         126.90        0.0600

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.42   119.17    .206E+04          0.8         0.34      41.21
       0.83   119.58    .653E+04          4.1         0.52      26.73
       1.25   120.00    .132E+05         10.5         0.67      20.88
       1.67   120.42    .221E+05         21.0         0.80      17.51
       2.08   120.83    .331E+05         36.7         0.93      15.02
       2.50   121.25    .456E+05         58.3         1.07      13.04
       2.92   121.67    .675E+05         59.9         0.74      18.77
       3.33   122.08    .108E+06        113.4         0.88      15.80
       3.75   122.50    .151E+06        191.8         1.07      13.08
       4.17   122.92    .196E+06        287.5         1.23      11.35
       4.59   123.34    .244E+06        396.0         1.36      10.25
       5.00   123.75    .295E+06        518.1         1.47       9.49
       5.42   124.17    .350E+06        665.7         1.59       8.76
       5.84   124.59    .407E+06        828.2         1.70       8.20
       6.25   125.00    .469E+06       1000.9         1.79       7.80
       6.67   125.42    .534E+06       1184.4         1.85       7.52
       7.09   125.84    .605E+06       1390.4         1.92       7.26
       7.50   126.25    .682E+06       1588.5         1.95       7.16
       7.92   126.67    .774E+06       1528.9         1.65       8.44

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  1593)    4212.32    34.49    5.42  23.92      2.03
0.91
   OUTFLOW: ID= 1 (  3862)    4212.32    32.37    5.58  23.92      1.96
0.89

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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| ROUTE CHN(  3826)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         126.81        0.0600
                  1.70         126.82        0.0600      Main Channel
                 54.41         125.84        0.0600      Main Channel
                 71.82         125.78        0.0600      Main Channel
                 76.52         125.62        0.0600      Main Channel
                 86.75         122.56        0.0600      Main Channel
                 95.25         119.73        0.0600      Main Channel
                 98.54         118.29        0.0600      Main Channel
                105.89         117.44        0.0600      Main Channel
                117.98         116.39        0.0600      Main Channel
                124.68         116.40        0.0600      Main Channel
                179.54         116.13        0.0600      Main Channel
                185.57         117.46        0.0600      Main Channel
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                193.22         119.84        0.0600      Main Channel
                198.34         121.00        0.0600      Main Channel
                212.38         124.99        0.0600      Main Channel
                218.98         125.06        0.0600      Main Channel
                245.15         125.03        0.0600      Main Channel
                323.44         126.13    0.0600 /0.0600  Main Channel
                360.64         126.01        0.0600

     <---------- TRAVEL TIME TABLE ---------->
      DEPTH    ELEV      VOLUME       FLOW RATE    VELOCITYTRAV.TIME
        (m)     (m)     (cu.m.)         (cms)        (m/s)      (min)
       0.54   116.67    .851E+04         13.3         0.53      10.70
       1.08   117.21    .216E+05         57.6         0.90       6.24
       1.62   117.75    .362E+05        127.9         1.20       4.71
       2.16   118.29    .520E+05        222.6         1.45       3.89
       2.70   118.83    .686E+05        345.7         1.71       3.31
       3.24   119.37    .858E+05        490.8         1.94       2.91
       3.78   119.91    .104E+06        656.1         2.15       2.63
       4.32   120.45    .122E+06        838.7         2.33       2.42
       4.85   120.98    .141E+06       1041.9         2.50       2.26
       5.39   121.52    .161E+06       1268.4         2.67       2.11
       5.93   122.06    .181E+06       1515.5         2.83       1.99
       6.47   122.60    .202E+06       1782.9         2.98       1.89
       7.01   123.14    .224E+06       2069.4         3.12       1.81
       7.55   123.68    .247E+06       2376.6         3.26       1.73
       8.09   124.22    .270E+06       2704.8         3.39       1.66
       8.63   124.76    .294E+06       3054.3         3.52       1.60
       9.17   125.30    .322E+06       2833.9         2.98       1.89
       9.71   125.84    .360E+06       2830.7         2.66       2.12
      10.69   126.82    .466E+06       3909.5         2.84       1.99

                                     <---- hydrograph ---->   <-pipe /
channel->
                                AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX
VEL
                                (ha)    (cms)   (hrs)   (mm)     (m)
(m/s)
   INFLOW : ID= 2 (  3862)    4212.32    32.37    5.58  23.92      0.77
0.64
   OUTFLOW: ID= 1 (  3826)    4212.32    31.86    5.75  23.92      0.77
0.64

     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

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| ROUTE CHN(  3827)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                  0.00         126.81        0.0600
                  1.70         126.82        0.0600      Main Channel
                 54.41         125.84        0.0600      Main Channel
                 71.82         125.78        0.0600      Main Channel
                 76.52         125.62        0.0600      Main Channel
                 86.75         122.56        0.0600      Main Channel
                 95.25         119.73        0.0600      Main Channel
                 98.54         118.29        0.0600      Main Channel
                105.89         117.44        0.0600      Main Channel
                117.98         116.39        0.0600      Main Channel
                124.68         116.40        0.0600      Main Channel
                179.54         116.13        0.0600      Main Channel
                185.57         117.46        0.0600      Main Channel
                193.22         119.84        0.0600      Main Channel
```

198.34	121.00	0.0600		Main Channel
212.38	124.99	0.0600		Main Channel
218.98	125.06	0.0600		Main Channel
245.15	125.03	0.0600		Main Channel
323.44	126.13	0.0600 /0.0600		Main Channel
360.64	126.01	0.0600		

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.54	116.67	.672E+04	17.5	0.70	6.41
1.08	117.21	.170E+05	76.0	1.19	3.74
1.62	117.75	.286E+05	168.7	1.58	2.82
2.16	118.29	.410E+05	293.5	1.91	2.33
2.70	118.83	.542E+05	455.9	2.25	1.98
3.24	119.37	.678E+05	647.2	2.55	1.75
3.78	119.91	.818E+05	865.3	2.83	1.58
4.32	120.45	.963E+05	1106.1	3.07	1.45
4.85	120.98	.111E+06	1374.0	3.30	1.35
5.39	121.52	.127E+06	1672.8	3.52	1.27
5.93	122.06	.143E+06	1998.6	3.73	1.20
6.47	122.60	.160E+06	2351.3	3.93	1.13
7.01	123.14	.177E+06	2729.0	4.12	1.08
7.55	123.68	.195E+06	3134.2	4.30	1.04
8.09	124.22	.213E+06	3567.1	4.48	1.00
8.63	124.76	.232E+06	4027.9	4.64	0.96
9.17	125.30	.254E+06	3737.3	3.93	1.13
9.71	125.84	.284E+06	3733.0	3.51	1.27
10.69	126.82	.369E+06	5155.8	3.74	1.19

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3826)	4212.32	31.86	5.75	23.92	0.67	0.77
OUTFLOW: ID= 1 (3827)	4212.32	31.74	5.83	23.92	0.67	0.77

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB STANDHYD (0699) ID= 1 DT= 5.0 min	Area (ha)= 835.60	Total Imp(%)= 56.53	Dir. Conn.(%)= 53.78

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	472.39	363.21
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.87	2.87
Length	(m)=	2360.23	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)	=	19.32	4.05
over (min)		25.00	50.00
Storage Coeff. (min)	=	23.95 (ii)	46.80 (ii)
Unit Hyd. Tpeak (min)	=	25.00	50.00
Unit Hyd. peak (cms)	=	0.05	0.02

		TOTALS
PEAK FLOW	(cms)=	21.96	2.22	23.494 (iii)
TIME TO PEAK	(hrs)=	5.25	5.83	5.33
RUNOFF VOLUME	(mm)=	40.00	6.35	24.45

TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.95	0.15	0.58

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 56.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1833)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (3827):	4212.32	31.737	5.83	23.92
	+ ID2= 2 (0699):	835.60	23.494	5.33	24.45
	ID = 3 (1833):	5047.92	50.839	5.50	24.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3700)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	125.68	0.0600	
16.78	124.95	0.0600	Main Channel
48.10	125.02	0.0600	Main Channel
88.24	125.19	0.0600	Main Channel
95.78	125.56	0.0600	Main Channel
104.01	125.08	0.0600	Main Channel
120.15	118.04	0.0600	Main Channel
148.50	117.95	0.0600	Main Channel
167.40	112.97	0.0600	Main Channel
175.23	114.55	0.0600	Main Channel
180.04	115.14	0.0600	Main Channel
203.72	116.37	0.0600	Main Channel
217.96	122.71	0.0600	Main Channel
236.21	123.29	0.0600	Main Channel
243.50	123.69	0.0600	Main Channel
263.10	123.88	0.0600	Main Channel
295.33	125.34	0.0600	Main Channel
340.35	125.07	0.0600	Main Channel
385.89	124.09	0.0600 /0.0600	Main Channel
420.17	124.15	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.59	113.56	.855E+03	0.8	0.51	18.76
1.17	114.14	.342E+04	4.8	0.80	11.82
1.76	114.73	.772E+04	14.0	1.03	9.21
2.34	115.31	.143E+05	29.1	1.16	8.18
2.93	115.90	.248E+05	54.9	1.26	7.54
3.51	116.48	.398E+05	101.1	1.45	6.56
4.10	117.07	.571E+05	175.7	1.76	5.41
4.68	117.65	.755E+05	268.0	2.03	4.69
5.27	118.24	.990E+05	315.3	1.82	5.23
5.85	118.82	.129E+06	479.3	2.12	4.48

6.44	119.41	.160E+06	670.9	2.40	3.97
7.02	119.99	.191E+06	889.2	2.65	3.59
7.61	120.58	.224E+06	1133.2	2.89	3.29
8.19	121.16	.257E+06	1402.5	3.11	3.06
8.78	121.75	.292E+06	1696.6	3.32	2.86
9.36	122.33	.327E+06	2015.3	3.52	2.70
9.95	122.92	.363E+06	2281.1	3.58	2.65
10.53	123.50	.405E+06	2500.4	3.52	2.70
11.12	124.09	.454E+06	2658.7	3.34	2.85

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1833)	5047.92	50.84	5.50	24.01	2.83	1.24
OUTFLOW: ID= 1 (3700)	5047.92	49.76	5.67	24.01	2.81	1.24

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3640)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	126.90	0.0600	
4.35	126.77	0.0600	Main Channel
50.39	127.62	0.0600	Main Channel
87.92	125.21	0.0600	Main Channel
115.51	125.21	0.0600	Main Channel
160.85	122.37	0.0600	Main Channel
169.02	118.52	0.0600	Main Channel
180.85	117.55	0.0600	Main Channel
220.90	113.58	0.0600	Main Channel
230.91	110.76	0.0600	Main Channel
250.92	114.32	0.0600	Main Channel
267.38	115.60	0.0600	Main Channel
274.40	116.05	0.0600	Main Channel
310.97	114.00	0.0600	Main Channel
322.43	115.66	0.0600	Main Channel
338.89	122.47	0.0600	Main Channel
363.12	125.43	0.0600	Main Channel
429.19	125.67	0.0600	Main Channel
466.40	125.52	0.0600 /0.0600	Main Channel
520.45	125.57	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.87	111.63	.182E+04	1.8	0.52	16.78
1.74	112.50	.727E+04	11.5	0.83	10.57
2.60	113.36	.163E+05	33.8	1.09	8.07
3.47	114.23	.301E+05	64.7	1.13	7.76
4.34	115.10	.584E+05	124.5	1.12	7.82
5.21	115.97	.106E+06	255.4	1.27	6.89
6.08	116.84	.166E+06	504.6	1.60	5.47
6.95	117.71	.231E+06	831.8	1.89	4.62
7.81	118.57	.301E+06	1231.2	2.15	4.08
8.68	119.44	.376E+06	1745.7	2.44	3.59
9.55	120.31	.451E+06	2333.0	2.72	3.23

10.42	121.18	.529E+06	2990.4	2.97	2.95
11.29	122.05	.609E+06	3715.9	3.21	2.73
12.16	122.92	.692E+06	4366.9	3.32	2.64
13.02	123.78	.783E+06	5016.6	3.37	2.60
13.89	124.65	.884E+06	5772.0	3.43	2.55
14.76	125.52	.100E+07	5926.2	3.11	2.81
15.81	126.57	.124E+07	6888.5	2.91	3.01
16.86	127.62	.151E+07	9022.0	3.14	2.79

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3700)	5047.92	49.76	5.67	24.01	3.05	1.11
OUTFLOW: ID= 1 (3640)	5047.92	48.55	5.75	24.01	3.01	1.11

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3594)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	126.04	0.0600	
58.37	125.40	0.0600	Main Channel
83.29	124.59	0.0600	Main Channel
110.35	124.59	0.0600	Main Channel
127.66	121.38	0.0600	Main Channel
185.97	118.70	0.0600	Main Channel
209.82	112.95	0.0600	Main Channel
217.29	111.81	0.0600	Main Channel
239.70	110.99	0.0600	Main Channel
261.54	109.28	0.0600	Main Channel
272.97	111.38	0.0600	Main Channel
280.66	111.80	0.0600	Main Channel
304.81	114.06	0.0600	Main Channel
327.65	114.06	0.0600	Main Channel
364.86	113.25	0.0600	Main Channel
387.22	116.88	0.0600	Main Channel
430.57	116.85	0.0600	Main Channel
479.15	117.11	0.0600	Main Channel
494.99	120.92	0.0600 /0.0600	Main Channel
529.21	120.72	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.58	109.86	.111E+04	2.0	0.63	9.45
1.16	110.44	.443E+04	12.4	1.01	5.95
1.75	111.03	.998E+04	36.2	1.30	4.59
2.33	111.61	.188E+05	74.1	1.41	4.24
2.91	112.19	.322E+05	153.0	1.71	3.51
3.49	112.77	.479E+05	271.0	2.03	2.95
4.07	113.35	.657E+05	410.7	2.24	2.67
4.66	113.94	.896E+05	546.6	2.19	2.73
5.24	114.52	.123E+06	793.4	2.31	2.59
5.82	115.10	.159E+06	1188.4	2.68	2.23
6.40	115.68	.196E+06	1649.7	3.02	1.99
6.98	116.26	.235E+06	2175.2	3.32	1.80

7.57	116.85	.275E+06	2763.5	3.61	1.66
8.15	117.43	.332E+06	2901.4	3.14	1.91
8.73	118.01	.393E+06	3798.9	3.47	1.72
9.31	118.59	.455E+06	4794.9	3.78	1.58
9.89	119.17	.519E+06	5795.4	4.01	1.49
10.48	119.76	.586E+06	6872.2	4.21	1.42
11.06	120.34	.656E+06	8048.9	4.41	1.36

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3640)	5047.92	48.55	5.75	24.01	1.94	1.34
OUTFLOW: ID= 1 (3594)	5047.92	48.31	5.83	24.01	1.93	1.34

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3595)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	126.04	0.0600	
58.37	125.40	0.0600	Main Channel
83.29	124.59	0.0600	Main Channel
110.35	124.69	0.0600	Main Channel
127.66	121.38	0.0600	Main Channel
185.97	118.70	0.0600	Main Channel
209.82	112.95	0.0600	Main Channel
217.29	111.81	0.0600	Main Channel
239.70	110.99	0.0600	Main Channel
261.54	109.28	0.0600	Main Channel
272.97	111.38	0.0600	Main Channel
280.66	111.80	0.0600	Main Channel
304.81	114.06	0.0600	Main Channel
327.65	114.06	0.0600	Main Channel
364.86	113.25	0.0600	Main Channel
387.22	116.88	0.0600	Main Channel
430.57	116.85	0.0600	Main Channel
479.15	117.11	0.0600	Main Channel
494.99	120.92	0.0600 /0.0600	Main Channel
529.21	120.72	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.58	109.86	.118E+04	1.1	0.36	17.53
1.16	110.44	.471E+04	7.1	0.58	11.04
1.75	111.03	.106E+05	20.8	0.75	8.52
2.33	111.61	.200E+05	42.5	0.81	7.87
2.91	112.19	.343E+05	87.7	0.98	6.51
3.49	112.77	.510E+05	155.4	1.16	5.47
4.07	113.35	.699E+05	235.5	1.29	4.95
4.66	113.94	.953E+05	313.4	1.26	5.07
5.24	114.52	.131E+06	454.9	1.33	4.80
5.82	115.10	.169E+06	681.4	1.54	4.14
6.40	115.68	.209E+06	945.8	1.73	3.68
6.98	116.26	.250E+06	1247.1	1.91	3.34
7.57	116.85	.292E+06	1584.4	2.07	3.08

8.15	117.43	.353E+06	1663.5	1.80	3.54
8.73	118.01	.418E+06	2178.0	1.99	3.20
9.31	118.59	.484E+06	2749.1	2.17	2.94
9.89	119.17	.552E+06	3322.7	2.30	2.77
10.48	119.76	.623E+06	3940.1	2.42	2.64
11.06	120.34	.697E+06	4614.7	2.53	2.52

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3594)	5047.92	48.31	5.83	24.01	2.40	0.83
OUTFLOW: ID= 1 (3595)	5047.92	47.45	6.00	24.01	2.39	0.83

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	
STANDHYD (0698)	Area (ha)= 606.03
ID= 1 DT= 5.0 min	Total Imp(%)= 59.20 Dir. Conn.(%)= 56.98

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	358.77	247.26	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.85	2.85	
Length	(m)=	2010.02	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	3.66	
over (min)		20.00	50.00	
Storage Coeff. (min)=		21.80 (ii)	45.63 (ii)	
Unit Hyd. Tpeak (min)=		20.00	50.00	
Unit Hyd. peak (cms)=		0.05	0.02	
				TOTALS
PEAK FLOW	(cms)=	17.37	1.38	18.243 (iii)
TIME TO PEAK	(hrs)=	5.25	5.83	5.25
RUNOFF VOLUME	(mm)=	40.00	5.80	25.29
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.14	0.60

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 54.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1544)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3595):	5047.92	47.447	6.00	24.01
+ ID2= 2 (0698):	606.03	18.243	5.25	25.29
ID = 3 (1544):	5653.95	57.325	5.83	24.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3290)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	123.27	0.0600	
50.01	122.77	0.0600	Main Channel
85.37	121.88	0.0600	Main Channel
136.72	120.75	0.0600	Main Channel
170.82	111.67	0.0600	Main Channel
183.90	105.71	0.0600	Main Channel
203.08	105.70	0.0600	Main Channel
223.42	110.73	0.0600	Main Channel
238.73	108.86	0.0600	Main Channel
286.26	108.75	0.0600	Main Channel
335.79	110.59	0.0600	Main Channel
358.19	111.74	0.0600	Main Channel
383.80	112.30	0.0600	Main Channel
397.12	112.25	0.0600	Main Channel
408.64	114.41	0.0600	Main Channel
435.13	120.73	0.0600	Main Channel
439.40	122.47	0.0600	Main Channel
460.54	124.27	0.0600	Main Channel
495.37	124.33	0.0600 /0.0600	Main Channel
533.96	123.84	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.95	106.65	.735E+04	18.7	0.89	6.56
1.90	107.60	.167E+05	63.4	1.33	4.39
2.86	108.56	.280E+05	133.3	1.67	3.51
3.81	109.51	.564E+05	200.8	1.25	4.68
4.76	110.46	.102E+06	441.9	1.52	3.83
5.71	111.41	.158E+06	836.3	1.85	3.15
6.66	112.36	.224E+06	1274.1	1.99	2.93
7.61	113.31	.302E+06	2044.0	2.37	2.46
8.57	114.27	.383E+06	2962.9	2.71	2.15
9.52	115.22	.467E+06	4032.6	3.03	1.93
10.47	116.17	.553E+06	5243.1	3.32	1.76
11.42	117.12	.641E+06	6590.1	3.60	1.62
12.37	118.07	.733E+06	8071.6	3.86	1.51
13.32	119.02	.826E+06	9686.4	4.11	1.42
14.28	119.98	.923E+06	11433.7	4.34	1.34
15.23	120.93	.102E+07	13115.1	4.50	1.30
16.18	121.88	.113E+07	14192.6	4.40	1.33
17.41	123.11	.130E+07	17260.6	4.67	1.25
18.63	124.33	.149E+07	19457.1	4.56	1.28

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1544)	5653.95	57.33	5.83	24.15	1.77	1.25
OUTFLOW: ID= 1 (3290)	5653.95	57.25	5.83	24.15	1.77	1.24

ROUTE CHN(3291)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	123.27	0.0600	
50.01	122.77	0.0600	Main Channel
85.37	121.88	0.0600	Main Channel
136.72	120.75	0.0600	Main Channel
170.82	111.67	0.0600	Main Channel
183.90	105.71	0.0600	Main Channel
203.08	105.70	0.0600	Main Channel
223.42	110.73	0.0600	Main Channel
238.73	108.86	0.0600	Main Channel
286.26	108.75	0.0600	Main Channel
335.79	110.59	0.0600	Main Channel
358.19	111.74	0.0600	Main Channel
383.80	112.30	0.0600	Main Channel
397.12	112.25	0.0600	Main Channel
408.64	114.41	0.0600	Main Channel
435.13	120.73	0.0600	Main Channel
439.40	122.47	0.0600	Main Channel
460.54	124.27	0.0600	Main Channel
495.37	124.33	0.0600 /0.0600	Main Channel
533.96	123.84	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.95	106.65	.170E+05	22.6	1.08	12.56
1.90	107.60	.387E+05	76.8	1.61	8.41
2.86	108.56	.650E+05	161.4	2.02	6.72
3.81	109.51	.131E+06	243.2	1.51	8.96
4.76	110.46	.236E+06	535.0	1.84	7.34
5.71	111.41	.367E+06	1012.6	2.24	6.04
6.66	112.36	.520E+06	1542.6	2.41	5.61
7.61	113.31	.701E+06	2474.8	2.87	4.72
8.57	114.27	.888E+06	3587.2	3.28	4.13
9.52	115.22	.108E+07	4882.3	3.67	3.69
10.47	116.17	.128E+07	6347.9	4.02	3.37
11.42	117.12	.149E+07	7978.8	4.36	3.11
12.37	118.07	.170E+07	9772.5	4.67	2.90
13.32	119.02	.192E+07	11727.5	4.97	2.72
14.28	119.98	.214E+07	13843.0	5.26	2.58
15.23	120.93	.237E+07	15878.8	5.45	2.49
16.18	121.88	.262E+07	17183.3	5.32	2.55
17.41	123.11	.300E+07	20897.8	5.65	2.40
18.63	124.33	.346E+07	23557.2	5.53	2.45

<---- hydrograph ----> <-pipe /
channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3290)	5653.95	57.25	5.83	24.15	1.56	1.37
OUTFLOW: ID= 1 (3291)	5653.95	56.85	5.92	24.15	1.55	1.36

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(3054)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	119.37	0.0600	
42.63	117.67	0.0600	Main Channel
88.24	115.37	0.0600	Main Channel
117.00	112.02	0.0600	Main Channel
157.97	110.13	0.0600	Main Channel
205.27	108.64	0.0600	Main Channel
217.98	106.46	0.0600	Main Channel
267.98	104.83	0.0600	Main Channel
322.61	104.64	0.0600	Main Channel
330.15	100.67	0.0600	Main Channel
341.90	104.54	0.0600	Main Channel
448.52	105.34	0.0600	Main Channel
496.35	109.78	0.0600	Main Channel
537.11	110.49	0.0600	Main Channel
571.51	115.84	0.0600	Main Channel
653.42	120.82	0.0600	Main Channel
674.35	121.61	0.0600	Main Channel
732.97	122.31	0.0600	Main Channel
868.58	123.91	0.0600 /0.0600	Main Channel
889.37	123.88	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.13	101.80	.144E+04	1.5	0.48	15.98
2.26	102.93	.578E+04	9.6	0.76	10.07
3.39	104.06	.130E+05	28.2	0.99	7.68
4.52	105.19	.481E+05	55.3	0.53	14.49
5.65	106.32	.158E+06	324.8	0.94	8.10
6.78	107.45	.287E+06	828.4	1.32	5.77
7.92	108.59	.426E+06	1526.5	1.64	4.65
9.05	109.72	.581E+06	2313.4	1.82	4.19
10.18	110.85	.771E+06	3241.3	1.92	3.97
11.31	111.98	.985E+06	4628.3	2.15	3.55
12.44	113.11	.121E+07	6362.2	2.40	3.17
13.57	114.24	.145E+07	8341.5	2.64	2.89
14.70	115.37	.169E+07	10559.3	2.86	2.67
16.12	116.79	.202E+07	13729.2	3.11	2.45
17.55	118.22	.238E+07	17258.9	3.32	2.30
18.97	119.64	.278E+07	21277.2	3.51	2.17
20.39	121.06	.320E+07	25737.4	3.68	2.07
21.82	122.49	.365E+07	28998.6	3.64	2.10
23.24	123.91	.418E+07	32469.4	3.56	2.14

channel->		<---- hydrograph ---->				<-pipe /
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3291)	5653.95	56.85	5.92	24.15	4.53	0.53
OUTFLOW: ID= 1 (3054)	5653.95	52.96	6.33	24.15	4.44	0.55

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB

| ROUTE CHN(3055)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	119.37	0.0600	
42.63	117.67	0.0600	Main Channel
88.24	115.37	0.0600	Main Channel
117.00	112.02	0.0600	Main Channel
157.97	110.13	0.0600	Main Channel
205.27	108.64	0.0600	Main Channel
217.98	106.46	0.0600	Main Channel
267.98	104.83	0.0600	Main Channel
322.61	104.64	0.0600	Main Channel
330.15	100.67	0.0600	Main Channel
341.90	104.54	0.0600	Main Channel
448.52	105.34	0.0600	Main Channel
496.35	109.78	0.0600	Main Channel
537.11	110.49	0.0600	Main Channel
571.51	115.84	0.0600	Main Channel
653.42	120.82	0.0600	Main Channel
674.35	121.61	0.0600	Main Channel
732.97	122.31	0.0600	Main Channel
868.58	123.91	0.0600 /0.0600	Main Channel
889.37	123.88	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.13	101.80	.160E+04	1.5	0.48	17.74
2.26	102.93	.640E+04	9.5	0.76	11.18
3.39	104.06	.144E+05	28.1	0.99	8.53
4.52	105.19	.532E+05	55.1	0.52	16.09
5.65	106.32	.175E+06	324.1	0.94	9.00
6.78	107.45	.318E+06	826.5	1.32	6.41
7.92	108.59	.472E+06	1523.0	1.64	5.16
9.05	109.72	.644E+06	2308.0	1.82	4.65
10.18	110.85	.854E+06	3233.8	1.92	4.40
11.31	111.98	.109E+07	4617.6	2.15	3.94
12.44	113.11	.134E+07	6347.5	2.40	3.52
13.57	114.24	.160E+07	8322.2	2.63	3.21
14.70	115.37	.187E+07	10534.9	2.85	2.96
16.12	116.79	.223E+07	13697.5	3.11	2.72
17.55	118.22	.263E+07	17219.0	3.31	2.55
18.97	119.64	.307E+07	21228.1	3.50	2.41
20.39	121.06	.354E+07	25677.9	3.68	2.30
21.82	122.49	.404E+07	28931.5	3.63	2.33
23.24	123.91	.462E+07	32394.4	3.55	2.38

channel->		<---- hydrograph ---->				<-pipe /
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3054)	5653.95	52.96	6.33	24.15	4.43	0.55
OUTFLOW: ID= 1 (3055)	5653.95	49.78	6.83	24.15	4.31	0.58

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB

| STANDHYD (0696)| Area (ha)= 176.75
|ID= 1 DT= 5.0 min | Total Imp(%)= 48.44 Dir. Conn.(%)= 45.69

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	85.63	91.12	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.79	2.79	
Length	(m)=	1085.51	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	3.76	
over (min)		15.00	40.00	
Storage Coeff. (min)=		15.16 (ii)	38.89 (ii)	
Unit Hyd. Tpeak (min)=		15.00	40.00	
Unit Hyd. peak (cms)=		0.07	0.03	
				TOTALS
PEAK FLOW	(cms)=	4.25	0.57	4.681 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	5.96	21.51
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.14	0.51

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0697)| Area (ha)= 576.13
ID= 1 DT= 5.0 min	Total Imp(%)= 54.58 Dir. Conn.(%)= 50.67

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	314.44	261.69	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.56	3.56	
Length	(m)=	1959.81	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	4.00	
over (min)		20.00	45.00	
Storage Coeff. (min)=		20.08 (ii)	41.60 (ii)	
Unit Hyd. Tpeak (min)=		20.00	45.00	
Unit Hyd. peak (cms)=		0.06	0.03	
				TOTALS
PEAK FLOW	(cms)=	14.86	1.68	16.029 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	40.00	6.16	23.30
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.15	0.55

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 55.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1233)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (3055):	5653.95	49.776	6.83	24.15
+ ID2= 2 (0696):	176.75	4.681	5.25	21.51
ID = 3 (1233):	5830.70	51.047	6.50	24.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (1233)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (1233):	5830.70	51.047	6.50	24.07
+ ID2= 2 (0697):	576.13	16.029	5.25	23.30
ID = 1 (1233):	6406.83	57.015	6.42	24.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2867)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	124.75	0.0600	
18.56	124.25	0.0600	Main Channel
44.25	113.95	0.0600	Main Channel
70.18	110.65	0.0600	Main Channel
124.28	108.42	0.0600	Main Channel
139.40	106.12	0.0600	Main Channel
154.14	104.99	0.0600	Main Channel
271.38	104.46	0.0600	Main Channel
342.79	104.46	0.0600	Main Channel
447.87	103.02	0.0600	Main Channel
470.13	98.82	0.0600	Main Channel
483.83	101.79	0.0600	Main Channel
525.79	102.26	0.0600	Main Channel
587.54	104.97	0.0600	Main Channel
681.63	106.39	0.0600	Main Channel
751.28	106.42	0.0600	Main Channel
756.33	106.61	0.0600	Main Channel
768.38	111.75	0.0600	Main Channel
781.98	119.98	0.0600 /0.0600	Main Channel
855.55	123.21	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.26	100.08	.531E+04	4.2	0.54	20.92
2.52	101.34	.212E+05	26.8	0.85	13.18
3.78	102.60	.640E+05	76.2	0.80	14.01
5.04	103.86	.166E+06	227.9	0.92	12.15
6.31	105.12	.420E+06	575.6	0.92	12.16
7.57	106.38	.841E+06	1604.4	1.29	8.73
8.83	107.65	.137E+07	3280.9	1.61	6.96
10.09	108.91	.191E+07	5596.3	1.97	5.69
11.35	110.17	.248E+07	8337.4	2.27	4.95
12.61	111.43	.307E+07	11674.4	2.56	4.38

13.87	112.69	.367E+07	15561.2	2.86	3.93
15.13	113.95	.429E+07	19903.5	3.13	3.59
16.46	115.27	.494E+07	25127.9	3.43	3.27
17.78	116.60	.559E+07	30834.5	3.72	3.02
19.10	117.92	.625E+07	37007.8	3.99	2.82
20.43	119.24	.692E+07	43634.4	4.25	2.64
21.75	120.57	.759E+07	50753.2	4.50	2.49
23.07	121.89	.829E+07	58400.5	4.75	2.37
24.40	123.21	.902E+07	66543.0	4.97	2.26

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1233)	6406.83	57.01	6.42	24.00	3.29	0.82
OUTFLOW: ID= 1 (2867)	6406.83	55.69	6.50	24.00	3.26	0.82

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2866)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	124.75	0.0600	
18.56	124.25	0.0600	Main Channel
44.25	113.95	0.0600	Main Channel
70.18	110.65	0.0600	Main Channel
124.28	108.42	0.0600	Main Channel
139.40	106.12	0.0600	Main Channel
154.14	104.99	0.0600	Main Channel
271.38	104.46	0.0600	Main Channel
342.79	104.46	0.0600	Main Channel
447.87	103.02	0.0600	Main Channel
470.13	98.82	0.0600	Main Channel
483.83	101.79	0.0600	Main Channel
525.79	102.26	0.0600	Main Channel
587.54	104.97	0.0600	Main Channel
681.63	106.39	0.0600	Main Channel
751.28	106.42	0.0600	Main Channel
756.33	106.61	0.0600	Main Channel
768.38	111.75	0.0600	Main Channel
781.98	119.98	0.0600 /0.0600	Main Channel
855.55	123.21	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.26	100.08	.432E+04	4.5	0.57	15.96
2.52	101.34	.173E+05	28.6	0.91	10.05
3.78	102.60	.521E+05	81.2	0.85	10.69
5.04	103.86	.135E+06	243.0	0.99	9.26
6.31	105.12	.341E+06	613.6	0.99	9.27
7.57	106.38	.684E+06	1710.4	1.37	6.66
8.83	107.65	.111E+07	3497.7	1.72	5.31
10.09	108.91	.155E+07	5966.0	2.10	4.34
11.35	110.17	.201E+07	8888.2	2.42	3.78
12.61	111.43	.249E+07	12445.6	2.73	3.34
13.87	112.69	.299E+07	16589.1	3.05	3.00

15.13	113.95	.348E+07	21218.3	3.34	2.74
16.46	115.27	.401E+07	26787.7	3.66	2.50
17.78	116.60	.455E+07	32871.3	3.96	2.31
19.10	117.92	.508E+07	39452.4	4.25	2.15
20.43	119.24	.563E+07	46516.7	4.53	2.02
21.75	120.57	.617E+07	54105.9	4.80	1.90
23.07	121.89	.674E+07	62258.3	5.06	1.81
24.40	123.21	.734E+07	70938.7	5.30	1.72

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2867)	6406.83	55.69	6.50	24.00	3.17	0.88
OUTFLOW: ID= 1 (2866)	6406.83	55.15	6.83	24.00	3.16	0.88

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2411)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	109.73	0.0800	
28.83	109.60	0.0800	Main Channel
104.32	108.32	0.0800	Main Channel
112.99	107.98	0.0800	Main Channel
156.95	99.77	0.0800	Main Channel
196.04	98.20	0.0800	Main Channel
209.59	95.56	0.0800	Main Channel
234.87	98.76	0.0800	Main Channel
248.78	98.67	0.0800	Main Channel
277.79	103.28	0.0800	Main Channel
284.80	103.74	0.0800	Main Channel
320.70	104.97	0.0800	Main Channel
348.14	106.77	0.0800	Main Channel
363.67	107.48	0.0800	Main Channel
404.42	108.38	0.0800	Main Channel
423.85	108.82	0.0800	Main Channel
454.55	109.56	0.0800	Main Channel
471.75	109.37	0.0800	Main Channel
533.93	109.10	0.0800 /0.0800	Main Channel
564.64	109.47	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.71	96.27	.105E+04	1.3	0.40	13.24
1.42	96.98	.420E+04	8.4	0.64	8.34
2.13	97.69	.946E+04	24.8	0.84	6.36
2.84	98.40	.169E+05	50.6	0.96	5.58
3.54	99.10	.307E+05	88.5	0.93	5.77
4.25	99.81	.509E+05	175.7	1.11	4.83
4.96	100.52	.744E+05	313.6	1.35	3.96
5.67	101.23	.998E+05	486.7	1.56	3.42
6.38	101.94	.127E+06	695.1	1.76	3.05
7.09	102.65	.156E+06	939.2	1.93	2.77
7.80	103.36	.187E+06	1215.9	2.08	2.57
8.51	104.07	.221E+06	1475.9	2.14	2.50

9.22	104.78	.261E+06	1763.3	2.17	2.46
9.92	105.48	.305E+06	2157.7	2.27	2.36
10.63	106.19	.353E+06	2624.0	2.39	2.24
11.34	106.90	.404E+06	3139.3	2.50	2.14
12.05	107.61	.459E+06	3655.5	2.56	2.09
12.76	108.32	.521E+06	4079.1	2.51	2.13
13.47	109.03	.597E+06	4736.5	2.55	2.10

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2866)	6406.83	55.15	6.83	24.00	2.92	0.95
OUTFLOW: ID= 1 (2411)	6406.83	55.08	6.92	24.00	2.91	0.96

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2412)	IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	109.73	0.0800	
28.83	109.60	0.0800	Main Channel
104.32	108.32	0.0800	Main Channel
112.99	107.98	0.0800	Main Channel
156.95	99.77	0.0800	Main Channel
196.04	98.20	0.0800	Main Channel
209.59	95.56	0.0800	Main Channel
234.87	98.76	0.0800	Main Channel
248.78	98.67	0.0800	Main Channel
277.79	103.28	0.0800	Main Channel
284.80	103.74	0.0800	Main Channel
320.70	104.97	0.0800	Main Channel
348.14	106.77	0.0800	Main Channel
363.67	107.48	0.0800	Main Channel
404.42	108.38	0.0800	Main Channel
423.85	108.82	0.0800	Main Channel
454.55	109.56	0.0800	Main Channel
471.75	109.37	0.0800	Main Channel
533.93	109.10	0.0800 /0.0800	Main Channel
564.64	109.47	0.0800	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.71	96.27	.270E+04	0.7	0.22	63.47
1.42	96.98	.108E+05	4.5	0.34	39.98
2.13	97.69	.243E+05	13.3	0.45	30.51
2.84	98.40	.435E+05	27.1	0.51	26.76
3.54	99.10	.788E+05	47.5	0.50	27.67
4.25	99.81	.131E+06	94.2	0.59	23.16
4.96	100.52	.191E+06	168.1	0.72	18.97
5.67	101.23	.257E+06	260.9	0.84	16.39
6.38	101.94	.327E+06	372.6	0.94	14.61
7.09	102.65	.402E+06	503.4	1.03	13.30
7.80	103.36	.481E+06	651.7	1.12	12.31
8.51	104.07	.569E+06	791.1	1.15	11.99
9.22	104.78	.670E+06	945.1	1.16	11.81

9.92	105.48	.784E+06	1156.5	1.22	11.29
10.63	106.19	.906E+06	1406.5	1.28	10.74
11.34	106.90	.104E+07	1682.7	1.34	10.27
12.05	107.61	.118E+07	1959.4	1.37	10.03
12.76	108.32	.134E+07	2186.4	1.35	10.21
13.47	109.03	.153E+07	2538.8	1.36	10.07

<---- hydrograph ----> <-pipe /

channel->	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (2411)	6406.83	55.08	6.92	24.00	3.66	0.51
OUTFLOW: ID= 1 (2412)	6406.83	52.94	7.50	24.00	3.63	0.51

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB	STANDHYD (0695)	ID= 1 DT= 5.0 min	Area (ha)= 102.63	Total Imp(%)= 27.02	Dir. Conn.(%)= 24.53

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	27.73	74.90	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.89	2.89	
Length	(m)=	827.16	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	2.87	
over (min)		15.00	40.00	
Storage Coeff. (min)=		12.74 (ii)	38.90 (ii)	
Unit Hyd. Tpeak (min)=		15.00	40.00	
Unit Hyd. peak (cms)=		0.08	0.03	
				TOTALS
PEAK FLOW	(cms)=	1.34	0.37	1.613 (iii)
TIME TO PEAK	(hrs)=	5.25	5.67	5.25
RUNOFF VOLUME	(mm)=	40.00	4.82	13.45
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.11	0.32

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7561)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2412):		6406.83	52.937	7.50	24.00
	+ ID2= 2 (0695):		102.63	1.613	5.25	13.45
	ID = 3 (7561):		6509.46	53.266	7.50	23.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0770)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (3837):	74090.72	79.672	13.25	11.48
+	ID2= 2 (7561):	6509.46	53.266	7.50	23.83
	ID = 3 (0770):	80600.18	123.032	8.00	12.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0712)	Area (ha)=	184.80		
ID= 1 DT= 5.0 min	Total Imp(%)=	51.50	Dir. Conn.(%)=	46.90

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	95.17	89.63	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	3.32	3.32	
Length	(m)=	1109.95	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	6.73	
over (min)		15.00	35.00	
Storage Coeff. (min)=		14.58 (ii)	32.42 (ii)	
Unit Hyd. Tpeak (min)=		15.00	35.00	
Unit Hyd. peak (cms)=		0.08	0.03	
				TOTALS
PEAK FLOW	(cms)=	4.58	1.08	5.472 (iii)
TIME TO PEAK	(hrs)=	5.25	5.58	5.25
RUNOFF VOLUME	(mm)=	40.00	9.89	24.01
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.24	0.57

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1849)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0712):	184.80	5.472	5.25	24.01
+	ID2= 2 (0770):	80600.18	123.032	8.00	12.47
	ID = 3 (1849):	80784.98	123.742	8.00	12.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN (3726)

IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	122.70	0.0600	
154.26	121.13	0.0600	Main Channel
174.40	118.66	0.0600	Main Channel
204.69	105.68	0.0600	Main Channel
214.82	103.04	0.0600	Main Channel
247.07	99.82	0.0600	Main Channel
285.72	99.38	0.0600	Main Channel
305.96	94.73	0.0600	Main Channel
348.66	94.92	0.0600	Main Channel
358.08	92.71	0.0600	Main Channel
413.42	92.59	0.0600	Main Channel
468.94	95.89	0.0600	Main Channel
538.49	99.76	0.0600	Main Channel
588.85	107.28	0.0600	Main Channel
643.53	121.27	0.0600	Main Channel
689.80	123.38	0.0600	Main Channel
730.07	122.80	0.0600	Main Channel
891.58	125.45	0.0600	Main Channel
962.17	125.92	0.0600 /0.0600	Main Channel
1036.92	127.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.53	94.12	.661E+05	112.0	1.06	9.83
3.07	95.66	.188E+06	421.0	1.40	7.44
4.60	97.19	.361E+06	1099.4	1.91	5.47
6.13	98.72	.566E+06	2094.8	2.32	4.50
7.67	100.26	.819E+06	3266.8	2.50	4.18
9.20	101.79	.112E+07	5196.4	2.91	3.59
10.73	103.32	.144E+07	7570.1	3.28	3.17
12.27	104.86	.178E+07	10470.0	3.67	2.84
13.80	106.39	.214E+07	13809.8	4.03	2.58
15.34	107.93	.251E+07	17636.7	4.39	2.37
16.87	109.46	.289E+07	21938.9	4.74	2.20
18.40	110.99	.328E+07	26642.8	5.08	2.05
19.94	112.53	.368E+07	31742.9	5.39	1.93
21.47	114.06	.409E+07	37235.3	5.70	1.83
23.00	115.59	.451E+07	43117.1	5.98	1.74
24.54	117.13	.493E+07	49386.5	6.26	1.66
26.07	118.66	.537E+07	56042.8	6.53	1.60
28.09	120.68	.596E+07	65832.5	6.90	1.51
30.11	122.70	.667E+07	74090.5	6.95	1.50

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (1849)	80784.98	123.74	8.00	12.50	1.59	1.07
OUTFLOW: ID= 1 (3726)	80784.98	123.56	8.25	12.50	1.59	1.07

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN (3727)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	122.70	0.0600	
154.26	121.13	0.0600	Main Channel
174.40	118.66	0.0600	Main Channel
204.69	105.68	0.0600	Main Channel
214.82	103.04	0.0600	Main Channel
247.07	99.82	0.0600	Main Channel
285.72	99.38	0.0600	Main Channel
305.96	94.73	0.0600	Main Channel
348.66	94.92	0.0600	Main Channel
358.08	92.71	0.0600	Main Channel
413.42	92.59	0.0600	Main Channel
468.94	95.89	0.0600	Main Channel
538.49	99.76	0.0600	Main Channel
588.85	107.28	0.0600	Main Channel
643.53	121.27	0.0600	Main Channel
689.80	123.38	0.0600	Main Channel
730.07	122.80	0.0600	Main Channel
891.58	125.45	0.0600	Main Channel
962.17	125.92	0.0600 /0.0600	Main Channel
1036.92	127.53	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.53	94.12	.589E+05	111.1	1.05	8.84
3.07	95.66	.168E+06	417.5	1.39	6.69
4.60	97.19	.322E+06	1090.1	1.89	4.92
6.13	98.72	.505E+06	2077.1	2.30	4.05
7.67	100.26	.731E+06	3239.2	2.47	3.76
9.20	101.79	.998E+06	5152.5	2.88	3.23
10.73	103.32	.129E+07	7506.1	3.26	2.86
12.27	104.86	.159E+07	10381.5	3.64	2.56
13.80	106.39	.191E+07	13693.0	4.00	2.33
15.34	107.93	.224E+07	17487.6	4.35	2.14
16.87	109.46	.258E+07	21753.3	4.70	1.98
18.40	110.99	.293E+07	26417.5	5.03	1.85
19.94	112.53	.328E+07	31474.5	5.35	1.74
21.47	114.06	.365E+07	36920.4	5.65	1.65
23.00	115.59	.402E+07	42752.4	5.93	1.57
24.54	117.13	.440E+07	48968.9	6.21	1.50
26.07	118.66	.479E+07	55568.8	6.47	1.44
28.09	120.68	.532E+07	65275.8	6.85	1.36
30.11	122.70	.595E+07	73464.0	6.89	1.35

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3726)	80784.98	123.56	8.25	12.50	1.60	1.06
OUTFLOW: ID= 1 (3727)	80784.98	123.43	8.42	12.50	1.59	1.06

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN (3628)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	121.17	0.0600	
70.49	121.36	0.0600	Main Channel
90.60	119.17	0.0600	Main Channel
110.70	118.86	0.0600	Main Channel
161.07	111.26	0.0600	Main Channel
181.19	97.85	0.0600	Main Channel
201.30	92.44	0.0600	Main Channel
211.35	92.34	0.0600	Main Channel
231.49	89.21	0.0600	Main Channel
251.65	89.20	0.0600	Main Channel
301.94	91.26	0.0600	Main Channel
314.00	92.68	0.0600	Main Channel
336.13	108.49	0.0600	Main Channel
359.37	108.40	0.0600	Main Channel
382.49	107.29	0.0600	Main Channel
446.18	111.22	0.0600	Main Channel
512.95	113.03	0.0600	Main Channel
546.53	112.76	0.0600	Main Channel
602.05	116.28	0.0600 /0.0600	Main Channel
646.88	117.94	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.69	90.89	.522E+05	109.9	1.41	7.91
3.39	92.59	.155E+06	504.0	2.17	5.14
5.08	94.28	.288E+06	1333.1	3.09	3.60
6.77	95.97	.431E+06	2480.3	3.85	2.89
8.46	97.66	.583E+06	3925.0	4.50	2.48
10.16	99.36	.743E+06	5716.9	5.14	2.17
11.85	101.05	.909E+06	7791.9	5.72	1.95
13.54	102.74	.108E+07	10133.3	6.26	1.78
15.23	104.43	.126E+07	12734.8	6.76	1.65
16.93	106.13	.144E+07	15592.2	7.23	1.54
18.62	107.82	.163E+07	17507.7	7.16	1.55
20.31	109.51	.189E+07	18410.5	6.50	1.71
22.00	111.20	.220E+07	21960.9	6.68	1.67
23.70	112.90	.256E+07	23654.5	6.17	1.80
25.39	114.59	.303E+07	28478.1	6.28	1.77
27.08	116.28	.355E+07	35024.6	6.60	1.69
28.77	117.97	.411E+07	43776.9	7.11	1.57
30.47	119.67	.473E+07	52686.7	7.44	1.50
32.16	121.36	.538E+07	64408.0	8.00	1.39

<---- hydrograph ----> <-pipe / channel->

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (3727)	80784.98	123.43	8.42	12.50	1.75	1.42
OUTFLOW: ID= 1 (3628)	80784.98	123.36	8.50	12.50	1.75	1.42

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB STANDHYD (0711)	Area (ha)=	554.11		
ID= 1 DT= 5.0 min	Total Imp(%)=	63.00	Dir. Conn.(%)=	58.50

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	349.09	205.02	
Dep. Storage	(mm)=	2.00	5.00	
Average Slope	(%)=	2.02	2.02	
Length	(m)=	1922.00	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	6.17	
over (min)		25.00	45.00	
Storage Coeff. (min)=		23.53 (ii)	44.97 (ii)	
Unit Hyd. Tpeak (min)=		25.00	45.00	
Unit Hyd. peak (cms)=		0.05	0.03	
				TOTALS
PEAK FLOW	(cms)=	15.90	1.99	17.401 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.33
RUNOFF VOLUME	(mm)=	40.00	9.14	27.19
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.22	0.65

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 66.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1649)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (3628):		80784.98	123.363	8.50	12.50
+ ID2= 2 (0711):		554.11	17.401	5.33	27.19
ID = 3 (1649):		81339.09	125.521	8.33	12.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(3446)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	118.33	0.0600	
82.49	118.52	0.0600	Main Channel
114.79	106.00	0.0600	Main Channel
132.92	97.49	0.0600	Main Channel
163.09	91.39	0.0600	Main Channel
233.43	90.82	0.0600	Main Channel
323.92	90.71	0.0600	Main Channel
464.85	89.95	0.0600	Main Channel
484.97	88.01	0.0600	Main Channel
515.19	85.56	0.0600	Main Channel
565.61	85.19	0.0600	Main Channel
605.78	88.45	0.0600	Main Channel
656.37	87.88	0.0600	Main Channel
696.54	89.00	0.0600	Main Channel
736.99	104.94	0.0600	Main Channel
757.14	109.69	0.0600	Main Channel
797.37	109.20	0.0600	Main Channel
887.81	109.23	0.0600	Main Channel

992.37	110.63	0.0600 /0.0600	Main Channel	
1078.08	113.51	0.0600		

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.73	86.92	.135E+06	148.4	1.37	15.19
3.47	88.66	.418E+06	554.1	1.66	12.57
5.20	90.39	.933E+06	1583.9	2.12	9.82
6.94	92.13	.199E+07	3896.4	2.45	8.50
8.67	93.86	.318E+07	8407.9	3.30	6.31
10.40	95.60	.441E+07	14234.4	4.04	5.16
12.14	97.33	.566E+07	21263.6	4.70	4.44
13.87	99.06	.694E+07	29531.6	5.32	3.92
15.61	100.80	.823E+07	38889.7	5.91	3.53
17.34	102.53	.955E+07	49279.3	6.46	3.23
19.08	104.27	.109E+08	60662.5	6.98	2.99
20.81	106.00	.122E+08	72887.6	7.46	2.80
22.60	107.79	.136E+08	86736.2	7.96	2.62
24.39	109.58	.151E+08	89166.0	7.37	2.83
26.18	111.37	.171E+08	101418.9	7.43	2.81
27.96	113.15	.192E+08	121860.3	7.94	2.62
29.75	114.94	.214E+08	144132.9	8.43	2.47
31.54	116.73	.236E+08	168137.8	8.91	2.34
33.33	118.52	.258E+08	193786.6	9.38	2.22

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (1649)	81339.09	125.52	8.33	12.60	1.47	1.37
OUTFLOW: ID= 1 (3446)	81339.09	125.01	8.67	12.60	1.45	1.37

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3090)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	117.62	0.0600	
95.15	117.60	0.0600	Main Channel
137.02	111.18	0.0600	Main Channel
168.44	102.82	0.0600	Main Channel
193.49	99.06	0.0600	Main Channel
262.55	96.11	0.0600	Main Channel
377.62	94.75	0.0600	Main Channel
409.09	80.83	0.0600	Main Channel
440.42	79.89	0.0600	Main Channel
534.58	78.67	0.0600	Main Channel
576.40	78.68	0.0600	Main Channel
586.64	81.80	0.0600	Main Channel
605.63	97.11	0.0600	Main Channel
618.27	101.77	0.0600	Main Channel
660.16	102.88	0.0600	Main Channel
722.95	103.86	0.0600	Main Channel
733.40	101.50	0.0600	Main Channel
764.61	102.08	0.0600	Main Channel
795.99	100.94	0.0600 /0.0600	Main Channel

852.37	102.60	0.0600		

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.24	79.91	.546E+05	152.0	1.34	5.99
2.47	81.14	.151E+06	715.2	2.28	3.53
3.71	82.38	.259E+06	1704.8	3.18	2.53
4.95	83.62	.369E+06	3021.7	3.96	2.03
6.19	84.86	.481E+06	4629.0	4.65	1.73
7.42	86.09	.596E+06	6506.3	5.27	1.53
8.66	87.33	.714E+06	8639.5	5.85	1.38
9.90	88.57	.834E+06	11018.5	6.38	1.26
11.14	89.81	.957E+06	13635.6	6.88	1.17
12.37	91.04	.108E+07	16485.0	7.36	1.09
13.61	92.28	.121E+07	19562.1	7.81	1.03
14.85	93.52	.134E+07	22863.5	8.23	0.98
16.08	94.75	.147E+07	26362.3	8.64	0.93
17.32	95.99	.164E+07	24515.8	7.22	1.12
18.56	97.23	.185E+07	27939.6	7.29	1.11
19.80	98.47	.208E+07	32153.3	7.46	1.08
21.03	99.70	.233E+07	37473.4	7.77	1.04
22.27	100.94	.259E+07	43796.3	8.18	0.98
23.93	102.60	.300E+07	47705.8	7.68	1.05

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3446)	81339.09	125.01	8.67	12.60	1.02	1.34
OUTFLOW: ID= 1 (3090)	81339.09	124.91	8.75	12.60	1.02	1.34

ROUTE CHN(3093)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	117.62	0.0600	
95.15	117.60	0.0600	Main Channel
137.02	111.18	0.0600	Main Channel
168.44	102.82	0.0600	Main Channel
193.49	99.06	0.0600	Main Channel
262.55	96.11	0.0600	Main Channel
377.62	94.75	0.0600	Main Channel
409.09	80.83	0.0600	Main Channel
440.42	79.89	0.0600	Main Channel
534.58	78.67	0.0600	Main Channel
576.40	78.68	0.0600	Main Channel
586.64	81.80	0.0600	Main Channel
605.63	97.11	0.0600	Main Channel
618.27	101.77	0.0600	Main Channel
660.16	102.88	0.0600	Main Channel
722.95	103.86	0.0600	Main Channel
733.40	101.50	0.0600	Main Channel
764.61	102.08	0.0600	Main Channel
795.99	100.94	0.0600 /0.0600	Main Channel
852.37	102.60	0.0600	

<-------------------- TRAVEL TIME TABLE -------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.24	79.91	.679E+05	51.5	0.46	21.99
2.47	81.14	.188E+06	242.3	0.77	12.96
3.71	82.38	.322E+06	577.4	1.08	9.28
4.95	83.62	.458E+06	1023.5	1.34	7.46
6.19	84.86	.598E+06	1567.9	1.57	6.36
7.42	86.09	.741E+06	2203.8	1.79	5.61
8.66	87.33	.888E+06	2926.4	1.98	5.06
9.90	88.57	.104E+07	3732.2	2.16	4.63
11.14	89.81	.119E+07	4618.7	2.33	4.30
12.37	91.04	.135E+07	5583.8	2.49	4.02
13.61	92.28	.151E+07	6626.1	2.64	3.79
14.85	93.52	.167E+07	7744.3	2.79	3.59
16.08	94.75	.183E+07	8929.5	2.93	3.42
17.32	95.99	.204E+07	8304.0	2.44	4.10
18.56	97.23	.230E+07	9463.7	2.47	4.06
19.80	98.47	.259E+07	10891.0	2.53	3.96
21.03	99.70	.290E+07	12693.0	2.63	3.81
22.27	100.94	.322E+07	14834.7	2.77	3.62
23.93	102.60	.373E+07	16158.9	2.60	3.85

<---- hydrograph ----> <-pipe / channel->

	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (3090)	81339.09	124.91	8.75	12.60	1.71	0.54
OUTFLOW: ID= 1 (3093)	81339.09	123.89	9.00	12.60	1.70	0.54

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(2932)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	102.31	0.0600	
55.86	101.18	0.0600	Main Channel
216.95	99.53	0.0600	Main Channel
249.01	96.74	0.0600	Main Channel
302.60	94.55	0.0600	Main Channel
334.96	78.82	0.0600	Main Channel
356.50	75.65	0.0600	Main Channel
528.28	74.85	0.0600	Main Channel
614.41	74.81	0.0600	Main Channel
635.95	76.46	0.0600	Main Channel
653.11	84.36	0.0600	Main Channel
668.01	88.64	0.0600	Main Channel
689.57	88.88	0.0600	Main Channel
708.89	93.56	0.0600	Main Channel
737.04	97.15	0.0600	Main Channel
807.92	100.52	0.0600	Main Channel
926.24	109.22	0.0600	Main Channel
961.74	113.34	0.0600	Main Channel
1033.90	115.17	0.0600 /0.0600	Main Channel
1073.74	115.71	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.37	76.18	.265E+06	156.8	0.54	28.19
2.75	77.56	.627E+06	634.5	0.92	16.47
4.12	78.93	.100E+07	1355.1	1.23	12.36
5.49	80.30	.139E+07	2304.4	1.51	10.08
6.87	81.68	.179E+07	3448.7	1.76	8.65
8.24	83.05	.219E+07	4775.0	1.99	7.65
9.61	84.42	.260E+07	6272.8	2.20	6.91
10.99	85.80	.302E+07	7916.2	2.39	6.36
12.36	87.17	.345E+07	9720.7	2.58	5.91
13.73	88.54	.389E+07	11683.2	2.75	5.55
15.11	89.92	.436E+07	13403.1	2.81	5.42
16.48	91.29	.484E+07	15735.3	2.97	5.13
17.85	92.66	.534E+07	18233.1	3.12	4.88
19.23	94.04	.584E+07	20839.4	3.26	4.67
20.60	95.41	.637E+07	22881.7	3.28	4.64
21.97	96.78	.696E+07	24874.6	3.27	4.66
23.35	98.16	.759E+07	27301.2	3.29	4.63
24.72	99.53	.828E+07	29896.1	3.30	4.61
27.50	102.31	.101E+08	37875.6	3.43	4.45

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
<---- hydrograph ----> <-pipe / channel->						
INFLOW : ID= 2 (3093)	81339.09	123.89	9.00	12.60	1.09	0.54
OUTFLOW: ID= 1 (2932)	81339.09	121.25	9.67	12.60	1.06	0.54

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB STANDHYD (0710) ID= 1 DT= 5.0 min	Area (ha)= 520.87	Total Imp(%)= 55.80	Dir. Conn.(%)= 52.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	290.65	230.22
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.30	3.30
Length	(m)=	1863.46	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	5.97
over (min)		20.00	40.00
Storage Coeff. (min)=		19.93 (ii)	38.68 (ii)
Unit Hyd. Tpeak (min)=		20.00	40.00
Unit Hyd. peak (cms)=		0.06	0.03
			TOTALS
PEAK FLOW (cms)=		13.80	2.25	15.519 (iii)
TIME TO PEAK (hrs)=		5.25	5.67	5.25
RUNOFF VOLUME (mm)=		40.00	8.86	25.05
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.95	0.21	0.60

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 66.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (1000) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2932):	81339.09	121.247	9.67	12.60
+ ID2= 2 (0710):	520.87	15.519	5.25	25.05
ID = 3 (1000):	81859.96	122.003	9.67	12.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(2588) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	108.10	0.0600	
33.08	108.79	0.0600	Main Channel
78.16	108.50	0.0600	Main Channel
98.83	102.94	0.0600	Main Channel
150.67	79.98	0.0600	Main Channel
160.92	76.46	0.0600	Main Channel
181.58	76.22	0.0600	Main Channel
192.03	74.78	0.0600	Main Channel
264.28	74.41	0.0600	Main Channel
274.73	75.82	0.0600	Main Channel
316.08	74.73	0.0600	Main Channel
479.13	74.73	0.0600	Main Channel
500.76	86.97	0.0600	Main Channel
522.32	89.52	0.0600	Main Channel
554.65	91.14	0.0600	Main Channel
598.33	89.63	0.0600	Main Channel
652.22	90.73	0.0600	Main Channel
706.78	91.15	0.0600	Main Channel
739.11	93.10	0.0600 /0.0600	Main Channel
765.21	95.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.70	76.11	.274E+06	242.1	0.63	18.85
3.40	77.81	.659E+06	984.6	1.06	11.16
5.10	79.51	.106E+07	2127.1	1.42	8.29
6.80	81.21	.146E+07	3605.6	1.74	6.77
8.50	82.91	.188E+07	5388.5	2.03	5.82
10.19	84.60	.230E+07	7454.4	2.29	5.15
11.89	86.30	.274E+07	9789.1	2.53	4.66
13.59	88.00	.318E+07	12253.4	2.72	4.33
15.29	89.70	.364E+07	14708.8	2.85	4.13
16.99	91.40	.424E+07	14781.6	2.47	4.78
18.69	93.10	.496E+07	18549.2	2.64	4.46
20.65	95.06	.584E+07	24100.8	2.92	4.04
22.61	97.02	.674E+07	30280.3	3.17	3.71
24.57	98.98	.765E+07	37050.2	3.42	3.44
26.53	100.94	.857E+07	44384.5	3.66	3.22
28.50	102.91	.949E+07	52263.2	3.89	3.03
30.46	104.87	.104E+08	60526.7	4.11	2.87
32.42	106.83	.114E+08	69300.7	4.31	2.73

34.38	108.79	.123E+08	78667.1	4.52	2.61

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
<---- hydrograph ----> <-pipe / channel->						
INFLOW : ID= 2 (1000)	81859.96	122.00	9.67	12.68	0.86	0.63
OUTFLOW: ID= 1 (2588)	81859.96	121.01	9.83	12.68	0.85	0.63

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(3890) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	98.39	0.0600	
13.90	98.11	0.0600	Main Channel
22.85	94.32	0.0600	Main Channel
33.14	85.41	0.0600	Main Channel
34.56	84.79	0.0600	Main Channel
45.74	77.07	0.0600	Main Channel
55.17	75.17	0.0600	Main Channel
96.45	75.13	0.0600	Main Channel
134.84	75.31	0.0600	Main Channel
245.59	75.34	0.0600	Main Channel
289.16	75.77	0.0600	Main Channel
316.47	75.82	0.0600	Main Channel
326.63	76.37	0.0600	Main Channel
341.86	79.65	0.0600	Main Channel
346.86	80.92	0.0600	Main Channel
377.07	81.04	0.0600	Main Channel
397.19	81.24	0.0600	Main Channel
427.36	83.28	0.0600	Main Channel
457.61	92.52	0.0600 /0.0600	Main Channel
470.73	96.33	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
1.09	76.22	.182E+06	202.4	0.90	14.99
2.17	77.30	.429E+06	818.9	1.54	8.72
3.26	78.39	.682E+06	1747.6	2.07	6.50
4.35	79.48	.941E+06	2942.6	2.52	5.33
5.43	80.56	.121E+07	4385.4	2.94	4.58
6.52	81.65	.150E+07	5606.7	3.02	4.46
7.61	82.74	.183E+07	7543.3	3.33	4.04
8.70	83.83	.217E+07	9833.6	3.66	3.68
9.78	84.91	.252E+07	12474.3	4.00	3.36
10.87	86.00	.287E+07	15367.0	4.32	3.11
11.96	87.09	.322E+07	18516.2	4.63	2.90
13.04	88.17	.359E+07	21904.0	4.93	2.73
14.13	89.26	.395E+07	25524.7	5.22	2.58
15.22	90.35	.432E+07	29373.2	5.49	2.45
16.30	91.43	.469E+07	33445.4	5.75	2.34
17.39	92.52	.507E+07	37737.8	6.01	2.24
18.66	93.79	.552E+07	43283.8	6.33	2.12
19.93	95.06	.597E+07	49218.9	6.66	2.02
21.20	96.33	.643E+07	55532.6	6.97	1.93

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
<---- hydrograph ----> <-pipe / channel->						
INFLOW : ID= 2 (2588)	81859.96	121.01	9.83	12.68	0.65	0.90
OUTFLOW: ID= 1 (3890)	81859.96	120.63	10.17	12.68	0.64	0.90

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

CALIB STANDHYD (0190) ID= 1 DT= 5.0 min	Area (ha)= 139.63	Total Imp(%)= 20.80	Dir. Conn.(%)= 19.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	29.04	110.59
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.64	3.64
Length	(m)=	964.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	8.84
over (min)		15.00	30.00
Storage Coeff. (min)=		13.04 (ii)	28.61 (ii)
Unit Hyd. Tpeak (min)=		15.00	30.00
Unit Hyd. peak (cms)=		0.08	0.04
			TOTALS
PEAK FLOW (cms)=		1.43	1.88	3.151 (iii)
TIME TO PEAK (hrs)=		5.25	5.50	5.33
RUNOFF VOLUME (mm)=		40.00	13.84	18.89
TOTAL RAINFALL (mm)=		42.00	42.00	42.00
RUNOFF COEFFICIENT =		0.95	0.33	0.45

***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20% YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 80.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0206) ID= 1 DT= 5.0 min	Area (ha)= 25.81	Total Imp(%)= 26.30	Dir. Conn.(%)= 23.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.79	19.02
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.98	2.98
Length	(m)=	414.81	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.08
over (min)		10.00	30.00
Storage Coeff. (min)=		8.34 (ii)	27.53 (ii)

407 TWY 3 - Humber - 12hr AES (EX)

Unit Hyd. Tpeak (min)=		10.00	30.00	
Unit Hyd. peak (cms)=		0.13	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.33	0.22	0.520 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	9.40	16.59
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.22	0.39

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 69.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0209)	Area (ha)=	31.82	
ID= 1 DT= 5.0 min	Total Imp(%)=	26.20	Dir. Conn.(%)= 23.10

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.34	23.48
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	2.66	2.66
Length	(m)=	460.58	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	7.60
over (min)		10.00	30.00
Storage Coeff. (min)=		9.19 (ii)	27.34 (ii)
Unit Hyd. Tpeak (min)=		10.00	30.00
Unit Hyd. peak (cms)=		0.12	0.04
			TOTALS
PEAK FLOW	(cms)=	0.39	0.35 0.702 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50 5.25
RUNOFF VOLUME	(mm)=	40.00	11.68 18.22
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.95	0.28 0.43

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0222)	Area (ha)=	87.12	
ID= 1 DT= 5.0 min	Total Imp(%)=	43.60	Dir. Conn.(%)= 40.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	37.98	49.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.56	3.56
Length	(m)=	762.10	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	6.77
over (min)		10.00	30.00
Storage Coeff. (min)=		11.40 (ii)	28.83 (ii)

407 TWY 3 - Humber - 12hr AES (EX)

Unit Hyd. Tpeak (min)=		10.00	30.00	
Unit Hyd. peak (cms)=		0.10	0.04	
				TOTALS
PEAK FLOW	(cms)=	1.88	0.63	2.431 (iii)
TIME TO PEAK	(hrs)=	5.25	5.50	5.25
RUNOFF VOLUME	(mm)=	40.00	10.27	22.25
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.24	0.53

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 71.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

APPENDIX C

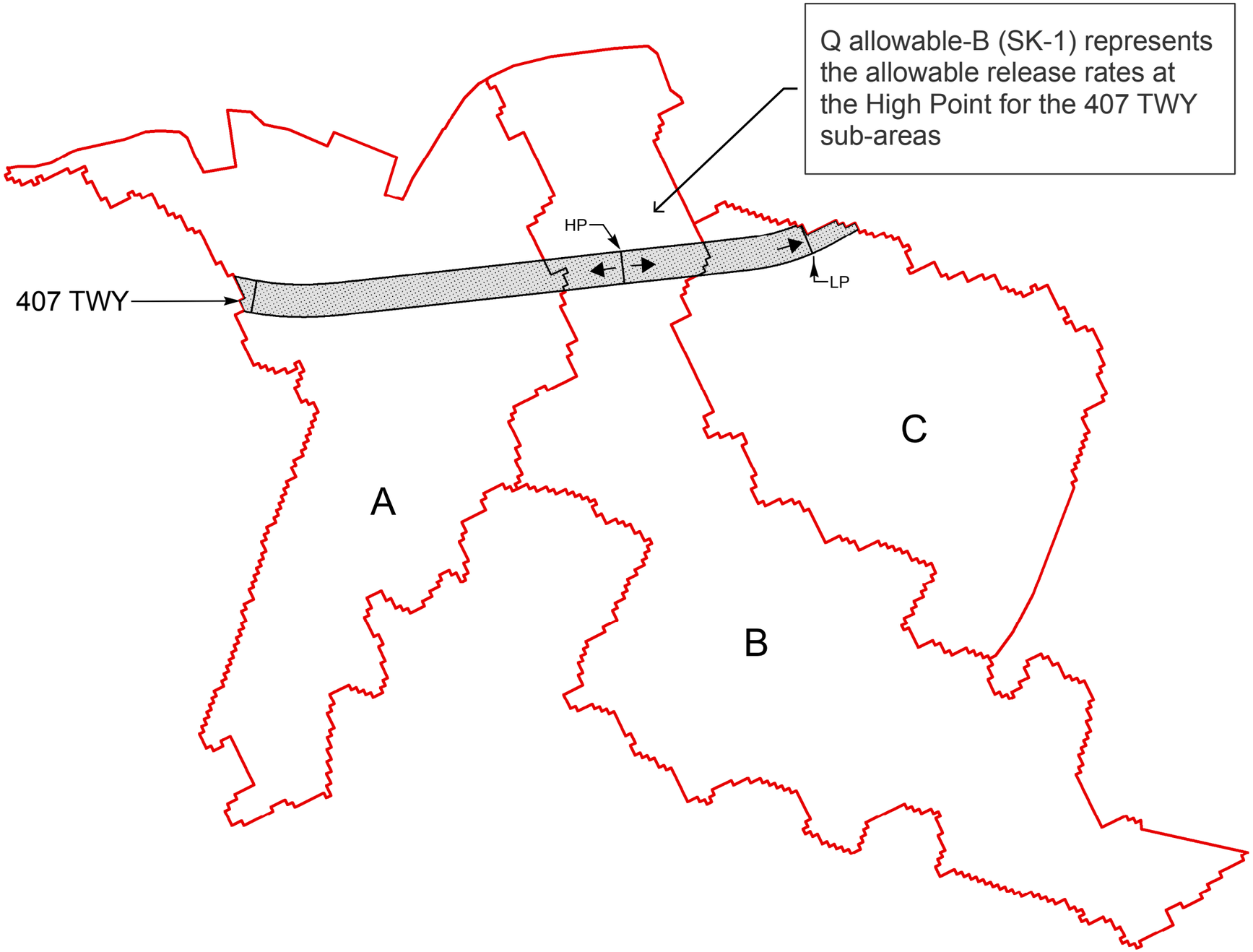
Hydrologic Analysis - Proposed Conditions

APPENDIX C: Hydrologic Analysis - Proposed Conditions

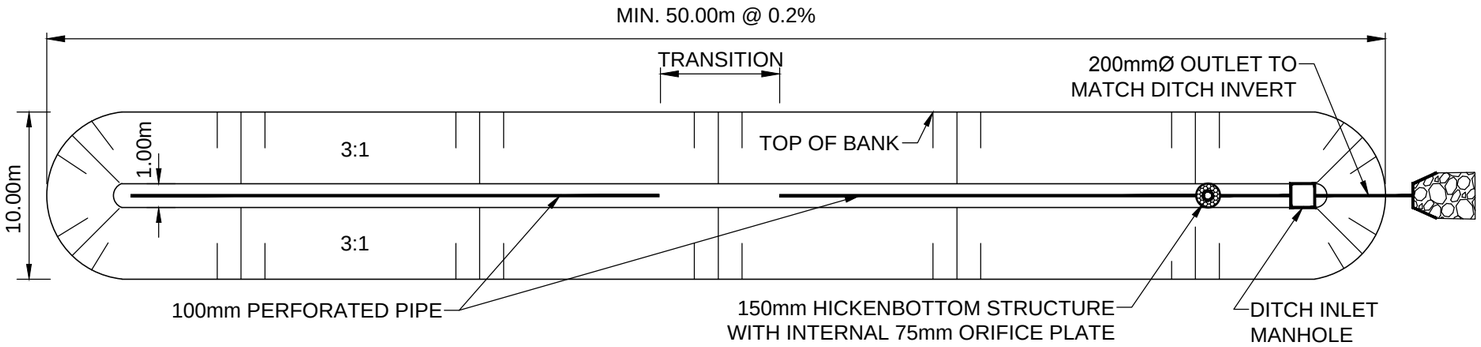
Figure C.1: SK-2 Hydrologic Modelling of 407 TWY Sub-Areas -- Proposed Condition
Figure C2: Enhanced Swale Details
Table C.1: Stage-Discharge Curve for Enhance Swales (Type 1)
Table C.2: Stage-Discharge Curve for Enhance Swales (Type 2)
Table C.3: Stage-Discharge Curve for Enhance Swales (Type 3)
Table C.4: Stage-Discharge Curve for Enhance Swales (Type 4)
Table C.5: Enhanced Swales Quantity Control Strategy

407 TWY SUB-AREAS - PROPOSED CONDITION WITHOUT SWM
VO2 Model Output Files for Etobicoke, Mimico and Humber

407 TWY SUB-AREAS - PROPOSED CONDITION WITH SWM
Swale Design VO2 Model Output Files for Etobicoke, Mimico and Humber

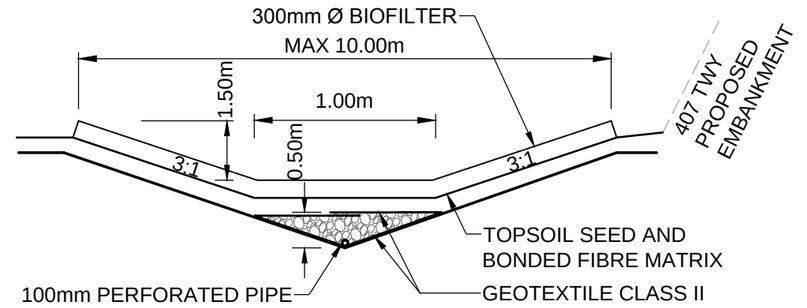


DATE JULY 2017	PROJECT NO. 602896	Ontario	PARSONS	625 COCHRANE DRIVE, SUITE 500 MARKHAM ON L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	**SK-2: HYDROLOGIC MODELLING 407 TWY SUB-AREAS (PROPOSED CONDITIONS)** 407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	FIGURE NO. **C.1**
SCALE N.T.S						



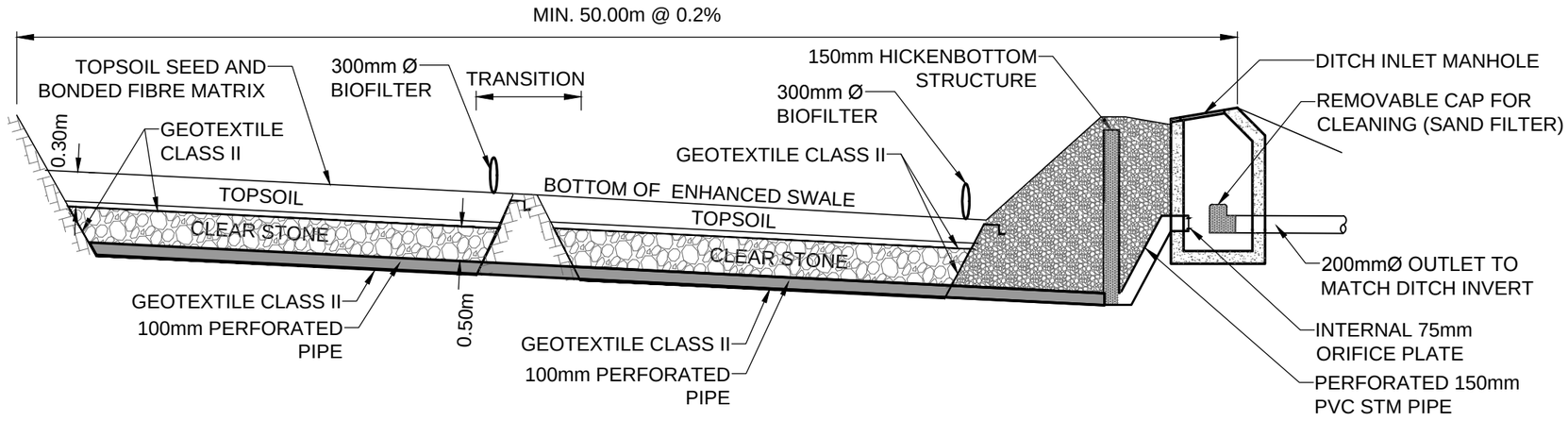
ENHANCE SWALE PLAN VIEW

N.T.S.



TYPICAL CROSS SECTION FOR ENHANCE SWALE / DRY POND

N.T.S.



TYPICAL LONGITUDINAL PROFILE FOR ENHANCE SWALE / DRY POND

N.T.S.

DATE SEP 2017	**PROJECT NO.** 602896	Ontario	PARSONS	625 COCHRANE DRIVE, SUITE 500 MARKHAM ON L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	**ENHANCED SWALE DETAILS** 407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	**FIGURE NO.** C.2
SCALE N.T.S.						

File: \\XCCAN52FS01\PROJECTS\DIVISION\TT\DRAINAGE\602896 - 407_TRANSITWAY HURONONTARIO\CAD\DESIGN\SWALES\602282-S-SK 3 (407 TWY PH 2).DWG - Revised by <P006437C>: 7/17/2017 11:24 AM

Table C.1 - Stage-Discharge for Enhanced Swales (Typical)

Enhanced Swale (Typical Section) - Trapezoidal

Height of Swale (y) =	1.5	m
Bed width (b) =	4	m
Side Slope of Swale (z) =	2	
Top width (B)=	10	m
Cross Sectional Area (A) =	10.5	m2
Length =	50	m
Volume =	525	m3
Orifice Diameter =	0.075	m

Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q		Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Outlet Type 1 (75mm Orifice)

Stage (m)	Area (m^2)	Cross-section Volume (m^3)	Orifice Discharge Rate (m3/s)
0.00	0.00	0.00	--
1.5	10.50	525.00	0.015
	2 swales:	1050	0.030
	3 swales:	1575	0.045
	4 swales:	2100	0.060
	5 swales:	2625	0.075
	6 swales:	3150	0.089
	7 swales:	3675	0.104
	8 swales:	4200	0.119

Table C.2 - Stage-Discharge for Enhanced Swales (Typical)

Enhanced Swale (Typical Section) - Trapezoidal

Height of Swale (y) =	1.5	m
Bed width (b) =	4	m
Side Slope of Swale (z) =	2	
Top width (B)=	10	m
Cross Sectional Area (A) =	10.5	m2
Length =	50	m
Volume =	525	m3
Orifice Diameter =	0.075	m

Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q		Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Outlet Type 2 (75mm Orifice+ Weir 0.5m H))

Stage (m)	Area (m^2)	Cross-section Volume (m^3)	Orifice Discharge Rate (m3/s)	Weir	Total Q
0.00	0.00	0.00	--		
1.00	6.00	300.00	0.012		0.012
1.5	10.50	525.00	0.015	0.09709	0.112
	2 swales:	600			0.024
		1050			0.224
	3 swales:	900			0.036
		1575			0.336
	4 swales:	1200			0.048
		2100			0.448
	5 swales:	1500			0.060
		2625			0.560
	6 swales:	1800			0.073
		3150			0.672
	7 swales:	2100			0.085
		3675			0.784

Weir Discharge

Q=1.837*L*H^(1.5)

Q **0.097**

		Discharge	(m^3/s)
C_d	0.62	Discharge Coefficient	-
L	0.150	Weir Length	(m)
g	9.81	Gravitational Constant	(m/s^2)
H	0.5	Hydraulic Head	m

Table C.3 - Stage-Discharge for Enhanced Swales (Typical)

Enhanced Swale (Typical Section) - Trapezoidal

Height of Swale (y) =	1.5	m
Bed width (b) =	4	m
Side Slope of Swale (z) =	2	
Top width (B)=	10	m
Cross Sectional Area (A) =	10.5	m2
Length =	50	m
Volume =	525	m3
Orifice Diameter =	0.075	m

Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q		Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Outlet Type 3 (75mm Orifice + Weir 0.4m H)

Stage (m)	Area (m^2)	Cross-section Volume (m^3)	Controlled Discharge Rate (m3/s)	Weir	Total Q
0.00	0.00	0.00	--		
1.00	6.00	300.00	0.012		0.012
1.5	10.50	525.00	0.015	0.06948	0.084
	2 swales:	600			0.024
		1050			0.169
	3 swales:	900			0.036
		1575			0.253
	4 swales:	1200			0.048
		2100			0.338
	5 swales:	1500			0.060
		2625			0.422
	6 swales:	1800			0.073
		3150			0.506
	7 swales:	2100			0.085
		3675			0.591

Weir Discharge

Q= 1.837 * L * H^(1.5)

Q	**0.07**	Discharge Discharge Coefficient Weir Length Gravitational Constant Hydraulic Head	(m^3/s)
C_d	0.62		-
L	0.150		(m)
g	9.81		(m/s^2)
H	0.4		m

Table C.4 - Stage-Discharge for Enhanced Swales (Typical)

Enhanced Swale (Typical Section) - Trapezoidal

Height of Swale (y) =	1.5	m
Bed width (b) =	4	m
Side Slope of Swale (z) =	2	
Top width (B)=	10	m
Cross Sectional Area (A) =	10.5	m2
Length =	50	m
Volume =	525	m3
Orifice Diameter =	0.075	m

Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q		Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Outlet Type 4 (75mm Orifice + Weir 0.2m H)

Stage (m)	Area (m^2)	Cross-section Volume (m^3)	Controlled Discharge Rate (m3/s)	Weir	Total Q
0.00	0.00	0.00	--		
1.00	6.00	300.00	0.012		0.012
1.5	10.50	525.00	0.015	0.02456	0.039
	2 swales:	600			0.024
		1050			0.079
	3 swales:	900			0.036
		1575			0.118
	4 swales:	1200			0.048
		2100			0.158
	5 swales:	1500			0.060
		2625			0.197
	6 swales:	1800			0.073
		3150			0.237
	7 swales:	2100			0.085
		3675			0.276

Weir Discharge

$Q = 1.837 * L * H_{max}$

Q	**0.025**		
		Discharge	(m^3/s)
C_d	0.62	Discharge Coefficient	-
L	0.150	Weir Length	(m)
g	9.81	Gravitational Constant	(m/s^2)
H	0.2	Hydraulic Head	m

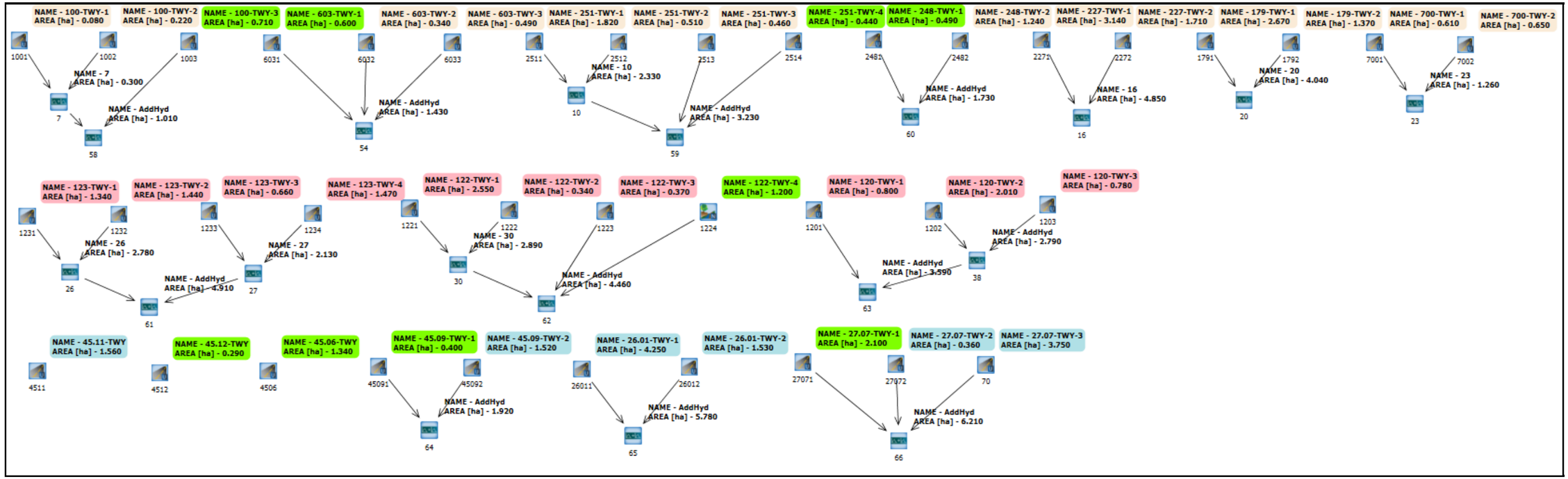
Table C-5 : Enhanced Swales - Quantity Control Strategy

Watershed	Swale Area ID	Contributing Drainage Area (ha)	100-yr 12hr/6hr AES Storage Required (m^3)	Storage Provided (m^3)	Number of Typical Enhanced Swales Required
Etobicoke	ES-1	0.30	166	525	1
	ES-2	0.83	393	525	1
	ES-3	2.33	952	1050	2
	ES-4	0.46	272	525	1
	ES-5	1.24	468	525	1
	ES-6	4.85	1770	2100	4
	ES-7	4.04	1854	2100	4
	ES-8	1.26	509	525	1
Mimico	ES-9	2.78	1012	1050	2
	ES-10	2.13	859	1050	2
	ES-11	2.89	1246	1575	3
	ES-12	0.37	193	525	1
	ES-13	0.80	339	525	1
	ES-14	2.79	986	1050	2
Humber	ES-15	1.56	974	1050	2
	ES-16	1.52	922	1050	2
	ES-17	5.78	3475	3675	7
	ES-18	0.36	215	525	1
	ES-19	3.75	2242	2625	5

Etobicoke & Mimico Watershed

407 TWY Sub-areas – Proposed Condition without SWM

602896 – 407 TWY: Proposed Uncontrolled Condition - VO Model Schematic



Notes:

1. Labelled drainage areas with yellow are from Etobicoke Creek Watershed, pink areas are from Mimico Creek Watershed, and blue areas are from Humber River Watershed.
2. Under proposed condition, labelled areas with green are kept the same as existing condition where proposed runningway is underground.

```
**************************
** SIMULATION NUMBER:   1 **
**************************

-------------------
|    READ STORM     |    Filename: C:\Users\p001279d\AppD
|                   |              ata\Local\Temp\
|                   |              e92f5ddb-ef25-4e6d-80c9-cb64445f919e\da6ca972
| Ptotal= 42.00 mm  |    Comments: 2yr/12hr
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	2.94	10.50	0.42
1.00	0.42	4.25	7.14	7.50	1.68	10.75	0.42
1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

```
-------------------
| CALIB             |
| STANDHYD  (2271)  |   Area    (ha)=   3.14
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.88         1.26
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     144.68        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42

2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

```
     Max.Eff.Inten.(mm/hr)=      19.32        10.33
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      5.15 (ii)   23.66 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.19         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.10         0.03      0.127 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.42       5.25
     RUNOFF VOLUME    (mm)=     41.00        16.72      31.28
     TOTAL RAINFALL   (mm)=     42.00        42.00      42.00
     RUNOFF COEFFICIENT   =      0.98         0.40       0.74


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2272)  |   Area    (ha)=   1.71
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.28         0.43
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     106.77        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.33
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      5.13 (ii)   22.63 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.21         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.07         0.01      0.078 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.42       5.25
     RUNOFF VOLUME    (mm)=     41.00        16.72      34.92
     TOTAL RAINFALL   (mm)=     42.00        42.00      42.00
     RUNOFF COEFFICIENT   =      0.98         0.40       0.83


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (0016)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2271):     3.14   0.127     5.25    31.28
       + ID2= 2 (2272):     1.71   0.078     5.25    34.92
         ==========================================================
         ID = 3 (0016):     4.85   0.205     5.25    32.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



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-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1791)  |   Area    (ha)=   2.67
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.00         0.67
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     133.42        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.91
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      5.86 (ii)   23.65 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.19         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.11         0.01      0.121 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.42       5.25
     RUNOFF VOLUME    (mm)=     41.00        16.04      34.75
     TOTAL RAINFALL   (mm)=     42.00        42.00      42.00
     RUNOFF COEFFICIENT   =      0.98         0.38       0.83


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1792)  |   Area    (ha)=   1.37
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.03         0.34
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      95.57        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.91
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      4.80 (ii)   22.59 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.22         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.06         0.01      0.062 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.42       5.25
     RUNOFF VOLUME    (mm)=     41.00        16.04      34.75
     TOTAL RAINFALL   (mm)=     42.00        42.00      42.00
     RUNOFF COEFFICIENT   =      0.98         0.38       0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  83.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (0020)  |
|   1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1791):     2.67   0.121     5.25    34.75
       + ID2= 2 (1792):     1.37   0.062     5.25    34.75
         ==========================================================
```



```
         ID = 3 (0020):     4.04   0.183     5.25    34.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (7001)  |   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.55         0.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      63.77        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        13.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.76 (ii)   19.56 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.25         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.03         0.00      0.031 (iii)
     TIME TO PEAK    (hrs)=      5.08         5.33       5.25
     RUNOFF VOLUME    (mm)=     41.00        21.81      39.07
     TOTAL RAINFALL   (mm)=     42.00        42.00      42.00
     RUNOFF COEFFICIENT   =      0.98         0.52       0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (7002)  |   Area    (ha)=   0.65
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.07
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      65.83        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        13.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.84 (ii)   19.64 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.25         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.03         0.00      0.033 (iii)
     TIME TO PEAK    (hrs)=      5.08         5.33       5.25
     RUNOFF VOLUME    (mm)=     41.00        21.81      39.07
     TOTAL RAINFALL   (mm)=     42.00        42.00      42.00
     RUNOFF COEFFICIENT   =      0.98         0.52       0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (0023)  |
```

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7001):	0.61	0.031	5.25	39.07
+ ID2= 2 (7002):	0.65	0.033	5.25	39.07
ID = 3 (0023):	1.26	0.065	5.25	39.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (6032) | Area (ha)= 0.34
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.71
over (min)	5.00	20.00
Storage Coeff. (min)=	3.16 (ii)	19.80 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

		TOTALS
PEAK FLOW (cms)=	0.02	0.017 (iii)
TIME TO PEAK (hrs)=	4.92	5.33	5.25
RUNOFF VOLUME (mm)=	41.00	19.01	38.79
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.45	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (6033) | Area (ha)= 0.49
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.44	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.71
over (min)	5.00	25.00
Storage Coeff. (min)=	3.52 (ii)	20.17 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.26	0.05

		TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.025 (iii)
TIME TO PEAK (hrs)=	5.00	5.33	5.25
RUNOFF VOLUME (mm)=	41.00	19.01	38.79
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.45	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (6031) | Area (ha)= 0.60
ID= 1 DT= 5.0 min | Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.27	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.71
over (min)	5.00	25.00
Storage Coeff. (min)=	3.75 (ii)	20.39 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.25	0.05

		TOTALS
PEAK FLOW (cms)=	0.01	0.01	0.023 (iii)
TIME TO PEAK (hrs)=	5.00	5.33	5.25
RUNOFF VOLUME (mm)=	41.00	19.01	28.88
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.45	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6031):	0.60	0.023	5.25	28.88
+ ID2= 2 (6032):	0.34	0.017	5.25	38.79
ID = 3 (0054):	0.94	0.040	5.25	32.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0054)

3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0054):	0.94	0.040	5.25	32.47
+ ID2= 2 (6033):	0.49	0.025	5.25	38.79
ID = 1 (0054):	1.43	0.065	5.25	34.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (1001) | Area (ha)= 0.08
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.07	0.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	23.09	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.33

over (min)	5.00	20.00		
Storage Coeff. (min)=	2.05 (ii)	19.55 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.31	0.06		
			TOTALS	
PEAK FLOW (cms)=	0.00	0.00	0.004 (iii)	
TIME TO PEAK (hrs)=	4.67	5.33	5.25	
RUNOFF VOLUME (mm)=	41.00	16.72	37.36	
TOTAL RAINFALL (mm)=	42.00	42.00	42.00	
RUNOFF COEFFICIENT =	0.98	0.40	0.89	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1002) | Area (ha)= 0.22
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.20	0.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	38.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.33
over (min)	5.00	25.00
Storage Coeff. (min)=	2.77 (ii)	20.27 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.28	0.05

		TOTALS
PEAK FLOW (cms)=	0.01	0.00	0.011 (iii)
TIME TO PEAK (hrs)=	4.83	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.72	38.55
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.40	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1001):	0.08	0.004	5.25	37.36
+ ID2= 2 (1002):	0.22	0.011	5.25	38.55
ID = 3 (0007):	0.30	0.015	5.25	38.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (1003) | Area (ha)= 0.71
ID= 1 DT= 5.0 min | Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.17	0.54
Dep. Storage (mm)=	1.00	4.00

Average Slope (%)=	1.00	2.00		
Length (m)=	68.80	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	19.32	10.33		
over (min)	5.00	25.00		
Storage Coeff. (min)=	3.94 (ii)	21.44 (ii)		
Unit Hyd. Tpeak (min)=	5.00	25.00		
Unit Hyd. peak (cms)=	0.24	0.05		
			TOTALS	
PEAK FLOW (cms)=	0.01	0.01	0.021 (iii)	
TIME TO PEAK (hrs)=	5.00	5.42	5.25	
RUNOFF VOLUME (mm)=	41.00	16.72	22.53	
TOTAL RAINFALL (mm)=	42.00	42.00	42.00	
RUNOFF COEFFICIENT =	0.98	0.40	0.54	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0058)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	0.30	0.015	5.25	38.23
+ ID2= 2 (1003):	0.71	0.021	5.25	22.53
ID = 3 (0058):	1.01	0.036	5.25	27.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2511) | Area (ha)= 1.82
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	110.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.91
over (min)	5.00	25.00
Storage Coeff. (min)=	5.23 (ii)	23.02 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.21	0.05

		TOTALS
PEAK FLOW (cms)=	0.07	0.01	0.082 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	34.75
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.83

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2512) | Area (ha)= 0.51
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.46	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	58.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.91
over (min)	5.00	25.00
Storage Coeff. (min)=	3.57 (ii)	21.36 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.26	0.05

	TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.026 (iii)
TIME TO PEAK (hrs)=	5.00	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	38.49
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2511):	1.82	0.082	5.25	34.75
	+ ID2= 2 (2512):	0.51	0.026	5.25	38.49
	ID = 3 (0010):	2.33	0.108	5.25	35.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (2513)	Area (ha)=	0.46	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.41	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	55.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.91
over (min)	5.00	25.00
Storage Coeff. (min)=	3.46 (ii)	21.25 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.26	0.05

	TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.023 (iii)
TIME TO PEAK (hrs)=	5.00	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	38.49
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (2514)	Area (ha)=	0.44	
ID= 1 DT= 5.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.11	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	54.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.91
over (min)	5.00	25.00
Storage Coeff. (min)=	3.41 (ii)	21.20 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.26	0.05

	TOTALS
PEAK FLOW (cms)=	0.01	0.01	0.013 (iii)
TIME TO PEAK (hrs)=	4.92	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	22.00
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0059)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0010):	2.33	0.108	5.25	35.57
	+ ID2= 2 (2513):	0.46	0.023	5.25	38.49
	ID = 3 (0059):	2.79	0.131	5.25	36.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0059)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0059):	2.79	0.131	5.25	36.05
	+ ID2= 2 (2514):	0.44	0.013	5.25	22.00
	ID = 1 (0059):	3.23	0.144	5.25	34.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (2482)	Area (ha)=	1.24	
ID= 1 DT= 5.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.74	0.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	90.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.22
over (min)	5.00	25.00

	IMPERVIOUS	PERVIOUS (i)
Storage Coeff. (min)=	4.66 (ii)	21.59 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.22	0.05

	TOTALS
PEAK FLOW (cms)=	0.04	0.01	0.052 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	18.20	31.87
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.43	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (2481)	Area (ha)=	0.49	
ID= 1 DT= 5.0 min	Total Imp(%)=	36.00	Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.18	0.31
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.22
over (min)	5.00	25.00
Storage Coeff. (min)=	3.52 (ii)	20.45 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.26	0.05

	TOTALS
PEAK FLOW (cms)=	0.01	0.01	0.017 (iii)
TIME TO PEAK (hrs)=	4.92	5.33	5.25
RUNOFF VOLUME (mm)=	41.00	18.20	26.38
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.43	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0060)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2481):	0.49	0.017	5.25	26.38
	+ ID2= 2 (2482):	1.24	0.052	5.25	31.87
	ID = 3 (0060):	1.73	0.069	5.25	30.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (1231)	Area (ha)=	1.34	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.00	0.34
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00

Length (m)=	94.52	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	4.77 (ii)	22.03 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.22	0.05

	TOTALS
PEAK FLOW (cms)=	0.05	0.01	0.061 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.76	34.93
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.40	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (1232)	Area (ha)=	1.44	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.08	0.36
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	97.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	4.87 (ii)	22.13 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.22	0.05

	TOTALS
PEAK FLOW (cms)=	0.06	0.01	0.066 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.76	34.93
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.40	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0026)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1231):	1.34	0.061	5.25	34.93
	+ ID2= 2 (1232):	1.44	0.066	5.25	34.93
	ID = 3 (0026):	2.78	0.127	5.25	34.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (1233)	Area (ha)=	0.66	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.17
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	66.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	3.85 (ii)	21.12 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.25	0.05
		TOTALS
PEAK FLOW (cms)=	0.03	0.00 0.030 (iii)
TIME TO PEAK (hrs)=	5.08	5.42 5.25
RUNOFF VOLUME (mm)=	41.00	16.76 34.92
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1234)
ID= 1 DT= 5.0 min

Area (ha)= 1.47
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.10	0.37
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	98.99	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	4.90 (ii)	22.16 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.22	0.05
		TOTALS
PEAK FLOW (cms)=	0.06	0.01 0.067 (iii)
TIME TO PEAK (hrs)=	5.25	5.42 5.25
RUNOFF VOLUME (mm)=	41.00	16.76 34.93
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0027)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1233):	0.66	0.030	5.25	34.92
+ ID2= 2 (1234):	1.47	0.067	5.25	34.93
ID = 3 (0027):	2.13	0.097	5.25	34.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (1224)
ID= 1 DT= 5.0 min

Area (ha)= 1.20 Curve Number (CN)= 86.0
Ia (mm)= 6.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.20

Unit Hyd Qpeak (cms)= 0.229

PEAK FLOW (cms)= 0.034 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 16.723
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.398

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1221)
ID= 1 DT= 5.0 min

Area (ha)= 2.55
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.91	0.64
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	130.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	5.78 (ii)	23.04 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.20	0.05
		TOTALS
PEAK FLOW (cms)=	0.10	0.01 0.116 (iii)
TIME TO PEAK (hrs)=	5.25	5.42 5.25
RUNOFF VOLUME (mm)=	41.00	16.76 34.93
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.83

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1222)
ID= 1 DT= 5.0 min

Area (ha)= 0.34
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	3.16 (ii)	20.42 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.27	0.05
		TOTALS
PEAK FLOW (cms)=	0.02	0.00 0.017 (iii)
TIME TO PEAK (hrs)=	4.92	5.42 5.25
RUNOFF VOLUME (mm)=	41.00	16.76 38.56
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1221):	2.55	0.116	5.25	34.93
+ ID2= 2 (1222):	0.34	0.017	5.25	38.56
ID = 3 (0030):	2.89	0.133	5.25	35.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (1223)
ID= 1 DT= 5.0 min

Area (ha)= 0.37
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.15
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	49.67	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	3.24 (ii)	20.50 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.27	0.05
		TOTALS
PEAK FLOW (cms)=	0.01	0.00 0.015 (iii)
TIME TO PEAK (hrs)=	4.92	5.42 5.25
RUNOFF VOLUME (mm)=	41.00	16.76 31.27
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1201)
ID= 1 DT= 5.0 min

Area (ha)= 0.80
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.48	0.32
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	73.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	4.08 (ii)	21.35 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.24	0.05
		TOTALS
PEAK FLOW (cms)=	0.03	0.01 0.033 (iii)

TIME TO PEAK (hrs)=	5.08	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.76	31.29
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.40	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1202)
ID= 1 DT= 5.0 min

Area (ha)= 2.01
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.21	0.80
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	115.76	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	5.38 (ii)	22.65 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.21	0.05
		TOTALS
PEAK FLOW (cms)=	0.06	0.02 0.082 (iii)
TIME TO PEAK (hrs)=	5.25	5.42 5.25
RUNOFF VOLUME (mm)=	41.00	16.76 31.30
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.75

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1203)
ID= 1 DT= 5.0 min

Area (ha)= 0.78
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.70	0.08
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	72.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.69
over (min)	5.00	25.00
Storage Coeff. (min)=	4.05 (ii)	21.31 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.24	0.05
		TOTALS
PEAK FLOW (cms)=	0.04	0.00 0.039 (iii)
TIME TO PEAK (hrs)=	5.17	5.42 5.25
RUNOFF VOLUME (mm)=	41.00	16.76 38.56
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0038)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1202):		2.01	0.082	5.25	31.30
+ ID2= 2 (1203):		0.78	0.039	5.25	38.56
ID = 3 (0038):		2.79	0.121	5.25	33.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0063)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0038):		2.79	0.121	5.25	33.33
+ ID2= 2 (1201):		0.80	0.033	5.25	31.29
ID = 3 (0063):		3.59	0.154	5.25	32.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 2 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\e92f5ddb-ef25-4e6d-80c9-cb64445f919e\62e1fa1e
Ptotal= 54.38 mm	Comments: 5yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB		Area (ha)= 3.14
STANDHYD (2271)		
ID= 1 DT= 5.0 min		Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.88	1.26
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	144.68	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	15.82	
over (min)	5.00	25.00	
Storage Coeff. (min)=	5.55 (ii)	20.30 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.20	0.05	
			TOTALS
PEAK FLOW (cms)=	0.13	0.04	0.174 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	25.70	42.30
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.47	0.78

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)= 1.71
STANDHYD (2272)		
ID= 1 DT= 5.0 min		Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.28	0.43
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	106.77	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	25.02	15.82
over (min)	5.00	20.00
Storage Coeff. (min)=	4.62 (ii)	19.38 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.22	0.06
		TOTALS
PEAK FLOW (cms)=	0.09	0.02	0.105 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	25.70	46.45
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.47	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0016)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2271):		3.14	0.174	5.25	42.30
+ ID2= 2 (2272):		1.71	0.105	5.25	46.45
ID = 3 (0016):		4.85	0.279	5.25	43.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)= 2.67
STANDHYD (1791)		
ID= 1 DT= 5.0 min		Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.00	0.67
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	133.42	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	25.00
Storage Coeff. (min)=	5.29 (ii)	20.24 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.21	0.05
		TOTALS
PEAK FLOW (cms)=	0.14	0.02	0.161 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	24.79	46.23
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.46	0.85

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)= 1.37
STANDHYD (1792)		
ID= 1 DT= 5.0 min		Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.03	0.34
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00

Length (m)=	95.57	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	20.00
Storage Coeff. (min)=	4.33 (ii)	19.28 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.23	0.06
		TOTALS
PEAK FLOW (cms)=	0.07	0.01	0.083 (iii)
TIME TO PEAK (hrs)=	5.17	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	24.79	46.22
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.46	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1791):		2.67	0.161	5.25	46.23
+ ID2= 2 (1792):		1.37	0.083	5.25	46.22
ID = 3 (0020):		4.04	0.244	5.25	46.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)= 0.61
STANDHYD (7001)		
ID= 1 DT= 5.0 min		Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.77	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	5.00	20.00
Storage Coeff. (min)=	3.39 (ii)	16.99 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06
		TOTALS
PEAK FLOW (cms)=	0.04	0.00	0.041 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	32.29	51.26
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.59	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)= 0.65
STANDHYD (7002)		
ID= 1 DT= 5.0 min		Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.58	0.07
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	65.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	5.00	20.00
Storage Coeff. (min)=	3.46 (ii)	17.06 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06
		TOTALS
PEAK FLOW (cms)=	0.04	0.00 0.044 (iii)
TIME TO PEAK (hrs)=	5.00	5.25 5.25
RUNOFF VOLUME (mm)=	53.38	32.29 51.26
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.59 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7001):	0.61	0.041	5.25	51.26
	+ ID2= 2 (7002):	0.65	0.044	5.25	51.26
	ID = 3 (0023):	1.26	0.085	5.25	51.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (6032)	Area (ha)=	0.34	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.53
over (min)	5.00	20.00
Storage Coeff. (min)=	2.85 (ii)	17.01 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.28	0.06
		TOTALS
PEAK FLOW (cms)=	0.02	0.00 0.023 (iii)
TIME TO PEAK (hrs)=	4.92	5.33 5.25
RUNOFF VOLUME (mm)=	53.38	28.73 50.90
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.53 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

	ID = 3 (0054):	0.94	0.055	5.25	43.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0054)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0054):	0.94	0.055	5.25	43.82
	+ ID2= 2 (6033):	0.49	0.033	5.25	50.90
	ID = 1 (0054):	1.43	0.088	5.25	46.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (1001)	Area (ha)=	0.08	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.07	0.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	23.09	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.82
over (min)	5.00	20.00
Storage Coeff. (min)=	1.85 (ii)	16.60 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.32	0.06
		TOTALS
PEAK FLOW (cms)=	0.01	0.00 0.005 (iii)
TIME TO PEAK (hrs)=	4.67	5.33 5.25
RUNOFF VOLUME (mm)=	53.38	25.70 50.59
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.47 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (1002)	Area (ha)=	0.22	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.20	0.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	38.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.82
over (min)	5.00	20.00
Storage Coeff. (min)=	2.50 (ii)	17.26 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.29	0.06
		TOTALS
PEAK FLOW (cms)=	0.01	0.00 0.015 (iii)
TIME TO PEAK (hrs)=	4.83	5.33 5.25
RUNOFF VOLUME (mm)=	53.38	25.70 50.59
TOTAL RAINFALL (mm)=	54.38	54.38 54.38

CALIB			
STANDHYD (6033)	Area (ha)=	0.49	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.44	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.53
over (min)	5.00	20.00
Storage Coeff. (min)=	3.18 (ii)	17.34 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06
		TOTALS
PEAK FLOW (cms)=	0.03	0.00 0.033 (iii)
TIME TO PEAK (hrs)=	5.00	5.33 5.25
RUNOFF VOLUME (mm)=	53.38	28.73 50.90
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.53 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (6031)	Area (ha)=	0.60	
ID= 1 DT= 5.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.27	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.53
over (min)	5.00	20.00
Storage Coeff. (min)=	3.38 (ii)	17.54 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06
		TOTALS
PEAK FLOW (cms)=	0.02	0.01 0.032 (iii)
TIME TO PEAK (hrs)=	5.00	5.33 5.25
RUNOFF VOLUME (mm)=	53.38	28.73 39.81
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.53 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6031):	0.60	0.032	5.25	39.81
	+ ID2= 2 (6032):	0.34	0.023	5.25	50.90

RUNOFF COEFFICIENT =		0.98		0.47	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1001):	0.08	0.005	5.25	50.59
	+ ID2= 2 (1002):	0.22	0.015	5.25	50.59
	ID = 3 (0007):	0.30	0.020	5.25	50.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (1003)	Area (ha)=	0.71	
ID= 1 DT= 5.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.17	0.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	68.80	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.82
over (min)	5.00	20.00
Storage Coeff. (min)=	3.55 (ii)	18.31 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06
		TOTALS
PEAK FLOW (cms)=	0.01	0.02 0.032 (iii)
TIME TO PEAK (hrs)=	5.00	5.33 5.25
RUNOFF VOLUME (mm)=	53.38	25.70 32.33
TOTAL RAINFALL (mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT =	0.98	0.47 0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0058)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0007):	0.30	0.020	5.25	50.59
	+ ID2= 2 (1003):	0.71	0.032	5.25	32.33
	ID = 3 (0058):	1.01	0.051	5.25	37.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (2511)	Area (ha)=	1.82	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	110.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	20.00
Storage Coeff. (min)=	4.71 (ii)	19.67 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.22	0.06

	TOTALS
PEAK FLOW (cms)=	0.09	0.02	0.111 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	24.79	46.23
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.46	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2512) | Area (ha)= 0.51
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.46	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	58.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	20.00
Storage Coeff. (min)=	3.22 (ii)	18.17 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

	TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.034 (iii)
TIME TO PEAK (hrs)=	5.00	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	24.79	50.51
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.46	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2511):	1.82	0.111	5.25	46.23
+ ID2= 2 (2512):	0.51	0.034	5.25	50.51
ID = 3 (0010):	2.33	0.144	5.25	47.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2513) | Area (ha)= 0.46
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.41	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	55.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	20.00
Storage Coeff. (min)=	3.12 (ii)	18.08 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

	TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.030 (iii)
TIME TO PEAK (hrs)=	4.92	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	24.79	50.51
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.46	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2514) | Area (ha)= 0.44
ID= 1 DT= 5.0 min | Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.11	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	54.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	20.00
Storage Coeff. (min)=	3.08 (ii)	18.03 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

	TOTALS
PEAK FLOW (cms)=	0.01	0.01	0.019 (iii)
TIME TO PEAK (hrs)=	4.83	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	24.79	31.62
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.46	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0059)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	2.33	0.144	5.25	47.16
+ ID2= 2 (2513):	0.46	0.030	5.25	50.51

ID = 3 (0059):	2.79	0.175	5.25	47.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0059)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0059):	2.79	0.175	5.25	47.71
+ ID2= 2 (2514):	0.44	0.019	5.25	31.62
ID = 1 (0059):	3.23	0.194	5.25	45.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2482) | Area (ha)= 1.24
ID= 1 DT= 5.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.74	0.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	90.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.94
over (min)	5.00	20.00
Storage Coeff. (min)=	4.20 (ii)	18.56 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.24	0.06

	TOTALS
PEAK FLOW (cms)=	0.05	0.02	0.071 (iii)
TIME TO PEAK (hrs)=	5.17	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	27.67	43.09
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.51	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2481) | Area (ha)= 0.49
ID= 1 DT= 5.0 min | Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.18	0.31
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.94
over (min)	5.00	20.00
Storage Coeff. (min)=	3.18 (ii)	17.54 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

	TOTALS
PEAK FLOW (cms)=	0.01	0.01	0.025 (iii)
TIME TO PEAK (hrs)=	4.92	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	27.67	36.90
TOTAL RAINFALL (mm)=	54.38	54.38	54.38

RUNOFF COEFFICIENT =	0.98	0.51	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0060)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2481):	0.49	0.025	5.25	36.90
+ ID2= 2 (2482):	1.24	0.071	5.25	43.09
ID = 3 (0060):	1.73	0.096	5.25	41.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (1231) | Area (ha)= 1.34
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.00	0.34
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	94.52	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.48
over (min)	5.00	20.00
Storage Coeff. (min)=	4.30 (ii)	18.82 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.23	0.06

	TOTALS
PEAK FLOW (cms)=	0.07	0.01	0.082 (iii)
TIME TO PEAK (hrs)=	5.17	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	26.09	46.55
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.48	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1232) | Area (ha)= 1.44
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.08	0.36
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	97.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.48
over (min)	5.00	20.00
Storage Coeff. (min)=	4.39 (ii)	18.91 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.23	0.06

			TOTALS
PEAK FLOW	(cms)=	0.08	0.01	0.089 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	26.09	46.55
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.48	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0026) 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1231):	1.34	0.082	5.25	46.55
+ ID2= 2 (1232):	1.44	0.089	5.25	46.55
ID = 3 (0026):	2.78	0.171	5.25	46.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (1233) ID= 1 DT= 5.0 min | Area (ha)= 0.66 | Total Imp(%)= 75.00 | Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	0.17
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	66.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		3.48 (ii)	17.99 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.26	0.06

			TOTALS
PEAK FLOW	(cms)=	0.03	0.01	0.041 (iii)
TIME TO PEAK	(hrs)=	5.00	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	26.09	46.54
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.48	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1234) ID= 1 DT= 5.0 min | Area (ha)= 1.47 | Total Imp(%)= 75.00 | Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.10	0.37
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.99	40.00
Mannings n	=	0.013	0.250

			TOTALS
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		4.42 (ii)	18.94 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.06
PEAK FLOW	(cms)=	0.08	0.01	0.090 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	26.09	46.55
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.48	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0027) 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1233):	0.66	0.041	5.25	46.54
+ ID2= 2 (1234):	1.47	0.090	5.25	46.55
ID = 3 (0027):	2.13	0.131	5.25	46.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (1224) ID= 1 DT= 5.0 min | Area (ha)= 1.20 | Ia (mm)= 6.00 | U.H. Tp(hrs)= 0.20 | Curve Number (CN)= 86.0 | # of Linear Res.(N)= 3.00

Unit Hyd Qpeak (cms)= 0.229

PEAK FLOW	(cms)=	0.052 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	26.036
TOTAL RAINFALL	(mm)=	54.380
RUNOFF COEFFICIENT	=	0.479

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1221) ID= 1 DT= 5.0 min | Area (ha)= 2.55 | Total Imp(%)= 75.00 | Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.91	0.64
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	130.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		5.21 (ii)	19.73 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.21	0.06

			TOTALS
PEAK FLOW	(cms)=	0.13	0.02	0.156 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	26.09	46.55
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.48	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1222) ID= 1 DT= 5.0 min | Area (ha)= 0.34 | Total Imp(%)= 90.00 | Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.03
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	47.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		2.85 (ii)	17.37 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.28	0.06

			TOTALS
PEAK FLOW	(cms)=	0.02	0.00	0.023 (iii)
TIME TO PEAK	(hrs)=	4.92	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	26.09	50.64
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.48	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030) 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1221):	2.55	0.156	5.25	46.55
+ ID2= 2 (1222):	0.34	0.023	5.25	50.64
ID = 3 (0030):	2.89	0.179	5.25	47.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (1223) ID= 1 DT= 5.0 min | Area (ha)= 0.37 | Total Imp(%)= 60.00 | Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.15
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		2.92 (ii)	17.44 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.28	0.06

			TOTALS
PEAK FLOW	(cms)=	0.02	0.01	0.021 (iii)

TIME TO PEAK	(hrs)=	4.92	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	26.09	42.43
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.48	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1201) ID= 1 DT= 5.0 min | Area (ha)= 0.80 | Total Imp(%)= 60.00 | Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		3.68 (ii)	18.20 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.25	0.06

			TOTALS
PEAK FLOW	(cms)=	0.03	0.01	0.045 (iii)
TIME TO PEAK	(hrs)=	5.08	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	26.09	42.45
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.48	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1202) ID= 1 DT= 5.0 min | Area (ha)= 2.01 | Total Imp(%)= 60.00 | Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.21	0.80
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	115.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		4.85 (ii)	19.37 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.22	0.06

			TOTALS
PEAK FLOW	(cms)=	0.08	0.03	0.114 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	26.09	42.46
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.48	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (1203)	Area (ha)= 0.78		
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.70	0.08
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	72.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	16.48
over (min)	5.00	20.00
Storage Coeff. (min)=	3.65 (ii)	18.17 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.06

		TOTALS
PEAK FLOW (cms)=	0.05	0.052 (iii)
TIME TO PEAK (hrs)=	5.08	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	26.09	50.64
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.48	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0038)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1202):	2.01	0.114	5.25	42.46
+ ID2= 2 (1203):	0.78	0.052	5.25	50.64
ID = 3 (0038):	2.79	0.165	5.25	44.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0063)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0038):	2.79	0.165	5.25	44.74
+ ID2= 2 (1201):	0.80	0.045	5.25	42.45
ID = 3 (0063):	3.59	0.211	5.25	44.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 3 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\e92f5ddb-ef25-4e6d-80c9-cb64445f919e\64ef8a97
Ptotal= 62.71 mm	Comments: 10yr/12hr

CALIB			
STANDHYD (2271)	Area (ha)= 3.14		
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.88	1.26
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	144.68	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

	IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=	28.84	19.54
over (min)	5.00	20.00
Storage Coeff. (min)=	5.24 (ii)	18.80 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.21	0.06

		TOTALS
PEAK FLOW (cms)=	0.15	0.06	0.208 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	61.71	32.19	49.90
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.51	0.80

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (2272)	Area (ha)= 1.71		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.28	0.43
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	106.77	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	19.54
over (min)	5.00	20.00
Storage Coeff. (min)=	4.37 (ii)	17.93 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.23	0.06

		TOTALS
PEAK FLOW (cms)=	0.10	0.02	0.122 (iii)
TIME TO PEAK (hrs)=	5.17	5.33	5.25
RUNOFF VOLUME (mm)=	61.71	32.19	54.32
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.51	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0016)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2271):	3.14	0.208	5.25	49.90
+ ID2= 2 (2272):	1.71	0.122	5.25	54.32
ID = 3 (0016):	4.85	0.330	5.25	51.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (1791)	Area (ha)= 2.67		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.00	0.67

Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	133.42	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	28.84	18.96	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.99 (ii)	18.72 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.21	0.06	
			TOTALS
PEAK FLOW (cms)=	0.16	0.03	0.190 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	61.71	31.13	54.06
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.50	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (1792)	Area (ha)= 1.37		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.03	0.34
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	95.57	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	5.00	20.00
Storage Coeff. (min)=	4.09 (ii)	17.81 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.24	0.06

		TOTALS
PEAK FLOW (cms)=	0.08	0.02	0.098 (iii)
TIME TO PEAK (hrs)=	5.17	5.33	5.25
RUNOFF VOLUME (mm)=	61.71	31.13	54.06
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.50	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0020)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1791):	2.67	0.190	5.25	54.06
+ ID2= 2 (1792):	1.37	0.098	5.25	54.06
ID = 3 (0020):	4.04	0.287	5.25	54.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

| STANDHYD (7001) | Area (ha)= 0.61
|ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.77	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	23.61
over (min)	5.00	10.00
Storage Coeff. (min)=	3.21 (ii)	8.03 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.27	0.13

	TOTALS
PEAK FLOW (cms)=	0.04	0.00	0.048 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	39.65	59.50
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.63	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7002)	Area (ha)= 0.65
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.58	0.07
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	65.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	23.61
over (min)	5.00	10.00
Storage Coeff. (min)=	3.27 (ii)	8.09 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.27	0.13

	TOTALS
PEAK FLOW (cms)=	0.05	0.00	0.051 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	39.65	59.50
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.63	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7001):	0.61	0.048	5.25	59.50
+ ID2= 2 (7002):	0.65	0.051	5.25	59.50
ID = 3 (0023):	1.26	0.099	5.25	59.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (6032)	Area (ha)= 0.34
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	21.65
over (min)	5.00	10.00
Storage Coeff. (min)=	2.69 (ii)	7.51 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.13

	TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.027 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	35.66	59.10
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.57	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (6033)	Area (ha)= 0.49
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.44	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	21.65
over (min)	5.00	10.00
Storage Coeff. (min)=	3.00 (ii)	7.82 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.13

	TOTALS
PEAK FLOW (cms)=	0.04	0.00	0.038 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	35.66	59.10
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.57	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (6031)	Area (ha)= 0.60
ID= 1 DT= 5.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.27	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	21.41
over (min)	5.00	20.00
Storage Coeff. (min)=	3.19 (ii)	16.27 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

	TOTALS
PEAK FLOW (cms)=	0.02	0.02	0.039 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	35.66	47.37
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.57	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6031):	0.60	0.039	5.25	47.37
+ ID2= 2 (6032):	0.34	0.027	5.25	59.10
ID = 3 (0054):	0.94	0.065	5.25	51.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0054)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0054):	0.94	0.065	5.25	51.61
+ ID2= 2 (6033):	0.49	0.038	5.25	59.10
ID = 1 (0054):	1.43	0.104	5.25	54.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (1001)	Area (ha)= 0.08
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.07	0.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	23.09	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	********
over (min)	5.00	10.00
Storage Coeff. (min)=	1.74 (ii)	6.56 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.32	0.14

	TOTALS
PEAK FLOW (cms)=	0.01	0.00	0.006 (iii)
TIME TO PEAK (hrs)=	4.67	5.25	5.25

RUNOFF VOLUME (mm)=	61.71	32.19	58.75
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.51	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (1002)	Area (ha)= 0.22
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.20	0.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	38.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	********
over (min)	5.00	10.00
Storage Coeff. (min)=	2.36 (ii)	7.18 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.14

	TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.017 (iii)
TIME TO PEAK (hrs)=	4.75	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	32.19	58.74
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.51	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1001):	0.08	0.006	5.25	58.75
+ ID2= 2 (1002):	0.22	0.017	5.25	58.74
ID = 3 (0007):	0.30	0.023	5.25	58.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (1003)	Area (ha)= 0.71
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.17	0.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	68.80	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	19.54
over (min)	5.00	20.00
Storage Coeff. (min)=	3.36 (ii)	16.92 (ii)

Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.26	0.06	
			TOTALS
PEAK FLOW (cms)=	0.01	0.03	0.039 (iii)
TIME TO PEAK (hrs)=	4.92	5.33	5.25
RUNOFF VOLUME (mm)=	61.71	32.19	39.26
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.51	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0058)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	0.30	0.023	5.25	58.75
+ ID2= 2 (1003):	0.71	0.039	5.25	39.26
ID = 3 (0058):	1.01	0.062	5.25	45.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2511) | Area (ha)= 1.82
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	110.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	5.00	20.00
Storage Coeff. (min)=	4.45 (ii)	18.18 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.23	0.06

			TOTALS
PEAK FLOW (cms)=	0.11	0.02	0.129 (iii)
TIME TO PEAK (hrs)=	5.17	5.33	5.25
RUNOFF VOLUME (mm)=	61.71	31.13	54.06
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.50	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2512) | Area (ha)= 0.51
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.46	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	58.31	40.00

Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	28.84	********	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.04 (ii)	7.86 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.27	0.13	
			TOTALS
PEAK FLOW (cms)=	0.04	0.00	0.039 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	31.13	58.65
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.50	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2511):	1.82	0.129	5.25	54.06
+ ID2= 2 (2512):	0.51	0.039	5.25	58.65
ID = 3 (0010):	2.33	0.169	5.25	55.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2513) | Area (ha)= 0.46
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.41	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	55.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	19.23
over (min)	5.00	10.00
Storage Coeff. (min)=	2.95 (ii)	7.77 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.13
		TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.036 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	31.13	58.65
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.50	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2514) | Area (ha)= 0.44
ID= 1 DT= 5.0 min | Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.11	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	54.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	18.96
over (min)	5.00	20.00
Storage Coeff. (min)=	2.91 (ii)	16.63 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.28	0.06

			TOTALS
PEAK FLOW (cms)=	0.01	0.02	0.024 (iii)
TIME TO PEAK (hrs)=	4.83	5.33	5.25
RUNOFF VOLUME (mm)=	61.71	31.13	38.44
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.50	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0059)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	2.33	0.169	5.25	55.06
+ ID2= 2 (2513):	0.46	0.036	5.25	58.65
ID = 3 (0059):	2.79	0.204	5.25	55.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0059)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0059):	2.79	0.204	5.25	55.65
+ ID2= 2 (2514):	0.44	0.024	5.25	38.44
ID = 1 (0059):	3.23	0.228	5.25	53.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2482) | Area (ha)= 1.24
ID= 1 DT= 5.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.74	0.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	90.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.77
over (min)	5.00	20.00
Storage Coeff. (min)=	3.97 (ii)	17.20 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.24	0.06

			TOTALS
PEAK FLOW (cms)=	0.06	0.02	0.084 (iii)
TIME TO PEAK (hrs)=	5.17	5.33	5.25

RUNOFF VOLUME (mm)=	61.71	34.45	50.80
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.55	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2481) | Area (ha)= 0.49
ID= 1 DT= 5.0 min | Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.18	0.31
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.77
over (min)	5.00	20.00
Storage Coeff. (min)=	3.00 (ii)	16.24 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.28	0.06

			TOTALS
PEAK FLOW (cms)=	0.01	0.02	0.030 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	34.45	44.24
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.55	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0060)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2481):	0.49	0.030	5.25	44.24
+ ID2= 2 (2482):	1.24	0.084	5.25	50.80
ID = 3 (0060):	1.73	0.114	5.25	48.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (1231) | Area (ha)= 1.34
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.00	0.34
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	94.52	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.34
over (min)	5.00	20.00
Storage Coeff. (min)=	4.06 (ii)	17.41 (ii)

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     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.24         0.06
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.08         0.02          0.097 (iii)
     TIME TO PEAK   (hrs)=       5.17         5.33          5.25
     RUNOFF VOLUME   (mm)=      61.71        32.80         54.47
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.52          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (1232) |   Area    (ha)=   1.44
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.08         0.36
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      97.98        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       4.15 (ii)   17.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.24         0.06
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.09         0.02          0.104 (iii)
     TIME TO PEAK   (hrs)=       5.17         5.33          5.25
     RUNOFF VOLUME   (mm)=      61.71        32.80         54.47
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.52          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0026) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1231):     1.34   0.097     5.25    54.47
       + ID2= 2 (1232):     1.44   0.104     5.25    54.47
         ==========================================
         ID = 3 (0026):     2.78   0.200     5.25    54.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (1233) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.17
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      66.33        40.00
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     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.28 (ii)   16.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.27         0.06
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.04         0.01          0.048 (iii)
     TIME TO PEAK   (hrs)=       5.00         5.33          5.25
     RUNOFF VOLUME   (mm)=      61.71        32.80         54.47
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.52          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1234) |   Area    (ha)=   1.47
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.10         0.37
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.99        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       4.18 (ii)   17.52 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.24         0.06
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.09         0.02          0.106 (iii)
     TIME TO PEAK   (hrs)=       5.17         5.33          5.25
     RUNOFF VOLUME   (mm)=      61.71        32.80         54.47
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.52          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0027) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1233):     0.66   0.048     5.25    54.47
       + ID2= 2 (1234):     1.47   0.106     5.25    54.47
         ==========================================
         ID = 3 (0027):     2.13   0.154     5.25    54.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| NASHYD    (1224) |   Area    (ha)=   1.20   Curve Number   (CN)= 86.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.20
```



```
     Unit Hyd Qpeak  (cms)=   0.229

     PEAK FLOW      (cms)=   0.064 (i)
     TIME TO PEAK   (hrs)=   5.250
     RUNOFF VOLUME   (mm)=  32.734
     TOTAL RAINFALL  (mm)=  62.710
     RUNOFF COEFFICIENT  =   0.522

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1221) |   Area    (ha)=   2.55
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.91         0.64
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     130.38        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       4.93 (ii)   18.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.22         0.06
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.15         0.03          0.183 (iii)
     TIME TO PEAK   (hrs)=       5.25         5.33          5.25
     RUNOFF VOLUME   (mm)=      61.71        32.80         54.48
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.52          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1222) |   Area    (ha)=   0.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.03
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      47.61        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.69 (ii)    7.51 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.13
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.02         0.00          0.026 (iii)
     TIME TO PEAK   (hrs)=       4.83         5.25          5.25
     RUNOFF VOLUME   (mm)=      61.71        32.80         58.81
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.52          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```



```
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0030) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1221):     2.55   0.183     5.25    54.48
       + ID2= 2 (1222):     0.34   0.026     5.25    58.81
         ==========================================
         ID = 3 (0030):     2.89   0.210     5.25    54.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1223) |   Area    (ha)=   0.37
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22         0.15
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      49.67        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.76 (ii)   16.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.28         0.06
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.02         0.01          0.025 (iii)
     TIME TO PEAK   (hrs)=       4.83         5.33          5.25
     RUNOFF VOLUME   (mm)=      61.71        32.80         50.12
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.52          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1201) |   Area    (ha)=   0.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.32
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      73.03        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.48 (ii)   16.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.26         0.06
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.04         0.02          0.054 (iii)
     TIME TO PEAK   (hrs)=       5.00         5.33          5.25
     RUNOFF VOLUME   (mm)=      61.71        32.80         50.13
     TOTAL RAINFALL  (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT  =       0.98         0.52          0.80
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (1202)	Area (ha)= 2.01		
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.21	0.80
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	115.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	20.34
over (min)		5.00	20.00
Storage Coeff. (min)=		4.59 (ii)	17.93 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.06
			TOTALS
PEAK FLOW	(cms)=	0.10	0.04 0.135 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33 5.25
RUNOFF VOLUME	(mm)=	61.71	32.80 50.14
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.52 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (1203)	Area (ha)= 0.78		
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	0.08
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	********
over (min)		5.00	10.00
Storage Coeff. (min)=		3.45 (ii)	8.27 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.26	0.13
			TOTALS
PEAK FLOW	(cms)=	0.06	0.00 0.061 (iii)
TIME TO PEAK	(hrs)=	5.08	5.25 5.25
RUNOFF VOLUME	(mm)=	61.71	32.80 58.82
TOTAL RAINFALL	(mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT	=	0.98	0.52 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0038)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (1202):	2.01	0.135	5.25	50.14
	+ ID2= 2 (1203):	0.78	0.061	5.25	58.82
	ID = 3 (0038):	2.79	0.195	5.25	52.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0063)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0038):	2.79	0.195	5.25	52.56
	+ ID2= 2 (1201):	0.80	0.054	5.25	50.13
	ID = 3 (0063):	3.59	0.249	5.25	52.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 4 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\e92f5ddb-ef25-4e6d-80c9-cb64445f919e\dac18ea9
Ptotal= 73.10 mm	Comments: 25yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB			
STANDHYD (2271)	Area (ha)= 3.14		
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.88	1.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	144.68	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73

0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

		IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=		33.63	24.33
over (min)		5.00	20.00
Storage Coeff. (min)=		4.93 (ii)	17.35 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.22	0.06
			TOTALS
PEAK FLOW	(cms)=	0.18	0.07 0.249 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33 5.25
RUNOFF VOLUME	(mm)=	72.10	40.64 59.51
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.56 0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (2272)	Area (ha)= 1.71		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.43
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	106.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.33
over (min)		5.00	20.00
Storage Coeff. (min)=		4.11 (ii)	16.53 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00

Unit Hyd. peak (cms)=		0.24	0.06
			TOTALS
PEAK FLOW	(cms)=	0.12	0.03 0.145 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25 5.25
RUNOFF VOLUME	(mm)=	72.10	40.64 64.23
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.56 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0016)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (2271):	3.14	0.249	5.25	59.51
	+ ID2= 2 (2272):	1.71	0.145	5.25	64.23
	ID = 3 (0016):	4.85	0.394	5.25	61.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (1791)	Area (ha)= 2.67		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.67
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	133.42	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	23.68
over (min)		5.00	20.00
Storage Coeff. (min)=		4.70 (ii)	17.25 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.22	0.06
			TOTALS
PEAK FLOW	(cms)=	0.19	0.04 0.225 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33 5.25
RUNOFF VOLUME	(mm)=	72.10	39.42 63.93
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.54 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (1792)	Area (ha)= 1.37		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.03	0.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	95.57	40.00
Mannings n	=	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      33.63        23.68
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.84 (ii)   16.40 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.25         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.10         0.02      0.116 (iii)
     TIME TO PEAK    (hrs)=      5.17         5.33       5.25
     RUNOFF VOLUME    (mm)=     72.10        39.42      63.92
     TOTAL RAINFALL   (mm)=     73.10        73.10      73.10
     RUNOFF COEFFICIENT   =      0.99         0.54       0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0020) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1791):     2.67   0.225     5.25    63.93
       + ID2= 2 (1792):     1.37   0.116     5.25    63.92
         ==========================================
         ID = 3 (0020):     4.04   0.340     5.25    63.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (7001)  |   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.55         0.06
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     63.77        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        28.64
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.02 (ii)    7.55 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.28         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.05         0.00      0.056 (iii)
     TIME TO PEAK    (hrs)=      4.92         5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10        49.06      69.79
     TOTAL RAINFALL   (mm)=     73.10        73.10      73.10
     RUNOFF COEFFICIENT   =      0.99         0.67       0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (7002)  |   Area    (ha)=   0.65
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
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     Surface Area     (ha)=      0.58         0.07
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     65.83        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        28.64
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.07 (ii)    7.61 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.27         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.05         0.01      0.060 (iii)
     TIME TO PEAK    (hrs)=      5.00         5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10        49.06      69.79
     TOTAL RAINFALL   (mm)=     73.10        73.10      73.10
     RUNOFF COEFFICIENT   =      0.99         0.67       0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0023) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (7001):     0.61   0.056     5.25    69.79
       + ID2= 2 (7002):     0.65   0.060     5.25    69.79
         ==========================================
         ID = 3 (0023):     1.26   0.116     5.25    69.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (6032)  |   Area    (ha)=   0.34
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.31         0.03
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     47.61        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        26.60
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.53 (ii)    7.06 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.29         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.03         0.00      0.031 (iii)
     TIME TO PEAK    (hrs)=      4.83         5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10        44.60      69.34
     TOTAL RAINFALL   (mm)=     73.10        73.10      73.10
     RUNOFF COEFFICIENT   =      0.99         0.61       0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (6033)  |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.44         0.05
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     57.15        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        26.60
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.82 (ii)    7.36 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.28         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.04         0.00      0.045 (iii)
     TIME TO PEAK    (hrs)=      4.92         5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10        44.60      69.34
     TOTAL RAINFALL   (mm)=     73.10        73.10      73.10
     RUNOFF COEFFICIENT   =      0.99         0.61       0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (6031)  |   Area    (ha)=   0.60
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.27         0.33
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     63.25        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63        26.35
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.00 (ii)   15.03 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.28         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.03         0.02      0.047 (iii)
     TIME TO PEAK    (hrs)=      4.92         5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10        44.60      56.96
     TOTAL RAINFALL   (mm)=     73.10        73.10      73.10
     RUNOFF COEFFICIENT   =      0.99         0.61       0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0054) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (6031):     0.60   0.047     5.25    56.96
       + ID2= 2 (6032):     0.34   0.031     5.25    69.34
         ==========================================
         ID = 3 (0054):     0.94   0.078     5.25    61.44
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0054) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0054):     0.94   0.078     5.25    61.44
       + ID2= 2 (6033):     0.49   0.045     5.25    69.34
         ==========================================
         ID = 1 (0054):     1.43   0.123     5.25    64.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1001)  |   Area    (ha)=   0.08
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.07         0.01
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     23.09        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      1.64 (ii)    6.17 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.32         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.01         0.00      0.007 (iii)
     TIME TO PEAK    (hrs)=      4.67         5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10        40.64      68.94
     TOTAL RAINFALL   (mm)=     73.10        73.10      73.10
     RUNOFF COEFFICIENT   =      0.99         0.56       0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1002)  |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.20         0.02
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     38.30        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     33.63     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.22 (ii)    6.75 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.30         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.02         0.00      0.020 (iii)
     TIME TO PEAK    (hrs)=      4.75         5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10        40.64      68.94
     TOTAL RAINFALL   (mm)=     73.10        73.10      73.10
     RUNOFF COEFFICIENT   =      0.99         0.56       0.94
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1001):		0.08	0.007	5.25	68.94
+ ID2= 2 (1002):		0.22	0.020	5.25	68.94
ID = 3 (0007):		0.30	0.027	5.25	68.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (1003)	Area	(ha)=	0.71	
ID= 1 DT= 5.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)=	24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.17	0.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	68.80	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	24.33
over (min)	5.00	20.00
Storage Coeff. (min)=	3.16 (ii)	15.58 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.07

		TOTALS
PEAK FLOW	(cms)=	0.02 0.03 0.048 (iii)
TIME TO PEAK	(hrs)=	4.92 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 40.64 48.18
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.56 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0058)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0007):		0.30	0.027	5.25	68.94
+ ID2= 2 (1003):		0.71	0.048	5.25	48.18
ID = 3 (0058):		1.01	0.075	5.25	54.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (2511)	Area	(ha)=	1.82	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)=	75.00

	IMPERVIOUS	PERVIOUS (i)

Surface Area (ha)=	1.37	0.46	
Dep. Storage (mm)=	1.00	4.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	110.15	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	33.63	23.68	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.19 (ii)	16.74 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.24	0.06	

		TOTALS
PEAK FLOW	(cms)=	0.13 0.03 0.153 (iii)
TIME TO PEAK	(hrs)=	5.17 5.33 5.25
RUNOFF VOLUME	(mm)=	72.10 39.42 63.92
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.54 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (2512)	Area	(ha)=	0.51	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.46	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	58.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	********
over (min)	5.00	10.00
Storage Coeff. (min)=	2.86 (ii)	7.39 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.13

		TOTALS
PEAK FLOW	(cms)=	0.04 0.00 0.046 (iii)
TIME TO PEAK	(hrs)=	4.92 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 39.42 68.83
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.54 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2511):		1.82	0.153	5.25	63.92
+ ID2= 2 (2512):		0.51	0.046	5.25	68.83
ID = 3 (0010):		2.33	0.200	5.25	65.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (2513)	Area	(ha)=	0.46	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.41	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	55.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.97
over (min)	5.00	10.00
Storage Coeff. (min)=	2.77 (ii)	7.30 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.14

		TOTALS
PEAK FLOW	(cms)=	0.04 0.00 0.042 (iii)
TIME TO PEAK	(hrs)=	4.92 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 39.42 68.83
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.54 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (2514)	Area	(ha)=	0.44	
ID= 1 DT= 5.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)=	24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.11	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	54.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.68
over (min)	5.00	20.00
Storage Coeff. (min)=	2.73 (ii)	15.29 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.29	0.07

		TOTALS
PEAK FLOW	(cms)=	0.01 0.02 0.029 (iii)
TIME TO PEAK	(hrs)=	4.83 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 39.42 47.25
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.54 0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0059)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0010):		2.33	0.200	5.25	65.00
+ ID2= 2 (2513):		0.46	0.042	5.25	68.83
ID = 3 (0059):		2.79	0.241	5.25	65.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0059)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0059):		2.79	0.241	5.25	65.63
+ ID2= 2 (2514):		0.44	0.029	5.25	47.25
ID = 1 (0059):		3.23	0.270	5.25	63.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (2482)	Area	(ha)=	1.24	
ID= 1 DT= 5.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)=	60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.74	0.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	90.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.66
over (min)	5.00	20.00
Storage Coeff. (min)=	3.73 (ii)	15.89 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.07

		TOTALS
PEAK FLOW	(cms)=	0.07 0.03 0.101 (iii)
TIME TO PEAK	(hrs)=	5.08 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 43.23 60.54
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.59 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (2481)	Area	(ha)=	0.49	
ID= 1 DT= 5.0 min	Total Imp(%)=	36.00	Dir. Conn.(%)=	36.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.18	0.31
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.66
over (min)	5.00	15.00
Storage Coeff. (min)=	2.82 (ii)	14.98 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.08

		TOTALS
PEAK FLOW	(cms)=	0.02 0.02 0.037 (iii)
TIME TO PEAK	(hrs)=	4.83 5.25 5.25
RUNOFF VOLUME	(mm)=	72.10 43.23 53.61
TOTAL RAINFALL	(mm)=	73.10 73.10 73.10
RUNOFF COEFFICIENT	=	0.99 0.59 0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0060)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2481):		0.49	0.037	5.25	53.61
+ ID2= 2 (2482):		1.24	0.101	5.25	60.54
ID = 3 (0060):		1.73	0.138	5.25	58.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (1231)	Area (ha)= 1.34				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.00	0.34	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	94.52	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	25.27	
over (min)		5.00	20.00	
Storage Coeff. (min)=		3.82 (ii)	16.05 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.25	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.09	0.02	0.114 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	41.52	64.45
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1232)	Area (ha)= 1.44				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.08	0.36	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	97.98	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	25.27	
over (min)		5.00	20.00	
Storage Coeff. (min)=		3.90 (ii)	16.14 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.25	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.10	0.02	0.123 (iii)

TIME TO PEAK	(hrs)=	5.17	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	41.52	64.45
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0026)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1231):		1.34	0.114	5.25	64.45
+ ID2= 2 (1232):		1.44	0.123	5.25	64.45
ID = 3 (0026):		2.78	0.238	5.25	64.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (1233)	Area (ha)= 0.66				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.50	0.17	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	66.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	25.27	
over (min)		5.00	20.00	
Storage Coeff. (min)=		3.09 (ii)	15.32 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.27	0.07	
				TOTALS
PEAK FLOW	(cms)=	0.05	0.01	0.056 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	41.52	64.44
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1234)	Area (ha)= 1.47				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.10	0.37
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.27
over (min)		5.00	20.00

Storage Coeff. (min)=		3.93 (ii)	16.16 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.24	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.10	0.02	0.126 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	41.52	64.45
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0027)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1233):		0.66	0.056	5.25	64.44
+ ID2= 2 (1234):		1.47	0.126	5.25	64.45
ID = 3 (0027):		2.13	0.182	5.25	64.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (1224)	Area (ha)= 1.20		Curve Number (CN)= 86.0		
ID= 1 DT= 5.0 min	Ia (mm)= 6.00		# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.20				

Unit Hyd Qpeak (cms)= 0.229

PEAK FLOW	(cms)=	0.080 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	41.437
TOTAL RAINFALL	(mm)=	73.100
RUNOFF COEFFICIENT	=	0.567

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1221)	Area (ha)= 2.55				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.91	0.64	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	130.38	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	25.27	
over (min)		5.00	20.00	
Storage Coeff. (min)=		4.63 (ii)	16.87 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.22	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.18	0.04	0.218 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	72.10	41.52	64.45
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1222)	Area (ha)= 0.34				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.31	0.03	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	47.61	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	********	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.53 (ii)	7.06 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.29	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.03	0.00	0.031 (iii)
TIME TO PEAK	(hrs)=	4.83	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	41.52	69.04
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.57	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1221):		2.55	0.218	5.25	64.45
+ ID2= 2 (1222):		0.34	0.031	5.25	69.04
ID = 3 (0030):		2.89	0.248	5.25	64.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (1223)	Area (ha)= 0.37				
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.22	0.15	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	49.67	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	25.27	
over (min)		5.00	15.00	
Storage Coeff. (min)=		2.60 (ii)	14.83 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.29	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.01	0.030 (iii)
TIME TO PEAK	(hrs)=	4.83	5.25	5.25

RUNOFF VOLUME (mm)=	72.10	41.52	59.85
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.57	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (1201)	Area (ha)= 0.80	
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.27
over (min)		5.00	20.00
Storage Coeff. (min)=		3.27 (ii)	15.51 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.27	0.07
			TOTALS
PEAK FLOW	(cms)=	0.04	0.02 0.065 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25 5.25
RUNOFF VOLUME	(mm)=	72.10	41.52 59.86
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.57 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (1202)	Area (ha)= 2.01	
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.21	0.80
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	115.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.27
over (min)		5.00	20.00
Storage Coeff. (min)=		4.31 (ii)	16.55 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.06
			TOTALS
PEAK FLOW	(cms)=	0.11	0.05 0.162 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25 5.25
RUNOFF VOLUME	(mm)=	72.10	41.52 59.86
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.57 0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (1203)	Area (ha)= 0.78	
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	0.08
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	********
over (min)		5.00	10.00
Storage Coeff. (min)=		3.25 (ii)	7.78 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.27	0.13
			TOTALS
PEAK FLOW	(cms)=	0.07	0.01 0.071 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25 5.25
RUNOFF VOLUME	(mm)=	72.10	41.52 69.04
TOTAL RAINFALL	(mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT	=	0.99	0.57 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0038)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1202):	2.01	0.162	5.25	59.86
+ ID2= 2 (1203):	0.78	0.071	5.25	69.04
ID = 3 (0038):	2.79	0.233	5.25	62.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0063)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0038):	2.79	0.233	5.25	62.43
+ ID2= 2 (1201):	0.80	0.065	5.25	59.86
ID = 3 (0063):	3.59	0.297	5.25	61.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 5 **
****

READ STORM	Filename: C:\Users\p001279d\AppD ata\Local\Temp\ e92f5ddb-ef25-4e6d-80c9-cb64445f919e\85df17c9
Ptotal= 80.82 mm	Comments: 50yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	13.74	6.75	5.66	10.00	0.81
0.50	0.81	3.75	13.74	7.00	5.66	10.25	0.81
0.75	0.81	4.00	13.74	7.25	5.66	10.50	0.81
1.00	0.81	4.25	13.74	7.50	3.23	10.75	0.81
1.25	0.81	4.50	37.17	7.75	3.23	11.00	0.81
1.50	0.81	4.75	37.17	8.00	3.23	11.25	0.81
1.75	0.81	5.00	37.17	8.25	3.23	11.50	0.81
2.00	0.81	5.25	37.17	8.50	1.62	11.75	0.81
2.25	0.81	5.50	10.50	8.75	1.62	12.00	0.81
2.50	4.85	5.75	10.50	9.00	1.62	12.25	0.81
2.75	4.85	6.00	10.50	9.25	1.62		
3.00	4.85	6.25	10.50	9.50	0.81		
3.25	4.85	6.50	5.66	9.75	0.81		

CALIB		
STANDHYD (2271)	Area (ha)= 3.14	
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.88	1.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	144.68	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	27.92	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.74 (ii)	16.49 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.22	0.06	
			TOTALS
PEAK FLOW (cms)=	0.19	0.09	0.280 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	47.13	66.74
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.58	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (2272)	Area (ha)= 1.71	
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.43
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	106.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.92
over (min)		5.00	20.00
Storage Coeff. (min)=		3.95 (ii)	15.70 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.24	0.07
			TOTALS
PEAK FLOW	(cms)=	0.13	0.03 0.162 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	47.13 71.64
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.58 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0016)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2271):	3.14	0.280	5.25	66.74
+ ID2= 2 (2272):	1.71	0.162	5.25	71.64
ID = 3 (0016):	4.85	0.442	5.25	68.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		
STANDHYD (1791)	Area (ha)= 2.67	
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.67

Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	133.42	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.24
over (min)		5.00	20.00
Storage Coeff. (min)=		4.51 (ii)	16.39 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.06
			TOTALS
PEAK FLOW	(cms)=	0.21	0.04 0.251 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	45.80 71.31
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.57 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (1792)	Area (ha)= 1.37
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.03	0.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	95.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.24
over (min)		5.00	20.00
Storage Coeff. (min)=		3.69 (ii)	15.57 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.25	0.07
			TOTALS
PEAK FLOW	(cms)=	0.11	0.02 0.129 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	45.80 71.31
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.57 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0020)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1791):	2.67	0.251	5.25	71.31
+	ID2= 2 (1792):	1.37	0.129	5.25	71.31
	ID = 3 (0020):	4.04	0.380	5.25	71.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

STANDHYD (7001)	Area (ha)= 0.61
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.55	0.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	63.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.36
over (min)		5.00	10.00
Storage Coeff. (min)=		2.90 (ii)	7.25 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14
			TOTALS
PEAK FLOW	(cms)=	0.06	0.01 0.062 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	56.18 77.45
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.70 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7002)	Area (ha)= 0.65
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.07
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	65.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	32.36
over (min)		5.00	10.00
Storage Coeff. (min)=		2.95 (ii)	7.31 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.13
			TOTALS
PEAK FLOW	(cms)=	0.06	0.01 0.066 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	56.18 77.45
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.70 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7001):	0.61	0.062	5.25	77.45
+	ID2= 2 (7002):	0.65	0.066	5.25	77.45
	ID = 3 (0023):	1.26	0.128	5.25	77.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (6032)	Area (ha)= 0.34
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	47.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.28
over (min)		5.00	10.00
Storage Coeff. (min)=		2.43 (ii)	6.79 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.30	0.14
			TOTALS
PEAK FLOW	(cms)=	0.03	0.00 0.034 (iii)
TIME TO PEAK	(hrs)=	4.83	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	51.42 76.97
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.64 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (6033)	Area (ha)= 0.49
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.44	0.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	57.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.28
over (min)		5.00	10.00
Storage Coeff. (min)=		2.71 (ii)	7.07 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.29	0.14
			TOTALS
PEAK FLOW	(cms)=	0.05	0.00 0.050 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	51.42 76.97
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.64 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (6031)	Area (ha)= 0.60
ID= 1 DT= 5.0 min	Total Imp(%)= 45.00 Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.27	0.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	63.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.02
over (min)		5.00	15.00
Storage Coeff. (min)=		2.88 (ii)	14.30 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.28	0.08
			TOTALS
PEAK FLOW	(cms)=	0.03	0.03 0.053 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	51.42 64.18
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.64 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (6031):	0.60	0.053	5.25	64.18
+	ID2= 2 (6032):	0.34	0.034	5.25	76.97
	ID = 3 (0054):	0.94	0.088	5.25	68.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0054)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0054):	0.94	0.088	5.25	68.81
+	ID2= 2 (6033):	0.49	0.050	5.25	76.97
	ID = 1 (0054):	1.43	0.137	5.25	71.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (1001)	Area (ha)= 0.08
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.07	0.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	23.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	********
over (min)		5.00	10.00
Storage Coeff. (min)=		1.58 (ii)	5.93 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.33	0.15
			TOTALS
PEAK FLOW	(cms)=	0.01	0.00 0.008 (iii)
TIME TO PEAK	(hrs)=	4.67	5.25 5.25

RUNOFF VOLUME (mm)=	79.82	47.13	76.54
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.58	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1002) | Area (ha)= 0.22
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.20	0.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	38.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	********
over (min)	5.00	10.00
Storage Coeff. (min)=	2.13 (ii)	6.49 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.31	0.14

		TOTALS
PEAK FLOW (cms)=	0.02	0.00 0.022 (iii)
TIME TO PEAK (hrs)=	4.75	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	47.13 76.54
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.58 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1001):	0.08	0.008	5.25	76.54
+ ID2= 2 (1002):	0.22	0.022	5.25	76.54
ID = 3 (0007):	0.30	0.030	5.25	76.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (1003) | Area (ha)= 0.71
ID= 1 DT= 5.0 min | Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.17	0.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	68.80	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	27.92
over (min)	5.00	15.00
Storage Coeff. (min)=	3.03 (ii)	14.79 (ii)

Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.27	0.08	

			TOTALS
PEAK FLOW (cms)=	0.02	0.04	0.056 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	47.13	54.97
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.58	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0058)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0007):	0.30	0.030	5.25	76.54
+ ID2= 2 (1003):	0.71	0.056	5.25	54.97
ID = 3 (0058):	1.01	0.086	5.25	61.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2511) | Area (ha)= 1.82
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	110.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	27.24
over (min)	5.00	20.00
Storage Coeff. (min)=	4.02 (ii)	15.90 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.24	0.07

		TOTALS
PEAK FLOW (cms)=	0.14	0.03 0.171 (iii)
TIME TO PEAK (hrs)=	5.17	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	45.80 71.31
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.57 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2512) | Area (ha)= 0.51
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.46	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	58.31	40.00

Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	********	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.75 (ii)	7.10 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.28	0.14	

			TOTALS
PEAK FLOW (cms)=	0.05	0.00	0.051 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	76.41
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2511):	1.82	0.171	5.25	71.31
+ ID2= 2 (2512):	0.51	0.051	5.25	76.41
ID = 3 (0010):	2.33	0.222	5.25	72.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2513) | Area (ha)= 0.46
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.41	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	55.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	27.55
over (min)	5.00	10.00
Storage Coeff. (min)=	2.66 (ii)	7.02 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.14

			TOTALS
PEAK FLOW (cms)=	0.04	0.00	0.046 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	76.41
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (2514) | Area (ha)= 0.44
ID= 1 DT= 5.0 min | Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.11	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	54.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	27.24
over (min)	5.00	15.00
Storage Coeff. (min)=	2.63 (ii)	14.50 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.29	0.08

			TOTALS
PEAK FLOW (cms)=	0.01	0.02	0.034 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	53.95
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0059)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0010):	2.33	0.222	5.25	72.43
+ ID2= 2 (2513):	0.46	0.046	5.25	76.41
ID = 3 (0059):	2.79	0.269	5.25	73.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0059)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0059):	2.79	0.269	5.25	73.08
+ ID2= 2 (2514):	0.44	0.034	5.25	53.95
ID = 1 (0059):	3.23	0.303	5.25	70.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2482) | Area (ha)= 1.24
ID= 1 DT= 5.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.74	0.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	90.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	29.32
over (min)	5.00	20.00
Storage Coeff. (min)=	3.58 (ii)	15.11 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.07

			TOTALS
PEAK FLOW (cms)=	0.08	0.04	0.113 (iii)
TIME TO PEAK (hrs)=	5.08	5.25	5.25

```
     RUNOFF VOLUME    (mm)=      79.82         49.94          67.86
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.62           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2481)  |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18          0.31
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      57.15         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         29.32
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       2.71 (ii)    14.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.29          0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02          0.02          0.042 (iii)
     TIME TO PEAK    (hrs)=       4.83          5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82         49.94          60.68
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.62           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0060)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2481):     0.49   0.042     5.25    60.68
      + ID2= 2 (2482):     1.24   0.113     5.25    67.86
        ================================================
        ID = 3 (0060):     1.73   0.155     5.25    65.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1231)  |   Area    (ha)=   1.34
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.00          0.34
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      94.52         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         28.96
               over (min)        5.00         20.00
     Storage Coeff.  (min)=       3.67 (ii)    15.26 (ii)
```



```
     Unit Hyd. Tpeak (min)=       5.00         20.00
     Unit Hyd. peak  (cms)=       0.25          0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.10          0.02          0.128 (iii)
     TIME TO PEAK    (hrs)=       5.08          5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82         48.19          71.90
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.60           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1232)  |   Area    (ha)=   1.44
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.08          0.36
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      97.98         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         28.96
               over (min)        5.00         20.00
     Storage Coeff.  (min)=       3.75 (ii)    15.34 (ii)
     Unit Hyd. Tpeak (min)=       5.00         20.00
     Unit Hyd. peak  (cms)=       0.25          0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.11          0.03          0.137 (iii)
     TIME TO PEAK    (hrs)=       5.17          5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82         48.19          71.90
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.60           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0026)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1231):     1.34   0.128     5.25    71.90
      + ID2= 2 (1232):     1.44   0.137     5.25    71.90
        ================================================
        ID = 3 (0026):     2.78   0.265     5.25    71.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1233)  |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50          0.17
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      66.33         40.00
```



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     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         28.96
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       2.97 (ii)    14.55 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.28          0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05          0.01          0.063 (iii)
     TIME TO PEAK    (hrs)=       4.92          5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82         48.19          71.90
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.60           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1234)  |   Area    (ha)=   1.47
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.10          0.37
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      98.99         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         28.96
               over (min)        5.00         20.00
     Storage Coeff.  (min)=       3.77 (ii)    15.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00         20.00
     Unit Hyd. peak  (cms)=       0.25          0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.11          0.03          0.140 (iii)
     TIME TO PEAK    (hrs)=       5.17          5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82         48.19          71.91
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.60           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0027)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
-------------------            (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1233):     0.66   0.063     5.25    71.90
      + ID2= 2 (1234):     1.47   0.140     5.25    71.91
        ================================================
        ID = 3 (0027):     2.13   0.203     5.25    71.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| NASHYD    (1224)  |   Area    (ha)=   1.20   Curve Number   (CN)= 86.0
|ID= 1 DT= 5.0 min  |   Ia      (mm)=   6.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.20
```



```
     Unit Hyd Qpeak  (cms)=   0.229

     PEAK FLOW       (cms)=   0.092 (i)
     TIME TO PEAK    (hrs)=   5.250
     RUNOFF VOLUME    (mm)=  48.097
     TOTAL RAINFALL   (mm)=  80.820
     RUNOFF COEFFICIENT   =   0.595

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (1221)  |   Area    (ha)=   2.55
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.91          0.64
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     130.38         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17         28.96
               over (min)        5.00         20.00
     Storage Coeff.  (min)=       4.45 (ii)    16.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00         20.00
     Unit Hyd. peak  (cms)=       0.23          0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.20          0.05          0.243 (iii)
     TIME TO PEAK    (hrs)=       5.17          5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82         48.19          71.91
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.60           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (1222)  |   Area    (ha)=   0.34
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31          0.03
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      47.61         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      37.17     ********
               over (min)        5.00         10.00
     Storage Coeff.  (min)=       2.43 (ii)    6.79 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.30          0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03          0.00          0.034 (iii)
     TIME TO PEAK    (hrs)=       4.83          5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82         48.19          76.65
     TOTAL RAINFALL   (mm)=      80.82         80.82          80.82
     RUNOFF COEFFICIENT   =       0.99          0.60           0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1221):	2.55	0.243	5.25	71.91
	+ ID2= 2 (1222):	0.34	0.034	5.25	76.65
	ID = 3 (0030):	2.89	0.277	5.25	72.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB		Area (ha)= 0.37
STANDHYD (1223)		
ID= 1 DT= 5.0 min		Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.15
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		5.00	15.00
Storage Coeff. (min)=		2.49 (ii)	14.08 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.29	0.08
			TOTALS
PEAK FLOW	(cms)=	0.02	0.01 0.034 (iii)
TIME TO PEAK	(hrs)=	4.83	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	48.19 67.15
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.60 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)= 0.80
STANDHYD (1201)		
ID= 1 DT= 5.0 min		Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		5.00	15.00
Storage Coeff. (min)=		3.14 (ii)	14.73 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.27	0.08
			TOTALS
PEAK FLOW	(cms)=	0.05	0.02 0.073 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	48.19 67.16
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.60 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)= 2.01
STANDHYD (1202)		
ID= 1 DT= 5.0 min		Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.21	0.80
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	115.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		5.00	20.00
Storage Coeff. (min)=		4.14 (ii)	15.73 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.24	0.07
			TOTALS
PEAK FLOW	(cms)=	0.12	0.06 0.182 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	48.19 67.16
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.60 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)= 0.78
STANDHYD (1203)		
ID= 1 DT= 5.0 min		Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	0.08
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	********
over (min)		5.00	10.00
Storage Coeff. (min)=		3.12 (ii)	7.47 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.27	0.13
			TOTALS
PEAK FLOW	(cms)=	0.07	0.01 0.079 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	48.19 76.65
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.60 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0038)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1202):	2.01	0.182	5.25	67.16
	+ ID2= 2 (1203):	0.78	0.079	5.25	76.65
	ID = 3 (0038):	2.79	0.261	5.25	69.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0063)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0038):	2.79	0.261	5.25	69.82
	+ ID2= 2 (1201):	0.80	0.073	5.25	67.16
	ID = 3 (0063):	3.59	0.334	5.25	69.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 6 **
****

READ STORM	Filename: C:\Users\p001279d\AppD ata\Local\Temp\ e92f5ddb-ef25-4e6d-80c9-cb64445f919e\e7af1a94
Ptotal= 88.54 mm	Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

CALIB		Area (ha)= 3.14
STANDHYD (2271)		
ID= 1 DT= 5.0 min		Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.88	1.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	144.68	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89

0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

		IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=		40.71	31.55
over (min)		5.00	20.00
Storage Coeff. (min)=		4.57 (ii)	15.76 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.07
			TOTALS
PEAK FLOW	(cms)=	0.21	0.10 0.311 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25 5.25
RUNOFF VOLUME	(mm)=	87.54	53.77 74.03
TOTAL RAINFALL	(mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT	=	0.99	0.61 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		Area (ha)= 1.71
STANDHYD (2272)		
ID= 1 DT= 5.0 min		Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.43
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	106.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.55
over (min)		5.00	20.00
Storage Coeff. (min)=		3.81 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00

Unit Hyd. peak (cms)=	0.25	0.07	
			TOTALS
PEAK FLOW (cms)=	0.15	0.03	0.179 (iii)
TIME TO PEAK (hrs)=	5.17	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	53.77	79.09
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.61	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0016)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2271):	3.14	0.311	5.25	74.03
+ ID2= 2 (2272):	1.71	0.179	5.25	79.09
ID = 3 (0016):	4.85	0.490	5.25	75.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (1791)	Area (ha)=	2.67	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.00	0.67
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	133.42	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	30.84
over (min)	5.00	20.00
Storage Coeff. (min)=	4.35 (ii)	15.65 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.23	0.07

			TOTALS
PEAK FLOW (cms)=	0.23	0.05	0.277 (iii)
TIME TO PEAK (hrs)=	5.17	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	52.33	78.74
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.59	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (1792)	Area (ha)=	1.37	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.03	0.34
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	95.57	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	30.84	
over (min)	5.00	15.00	
Storage Coeff. (min)=	3.56 (ii)	14.86 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.26	0.08	
			TOTALS
PEAK FLOW (cms)=	0.12	0.03	0.143 (iii)
TIME TO PEAK (hrs)=	5.08	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	52.33	78.73
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.59	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0020)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1791):	2.67	0.277	5.25	78.74
+ ID2= 2 (1792):	1.37	0.143	5.25	78.73
ID = 3 (0020):	4.04	0.420	5.25	78.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (7001)	Area (ha)=	0.61	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.77	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	36.07
over (min)	5.00	10.00
Storage Coeff. (min)=	2.79 (ii)	6.99 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.14

			TOTALS
PEAK FLOW (cms)=	0.06	0.01	0.068 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	63.38	85.12
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (7002)	Area (ha)=	0.65	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)

Surface Area (ha)=	0.58	0.07
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	65.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	36.07
over (min)	5.00	10.00
Storage Coeff. (min)=	2.85 (ii)	7.05 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.14

			TOTALS
PEAK FLOW (cms)=	0.07	0.01	0.073 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	63.38	85.12
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.72	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7001):	0.61	0.068	5.25	85.12
+ ID2= 2 (7002):	0.65	0.073	5.25	85.12
ID = 3 (0023):	1.26	0.141	5.25	85.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (6032)	Area (ha)=	0.34	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	33.98
over (min)	5.00	10.00
Storage Coeff. (min)=	2.34 (ii)	6.54 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.14

			TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.038 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	58.35	84.61
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.66	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (6033)	Area (ha)=	0.49	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.44	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	33.98
over (min)	5.00	10.00
Storage Coeff. (min)=	2.62 (ii)	6.81 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.14

			TOTALS
PEAK FLOW (cms)=	0.05	0.00	0.054 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	58.35	84.61
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.66	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (6031)	Area (ha)=	0.60	
ID= 1 DT= 5.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.27	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	33.72
over (min)	5.00	15.00
Storage Coeff. (min)=	2.78 (ii)	13.68 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.08

			TOTALS
PEAK FLOW (cms)=	0.03	0.03	0.060 (iii)
TIME TO PEAK (hrs)=	4.92	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	58.35	71.47
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.66	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6031):	0.60	0.060	5.25	71.47
+ ID2= 2 (6032):	0.34	0.038	5.25	84.61
ID = 3 (0054):	0.94	0.097	5.25	76.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0054)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0054):	0.94	0.097	5.25	76.22
	+ ID2= 2 (6033):	0.49	0.054	5.25	84.61
	ID = 1 (0054):	1.43	0.152	5.25	79.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (1001)	Area (ha)= 0.08			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.07	0.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	23.09	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	********
over (min)	5.00	10.00
Storage Coeff. (min)=	1.52 (ii)	5.72 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.33	0.15
		TOTALS
PEAK FLOW (cms)=	0.01	0.00 0.009 (iii)
TIME TO PEAK (hrs)=	4.67	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	53.77 84.15
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.61 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (1002)	Area (ha)= 0.22			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.20	0.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	38.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	********
over (min)	5.00	10.00
Storage Coeff. (min)=	2.06 (ii)	6.26 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.31	0.15
		TOTALS
PEAK FLOW (cms)=	0.02	0.00 0.024 (iii)
TIME TO PEAK (hrs)=	4.75	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	53.77 84.15
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.61 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1001):	0.08	0.009	5.25	84.15
	+ ID2= 2 (1002):	0.22	0.024	5.25	84.15
	ID = 3 (0007):	0.30	0.033	5.25	84.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (1003)	Area (ha)= 0.71			
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.17	0.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	68.80	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	31.55
over (min)	5.00	15.00
Storage Coeff. (min)=	2.92 (ii)	14.12 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.08
		TOTALS
PEAK FLOW (cms)=	0.02	0.04 0.063 (iii)
TIME TO PEAK (hrs)=	4.92	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	53.77 61.86
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.61 0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0058)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0007):	0.30	0.033	5.25	84.15
	+ ID2= 2 (1003):	0.71	0.063	5.25	61.86
	ID = 3 (0058):	1.01	0.096	5.25	68.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (2511)	Area (ha)= 1.82			
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00		

IMPERVIOUS PERVIOUS (i)

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	110.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	30.84
over (min)	5.00	20.00
Storage Coeff. (min)=	3.88 (ii)	15.18 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.07
		TOTALS
PEAK FLOW (cms)=	0.15	0.03 0.189 (iii)
TIME TO PEAK (hrs)=	5.17	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	52.33 78.73
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.59 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (2512)	Area (ha)= 0.51			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.46	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	58.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	********
over (min)	5.00	10.00
Storage Coeff. (min)=	2.65 (ii)	6.85 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.14
		TOTALS
PEAK FLOW (cms)=	0.05	0.00 0.056 (iii)
TIME TO PEAK (hrs)=	4.92	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	52.33 84.01
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.59 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2511):	1.82	0.189	5.25	78.73
	+ ID2= 2 (2512):	0.51	0.056	5.25	84.01
	ID = 3 (0010):	2.33	0.245	5.25	79.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (2513)	Area (ha)= 0.46			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.41	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	55.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	31.16
over (min)	5.00	10.00
Storage Coeff. (min)=	2.57 (ii)	6.77 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.14
		TOTALS
PEAK FLOW (cms)=	0.05	0.00 0.051 (iii)
TIME TO PEAK (hrs)=	4.83	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	52.33 84.01
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.59 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (2514)	Area (ha)= 0.44			
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.11	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	54.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	30.84
over (min)	5.00	15.00
Storage Coeff. (min)=	2.53 (ii)	13.83 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.29	0.08
		TOTALS
PEAK FLOW (cms)=	0.01	0.03 0.038 (iii)
TIME TO PEAK (hrs)=	4.83	5.25 5.25
RUNOFF VOLUME (mm)=	87.54	52.33 60.76
TOTAL RAINFALL (mm)=	88.54	88.54 88.54
RUNOFF COEFFICIENT =	0.99	0.59 0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0059)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0010):	2.33	0.245	5.25	79.89
	+ ID2= 2 (2513):	0.46	0.051	5.25	84.01
	ID = 3 (0059):	2.79	0.296	5.25	80.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0059)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0059):	2.79	0.296	5.25	80.57
	+ ID2= 2 (2514):	0.44	0.038	5.25	60.76
	ID = 1 (0059):	3.23	0.335	5.25	77.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (2482)	Area (ha)= 1.24			
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00		

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.74	0.50	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	90.92	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	40.71	32.99	
over (min)		5.00	15.00	
Storage Coeff. (min)	=	3.46 (ii)	14.45 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	15.00	
Unit Hyd. peak (cms)	=	0.26	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.08	0.04	0.126 (iii)
TIME TO PEAK	(hrs)=	5.08	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	56.77	75.23
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.64	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (2481)	Area (ha)= 0.49			
ID= 1 DT= 5.0 min	Total Imp(%)= 36.00	Dir. Conn.(%)= 36.00		

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.18	0.31	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	57.15	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	40.71	32.99	
over (min)		5.00	15.00	
Storage Coeff. (min)	=	2.62 (ii)	13.61 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	15.00	
Unit Hyd. peak (cms)	=	0.29	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.03	0.047 (iii)
TIME TO PEAK	(hrs)=	4.83	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	56.77	67.83
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.64	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0060)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (2481):	0.49	0.047	5.25	67.83
	+ ID2= 2 (2482):	1.24	0.126	5.25	75.23
	ID = 3 (0060):	1.73	0.173	5.25	73.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (1231)	Area (ha)= 1.34			
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00		

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.00	0.34	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	94.52	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	40.71	32.66	
over (min)		5.00	15.00	
Storage Coeff. (min)	=	3.54 (ii)	14.58 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	15.00	
Unit Hyd. peak (cms)	=	0.26	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.11	0.03	0.142 (iii)
TIME TO PEAK	(hrs)=	5.08	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	54.99	79.40
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.62	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (1232)	Area (ha)= 1.44			
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00		

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.08	0.36	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	97.98	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	40.71	32.66	
over (min)		5.00	15.00	
Storage Coeff. (min)	=	3.62 (ii)	14.66 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	15.00	
Unit Hyd. peak (cms)	=	0.25	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.12	0.03	0.152 (iii)

TIME TO PEAK	(hrs)=	5.08	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	54.99	79.40
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.62	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0026)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1231):	1.34	0.142	5.25	79.40
	+ ID2= 2 (1232):	1.44	0.152	5.25	79.40
	ID = 3 (0026):	2.78	0.294	5.25	79.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (1233)	Area (ha)= 0.66			
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00		

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.50	0.17	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	66.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	40.71	32.66	
over (min)		5.00	15.00	
Storage Coeff. (min)	=	2.86 (ii)	13.90 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	15.00	
Unit Hyd. peak (cms)	=	0.28	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.06	0.01	0.070 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	54.99	79.39
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.62	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (1234)	Area (ha)= 1.47			
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00		

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.10	0.37	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	98.99	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	40.71	32.66	
over (min)		5.00	15.00	

Storage Coeff. (min)	=	3.64 (ii)	14.68 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	15.00	
Unit Hyd. peak (cms)	=	0.25	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.12	0.03	0.155 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	54.99	79.40
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.62	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0027)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1233):	0.66	0.070	5.25	79.39
	+ ID2= 2 (1234):	1.47	0.155	5.25	79.40
	ID = 3 (0027):	2.13	0.225	5.25	79.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
NASHYD (1224)	Area (ha)= 1.20	Curve Number (CN)= 86.0		
ID= 1 DT= 5.0 min	Ia (mm)= 6.00	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.20			

Unit Hyd Qpeak (cms)= 0.229

PEAK FLOW	(cms)=	0.105 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	54.887
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.620

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (1221)	Area (ha)= 2.55			
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00		

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.91	0.64	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	130.38	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)	=	40.71	32.66	
over (min)		5.00	20.00	
Storage Coeff. (min)	=	4.29 (ii)	15.33 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	20.00	
Unit Hyd. peak (cms)	=	0.23	0.07	
				TOTALS
PEAK FLOW	(cms)=	0.22	0.05	0.268 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	54.99	79.40
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.62	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1222) | ID= 1 DT= 5.0 min	Area (ha)= 0.34 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	********
over (min)	5.00	10.00
Storage Coeff. (min)=	2.34 (ii)	6.54 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.14

			TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.038 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	54.99	84.28
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.62	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1221):	2.55	0.268	5.25	79.40
+ ID2= 2 (1222):	0.34	0.038	5.25	84.28
ID = 3 (0030):	2.89	0.306	5.25	79.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (1223) | ID= 1 DT= 5.0 min	Area (ha)= 0.37 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.15
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	49.67	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	5.00	15.00
Storage Coeff. (min)=	2.41 (ii)	13.45 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.30	0.08

			TOTALS
PEAK FLOW (cms)=	0.03	0.01	0.038 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25

RUNOFF VOLUME (mm)=	87.54	54.99	74.50
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.62	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1201) | ID= 1 DT= 5.0 min	Area (ha)= 0.80 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.48	0.32
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	73.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	5.00	15.00
Storage Coeff. (min)=	3.03 (ii)	14.07 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.27	0.08

			TOTALS
PEAK FLOW (cms)=	0.05	0.03	0.081 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	54.99	74.51
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.62	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1202) | ID= 1 DT= 5.0 min	Area (ha)= 2.01 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.21	0.80
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	115.76	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	5.00	20.00
Storage Coeff. (min)=	4.00 (ii)	15.04 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.24	0.07

			TOTALS
PEAK FLOW (cms)=	0.14	0.07	0.202 (iii)
TIME TO PEAK (hrs)=	5.17	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	54.99	74.52
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.62	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1203) | ID= 1 DT= 5.0 min	Area (ha)= 0.78 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.70	0.08
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	72.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	********
over (min)	5.00	10.00
Storage Coeff. (min)=	3.01 (ii)	7.21 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.14

			TOTALS
PEAK FLOW (cms)=	0.08	0.01	0.086 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	54.99	84.28
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.62	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0038) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1202):	2.01	0.202	5.25	74.52
+ ID2= 2 (1203):	0.78	0.086	5.25	84.28
ID = 3 (0038):	2.79	0.288	5.25	77.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0063) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0038):	2.79	0.288	5.25	77.25
+ ID2= 2 (1201):	0.80	0.081	5.25	74.51
ID = 3 (0063):	3.59	0.370	5.25	76.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

** SIMULATION NUMBER: 7 **

** SIMULATION NUMBER: 8 **

** SIMULATION NUMBER: 9 **

** SIMULATION NUMBER: 10 **

** SIMULATION NUMBER: 11 **

** SIMULATION NUMBER: 12 **

** SIMULATION NUMBER: 13 **

** SIMULATION NUMBER: 14 **

** SIMULATION NUMBER: 15 **

** SIMULATION NUMBER: 16 **

** SIMULATION NUMBER: 17 **

** SIMULATION NUMBER: 18 **

** SIMULATION NUMBER: 19 **

Humber Watershed

407 TWY Sub-areas – Proposed Condition without SWM

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** SIMULATION NUMBER:   1 **
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** SIMULATION NUMBER:   2 **
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** SIMULATION NUMBER:   5 **
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** SIMULATION NUMBER:   6 **
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** SIMULATION NUMBER:   7 **
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CALIB				
STANDHYD (4511)	Area	(ha)=	1.56	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.40	0.16	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	101.98	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	NaN	
over (min)		5.00	10.00	
Storage Coeff. (min)=		4.02 (ii)	8.58 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.24	0.12	
			TOTALS	
PEAK FLOW	(cms)=	0.13	0.01	0.141 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	35.00	24.73	33.97
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.69	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (4506)	Area	(ha)=	1.34	
ID= 1 DT= 5.0 min	Total Imp(%)=	40.88	Dir. Conn.(%)=	40.72

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.55	0.79	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	94.52	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	11.01	
over (min)		5.00	25.00	
Storage Coeff. (min)=		3.84 (ii)	20.90 (ii)	
Unit Hyd. Tpeak (min)=		5.00	25.00	
Unit Hyd. peak (cms)=		0.25	0.05	
			TOTALS	
PEAK FLOW	(cms)=	0.05	0.02	0.061 (iii)
TIME TO PEAK	(hrs)=	2.75	3.00	2.75

RUNOFF VOLUME	(mm)=	35.00	9.85	20.08
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.27	0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (4512)	Area	(ha)=	0.29	
ID= 1 DT= 5.0 min	Total Imp(%)=	31.90	Dir. Conn.(%)=	31.50

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.09	0.20	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	43.97	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	32.68	
over (min)		5.00	15.00	
Storage Coeff. (min)=		2.43 (ii)	13.47 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.30	0.08	
			TOTALS	
PEAK FLOW	(cms)=	0.01	0.02	0.024 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	35.00	28.67	30.63
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.80	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)=	1.52	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.37	0.15	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	100.66	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	15.67	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.99 (ii)	8.55 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.24	0.12	
			TOTALS	
PEAK FLOW	(cms)=	0.13	0.01	0.131 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	35.00	12.32	32.73
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.34	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)=	0.40	
ID= 1 DT= 5.0 min	Total Imp(%)=	55.36	Dir. Conn.(%)=	54.72

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.22	0.18	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	51.64	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	15.25	
over (min)		5.00	20.00	
Storage Coeff. (min)=		2.67 (ii)	17.65 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.29	0.06	
			TOTALS	
PEAK FLOW	(cms)=	0.02	0.00	0.024 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	35.00	12.47	24.77
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.35	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0064)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	0.40	0.024	2.75	24.77
+	ID2= 2 (****):	1.52	0.131	2.75	32.73
	ID = 3 (0064):	1.92	0.156	2.75	31.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)=	4.25	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	3.83	0.43	
Dep. Storage	(mm)=	1.00	10.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	168.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	11.06	
over (min)		5.00	10.00	
Storage Coeff. (min)=		5.43 (ii)	9.99 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.20	0.11	
			TOTALS	
PEAK FLOW	(cms)=	0.35	0.01	0.360 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	35.00	8.19	32.32
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.23	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)=	1.53	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.38	0.15	
Dep. Storage	(mm)=	1.00	10.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	101.00	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	11.06	
over (min)		5.00	10.00	
Storage Coeff. (min)=		4.00 (ii)	8.56 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.24	0.12	
			TOTALS	
PEAK FLOW	(cms)=	0.13	0.00	0.130 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	35.00	8.19	32.32
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.23	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0065)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (****):	4.25	0.360	2.75	32.32
+	ID2= 2 (****):	1.53	0.130	2.75	32.32
	ID = 3 (0065):	5.78	0.491	2.75	32.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)=	4.11	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	3.70	0.41	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	165.53	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	10.78	
over (min)		5.00	10.00	
Storage Coeff. (min)=		5.38 (ii)	9.94 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.21	0.11	
			TOTALS	
PEAK FLOW	(cms)=	0.34	0.01	0.349 (iii)

TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	35.00	8.54	32.35
TOTAL RAINFALL (mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT =	0.97	0.24	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 2.03
ID= 1 DT= 5.0 min | Total Imp= 42.96 Dir. Conn.(%)= 42.88

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.87	1.16
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	116.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.12	9.46
over (min)	5.00	25.00
Storage Coeff. (min)=	4.35 (ii)	22.48 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.23	0.05

			TOTALS
PEAK FLOW (cms)=	0.08	0.02	0.093 (iii)
TIME TO PEAK (hrs)=	2.75	3.00	2.75
RUNOFF VOLUME (mm)=	35.00	8.55	19.88
TOTAL RAINFALL (mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT =	0.97	0.24	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0066)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	2.03	0.093	2.75	19.88
+ ID2= 2 (****):	4.11	0.349	2.75	32.35
ID = 3 (0066):	6.14	0.442	2.75	28.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 8 **
****

CALIB
STANDHYD (4511) | Area (ha)= 1.56
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.40	0.16
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	101.98	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	43.98	NaN	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.59 (ii)	7.66 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.26	0.13	

			TOTALS
PEAK FLOW (cms)=	0.17	0.02	0.189 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	46.81	36.17	45.74
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.76	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (4506) | Area (ha)= 1.34
ID= 1 DT= 5.0 min | Total Imp(%)= 40.88 Dir. Conn.(%)= 40.72

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.79
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	94.52	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	19.88
over (min)	5.00	20.00
Storage Coeff. (min)=	3.43 (ii)	16.90 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06

			TOTALS
PEAK FLOW (cms)=	0.07	0.03	0.092 (iii)
TIME TO PEAK (hrs)=	2.75	2.92	2.75
RUNOFF VOLUME (mm)=	46.81	16.75	28.98
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.35	0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (4512) | Area (ha)= 0.29
ID= 1 DT= 5.0 min | Total Imp(%)= 31.90 Dir. Conn.(%)= 31.50

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.09	0.20
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	43.97	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	43.86
over (min)	5.00	15.00
Storage Coeff. (min)=	2.17 (ii)	11.98 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.31	0.09

			TOTALS
PEAK FLOW (cms)=	0.01	0.02	0.033 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75

RUNOFF VOLUME (mm)=	46.81	40.43	42.42
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.85	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 1.52
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.15
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	100.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	25.34
over (min)	5.00	10.00
Storage Coeff. (min)=	3.56 (ii)	7.63 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.26	0.13

			TOTALS
PEAK FLOW (cms)=	0.17	0.01	0.177 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	46.81	20.41	44.17
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.43	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 0.40
ID= 1 DT= 5.0 min | Total Imp(%)= 55.36 Dir. Conn.(%)= 54.72

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.18
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	51.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	24.86
over (min)	5.00	15.00
Storage Coeff. (min)=	2.39 (ii)	14.70 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.30	0.08

			TOTALS
PEAK FLOW (cms)=	0.03	0.01	0.035 (iii)
TIME TO PEAK (hrs)=	2.75	2.83	2.75
RUNOFF VOLUME (mm)=	46.81	20.61	34.92
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.43	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0064)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	0.40	0.035	2.75	34.92
+ ID2= 2 (****):	1.52	0.177	2.75	44.17
ID = 3 (0064):	1.92	0.212	2.75	42.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 4.25
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.83	0.43
Dep. Storage (mm)=	1.00	10.00
Average Slope (%)=	1.00	2.00
Length (m)=	168.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	20.09
over (min)	5.00	10.00
Storage Coeff. (min)=	4.85 (ii)	8.92 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.22	0.12

			TOTALS
PEAK FLOW (cms)=	0.47	0.02	0.486 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	46.81	15.14	43.64
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.32	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****) | Area (ha)= 1.53
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.38	0.15
Dep. Storage (mm)=	1.00	10.00
Average Slope (%)=	1.00	2.00
Length (m)=	101.00	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	20.09
over (min)	5.00	10.00
Storage Coeff. (min)=	3.57 (ii)	7.64 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.26	0.13

			TOTALS
PEAK FLOW (cms)=	0.17	0.01	0.175 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	46.81	15.14	43.64
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.32	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0065)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (****):	4.25	0.486	2.75	43.64
	+ ID2= 2 (****):	1.53	0.175	2.75	43.64
	ID = 3 (0065):	5.78	0.661	2.75	43.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (****)	Area (ha)= 4.11	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.70	0.41
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	165.53	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	18.32
over (min)	5.00	10.00
Storage Coeff. (min)=	4.80 (ii)	8.87 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.22	0.12

	TOTALS
PEAK FLOW (cms)=	0.45	0.02	0.469 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	46.81	14.73	43.60
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.31	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (****)	Area (ha)= 2.03	Total Imp(%)= 42.96	Dir. Conn.(%)= 42.88

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.87	1.16
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	116.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	17.42
over (min)	5.00	20.00
Storage Coeff. (min)=	3.89 (ii)	18.09 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.06

TOTALS

PEAK FLOW (cms)=	0.11	0.04	0.137 (iii)
TIME TO PEAK (hrs)=	2.75	2.92	2.75
RUNOFF VOLUME (mm)=	46.81	14.75	28.49
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.31	0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0066)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (****):	2.03	0.137	2.75	28.49
	+ ID2= 2 (****):	4.11	0.469	2.75	43.60
	ID = 3 (0066):	6.14	0.606	2.75	38.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 9 **
****

CALIB STANDHYD (4511)	Area (ha)= 1.56	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.40	0.16
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	101.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	51.24	NaN
over (min)	5.00	10.00
Storage Coeff. (min)=	3.38 (ii)	7.21 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.26	0.14

TOTALS

PEAK FLOW (cms)=	0.20	0.02	0.220 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	54.69	43.89	53.61
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.79	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (4506)	Area (ha)= 1.34	Total Imp(%)= 40.88	Dir. Conn.(%)= 40.72

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.79
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	94.52	40.00

Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	51.24	25.87	
over (min)	5.00	20.00	
Storage Coeff. (min)=	3.23 (ii)	15.35 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.27	0.07	
		TOTALS	
PEAK FLOW (cms)=	0.08	0.04	0.113 (iii)
TIME TO PEAK (hrs)=	2.75	2.92	2.75
RUNOFF VOLUME (mm)=	54.69	21.91	35.25
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.39	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (4512)	Area (ha)= 0.29	Total Imp(%)= 31.90	Dir. Conn.(%)= 31.50

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.09	0.20
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	43.97	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	51.24	51.22
over (min)	5.00	15.00
Storage Coeff. (min)=	2.04 (ii)	11.26 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.31	0.09

TOTALS

PEAK FLOW (cms)=	0.01	0.03	0.038 (iii)
TIME TO PEAK (hrs)=	2.67	2.75	2.75
RUNOFF VOLUME (mm)=	54.69	48.29	50.28
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.87	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (****)	Area (ha)= 1.52	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.15
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	100.66	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	51.24	32.23
over (min)	5.00	10.00
Storage Coeff. (min)=	3.35 (ii)	7.18 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.26	0.14

TOTALS

PEAK FLOW (cms)=	0.19	0.01	0.207 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	54.69	26.31	51.85
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.47	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (****)	Area (ha)= 0.40	Total Imp(%)= 55.36	Dir. Conn.(%)= 54.72

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.18
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	51.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	51.24	31.75
over (min)	5.00	15.00
Storage Coeff. (min)=	2.25 (ii)	13.41 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.30	0.08

TOTALS

PEAK FLOW (cms)=	0.03	0.01	0.043 (iii)
TIME TO PEAK (hrs)=	2.75	2.83	2.75
RUNOFF VOLUME (mm)=	54.69	26.54	41.93
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.48	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0064)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (****):	0.40	0.043	2.75	41.93
	+ ID2= 2 (****):	1.52	0.207	2.75	51.85
	ID = 3 (0064):	1.92	0.250	2.75	49.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (****)	Area (ha)= 4.25	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.83	0.43
Dep. Storage (mm)=	1.00	10.00
Average Slope (%)=	1.00	2.00
Length (m)=	168.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	51.24	26.69

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                over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.56 (ii)    8.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.54         0.03       0.570 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75        2.75
     RUNOFF VOLUME    (mm)=      54.69        20.41       51.26
     TOTAL RAINFALL   (mm)=      55.69        55.69       55.69
     RUNOFF COEFFICIENT   =       0.98         0.37        0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.53
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        1.38         0.15
     Dep. Storage     (mm)=        1.00        10.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=      101.00        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       51.24        26.69
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.36 (ii)    7.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.01       0.206 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75        2.75
     RUNOFF VOLUME    (mm)=      54.69        20.41       51.26
     TOTAL RAINFALL   (mm)=      55.69        55.69       55.69
     RUNOFF COEFFICIENT   =       0.98         0.37        0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0065) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (****):     4.25   0.570     2.75    51.26
     + ID2= 2 (****):     1.53   0.206     2.75    51.26
       ================================================
       ID = 3 (0065):     5.78   0.776     2.75    51.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   4.11
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        3.70         0.41
     Dep. Storage     (mm)=        1.00         5.00
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     Average Slope     (%)=        1.00         2.00
     Length            (m)=      165.53        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       51.24        23.94
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       4.52 (ii)    8.35 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.53         0.02       0.550 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75        2.75
     RUNOFF VOLUME    (mm)=      54.69        19.43       51.16
     TOTAL RAINFALL   (mm)=      55.69        55.69       55.69
     RUNOFF COEFFICIENT   =       0.98         0.35        0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   2.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  42.96   Dir. Conn.(%)=  42.88
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.87         1.16
     Dep. Storage     (mm)=        1.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=      116.33        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       51.24        22.87
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       3.66 (ii)   16.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.25         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.12         0.05       0.167 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.92        2.75
     RUNOFF VOLUME    (mm)=      54.69        19.45       34.56
     TOTAL RAINFALL   (mm)=      55.69        55.69       55.69
     RUNOFF COEFFICIENT   =       0.98         0.35        0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0066) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (****):     2.03   0.167     2.75    34.56
     + ID2= 2 (****):     4.11   0.550     2.75    51.16
       ================================================
       ID = 3 (0066):     6.14   0.717     2.75    45.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
**************************
** SIMULATION NUMBER:  10 **
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| CALIB            |
| STANDHYD  (4511) |   Area    (ha)=   1.56
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        1.40         0.16
     Dep. Storage     (mm)=        1.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=      101.98        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       60.35          NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.16 (ii)    6.75 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.27         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.02       0.260 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75        2.75
     RUNOFF VOLUME    (mm)=      64.59        53.64       63.49
     TOTAL RAINFALL   (mm)=      65.59        65.59       65.59
     RUNOFF COEFFICIENT   =       0.98         0.82        0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  97.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4506) |   Area    (ha)=   1.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=  40.88   Dir. Conn.(%)=  40.72
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.55         0.79
     Dep. Storage     (mm)=        1.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       94.52        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       60.35        33.85
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       3.02 (ii)   13.91 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.27         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.06       0.146 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.83        2.75
     RUNOFF VOLUME    (mm)=      64.59        28.86       43.40
     TOTAL RAINFALL   (mm)=      65.59        65.59       65.59
     RUNOFF COEFFICIENT   =       0.98         0.44        0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (4512) |   Area    (ha)=   0.29
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.09         0.20
     Dep. Storage     (mm)=        1.00         5.00
```



```
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       43.97        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       60.35        60.44
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       1.91 (ii)   10.54 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.32         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.03       0.046 (iii)
     TIME TO PEAK    (hrs)=       2.67         2.75        2.75
     RUNOFF VOLUME    (mm)=      64.59        58.17       60.17
     TOTAL RAINFALL   (mm)=      65.59        65.59       65.59
     RUNOFF COEFFICIENT   =       0.98         0.89        0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.52
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        1.37         0.15
     Dep. Storage     (mm)=        1.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=      100.66        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       60.35        41.18
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.14 (ii)    6.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.27         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.23         0.02       0.245 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75        2.75
     RUNOFF VOLUME    (mm)=      64.59        34.13       61.54
     TOTAL RAINFALL   (mm)=      65.59        65.59       65.59
     RUNOFF COEFFICIENT   =       0.98         0.52        0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.40
|ID= 1 DT= 5.0 min |   Total Imp(%)=  55.36   Dir. Conn.(%)=  54.72
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.22         0.18
     Dep. Storage     (mm)=        1.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       51.64        40.00
     Mannings n            =       0.013        0.250

     Max.Eff.Inten.(mm/hr)=       60.35        42.05
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       2.10 (ii)   12.08 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
```

```
     Unit Hyd. peak  (cms)=       0.31          0.09
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.04          0.02          0.053 (iii)
     TIME TO PEAK   (hrs)=       2.75          2.83           2.75
     RUNOFF VOLUME   (mm)=      64.59         34.40          50.90
     TOTAL RAINFALL  (mm)=      65.59         65.59          65.59
     RUNOFF COEFFICIENT  =       0.98          0.52           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0064) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):     0.40   0.053     2.75    50.90
       + ID2= 2 (****):     1.52   0.245     2.75    61.54
         ================================================
         ID = 3 (0064):     1.92   0.298     2.75    59.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   4.25
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.83          0.43
     Dep. Storage     (mm)=       1.00         10.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     168.33         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      60.35         35.39
               over (min)        5.00         10.00
     Storage Coeff.  (min)=      4.27 (ii)     7.86 (ii)
     Unit Hyd. Tpeak (min)=      5.00         10.00
     Unit Hyd. peak  (cms)=      0.23          0.13
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.64          0.04          0.677 (iii)
     TIME TO PEAK   (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME   (mm)=      64.59         27.55          60.89
     TOTAL RAINFALL  (mm)=      65.59         65.59          65.59
     RUNOFF COEFFICIENT  =       0.98          0.42           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   1.53
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.38          0.15
     Dep. Storage     (mm)=       1.00         10.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     101.00         40.00
     Mannings n           =      0.013         0.250
```



```
     Max.Eff.Inten.(mm/hr)=      60.35         35.39
               over (min)        5.00         10.00
     Storage Coeff.  (min)=      3.15 (ii)     6.73 (ii)
     Unit Hyd. Tpeak (min)=      5.00         10.00
     Unit Hyd. peak  (cms)=      0.27          0.14
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.23          0.01          0.244 (iii)
     TIME TO PEAK   (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME   (mm)=      64.59         27.55          60.88
     TOTAL RAINFALL  (mm)=      65.59         65.59          65.59
     RUNOFF COEFFICIENT  =       0.98          0.42           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0065) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):     4.25   0.677     2.75    60.89
       + ID2= 2 (****):     1.53   0.244     2.75    60.88
         ================================================
         ID = 3 (0065):     5.78   0.921     2.75    60.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   4.11
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.70          0.41
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     165.53         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      60.35         31.51
               over (min)        5.00         10.00
     Storage Coeff.  (min)=      4.23 (ii)     7.82 (ii)
     Unit Hyd. Tpeak (min)=      5.00         10.00
     Unit Hyd. peak  (cms)=      0.24          0.13
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.62          0.03          0.651 (iii)
     TIME TO PEAK   (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME   (mm)=      64.59         25.82          60.71
     TOTAL RAINFALL  (mm)=      65.59         65.59          65.59
     RUNOFF COEFFICIENT  =       0.98          0.39           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   2.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  42.96   Dir. Conn.(%)=  42.88
-------------------
                           IMPERVIOUS    PERVIOUS (i)
```



```
     Surface Area     (ha)=       0.87          1.16
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     116.33         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      60.35         30.24
               over (min)        5.00         15.00
     Storage Coeff.  (min)=      3.42 (ii)    14.81 (ii)
     Unit Hyd. Tpeak (min)=      5.00         15.00
     Unit Hyd. peak  (cms)=      0.26          0.08
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.15          0.07          0.214 (iii)
     TIME TO PEAK   (hrs)=       2.75          2.83           2.75
     RUNOFF VOLUME   (mm)=      64.59         25.85          42.46
     TOTAL RAINFALL  (mm)=      65.59         65.59          65.59
     RUNOFF COEFFICIENT  =       0.98          0.39           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0066) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):     2.03   0.214     2.75    42.46
       + ID2= 2 (****):     4.11   0.651     2.75    60.71
         ================================================
         ID = 3 (0066):     6.14   0.866     2.75    54.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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**************************
** SIMULATION NUMBER:  11 **
**************************
-------------------
| CALIB             |
| STANDHYD  (4511) |   Area    (ha)=   1.56
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40          0.16
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     101.98         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      67.16        NaN
               over (min)        5.00         10.00
     Storage Coeff.  (min)=      3.03 (ii)     6.47 (ii)
     Unit Hyd. Tpeak (min)=      5.00         10.00
     Unit Hyd. peak  (cms)=      0.27          0.14
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.26          0.03          0.290 (iii)
     TIME TO PEAK   (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME   (mm)=      72.00         60.96          70.89
     TOTAL RAINFALL  (mm)=      73.00         73.00          73.00
     RUNOFF COEFFICIENT  =       0.99          0.84           0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  97.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB             |
| STANDHYD  (4506) |   Area    (ha)=   1.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=  40.88   Dir. Conn.(%)=  40.72
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.55          0.79
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      94.52         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      67.16         40.09
               over (min)        5.00         15.00
     Storage Coeff.  (min)=      2.90 (ii)    13.07 (ii)
     Unit Hyd. Tpeak (min)=      5.00         15.00
     Unit Hyd. peak  (cms)=      0.28          0.08
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.10          0.07          0.168 (iii)
     TIME TO PEAK   (hrs)=       2.75          2.83           2.75
     RUNOFF VOLUME   (mm)=      72.00         34.35          49.68
     TOTAL RAINFALL  (mm)=      73.00         73.00          73.00
     RUNOFF COEFFICIENT  =       0.99          0.47           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| STANDHYD  (4512) |   Area    (ha)=   0.29
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.09          0.20
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      43.97         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      67.16         67.32
               over (min)        5.00         15.00
     Storage Coeff.  (min)=      1.83 (ii)    10.10 (ii)
     Unit Hyd. Tpeak (min)=      5.00         15.00
     Unit Hyd. peak  (cms)=      0.32          0.10
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.02          0.03          0.051 (iii)
     TIME TO PEAK   (hrs)=       2.67          2.75           2.75
     RUNOFF VOLUME   (mm)=      72.00         65.57          67.57
     TOTAL RAINFALL  (mm)=      73.00         73.00          73.00
     RUNOFF COEFFICIENT  =       0.99          0.90           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| CALIB             |
| STANDHYD  (****) |   Area    (ha)=   1.52
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
```

Surface Area	(ha)=	1.37	0.15
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	100.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	48.03
over (min)		5.00	10.00
Storage Coeff. (min)=		3.01 (ii)	6.44 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14

		TOTALS
PEAK FLOW	(cms)=	0.26	0.02	0.274 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	72.00	40.21	68.82
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.55	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT= 5.0 min | Area (ha)= 0.40
Total Imp(%)= 55.36 Dir. Conn.(%)= 54.72

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.18
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	51.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	49.01
over (min)		5.00	15.00
Storage Coeff. (min)=		2.02 (ii)	11.40 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.31	0.09

		TOTALS
PEAK FLOW	(cms)=	0.04	0.02	0.060 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	72.00	40.51	57.72
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.55	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0064)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	0.40	0.060	2.75	57.72
+ ID2= 2 (****):	1.52	0.274	2.75	68.82
ID = 3 (0064):	1.92	0.334	2.75	66.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT= 5.0 min | Area (ha)= 4.25
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.83	0.43
Dep. Storage	(mm)=	1.00	10.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	168.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	42.11
over (min)		5.00	10.00
Storage Coeff. (min)=		4.09 (ii)	7.53 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.24	0.13

		TOTALS
PEAK FLOW	(cms)=	0.71	0.04	0.757 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	72.00	33.19	68.12
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.45	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT= 5.0 min | Area (ha)= 1.53
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.38	0.15
Dep. Storage	(mm)=	1.00	10.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	101.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	42.11
over (min)		5.00	10.00
Storage Coeff. (min)=		3.01 (ii)	6.45 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14

		TOTALS
PEAK FLOW	(cms)=	0.26	0.02	0.273 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	72.00	33.19	68.12
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.45	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0065)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	4.25	0.757	2.75	68.12
+ ID2= 2 (****):	1.53	0.273	2.75	68.12
ID = 3 (0065):	5.78	1.030	2.75	68.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT= 5.0 min | Area (ha)= 4.11
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.70	0.41
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	165.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	37.46
over (min)		5.00	10.00
Storage Coeff. (min)=		4.05 (ii)	7.49 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.24	0.13

		TOTALS
PEAK FLOW	(cms)=	0.69	0.04	0.728 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	72.00	30.91	67.89
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.42	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (****)
ID= 1 DT= 5.0 min | Area (ha)= 2.03
Total Imp(%)= 42.96 Dir. Conn.(%)= 42.88

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.87	1.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	116.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	36.06
over (min)		5.00	15.00
Storage Coeff. (min)=		3.28 (ii)	13.89 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.27	0.08

		TOTALS
PEAK FLOW	(cms)=	0.16	0.09	0.247 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	72.00	30.94	48.54
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.42	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0066)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (****):	2.03	0.247	2.75	48.54
+ ID2= 2 (****):	4.11	0.728	2.75	67.89
ID = 3 (0066):	6.14	0.975	2.75	61.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 12 **
****

CALIB
STANDHYD (4511)
ID= 1 DT= 5.0 min | Area (ha)= 1.56
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.40	0.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	101.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	NaN
over (min)		5.00	10.00
Storage Coeff. (min)=		2.92 (ii)	6.23 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.15

		TOTALS
PEAK FLOW	(cms)=	0.29	0.03	0.319 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	79.31	68.20	78.20
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.85	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (4506)
ID= 1 DT= 5.0 min | Area (ha)= 1.34
Total Imp(%)= 40.88 Dir. Conn.(%)= 40.72

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.55	0.79
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	94.52	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	48.01
over (min)		5.00	15.00
Storage Coeff. (min)=		2.79 (ii)	12.25 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.28	0.09

		TOTALS
PEAK FLOW	(cms)=	0.11	0.08	0.191 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	79.31	39.96	55.98
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.50	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (4512)	Area (ha)= 0.29				
ID= 1 DT= 5.0 min	Total Imp(%)= 31.90	Dir. Conn.(%)= 31.50			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.09	0.20
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	43.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	74.10
over (min)		5.00	10.00
Storage Coeff. (min)=		1.76 (ii)	9.72 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.32	0.11

		TOTALS
PEAK FLOW	(cms)=	0.02 0.04 0.058 (iii)
TIME TO PEAK	(hrs)=	2.67 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 72.87 74.88
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.91 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 1.52				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.37	0.15
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	100.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	54.88
over (min)		5.00	10.00
Storage Coeff. (min)=		2.89 (ii)	6.20 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.15

		TOTALS
PEAK FLOW	(cms)=	0.28 0.02 0.303 (iii)
TIME TO PEAK	(hrs)=	2.75 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 46.38 76.02
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.58 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 0.40				
ID= 1 DT= 5.0 min	Total Imp(%)= 55.36	Dir. Conn.(%)= 54.72			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.18
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	51.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	55.96
over (min)		5.00	15.00
Storage Coeff. (min)=		1.94 (ii)	10.84 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.31	0.09

		TOTALS
PEAK FLOW	(cms)=	0.04 0.02 0.067 (iii)
TIME TO PEAK	(hrs)=	2.75 2.83 2.75
RUNOFF VOLUME	(mm)=	79.31 46.69 64.52
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.58 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0064)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (****):	0.40	0.067	2.75	64.52	
+ ID2= 2 (****):	1.52	0.303	2.75	76.02	
ID = 3 (0064):	1.92	0.370	2.75	73.62	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 4.25				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.83	0.43
Dep. Storage	(mm)=	1.00	10.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	168.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	48.87
over (min)		5.00	10.00
Storage Coeff. (min)=		3.94 (ii)	7.25 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.24	0.14

		TOTALS
PEAK FLOW	(cms)=	0.78 0.05 0.837 (iii)
TIME TO PEAK	(hrs)=	2.75 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 38.96 75.27
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.49 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 1.53				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.38	0.15
Dep. Storage	(mm)=	1.00	10.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	101.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	48.87
over (min)		5.00	10.00
Storage Coeff. (min)=		2.90 (ii)	6.21 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.15

		TOTALS
PEAK FLOW	(cms)=	0.28 0.02 0.302 (iii)
TIME TO PEAK	(hrs)=	2.75 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 38.96 75.27
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.49 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0065)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (****):	4.25	0.837	2.75	75.27	
+ ID2= 2 (****):	1.53	0.302	2.75	75.27	
ID = 3 (0065):	5.78	1.138	2.75	75.27	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 4.11				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.70	0.41
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	165.53	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	43.54
over (min)		5.00	10.00
Storage Coeff. (min)=		3.90 (ii)	7.21 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.25	0.14

		TOTALS
PEAK FLOW	(cms)=	0.76 0.04 0.804 (iii)
TIME TO PEAK	(hrs)=	2.75 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 36.15 74.99
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.45 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 2.03				
ID= 1 DT= 5.0 min	Total Imp(%)= 42.96	Dir. Conn.(%)= 42.88			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.87	1.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	116.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	43.63
over (min)		5.00	15.00
Storage Coeff. (min)=		3.16 (ii)	12.99 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.27	0.08

		TOTALS
PEAK FLOW	(cms)=	0.18 0.11 0.280 (iii)
TIME TO PEAK	(hrs)=	2.75 2.83 2.75
RUNOFF VOLUME	(mm)=	79.31 36.18 54.67
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.45 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0066)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (****):	2.03	0.280	2.75	54.67	
+ ID2= 2 (****):	4.11	0.804	2.75	74.99	
ID = 3 (0066):	6.14	1.084	2.75	68.27	

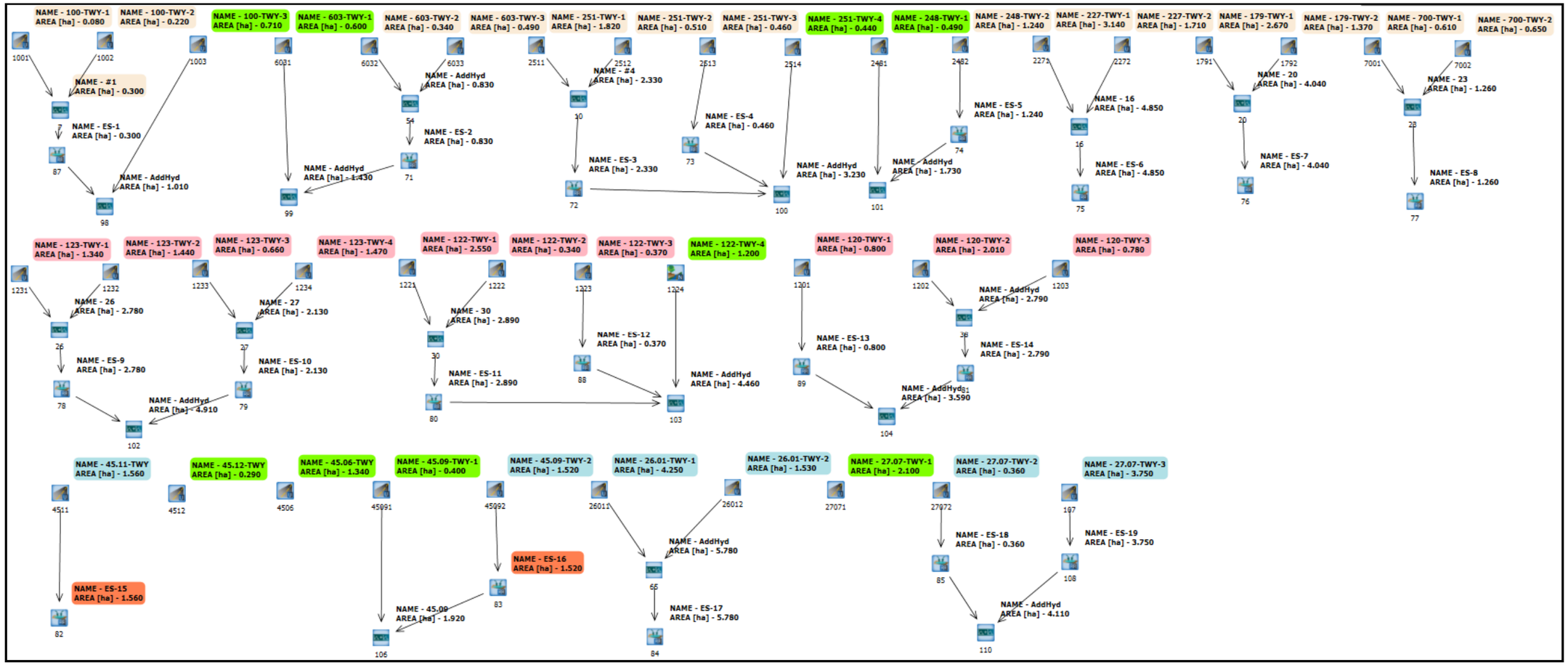
NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 13 **
****
****
** SIMULATION NUMBER: 14 **
****
****
** SIMULATION NUMBER: 15 **
****
****
** SIMULATION NUMBER: 16 **
****
****
** SIMULATION NUMBER: 17 **
****
****
** SIMULATION NUMBER: 18 **
****
****
** SIMULATION NUMBER: 19 **
****

Etobicoke & Mimico Watershed

407 TWY Sub-areas – Proposed Condition with SWM

602896 – 407 TWY: Proposed Controlled Condition with Swales - VO Model Schematic



Notes:

1. Labelled drainage areas with yellow are from Etobicoke Creek Watershed, pink areas are from Mimico Creek Watershed, and blue areas are from Humber River Watershed.
2. Under proposed condition, labelled areas with green are kept the same as existing condition where proposed runningway is underground.
3. Orange labels represent the areas under Humber River watershed that do not require quantity control

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U  A   A  L
          VV    I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O   Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                    *****  D E T A I L E D   O U T P U T *****


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  Output  filename:
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  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\41172be6-0c07-4dd1-9e1f-2d9947dd6300\Scenario.sum


DATE: 06/04/2018                          TIME: 11:06:55

USER:


COMMENTS: _____________________________________________________

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  ***************************
  ** SIMULATION NUMBER:  1 **
  ***************************


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|    READ STORM     |    Filename: C:\Users\p001279d\AppD
|                   |              ata\Local\Temp\
|                   |              41172be6-0c07-4dd1-9e1f-2d9947dd6300\da6ca972
| Ptotal= 42.00 mm  |    Comments: 2yr/12hr
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	2.94	10.50	0.42
1.00	0.42	4.25	7.14	7.50	1.68	10.75	0.42
1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

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| CALIB             |
| STANDHYD  (2271)  |   Area    (ha)=   3.14
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.88         1.26
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     144.68        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

```
     Max.Eff.Inten.(mm/hr)=      19.32        10.33
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       6.15 (ii)   23.66 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.19         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.03          0.127 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.42          5.25
     RUNOFF VOLUME    (mm)=      41.00        16.72         31.28
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.40          0.74


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| STANDHYD  (2272)  |   Area    (ha)=   1.71
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.28         0.43
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     106.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.33
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       5.13 (ii)   22.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.21         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.01          0.078 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.42          5.25
     RUNOFF VOLUME    (mm)=      41.00        16.72         34.92
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.40          0.83


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0016)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2271):     3.14   0.127     5.25     31.28
      + ID2= 2 (2272):     1.71   0.078     5.25     34.92
        ================================================
        ID = 3 (0016):     4.85   0.205     5.25     32.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0075)  |
| IN= 2---> OUT= 1  |
| DT=  5.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.4480     0.2100
                         0.0480     0.1200    |  0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0016)     4.850     0.205      5.25      32.57
     OUTFLOW: ID= 1 (0075)     4.850     0.041      6.67      32.44

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.73
                    TIME SHIFT OF PEAK FLOW       (min)= 85.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1013

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--------------------
| CALIB             |
| STANDHYD  (1791)  |   Area    (ha)=   2.67
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.00         0.67
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     133.42        40.00
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     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.91
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       5.86 (ii)   23.65 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.19         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.01          0.121 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.42          5.25
     RUNOFF VOLUME    (mm)=      41.00        16.04         34.75
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.38          0.83


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (1792)  |   Area    (ha)=   1.37
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.03         0.34
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      95.57        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32         9.91
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       4.80 (ii)   22.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.22         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.01          0.062 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.42          5.25
     RUNOFF VOLUME    (mm)=      41.00        16.04         34.75
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.38          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0020)  |
|   1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (1791):     2.67   0.121     5.25     34.75
      + ID2= 2 (1792):     1.37   0.062     5.25     34.75
        ================================================
        ID = 3 (0020):     4.04   0.183     5.25     34.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0076)  |
| IN= 2---> OUT= 1  |
| DT=  5.0 min      |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.1580     0.2100
```

0.0480 0.1200 | 0.0000 0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	4.040	0.183	5.25	34.75
OUTFLOW: ID= 1 (0076)	4.040	0.036	6.50	34.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.84
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.0907

CALIB	
STANDHYD (7001)	Area (ha)= 0.61
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.77	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.34
over (min)	5.00	20.00
Storage Coeff. (min)=	3.76 (ii)	19.56 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.06
		TOTALS
PEAK FLOW (cms)=	0.03	0.00 0.031 (iii)
TIME TO PEAK (hrs)=	5.08	5.33 5.25
RUNOFF VOLUME (mm)=	41.00	21.81 39.07
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.52 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7002)	Area (ha)= 0.65
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.58	0.07
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	65.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	13.34
over (min)	5.00	20.00
Storage Coeff. (min)=	3.84 (ii)	19.64 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.06
		TOTALS
PEAK FLOW (cms)=	0.03	0.00 0.033 (iii)
TIME TO PEAK (hrs)=	5.08	5.33 5.25
RUNOFF VOLUME (mm)=	41.00	21.81 39.07
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.52 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7001):	0.61	0.031	5.25	39.07
+ ID2= 2 (7002):	0.65	0.033	5.25	39.07
ID = 3 (0023):	1.26	0.065	5.25	39.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0077)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0023)	1.260	0.065	5.25	39.07
OUTFLOW: ID= 1 (0077)	1.260	0.017	6.25	38.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.96
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0312

CALIB	
STANDHYD (1001)	Area (ha)= 0.08
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.07	0.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	23.09	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.33
over (min)	5.00	20.00
Storage Coeff. (min)=	2.05 (ii)	19.55 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.31	0.06
		TOTALS
PEAK FLOW (cms)=	0.00	0.00 0.004 (iii)
TIME TO PEAK (hrs)=	4.67	5.33 5.25
RUNOFF VOLUME (mm)=	41.00	16.72 37.36
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (1002)	Area (ha)= 0.22
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

IMPERVIOUS PERVIOUS (i)

Surface Area (ha)=	0.20	0.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	38.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.33
over (min)	5.00	25.00
Storage Coeff. (min)=	2.77 (ii)	20.27 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.28	0.05
		TOTALS
PEAK FLOW (cms)=	0.01	0.00 0.011 (iii)
TIME TO PEAK (hrs)=	4.83	5.42 5.25
RUNOFF VOLUME (mm)=	41.00	16.72 38.55
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1001):	0.08	0.004	5.25	37.36
+ ID2= 2 (1002):	0.22	0.011	5.25	38.55
ID = 3 (0007):	0.30	0.015	5.25	38.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0087)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0007)	0.300	0.015	5.25	38.23
OUTFLOW: ID= 1 (0087)	0.300	0.003	6.33	36.14

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.00
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0076

CALIB	
STANDHYD (1003)	Area (ha)= 0.71
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.17	0.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	68.80	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	10.33
over (min)	5.00	25.00
Storage Coeff. (min)=	3.94 (ii)	21.44 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00

Unit Hyd. peak (cms)=	0.24	0.05
		TOTALS
PEAK FLOW (cms)=	0.01	0.01 0.021 (iii)
TIME TO PEAK (hrs)=	5.00	5.42 5.25
RUNOFF VOLUME (mm)=	41.00	16.72 22.53
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.40 0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0098)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0087):	0.30	0.003	6.33	36.14
+ ID2= 2 (1003):	0.71	0.021	5.25	22.53
ID = 3 (0098):	1.01	0.024	5.25	26.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (6032)	Area (ha)= 0.34
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.71
over (min)	5.00	20.00
Storage Coeff. (min)=	3.16 (ii)	19.80 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06
		TOTALS
PEAK FLOW (cms)=	0.02	0.00 0.017 (iii)
TIME TO PEAK (hrs)=	4.92	5.33 5.25
RUNOFF VOLUME (mm)=	41.00	19.01 39.79
TOTAL RAINFALL (mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT =	0.98	0.45 0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (6033)	Area (ha)= 0.49
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.44	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	19.32	11.71	
over (min)	5.00	25.00	
Storage Coeff. (min)=	3.52 (ii)	20.17 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.26	0.05	
			TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.025 (iii)
TIME TO PEAK (hrs)=	5.00	5.33	5.25
RUNOFF VOLUME (mm)=	41.00	19.01	38.79
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.45	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
1 + 2 = 3	ID1= 1 (0032):	0.34	0.017	5.25	38.79
	+ ID2= 2 (6033):	0.49	0.025	5.25	38.79
	ID = 3 (0054):	0.83	0.042	5.25	38.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0071)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.1120	0.0525
		0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0054)	0.830	0.042	5.25	38.79
OUTFLOW: ID= 1 (0071)	0.830	0.008	6.33	38.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.97
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0211

CALIB			
STANDHYD (6031)	Area (ha)=	0.60	
ID= 1 DT= 5.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.27	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	11.71
over (min)	5.00	25.00
Storage Coeff. (min)=	3.75 (ii)	20.39 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.25	0.05
		TOTALS
PEAK FLOW (cms)=	0.01	0.01	0.023 (iii)
TIME TO PEAK (hrs)=	5.00	5.33	5.25
RUNOFF VOLUME (mm)=	41.00	19.01	28.88

TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.45	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0099)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
1 + 2 = 3	ID1= 1 (0071):	0.83	0.008	6.33	38.03
	+ ID2= 2 (6031):	0.60	0.023	5.25	28.88
	ID = 3 (0099):	1.43	0.030	5.25	34.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (2511)	Area (ha)=	1.82	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	110.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.91
over (min)	5.00	25.00
Storage Coeff. (min)=	5.23 (ii)	23.02 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.21	0.05
		TOTALS
PEAK FLOW (cms)=	0.07	0.01	0.082 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	34.75
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.83

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (2512)	Area (ha)=	0.51	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.46	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	58.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.91
over (min)	5.00	25.00
Storage Coeff. (min)=	3.57 (ii)	21.36 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.26	0.05

			TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.026 (iii)
TIME TO PEAK (hrs)=	5.00	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	38.49
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
1 + 2 = 3	ID1= 1 (2511):	1.82	0.082	5.25	34.75
	+ ID2= 2 (2512):	0.51	0.026	5.25	38.49
	ID = 3 (0010):	2.33	0.108	5.25	35.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0072)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.1680	0.1050
		0.0240	0.0600	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0010)	2.330	0.108	5.25	35.57
OUTFLOW: ID= 1 (0072)	2.330	0.021	6.42	35.30

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.87
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.0537

CALIB			
STANDHYD (2513)	Area (ha)=	0.46	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.41	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	55.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.91
over (min)	5.00	25.00
Storage Coeff. (min)=	3.46 (ii)	21.25 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.26	0.05
		TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.023 (iii)
TIME TO PEAK (hrs)=	5.00	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	38.49
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0073)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.1120	0.0525
		0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2513)	0.460	0.023	5.25	38.49
OUTFLOW: ID= 1 (0073)	0.460	0.005	6.33	37.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.02
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0116

CALIB			
STANDHYD (2514)	Area (ha)=	0.44	
ID= 1 DT= 5.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.11	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	54.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	19.32	9.91
over (min)	5.00	25.00
Storage Coeff. (min)=	3.41 (ii)	21.20 (ii)
Unit Hyd. Tpeak (min)=	5.00	25.00
Unit Hyd. peak (cms)=	0.26	0.05
		TOTALS
PEAK FLOW (cms)=	0.01	0.01	0.013 (iii)
TIME TO PEAK (hrs)=	4.92	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	16.04	22.00
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.38	0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0100)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
1 + 2 = 3	ID1= 1 (0072):	2.33	0.021	6.42	35.30
	+ ID2= 2 (0073):	0.46	0.005	6.33	37.12
	ID = 3 (0100):	2.79	0.026	6.42	35.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0100)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1					

	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0100):	2.79	0.026	6.42	35.60
+ ID2= 2 (2514):	0.44	0.013	5.25	22.00
ID = 1 (0100):	3.23	0.035	5.25	33.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (2482) | Area (ha)= 1.24
ID= 1 DT= 5.0 min | Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.74	0.50
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	90.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.22
over (min)		5.00	25.00
Storage Coeff. (min)=		4.66 (ii)	21.59 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.22	0.05

		TOTALS
PEAK FLOW	(cms)=	0.04 0.01 0.052 (iii)
TIME TO PEAK	(hrs)=	5.25 5.42 5.25
RUNOFF VOLUME	(mm)=	41.00 18.20 31.87
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.43 0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0074)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0840	0.0525
0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2482)	1.240	0.052	5.25	31.87
OUTFLOW: ID= 1 (0074)	1.240	0.010	6.75	31.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.56
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0253

CALIB
STANDHYD (2481) | Area (ha)= 0.49
ID= 1 DT= 5.0 min | Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.18	0.31
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	57.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	11.22
over (min)		5.00	25.00

Storage Coeff. (min)=	3.52 (ii)	20.45 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.26	0.05	

		TOTALS
PEAK FLOW	(cms)=	0.01 0.01 0.017 (iii)
TIME TO PEAK	(hrs)=	4.92 5.33 5.25
RUNOFF VOLUME	(mm)=	41.00 18.20 26.38
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.43 0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0101)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0074):	1.24	0.010	6.75	31.36
+ ID2= 2 (2481):	0.49	0.017	5.25	26.38
ID = 3 (0101):	1.73	0.025	5.25	29.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (1231) | Area (ha)= 1.34
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.00	0.34
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	94.52	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.69
over (min)		5.00	25.00
Storage Coeff. (min)=		4.77 (ii)	22.03 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.22	0.05

		TOTALS
PEAK FLOW	(cms)=	0.05 0.01 0.061 (iii)
TIME TO PEAK	(hrs)=	5.25 5.42 5.25
RUNOFF VOLUME	(mm)=	41.00 16.76 34.93
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.40 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1232) | Area (ha)= 1.44
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.08	0.36
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00

Length	(m)=	97.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.69
over (min)		5.00	25.00
Storage Coeff. (min)=		4.87 (ii)	22.13 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.22	0.05

		TOTALS
PEAK FLOW	(cms)=	0.06 0.01 0.066 (iii)
TIME TO PEAK	(hrs)=	5.25 5.42 5.25
RUNOFF VOLUME	(mm)=	41.00 16.76 34.93
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.40 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0026)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1231):	1.34	0.061	5.25	34.93
+ ID2= 2 (1232):	1.44	0.066	5.25	34.93
ID = 3 (0026):	2.78	0.127	5.25	34.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0078)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2240	0.1050
0.0240	0.0600	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0026)	2.780	0.127	5.25	34.93
OUTFLOW: ID= 1 (0078)	2.780	0.032	6.33	34.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 25.29
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0619

CALIB
STANDHYD (1233) | Area (ha)= 0.66
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	0.17
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	66.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.69
over (min)		5.00	25.00
Storage Coeff. (min)=		3.85 (ii)	21.12 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.25	0.05

		TOTALS
PEAK FLOW	(cms)=	0.03 0.00 0.030 (iii)

TIME TO PEAK	(hrs)=	5.08	5.42 5.25
RUNOFF VOLUME	(mm)=	41.00	16.76 34.92
TOTAL RAINFALL	(mm)=	42.00	42.00 42.00
RUNOFF COEFFICIENT	=	0.98	0.40 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1234) | Area (ha)= 1.47
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.10	0.37
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.69
over (min)		5.00	25.00
Storage Coeff. (min)=		4.90 (ii)	22.16 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.22	0.05

		TOTALS
PEAK FLOW	(cms)=	0.06 0.01 0.067 (iii)
TIME TO PEAK	(hrs)=	5.25 5.42 5.25
RUNOFF VOLUME	(mm)=	41.00 16.76 34.93
TOTAL RAINFALL	(mm)=	42.00 42.00 42.00
RUNOFF COEFFICIENT	=	0.98 0.40 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0027)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1233):	0.66	0.030	5.25	34.92
+ ID2= 2 (1234):	1.47	0.067	5.25	34.93
ID = 3 (0027):	2.13	0.097	5.25	34.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0079)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2240	0.1050
0.0240	0.0600	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0027)	2.130	0.097	5.25	34.93
OUTFLOW: ID= 1 (0079)	2.130	0.019	6.50	34.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.75

TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.0480

ADD HYD (0102)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0078):	2.78	0.032	6.33	34.70
	+ ID2= 2 (0079):	2.13	0.019	6.50	34.63
	ID = 3 (0102):	4.91	0.051	6.33	34.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (1224)	Area (ha)=	1.20	Curve Number (CN)=	86.0	
ID= 1 DT= 5.0 min	Ia (mm)=	6.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.20			

Unit Hyd Qpeak (cms)= 0.229

PEAK FLOW (cms)= 0.034 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 16.723
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.398

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1221)	Area (ha)=	2.55			
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)=	75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.91	0.64
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	130.38	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.69
over (min)		5.00	25.00
Storage Coeff. (min)=		5.78 (ii)	23.04 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.20	0.05
			TOTALS
PEAK FLOW	(cms)=	0.10	0.01	0.116 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	41.00	16.76	34.93
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.83

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1222)	Area (ha)=	0.34			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.03
Dep. Storage	(mm)=	1.00	6.00

Average Slope	(%)=	1.00	2.00
Length	(m)=	47.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.69
over (min)		5.00	25.00
Storage Coeff. (min)=		3.16 (ii)	20.42 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.27	0.05
			TOTALS
PEAK FLOW	(cms)=	0.02	0.00	0.017 (iii)
TIME TO PEAK	(hrs)=	4.92	5.42	5.25
RUNOFF VOLUME	(mm)=	41.00	16.76	38.56
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1221):	2.55	0.116	5.25	34.93
	+ ID2= 2 (1222):	0.34	0.017	5.25	38.56
	ID = 3 (0030):	2.89	0.133	5.25	35.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0080)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2530	0.1575
	0.0360	0.0900	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0030)		2.890	0.133	5.25	35.36
OUTFLOW: ID= 1 (0080)		2.890	0.026	6.50	35.14

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.80
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.0660

CALIB					
STANDHYD (1223)	Area (ha)=	0.37			
ID= 1 DT= 5.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)=	60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.15
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.69
over (min)		5.00	25.00
Storage Coeff. (min)=		3.24 (ii)	20.50 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.27	0.05
			TOTALS

PEAK FLOW	(cms)=	0.01	0.00	0.015 (iii)
TIME TO PEAK	(hrs)=	4.92	5.42	5.25
RUNOFF VOLUME	(mm)=	41.00	16.76	31.27
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0088)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0150	0.0525

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1223)		0.370	0.015	5.25	31.27
OUTFLOW: ID= 1 (0088)		0.370	0.002	7.33	28.88

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.14
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.0081

ADD HYD (0103)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0080):	2.89	0.026	6.50	35.14
	+ ID2= 2 (0088):	0.37	0.002	7.33	28.88
	ID = 3 (0103):	3.26	0.029	6.50	34.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0103)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0103):	3.26	0.029	6.50	34.43
	+ ID2= 2 (1224):	1.20	0.034	5.25	16.72
	ID = 1 (0103):	4.46	0.057	5.25	29.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (1201)	Area (ha)=	0.80			
ID= 1 DT= 5.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)=	60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.69
over (min)		5.00	25.00
Storage Coeff. (min)=		4.08 (ii)	21.35 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00

Unit Hyd. peak (cms)=		0.24	0.05
			TOTALS
PEAK FLOW	(cms)=	0.03	0.01	0.033 (iii)
TIME TO PEAK	(hrs)=	5.08	5.42	5.25
RUNOFF VOLUME	(mm)=	41.00	16.76	31.29
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0089)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1201)		0.800	0.033	5.25	31.29
OUTFLOW: ID= 1 (0089)		0.800	0.006	6.75	30.50

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.51
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0160

CALIB					
STANDHYD (1202)	Area (ha)=	2.01			
ID= 1 DT= 5.0 min	Total Imp(%)=	60.00	Dir. Conn.(%)=	60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.21	0.80
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	115.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		19.32	10.69
over (min)		5.00	25.00
Storage Coeff. (min)=		5.38 (ii)	22.65 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.21	0.05
			TOTALS
PEAK FLOW	(cms)=	0.06	0.02	0.082 (iii)
TIME TO PEAK	(hrs)=	5.25	5.42	5.25
RUNOFF VOLUME	(mm)=	41.00	16.76	31.30
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.75

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1203)	Area (ha)=	0.78			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	0.08

```
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.69
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      4.05 (ii)   21.31 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.24         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.04         0.00        0.039 (iii)
     TIME TO PEAK    (hrs)=      5.17         5.42        5.25
     RUNOFF VOLUME    (mm)=     41.00        16.76       38.56
     TOTAL RAINFALL   (mm)=     42.00        42.00       42.00
     RUNOFF COEFFICIENT   =      0.98         0.40        0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| ADD HYD   (0038) |
|   1 +  2 =   3   |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1202):     2.01   0.082     5.25    31.30
       + ID2= 2 (1203):     0.78   0.039     5.25    38.56
         ================================================
         ID = 3 (0038):     2.79   0.121     5.25    33.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (0081) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.2240      0.1050
                          0.0240     0.0600   |  0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0038)     2.790     0.121      5.25       33.33
     OUTFLOW: ID= 1 (0081)     2.790     0.024      6.58       33.10

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.67
                    TIME SHIFT OF PEAK FLOW       (min)= 80.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0597
```

```
| ADD HYD   (0104) |
|   1 +  2 =   3   |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0081):     2.79   0.024     6.58    33.10
       + ID2= 2 (0089):     0.80   0.006     6.75    30.50
         ================================================
         ID = 3 (0104):     3.59   0.030     6.67    32.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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  ****************************
  ** SIMULATION NUMBER:   2 **
  ****************************
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-------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              41172be6-0c07-4dd1-9e1f-2d9947dd6300\62e1fa1e
| Ptotal= 54.38 mm |    Comments: 5yr/12hr
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

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-------------------
| CALIB            |
| STANDHYD  (2271) |   Area    (ha)=   3.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.88         1.26
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     144.68        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54

2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

```
     Max.Eff.Inten.(mm/hr)=      25.02        15.82
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      5.55 (ii)   20.30 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.20         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.13         0.04        0.174 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.33        5.25
     RUNOFF VOLUME    (mm)=     53.38        25.70       42.30
     TOTAL RAINFALL   (mm)=     54.38        54.38       54.38
     RUNOFF COEFFICIENT   =      0.98         0.47        0.78

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| STANDHYD  (2272) |   Area    (ha)=   1.71
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.28         0.43
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     106.77        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.82
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.62 (ii)   19.38 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.22         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.09         0.02        0.105 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.33        5.25
     RUNOFF VOLUME    (mm)=     53.38        25.70       46.45
     TOTAL RAINFALL   (mm)=     54.38        54.38       54.38
     RUNOFF COEFFICIENT   =      0.98         0.47        0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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-------------------
| ADD HYD   (0016) |
|   1 +  2 =   3   |        AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2271):     3.14   0.174     5.25    42.30
       + ID2= 2 (2272):     1.71   0.105     5.25    46.45
         ================================================
         ID = 3 (0016):     4.85   0.279     5.25    43.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| RESERVOIR (0075) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.4480      0.2100
                          0.0480     0.1200   |  0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0016)     4.850     0.279      5.25       43.77
     OUTFLOW: ID= 1 (0075)     4.850     0.085      6.25       43.64

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.54
                    TIME SHIFT OF PEAK FLOW       (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1284
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-------------------
| CALIB            |
| STANDHYD  (1791) |   Area    (ha)=   2.67
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.00         0.67
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     133.42        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.30
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      5.29 (ii)   20.24 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.21         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.14         0.02        0.161 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.33        5.25
     RUNOFF VOLUME    (mm)=     53.38        24.79       46.23
     TOTAL RAINFALL   (mm)=     54.38        54.38       54.38
     RUNOFF COEFFICIENT   =      0.98         0.46        0.85

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CALIB            |
| STANDHYD  (1792) |   Area    (ha)=   1.37
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.03         0.34
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      95.57        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        15.30
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.33 (ii)   19.28 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.23         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.07         0.01        0.083 (iii)
     TIME TO PEAK    (hrs)=      5.17         5.33        5.25
     RUNOFF VOLUME    (mm)=     53.38        24.79       46.22
     TOTAL RAINFALL   (mm)=     54.38        54.38       54.38
     RUNOFF COEFFICIENT   =      0.98         0.46        0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1791):	2.67	0.161	5.25	46.23
	+ ID2= 2 (1792):	1.37	0.083	5.25	46.22
	ID = 3 (0020):	4.04	0.244	5.25	46.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0076)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1		0.0000	0.0000	0.1580	0.2100
DT= 5.0 min		0.0480	0.1200	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	4.040	0.244	5.25	46.23
OUTFLOW: ID= 1 (0076)	4.040	0.049	6.42	46.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.06
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.1209

CALIB				
STANDHYD (7001)	Area (ha)= 0.61			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.77	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	5.00	20.00
Storage Coeff. (min)=	3.39 (ii)	16.99 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06

		TOTALS
PEAK FLOW (cms)=	0.04	0.041 (iii)
TIME TO PEAK (hrs)=	5.00	5.25
RUNOFF VOLUME (mm)=	53.38	32.29	51.26
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.59	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

STANDHYD (7002)	Area (ha)= 0.65			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.58	0.07
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	65.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	19.41
over (min)	5.00	20.00
Storage Coeff. (min)=	3.46 (ii)	17.06 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06

		TOTALS
PEAK FLOW (cms)=	0.04	0.044 (iii)
TIME TO PEAK (hrs)=	5.00	5.25
RUNOFF VOLUME (mm)=	53.38	32.29	51.26
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.59	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7001):	0.61	0.041	5.25	51.26
	+ ID2= 2 (7002):	0.65	0.044	5.25	51.26
	ID = 3 (0023):	1.26	0.085	5.25	51.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0077)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1		0.0000	0.0000	0.1120	0.0525
DT= 5.0 min		0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0023)	1.260	0.085	5.25	51.26
OUTFLOW: ID= 1 (0077)	1.260	0.042	5.33	50.76

PEAK FLOW REDUCTION [Qout/Qin](%)= 49.12
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0367

CALIB				
STANDHYD (1001)	Area (ha)= 0.08			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.07	0.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	23.09	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	25.02	15.82
over (min)	5.00	20.00
Storage Coeff. (min)=	1.85 (ii)	16.60 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.32	0.06

		TOTALS
PEAK FLOW (cms)=	0.01	0.00	0.005 (iii)
TIME TO PEAK (hrs)=	4.67	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	25.70	50.59
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.47	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (1002)	Area (ha)= 0.22			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.20	0.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	38.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.82
over (min)	5.00	20.00
Storage Coeff. (min)=	2.50 (ii)	17.26 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.29	0.06

		TOTALS
PEAK FLOW (cms)=	0.01	0.00	0.015 (iii)
TIME TO PEAK (hrs)=	4.83	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	25.70	50.59
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.47	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1001):	0.08	0.005	5.25	50.59
	+ ID2= 2 (1002):	0.22	0.015	5.25	50.59
	ID = 3 (0007):	0.30	0.020	5.25	50.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0087)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1		0.0000	0.0000	0.1120	0.0525
DT= 5.0 min		0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0007)	0.300	0.020	5.25	50.59
OUTFLOW: ID= 1 (0087)	0.300	0.004	6.33	48.50

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.02
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0100

CALIB				
STANDHYD (1003)	Area (ha)= 0.71			
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.17	0.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	68.80	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.82
over (min)	5.00	20.00
Storage Coeff. (min)=	3.55 (ii)	18.31 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06

		TOTALS
PEAK FLOW (cms)=	0.01	0.02	0.032 (iii)
TIME TO PEAK (hrs)=	5.00	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	25.70	32.33
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.47	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0098)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0087):	0.30	0.004	6.33	48.50
	+ ID2= 2 (1003):	0.71	0.032	5.25	32.33
	ID = 3 (0098):	1.01	0.035	5.25	37.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (6032)	Area (ha)= 0.34			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.53
over (min)	5.00	20.00
Storage Coeff. (min)=	2.85 (ii)	17.01 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.28	0.06

				TOTALS
PEAK FLOW	(cms)=	0.02	0.00	0.023 (iii)
TIME TO PEAK	(hrs)=	4.92	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	28.73	50.90
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.53	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (6033)	Area	(ha)=	0.49
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.44	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.53
over (min)	5.00	20.00
Storage Coeff. (min)=	3.18 (ii)	17.34 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

		TOTALS
PEAK FLOW	(cms)=	0.033 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	50.90
TOTAL RAINFALL	(mm)=	54.38
RUNOFF COEFFICIENT	=	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (6032):		0.34	0.023	5.25	50.90
+ ID2= 2 (6033):		0.49	0.033	5.25	50.90
ID = 3 (0054):		0.83	0.055	5.25	50.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0071)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0054)	0.830	0.055	5.25	50.90
OUTFLOW: ID= 1 (0071)	0.830	0.011	6.33	50.14

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.00
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0277

CALIB			
STANDHYD (6031)	Area	(ha)=	0.60
ID= 1 DT= 5.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.27	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	17.53
over (min)	5.00	20.00
Storage Coeff. (min)=	3.38 (ii)	17.54 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06

		TOTALS
PEAK FLOW	(cms)=	0.032 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	39.81
TOTAL RAINFALL	(mm)=	54.38
RUNOFF COEFFICIENT	=	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0099)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0071):	0.83	0.011	6.33	50.14
+ ID2= 2 (6031):	0.60	0.032	5.25	39.81
ID = 3 (0099):	1.43	0.042	5.25	45.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (2511)	Area	(ha)=	1.82
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	110.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	20.00
Storage Coeff. (min)=	4.71 (ii)	19.67 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.22	0.06

		TOTALS
PEAK FLOW	(cms)=	0.111 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	46.23
TOTAL RAINFALL	(mm)=	54.38

				TOTALS
RUNOFF COEFFICIENT	=	0.98	0.46	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (2512)	Area	(ha)=	0.51
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.46	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	58.31	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	20.00
Storage Coeff. (min)=	3.22 (ii)	18.17 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

		TOTALS
PEAK FLOW	(cms)=	0.034 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	50.51
TOTAL RAINFALL	(mm)=	54.38
RUNOFF COEFFICIENT	=	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2511):		1.82	0.111	5.25	46.23
+ ID2= 2 (2512):		0.51	0.034	5.25	50.51
ID = 3 (0010):		2.33	0.144	5.25	47.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0072)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.1680	0.1050
	0.0240	0.0600	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0010)	2.330	0.144	5.25	47.16
OUTFLOW: ID= 1 (0072)	2.330	0.043	6.25	46.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.07
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0661

CALIB			
STANDHYD (2513)	Area	(ha)=	0.46
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.41	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	55.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	20.00
Storage Coeff. (min)=	3.12 (ii)	18.08 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

		TOTALS
PEAK FLOW	(cms)=	0.030 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	50.51
TOTAL RAINFALL	(mm)=	54.38
RUNOFF COEFFICIENT	=	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0073)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (2513)	0.460	0.030	5.25	50.51
OUTFLOW: ID= 1 (0073)	0.460	0.006	6.33	49.13

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.03
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0152

CALIB			
STANDHYD (2514)	Area	(ha)=	0.44
ID= 1 DT= 5.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)= 24.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.11	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	54.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	25.02	15.30
over (min)	5.00	20.00
Storage Coeff. (min)=	3.08 (ii)	18.03 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.06

		TOTALS
PEAK FLOW	(cms)=	0.019 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	31.62
TOTAL RAINFALL	(mm)=	54.38

RUNOFF COEFFICIENT = 0.98 0.46 0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0100)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0072):	2.33	0.043	6.25	46.89
	+ ID2= 2 (0073):	0.46	0.006	6.33	49.13
	ID = 3 (0100):	2.79	0.049	6.25	47.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0100)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0100):	2.79	0.049	6.25	47.26
	+ ID2= 2 (2514):	0.44	0.019	5.25	31.62
	ID = 1 (0100):	3.23	0.058	5.50	45.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (2482)	ID= 1 DT= 5.0 min

Area (ha)= 1.24
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.74	0.50
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	90.92	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.94
over (min)		5.00	20.00
Storage Coeff. (min)=		4.20 (ii)	18.56 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.24	0.06
			TOTALS
PEAK FLOW	(cms)=	0.05	0.02 0.071 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33 5.25
RUNOFF VOLUME	(mm)=	53.38	27.67 43.09
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.51 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0074)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE

	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.0840	0.0525
	0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2482)	1.240	0.071	5.25	43.09
OUTFLOW: ID= 1 (0074)	1.240	0.020	6.25	42.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.51
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0326

CALIB	STANDHYD (2481)	ID= 1 DT= 5.0 min

Area (ha)= 0.49
Total Imp(%)= 36.00 Dir. Conn.(%)= 36.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.18	0.31
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	57.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.94
over (min)		5.00	20.00
Storage Coeff. (min)=		3.18 (ii)	17.54 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.27	0.06
			TOTALS
PEAK FLOW	(cms)=	0.01	0.01 0.025 (iii)
TIME TO PEAK	(hrs)=	4.92	5.33 5.25
RUNOFF VOLUME	(mm)=	53.38	27.67 36.90
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.51 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0101)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0074):	1.24	0.020	6.25	42.58
	+ ID2= 2 (2481):	0.49	0.025	5.25	36.90
	ID = 3 (0101):	1.73	0.036	5.25	40.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	STANDHYD (1231)	ID= 1 DT= 5.0 min

Area (ha)= 1.34
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.00	0.34
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	94.52	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00

		IMPERVIOUS	PERVIOUS (i)
Storage Coeff. (min)=		4.30 (ii)	18.82 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.06
			TOTALS
PEAK FLOW	(cms)=	0.07	0.01 0.082 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33 5.25
RUNOFF VOLUME	(mm)=	53.38	26.09 46.55
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.48 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (1232)	ID= 1 DT= 5.0 min

Area (ha)= 1.44
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.08	0.36
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	97.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		4.39 (ii)	18.91 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.06
			TOTALS
PEAK FLOW	(cms)=	0.08	0.01 0.089 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33 5.25
RUNOFF VOLUME	(mm)=	53.38	26.09 46.55
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.48 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0026)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1231):	1.34	0.082	5.25	46.55
	+ ID2= 2 (1232):	1.44	0.089	5.25	46.55
	ID = 3 (0026):	2.78	0.171	5.25	46.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0078)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.2240	0.1050
			0.0240	0.0600	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0026)	2.780	0.171	5.25	46.55
OUTFLOW: ID= 1 (0078)	2.780	0.075	5.42	46.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.17
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0716

CALIB	STANDHYD (1233)	ID= 1 DT= 5.0 min

Area (ha)= 0.66
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	0.17
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	66.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		3.48 (ii)	17.99 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.26	0.06
			TOTALS
PEAK FLOW	(cms)=	0.03	0.01 0.041 (iii)
TIME TO PEAK	(hrs)=	5.00	5.33 5.25
RUNOFF VOLUME	(mm)=	53.38	26.09 46.54
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.48 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (1234)	ID= 1 DT= 5.0 min

Area (ha)= 1.47
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.10	0.37
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		25.02	16.48
over (min)		5.00	20.00
Storage Coeff. (min)=		4.42 (ii)	18.94 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.06
			TOTALS
PEAK FLOW	(cms)=	0.08	0.01 0.090 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33 5.25
RUNOFF VOLUME	(mm)=	53.38	26.09 46.55
TOTAL RAINFALL	(mm)=	54.38	54.38 54.38
RUNOFF COEFFICIENT	=	0.98	0.48 0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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---------------------
| ADD HYD   (0027) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)     (cms)    (hrs)     (mm)
        ID1= 1 (1233):     0.66   0.041     5.25    46.54
      + ID2= 2 (1234):     1.47   0.090     5.25    46.55
        ================================================
        ID = 3 (0027):     2.13   0.131     5.25    46.55

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------
| RESERVOIR (0079) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2240     0.1050
                         0.0240     0.0600    |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (0027)     2.130     0.131      5.25      46.55
    OUTFLOW: ID= 1 (0079)     2.130     0.035      6.25      46.25

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.81
                   TIME SHIFT OF PEAK FLOW        (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0626

---------------------
| ADD HYD   (0102) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)     (cms)    (hrs)     (mm)
        ID1= 1 (0078):     2.78   0.075     5.42    46.32
      + ID2= 2 (0079):     2.13   0.035     6.25    46.25
        ================================================
        ID = 3 (0102):     4.91   0.099     5.42    46.29

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------
| CALIB             |
| NASHYD    (1224)  |   Area     (ha)=   1.20   Curve Number   (CN)= 86.0
|ID= 1 DT= 5.0 min  |   Ia       (mm)=   6.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.20

    Unit Hyd Qpeak  (cms)=   0.229

    PEAK FLOW       (cms)=   0.052 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  26.036
    TOTAL RAINFALL   (mm)=  54.380
    RUNOFF COEFFICIENT   =   0.479

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------
| CALIB             |
| STANDHYD  (1221)  |   Area     (ha)=   2.55
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       1.91         0.64
    Dep. Storage     (mm)=       1.00         6.00
    Average Slope     (%)=       1.00         2.00
    Length            (m)=     130.38        40.00
    Mannings n           =      0.013        0.250
```



```
    Max.Eff.Inten.(mm/hr)=      25.02         16.48
              over (min)        5.00         20.00
    Storage Coeff.  (min)=      5.21 (ii)    19.73 (ii)
    Unit Hyd. Tpeak (min)=      5.00         20.00
    Unit Hyd. peak  (cms)=      0.21          0.06
                                                      *TOTALS*
    PEAK FLOW       (cms)=      0.13          0.02      0.156 (iii)
    TIME TO PEAK    (hrs)=      5.25          5.33       5.25
    RUNOFF VOLUME    (mm)=     53.38         26.09      46.55
    TOTAL RAINFALL   (mm)=     54.38         54.38      54.38
    RUNOFF COEFFICIENT   =      0.98          0.48       0.86

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  86.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------
| CALIB             |
| STANDHYD  (1222)  |   Area     (ha)=   0.34
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.31         0.03
    Dep. Storage     (mm)=       1.00         6.00
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      47.61        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      25.02         16.48
              over (min)        5.00         20.00
    Storage Coeff.  (min)=      2.85 (ii)    17.37 (ii)
    Unit Hyd. Tpeak (min)=      5.00         20.00
    Unit Hyd. peak  (cms)=      0.28          0.06
                                                      *TOTALS*
    PEAK FLOW       (cms)=      0.02          0.00       0.023 (iii)
    TIME TO PEAK    (hrs)=      4.92          5.33       5.25
    RUNOFF VOLUME    (mm)=     53.38         26.09      50.64
    TOTAL RAINFALL   (mm)=     54.38         54.38      54.38
    RUNOFF COEFFICIENT   =      0.98          0.48       0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  86.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------
| ADD HYD   (0030) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)     (cms)    (hrs)     (mm)
        ID1= 1 (1221):     2.55   0.156     5.25    46.55
      + ID2= 2 (1222):     0.34   0.023     5.25    50.64
        ================================================
        ID = 3 (0030):     2.89   0.179     5.25    47.03

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------
| RESERVOIR (0080) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2530     0.1575
                         0.0360     0.0900    |   0.0000     0.0000
```



```
                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (0030)     2.890     0.179      5.25      47.03
    OUTFLOW: ID= 1 (0080)     2.890     0.035      6.42      46.81

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.68
                   TIME SHIFT OF PEAK FLOW        (min)= 70.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0881

---------------------
| CALIB             |
| STANDHYD  (1223)  |   Area     (ha)=   0.37
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.22         0.15
    Dep. Storage     (mm)=       1.00         6.00
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      49.67        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      25.02         16.48
              over (min)        5.00         20.00
    Storage Coeff.  (min)=      2.92 (ii)    17.44 (ii)
    Unit Hyd. Tpeak (min)=      5.00         20.00
    Unit Hyd. peak  (cms)=      0.28          0.06
                                                      *TOTALS*
    PEAK FLOW       (cms)=      0.02          0.01       0.021 (iii)
    TIME TO PEAK    (hrs)=      4.92          5.33       5.25
    RUNOFF VOLUME    (mm)=     53.38         26.09      42.43
    TOTAL RAINFALL   (mm)=     54.38         54.38      54.38
    RUNOFF COEFFICIENT   =      0.98          0.48       0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  86.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------
| RESERVOIR (0088) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0150     0.0525

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1223)     0.370     0.021      5.25      42.43
    OUTFLOW: ID= 1 (0088)     0.370     0.003      7.33      40.04

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.87
                   TIME SHIFT OF PEAK FLOW        (min)=125.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0110

---------------------
| ADD HYD   (0103) |
|   1 +  2 =   3   |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)     (cms)    (hrs)     (mm)
        ID1= 1 (0080):     2.89   0.035     6.42    46.81
      + ID2= 2 (0088):     0.37   0.003     7.33    40.04
        ================================================
        ID = 3 (0103):     3.26   0.038     6.50    46.04

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```



```
---------------------
| ADD HYD   (0103) |
|   3 +  2 =   1   |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)     (cms)    (hrs)     (mm)
        ID1= 3 (0103):     3.26   0.038     6.50    46.04
      + ID2= 2 (1224):     1.20   0.052     5.25    26.04
        ================================================
        ID = 1 (0103):     4.46   0.084     5.25    40.66

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------
| CALIB             |
| STANDHYD  (1201)  |   Area     (ha)=   0.80
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.48         0.32
    Dep. Storage     (mm)=       1.00         6.00
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      73.03        40.00
    Mannings n           =      0.013        0.250

    Max.Eff.Inten.(mm/hr)=      25.02         16.48
              over (min)        5.00         20.00
    Storage Coeff.  (min)=      3.68 (ii)    18.20 (ii)
    Unit Hyd. Tpeak (min)=      5.00         20.00
    Unit Hyd. peak  (cms)=      0.25          0.06
                                                      *TOTALS*
    PEAK FLOW       (cms)=      0.03          0.01       0.045 (iii)
    TIME TO PEAK    (hrs)=      5.08          5.33       5.25
    RUNOFF VOLUME    (mm)=     53.38         26.09      42.45
    TOTAL RAINFALL   (mm)=     54.38         54.38      54.38
    RUNOFF COEFFICIENT   =      0.98          0.48       0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  86.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------
| RESERVOIR (0089) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.1120     0.0525
                         0.0120     0.0300    |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (1201)     0.800     0.045      5.25      42.45
    OUTFLOW: ID= 1 (0089)     0.800     0.009      6.67      41.66

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.19
                   TIME SHIFT OF PEAK FLOW        (min)= 85.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0218

---------------------
| CALIB             |
| STANDHYD  (1202)  |   Area     (ha)=   2.01
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       1.21         0.80
    Dep. Storage     (mm)=       1.00         6.00
    Average Slope     (%)=       1.00         2.00
    Length            (m)=     115.76        40.00
    Mannings n           =      0.013        0.250
```

```
     Max.Eff.Inten.(mm/hr)=      25.02        16.48
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.85 (ii)   19.37 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.22         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.08         0.03      0.114 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.33       5.25
     RUNOFF VOLUME    (mm)=     53.38        26.09      42.46
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.48       0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB
| STANDHYD  (1203) |   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.70         0.08
     Dep. Storage     (mm)=      1.00         6.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     72.11        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        16.48
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.65 (ii)   18.17 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.25         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.05         0.00      0.052 (iii)
     TIME TO PEAK    (hrs)=      5.08         5.33       5.25
     RUNOFF VOLUME    (mm)=     53.38        26.09      50.64
     TOTAL RAINFALL   (mm)=     54.38        54.38      54.38
     RUNOFF COEFFICIENT   =      0.98         0.48       0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0038) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1202):     2.01   0.114     5.25    42.46
        + ID2= 2 (1203):     0.78   0.052     5.25    50.64
          ================================================
          ID = 3 (0038):     2.79   0.165     5.25    44.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| RESERVOIR (0081) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2240     0.1050
```



```
                        0.0240     0.0600    |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0038)     2.790     0.165      5.25      44.74
     OUTFLOW: ID= 1 (0081)     2.790     0.066      5.58      44.52

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.63
               TIME SHIFT OF PEAK FLOW         (min)= 20.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.0694

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-------------------
| ADD HYD   (0104) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0081):     2.79   0.066     5.58    44.52
        + ID2= 2 (0089):     0.80   0.009     6.67    41.66
          ================================================
          ID = 3 (0104):     3.59   0.073     5.58    43.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   3 **
  ***************************


-------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              41172be6-0c07-4dd1-9e1f-2d9947dd6300\64ef8a97
| Ptotal= 62.71 mm |    Comments: 10yr/12hr
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50   10.66 |'  6.75    4.39 | 10.00    0.63
                0.50    0.63 |  3.75   10.66 |'  7.00    4.39 | 10.25    0.63
                0.75    0.63 |  4.00   10.66 |'  7.25    4.39 | 10.50    0.63
                1.00    0.63 |  4.25   10.66 |'  7.50    2.51 | 10.75    0.63
                1.25    0.63 |  4.50   28.84 |'  7.75    2.51 | 11.00    0.63
                1.50    0.63 |  4.75   28.84 |'  8.00    2.51 | 11.25    0.63
                1.75    0.63 |  5.00   28.84 |'  8.25    2.51 | 11.50    0.63
                2.00    0.63 |  5.25   28.84 |'  8.50    1.25 | 11.75    0.63
                2.25    0.63 |  5.50    8.15 |'  8.75    1.25 | 12.00    0.63
                2.50    3.76 |  5.75    8.15 |'  9.00    1.25 | 12.25    0.63
                2.75    3.76 |  6.00    8.15 |'  9.25    1.25 |
                3.00    3.76 |  6.25    8.15 |'  9.50    0.63 |
                3.25    3.76 |  6.50    4.39 |'  9.75    0.63 |

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-------------------
| CALIB
| STANDHYD  (2271) |   Area    (ha)=   3.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.88         1.26
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    144.68        40.00
     Mannings n            =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    3.76 |  6.250    8.15 |  9.33    0.63
               0.167    0.00 | 3.250    3.76 |  6.333    4.39 |  9.42    0.63
```



```
               0.250    0.00 | 3.333   10.66 |  6.417    4.39 |  9.50    0.63
               0.333    0.63 | 3.417   10.66 |  6.500    4.39 |  9.58    0.63
               0.417    0.63 | 3.500   10.66 |  6.583    4.39 |  9.67    0.63
               0.500    0.63 | 3.583   10.66 |  6.667    4.39 |  9.75    0.63
               0.583    0.63 | 3.667   10.66 |  6.750    4.39 |  9.83    0.63
               0.667    0.63 | 3.750   10.66 |  6.833    4.39 |  9.92    0.63
               0.750    0.63 | 3.833   10.66 |  6.917    4.39 | 10.00    0.63
               0.833    0.63 | 3.917   10.66 |  7.000    4.39 | 10.08    0.63
               0.917    0.63 | 4.000   10.66 |  7.083    4.39 | 10.17    0.63
               1.000    0.63 | 4.083   10.66 |  7.167    4.39 | 10.25    0.63
               1.083    0.63 | 4.167   10.66 |  7.250    4.39 | 10.33    0.63
               1.167    0.63 | 4.250   10.66 |  7.333    2.51 | 10.42    0.63
               1.250    0.63 | 4.333   28.84 |  7.417    2.51 | 10.50    0.63
               1.333    0.63 | 4.417   28.84 |  7.500    2.51 | 10.58    0.63
               1.417    0.63 | 4.500   28.84 |  7.583    2.51 | 10.67    0.63
               1.500    0.63 | 4.583   28.84 |  7.667    2.51 | 10.75    0.63
               1.583    0.63 | 4.667   28.84 |  7.750    2.51 | 10.83    0.63
               1.667    0.63 | 4.750   28.84 |  7.833    2.51 | 10.92    0.63
               1.750    0.63 | 4.833   28.84 |  7.917    2.51 | 11.00    0.63
               1.833    0.63 | 4.917   28.84 |  8.000    2.51 | 11.08    0.63
               1.917    0.63 | 5.000   28.84 |  8.083    2.51 | 11.17    0.63
               2.000    0.63 | 5.083   28.84 |  8.167    2.51 | 11.25    0.63
               2.083    0.63 | 5.167   28.84 |  8.250    2.51 | 11.33    0.63
               2.167    0.63 | 5.250   28.84 |  8.333    1.25 | 11.42    0.63
               2.250    0.63 | 5.333    8.15 |  8.417    1.25 | 11.50    0.63
               2.333    3.76 | 5.417    8.15 |  8.500    1.25 | 11.58    0.63
               2.417    3.76 | 5.500    8.15 |  8.583    1.25 | 11.67    0.63
               2.500    3.76 | 5.583    8.15 |  8.667    1.25 | 11.75    0.63
               2.583    3.76 | 5.667    8.15 |  8.750    1.25 | 11.83    0.63
               2.667    3.76 | 5.750    8.15 |  8.833    1.25 | 11.92    0.63
               2.750    3.76 | 5.833    8.15 |  8.917    1.25 | 12.00    0.63
               2.833    3.76 | 5.917    8.15 |  9.000    1.25 | 12.08    0.63
               2.917    3.76 | 6.000    8.15 |  9.083    1.25 | 12.17    0.63
               3.000    3.76 | 6.083    8.15 |  9.167    1.25 | 12.25    0.63
               3.083    3.76 | 6.167    8.15 |  9.250    1.25 |

     Max.Eff.Inten.(mm/hr)=      28.84        19.54
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      5.24 (ii)   18.80 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.21         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.15         0.06      0.208 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.33       5.25
     RUNOFF VOLUME    (mm)=     61.71        32.19      49.90
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.51       0.80

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB
| STANDHYD  (2272) |   Area    (ha)=   1.71
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.28         0.43
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    106.77        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.54
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.37 (ii)   17.93 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.23         0.06
                                                    *TOTALS*
```



```
     PEAK FLOW       (cms)=      0.10         0.02      0.122 (iii)
     TIME TO PEAK    (hrs)=      5.17         5.33       5.25
     RUNOFF VOLUME    (mm)=     61.71        32.19      54.32
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.51       0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0016) |
|   1 +  2 =   3   |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2271):     3.14   0.208     5.25    49.90
        + ID2= 2 (2272):     1.71   0.122     5.25    54.32
          ================================================
          ID = 3 (0016):     4.85   0.330     5.25    51.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (0075) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4480     0.2100
                         0.0480     0.1200    |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0016)     4.850     0.330      5.25      51.46
     OUTFLOW: ID= 1 (0075)     4.850     0.131      5.58      51.33

               PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.62
               TIME SHIFT OF PEAK FLOW         (min)= 20.00
               MAXIMUM  STORAGE   USED       (ha.m.)=  0.1387

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-------------------
| CALIB
| STANDHYD  (1791) |   Area    (ha)=   2.67
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      2.00         0.67
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    133.42        40.00
     Mannings n            =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.96
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.99 (ii)   18.72 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.21         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.16         0.03      0.190 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.33       5.25
     RUNOFF VOLUME    (mm)=     61.71        31.13      54.06
     TOTAL RAINFALL   (mm)=     62.71        62.71      62.71
     RUNOFF COEFFICIENT   =      0.98         0.50       0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  83.0    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1792)	Area (ha)=	1.37			
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)=	75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.03	0.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	95.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	18.96
over (min)		5.00	20.00
Storage Coeff. (min)=		4.09 (ii)	17.81 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.24	0.06

		TOTALS
PEAK FLOW	(cms)=	0.08	0.02	0.098 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33	5.25
RUNOFF VOLUME	(mm)=	61.71	31.13	54.06
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.50	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0020)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1791):	2.67	0.190	5.25	54.06
+	ID2= 2 (1792):	1.37	0.098	5.25	54.06
	ID = 3 (0020):	4.04	0.287	5.25	54.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0076)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.1580	0.2100	
	0.0480	0.1200	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	4.040	0.287	5.25	54.06
OUTFLOW: ID= 1 (0076)	4.040	0.070	6.33	53.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 24.22
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.1377

CALIB					
STANDHYD (7001)	Area (ha)=	0.61			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.55	0.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	63.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	********
over (min)		5.00	10.00
Storage Coeff. (min)=		3.21 (ii)	8.03 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.27	0.13

		TOTALS
PEAK FLOW	(cms)=	0.04	0.00	0.048 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	39.65	59.50
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.63	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (7002)	Area (ha)=	0.65			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.07
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	65.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	********
over (min)		5.00	10.00
Storage Coeff. (min)=		3.27 (ii)	8.09 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.27	0.13

		TOTALS
PEAK FLOW	(cms)=	0.05	0.00	0.051 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	39.65	59.50
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.63	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7001):	0.61	0.048	5.25	59.50
+	ID2= 2 (7002):	0.65	0.051	5.25	59.50
	ID = 3 (0023):	1.26	0.099	5.25	59.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0077)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.1120	0.0525	
	0.0120	0.0300	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0023)	1.260	0.099	5.25	59.50
OUTFLOW: ID= 1 (0077)	1.260	0.059	5.33	59.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.81
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0408

CALIB					
STANDHYD (1001)	Area (ha)=	0.08			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.07	0.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	23.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.81
over (min)		5.00	10.00
Storage Coeff. (min)=		1.74 (ii)	6.56 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.32	0.14

		TOTALS
PEAK FLOW	(cms)=	0.01	0.00	0.006 (iii)
TIME TO PEAK	(hrs)=	4.67	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	32.19	58.75
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.51	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1002)	Area (ha)=	0.22			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.20	0.02
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	38.30	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.81
over (min)		5.00	10.00
Storage Coeff. (min)=		2.36 (ii)	7.18 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.30	0.14

		TOTALS
PEAK FLOW	(cms)=	0.02	0.00	0.017 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	32.19	58.74
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.51	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1001):	0.08	0.006	5.25	58.75
+	ID2= 2 (1002):	0.22	0.017	5.25	58.74
	ID = 3 (0007):	0.30	0.023	5.25	58.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0087)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.1120	0.0525	
	0.0120	0.0300	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0007)	0.300	0.023	5.25	58.75
OUTFLOW: ID= 1 (0087)	0.300	0.005	6.33	56.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.93
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0116

CALIB					
STANDHYD (1003)	Area (ha)=	0.71			
ID= 1 DT= 5.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)=	24.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.17	0.54
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	60.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		28.84	19.54
over (min)		5.00	20.00
Storage Coeff. (min)=		3.36 (ii)	16.92 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.26	0.06

		TOTALS
PEAK FLOW	(cms)=	0.01	0.03	0.039 (iii)
TIME TO PEAK	(hrs)=	4.92	5.33	5.25
RUNOFF VOLUME	(mm)=	61.71	32.19	39.26
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.51	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0098) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0087):     0.30   0.005     6.33    56.64
      + ID2= 2 (1003):     0.71   0.039     5.25    39.26
        ================================================
        ID = 3 (0098):     1.01   0.043     5.25    44.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB             |
| STANDHYD  (6032)  |   Area    (ha)=   0.34
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.31         0.03
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     47.61        40.00
     Mannings n            =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        21.65
               over (min)       5.00        10.00
     Storage Coeff.  (min)=     2.69 (ii)    7.51 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=     0.29         0.13
                                                    *TOTALS*
     PEAK FLOW       (cms)=     0.02         0.00      0.027 (iii)
     TIME TO PEAK    (hrs)=     4.83         5.25       5.25
     RUNOFF VOLUME    (mm)=    61.71        35.66      59.10
     TOTAL RAINFALL   (mm)=    62.71        62.71      62.71
     RUNOFF COEFFICIENT   =     0.98         0.57       0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (6033)  |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.44         0.05
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     57.15        40.00
     Mannings n            =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        21.65
               over (min)       5.00        10.00
     Storage Coeff.  (min)=     3.00 (ii)    7.82 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=     0.28         0.13
                                                    *TOTALS*
     PEAK FLOW       (cms)=     0.04         0.00      0.038 (iii)
     TIME TO PEAK    (hrs)=     4.92         5.25       5.25
     RUNOFF VOLUME    (mm)=    61.71        35.66      59.10
     TOTAL RAINFALL   (mm)=    62.71        62.71      62.71
     RUNOFF COEFFICIENT   =     0.98         0.57       0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  87.0    Ia = Dep. Storage  (Above)
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      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0054) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (6032):     0.34   0.027     5.25    59.10
      + ID2= 2 (6033):     0.49   0.038     5.25    59.10
        ================================================
        ID = 3 (0054):     0.83   0.065     5.25    59.10

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0071) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0525
                         0.0120     0.0300   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0054)     0.830     0.065     5.25       59.10
     OUTFLOW: ID= 1 (0071)     0.830     0.017     6.25       58.34

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.52
                TIME SHIFT OF PEAK FLOW         (min)= 60.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0312

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-------------------
| CALIB             |
| STANDHYD  (6031)  |   Area    (ha)=   0.60
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  45.00   Dir. Conn.(%)=  45.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.27         0.33
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     63.25        40.00
     Mannings n            =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        21.41
               over (min)       5.00        20.00
     Storage Coeff.  (min)=     3.19 (ii)   16.27 (ii)
     Unit Hyd. Tpeak (min)=     5.00        20.00
     Unit Hyd. peak  (cms)=     0.27         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=     0.02         0.02      0.039 (iii)
     TIME TO PEAK    (hrs)=     4.92         5.25       5.25
     RUNOFF VOLUME    (mm)=    61.71        35.66      47.37
     TOTAL RAINFALL   (mm)=    62.71        62.71      62.71
     RUNOFF COEFFICIENT   =     0.98         0.57       0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  87.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (0099) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
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        ID1= 1 (0071):     0.83   0.017     6.25    58.34
      + ID2= 2 (6031):     0.60   0.039     5.25    47.37
        ================================================
        ID = 3 (0099):     1.43   0.050     5.25    53.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2511)  |   Area    (ha)=   1.82
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.37         0.46
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    110.15        40.00
     Mannings n            =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        18.96
               over (min)       5.00        20.00
     Storage Coeff.  (min)=     4.45 (ii)   18.18 (ii)
     Unit Hyd. Tpeak (min)=     5.00        20.00
     Unit Hyd. peak  (cms)=     0.23         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=     0.11         0.02      0.129 (iii)
     TIME TO PEAK    (hrs)=     5.17         5.33       5.25
     RUNOFF VOLUME    (mm)=    61.71        31.13      54.06
     TOTAL RAINFALL   (mm)=    62.71        62.71      62.71
     RUNOFF COEFFICIENT   =     0.98         0.50       0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB             |
| STANDHYD  (2512)  |   Area    (ha)=   0.51
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.46         0.05
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     50.31        40.00
     Mannings n            =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84        19.23
               over (min)       5.00        10.00
     Storage Coeff.  (min)=     3.04 (ii)    7.86 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=     0.27         0.13
                                                    *TOTALS*
     PEAK FLOW       (cms)=     0.04         0.00      0.039 (iii)
     TIME TO PEAK    (hrs)=     4.92         5.25       5.25
     RUNOFF VOLUME    (mm)=    61.71        31.13      58.65
     TOTAL RAINFALL   (mm)=    62.71        62.71      62.71
     RUNOFF COEFFICIENT   =     0.98         0.50       0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0010) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (2511):     1.82   0.129     5.25    54.06
      + ID2= 2 (2512):     0.51   0.039     5.25    58.65
        ================================================
        ID = 3 (0010):     2.33   0.169     5.25    55.06

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (0072) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1680     0.1050
                         0.0240     0.0600   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0010)     2.330     0.169     5.25       55.06
     OUTFLOW: ID= 1 (0072)     2.330     0.066     5.50       54.79

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.86
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0730

-------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (2513)  |   Area    (ha)=   0.46
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.41         0.05
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     55.38        40.00
     Mannings n            =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     28.84     ********
               over (min)       5.00        10.00
     Storage Coeff.  (min)=     2.95 (ii)    7.77 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=     0.28         0.13
                                                    *TOTALS*
     PEAK FLOW       (cms)=     0.03         0.00      0.036 (iii)
     TIME TO PEAK    (hrs)=     4.92         5.25       5.25
     RUNOFF VOLUME    (mm)=    61.71        31.13      58.65
     TOTAL RAINFALL   (mm)=    62.71        62.71      62.71
     RUNOFF COEFFICIENT   =     0.98         0.50       0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0073) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0525
                         0.0120     0.0300   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
```

```
INFLOW : ID= 2 (2513)      0.460      0.036      5.25      58.65
OUTFLOW: ID= 1 (0073)      0.460      0.007      6.33      57.28

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.93
                TIME SHIFT OF PEAK FLOW          (min)= 65.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0177

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2514) |   Area    (ha)=   0.44
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.11         0.33
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      54.16        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        18.96
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.91 (ii)   16.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.28         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.02        0.024 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.33         5.25
     RUNOFF VOLUME    (mm)=      61.71        31.13        38.44
     TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
     RUNOFF COEFFICIENT   =       0.98         0.50         0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0100) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0072):    2.33   0.066     5.50    54.79
        + ID2= 2 (0073):    0.46   0.007     6.33    57.28
          ================================================
          ID = 3 (0100):    2.79   0.072     5.50    55.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0100) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0100):    2.79   0.072     5.50    55.20
        + ID2= 2 (2514):    0.44   0.024     5.25    38.44
          ================================================
          ID = 1 (0100):    3.23   0.089     5.42    52.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2482) |   Area    (ha)=   1.24
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.74         0.50
```



```
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.92        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.77
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.97 (ii)   17.20 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.24         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.02        0.084 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.33         5.25
     RUNOFF VOLUME    (mm)=      61.71        34.45        50.80
     TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
     RUNOFF COEFFICIENT   =       0.98         0.55         0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0074) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------         (cms)     (ha.m.)   |   (cms)     (ha.m.)
                             0.0000     0.0000   |  0.0840      0.0525
                             0.0120     0.0300   |  0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2482)      1.240     0.084      5.25       50.80
     OUTFLOW: ID= 1 (0074)      1.240     0.030      5.83       50.29

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.22
                TIME SHIFT OF PEAK FLOW          (min)= 35.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0355

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2481) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.31
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      57.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.77
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.00 (ii)   16.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.28         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.02        0.030 (iii)
     TIME TO PEAK    (hrs)=       4.92         5.25         5.25
     RUNOFF VOLUME    (mm)=      61.71        34.45        44.24
     TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
     RUNOFF COEFFICIENT   =       0.98         0.55         0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0074):    1.24   0.030     5.83    50.29
        + ID2= 2 (2481):    0.49   0.030     5.25    44.24
          ================================================
          ID = 3 (0101):    1.73   0.050     5.25    48.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1231) |   Area    (ha)=   1.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.00         0.34
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      94.52        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       4.06 (ii)   17.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.24         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.02        0.097 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.33         5.25
     RUNOFF VOLUME    (mm)=      61.71        32.80        54.47
     TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
     RUNOFF COEFFICIENT   =       0.98         0.52         0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1232) |   Area    (ha)=   1.44
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.08         0.36
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      97.98        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       4.15 (ii)   17.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.24         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.02        0.104 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.33         5.25
     RUNOFF VOLUME    (mm)=      61.71        32.80        54.47
     TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
     RUNOFF COEFFICIENT   =       0.98         0.52         0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0026) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1231):    1.34   0.097     5.25    54.47
        + ID2= 2 (1232):    1.44   0.104     5.25    54.47
          ================================================
          ID = 3 (0026):    2.78   0.200     5.25    54.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0078) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |        OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------         (cms)     (ha.m.)   |   (cms)     (ha.m.)
                             0.0000     0.0000   |  0.2240      0.1050
                             0.0240     0.0600   |  0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0026)      2.780     0.200      5.25       54.47
     OUTFLOW: ID= 1 (0078)      2.780     0.109      5.33       54.25

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.62
                TIME SHIFT OF PEAK FLOW          (min)=  5.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0793

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1233) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.17
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      66.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.28 (ii)   16.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.27         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.01        0.048 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.33         5.25
     RUNOFF VOLUME    (mm)=      61.71        32.80        54.47
     TOTAL RAINFALL   (mm)=      62.71        62.71        62.71
     RUNOFF COEFFICIENT   =       0.98         0.52         0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD (1234) | Area (ha)= 1.47
|ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.10	0.37
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	98.99	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.34
over (min)	5.00	20.00
Storage Coeff. (min)=	4.18 (ii)	17.52 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.24	0.06
		TOTALS
PEAK FLOW (cms)=	0.09	0.02 0.106 (iii)
TIME TO PEAK (hrs)=	5.17	5.33 5.25
RUNOFF VOLUME (mm)=	61.71	32.80 54.47
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.52 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0027)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1233):	0.66	0.048	5.25	54.47
+ ID2= 2 (1234):	1.47	0.106	5.25	54.47
ID = 3 (0027):	2.13	0.154	5.25	54.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0079)
IN= 2---> OUT= 1
DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2240	0.1050
	0.0240	0.0600	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0027)	2.130	0.154	5.25	54.47
OUTFLOW: ID= 1 (0079)	2.130	0.055	5.58	54.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.73
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.0670

ADD HYD (0102)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0078):	2.78	0.109	5.33	54.25
+ ID2= 2 (0079):	2.13	0.055	5.58	54.18
ID = 3 (0102):	4.91	0.162	5.42	54.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (1224)	Area (ha)= 1.20 Curve Number (CN)= 86.0
ID= 1 DT= 5.0 min	Ia (mm)= 6.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.20

Unit Hyd Qpeak (cms)= 0.229

PEAK FLOW (cms)= 0.064 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 32.734
TOTAL RAINFALL (mm)= 62.710
RUNOFF COEFFICIENT = 0.522

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1221)	Area (ha)= 2.55
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.91	0.64
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	130.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.34
over (min)	5.00	20.00
Storage Coeff. (min)=	4.93 (ii)	18.27 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.22	0.06
		TOTALS
PEAK FLOW (cms)=	0.15	0.03 0.183 (iii)
TIME TO PEAK (hrs)=	5.25	5.33 5.25
RUNOFF VOLUME (mm)=	61.71	32.80 54.48
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.52 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1222)	Area (ha)= 0.34
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.62
over (min)	5.00	10.00
Storage Coeff. (min)=	2.69 (ii)	7.51 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.13
		TOTALS
PEAK FLOW (cms)=	0.02	0.00 0.026 (iii)
TIME TO PEAK (hrs)=	4.83	5.25 5.25
RUNOFF VOLUME (mm)=	61.71	32.80 58.81
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.52 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1221):	2.56	0.183	5.25	54.48
+ ID2= 2 (1222):	0.34	0.026	5.25	58.81
ID = 3 (0030):	2.89	0.210	5.25	54.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0080)
IN= 2---> OUT= 1
DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2530	0.1575
	0.0360	0.0900	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0030)	2.890	0.210	5.25	54.99
OUTFLOW: ID= 1 (0080)	2.890	0.060	6.25	54.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.57
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0975

CALIB
STANDHYD (1223)	Area (ha)= 0.37
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.15
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	49.67	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.34
over (min)	5.00	20.00
Storage Coeff. (min)=	2.76 (ii)	16.10 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.28	0.06
		TOTALS
PEAK FLOW (cms)=	0.02	0.01 0.025 (iii)
TIME TO PEAK (hrs)=	4.83	5.33 5.25
RUNOFF VOLUME (mm)=	61.71	32.80 50.12
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.52 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0088)
IN= 2---> OUT= 1
DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0150	0.0525

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1223)	0.370	0.025	5.25	50.12
OUTFLOW: ID= 1 (0088)	0.370	0.004	7.25	47.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.81
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 0.0130

ADD HYD (0103)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0080):	2.89	0.060	6.25	54.77
+ ID2= 2 (0088):	0.37	0.004	7.25	47.72
ID = 3 (0103):	3.26	0.064	6.25	53.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0103)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0103):	3.26	0.064	6.25	53.97
+ ID2= 2 (1224):	1.20	0.064	5.25	32.73
ID = 1 (0103):	4.46	0.102	5.33	48.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
STANDHYD (1201)	Area (ha)= 0.80
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.48	0.32
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	73.03	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	28.84	20.34
over (min)	5.00	20.00
Storage Coeff. (min)=	3.48 (ii)	16.82 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.06
		TOTALS
PEAK FLOW (cms)=	0.04	0.02 0.054 (iii)
TIME TO PEAK (hrs)=	5.00	5.33 5.25
RUNOFF VOLUME (mm)=	61.71	32.80 50.13
TOTAL RAINFALL (mm)=	62.71	62.71 62.71
RUNOFF COEFFICIENT =	0.98	0.52 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------------------------------------------------------------------
--------------------
| RESERVOIR (0089) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |   (cms)    (ha.m.)
                           0.0000     0.0000   |  0.1120      0.0525
                           0.0120     0.0300   |  0.0000      0.0000

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (1201)      0.800     0.054      5.25      50.13
     OUTFLOW: ID= 1 (0089)      0.800     0.010      6.58      49.35

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.14
                    TIME SHIFT OF PEAK FLOW        (min)= 80.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0258

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (1202) |   Area    (ha)=   2.01
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.21         0.80
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     115.76        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.34
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.59 (ii)   17.93 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.23         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.10         0.04          0.135 (iii)
     TIME TO PEAK    (hrs)=      5.17         5.33          5.25
     RUNOFF VOLUME    (mm)=     61.71        32.80         50.14
     TOTAL RAINFALL   (mm)=     62.71        62.71         62.71
     RUNOFF COEFFICIENT   =      0.98         0.52          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (1203) |   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.70         0.08
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.62
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.45 (ii)    8.27 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.26         0.13
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.06         0.00          0.061 (iii)
     TIME TO PEAK    (hrs)=      5.08         5.25          5.25
     RUNOFF VOLUME    (mm)=     61.71        32.80         58.82
```



```
     TOTAL RAINFALL   (mm)=      62.71        62.71         62.71
     RUNOFF COEFFICIENT   =       0.98         0.52          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0038) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1202):     2.01   0.135     5.25    50.14
        + ID2= 2 (1203):     0.78   0.061     5.25    58.82
          ================================================
          ID = 3 (0038):     2.79   0.195     5.25    52.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (0081) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |   (cms)    (ha.m.)
                           0.0000     0.0000   |  0.2240      0.1050
                           0.0240     0.0600   |  0.0000      0.0000

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0038)      2.790     0.195      5.25      52.56
     OUTFLOW: ID= 1 (0081)      2.790     0.099      5.42      52.34

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 50.84
                    TIME SHIFT OF PEAK FLOW        (min)= 10.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0771

-------------------------------------------------------------------------------
--------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0081):     2.79   0.099     5.42    52.34
        + ID2= 2 (0089):     0.80   0.010     6.58    49.35
          ================================================
          ID = 3 (0104):     3.59   0.108     5.42    51.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ***************************
  ** SIMULATION NUMBER:   4 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              41172be6-0c07-4dd1-9e1f-2d9947dd6300\dac18ea9
| Ptotal= 73.10 mm |    Comments: 25yr/12hr
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73

1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

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--------------------
| CALIB            |
| STANDHYD  (2271) |   Area    (ha)=   3.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.88         1.26
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     144.68        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    0.00 | 3.167    4.39 | 6.250    9.50 |  9.33    0.73
     0.167    0.00 | 3.250    4.39 | 6.333    5.12 |  9.42    0.73
     0.250    0.00 | 3.333   12.43 | 6.417    5.12 |  9.50    0.73
     0.333    0.73 | 3.417   12.43 | 6.500    5.12 |  9.58    0.73
     0.417    0.73 | 3.500   12.43 | 6.583    5.12 |  9.67    0.73
     0.500    0.73 | 3.583   12.43 | 6.667    5.12 |  9.75    0.73
     0.583    0.73 | 3.667   12.43 | 6.750    5.12 |  9.83    0.73
     0.667    0.73 | 3.750   12.43 | 6.833    5.12 |  9.92    0.73
     0.750    0.73 | 3.833   12.43 | 6.917    5.12 | 10.00    0.73
     0.833    0.73 | 3.917   12.43 | 7.000    5.12 | 10.08    0.73
     0.917    0.73 | 4.000   12.43 | 7.083    5.12 | 10.17    0.73
     1.000    0.73 | 4.083   12.43 | 7.167    5.12 | 10.25    0.73
     1.083    0.73 | 4.167   12.43 | 7.250    5.12 | 10.33    0.73
     1.167    0.73 | 4.250   12.43 | 7.333    2.92 | 10.42    0.73
     1.250    0.73 | 4.333   33.63 | 7.417    2.92 | 10.50    0.73
     1.333    0.73 | 4.417   33.63 | 7.500    2.92 | 10.58    0.73
     1.417    0.73 | 4.500   33.63 | 7.583    2.92 | 10.67    0.73
     1.500    0.73 | 4.583   33.63 | 7.667    2.92 | 10.75    0.73
     1.583    0.73 | 4.667   33.63 | 7.750    2.92 | 10.83    0.73
     1.667    0.73 | 4.750   33.63 | 7.833    2.92 | 10.92    0.73
     1.750    0.73 | 4.833   33.63 | 7.917    2.92 | 11.00    0.73
     1.833    0.73 | 4.917   33.63 | 8.000    2.92 | 11.08    0.73
     1.917    0.73 | 5.000   33.63 | 8.083    2.92 | 11.17    0.73
     2.000    0.73 | 5.083   33.63 | 8.167    2.92 | 11.25    0.73
     2.083    0.73 | 5.167   33.63 | 8.250    2.92 | 11.33    0.73
     2.167    0.73 | 5.250   33.63 | 8.333    1.46 | 11.42    0.73
     2.250    0.73 | 5.333    9.50 | 8.417    1.46 | 11.50    0.73
     2.333    4.39 | 5.417    9.50 | 8.500    1.46 | 11.58    0.73
     2.417    4.39 | 5.500    9.50 | 8.583    1.46 | 11.67    0.73
     2.500    4.39 | 5.583    9.50 | 8.667    1.46 | 11.75    0.73
     2.583    4.39 | 5.667    9.50 | 8.750    1.46 | 11.83    0.73
     2.667    4.39 | 5.750    9.50 | 8.833    1.46 | 11.92    0.73
     2.750    4.39 | 5.833    9.50 | 8.917    1.46 | 12.00    0.73
     2.833    4.39 | 5.917    9.50 | 9.000    1.46 | 12.08    0.73
     2.917    4.39 | 6.000    9.50 | 9.083    1.46 | 12.17    0.73
     3.000    4.39 | 6.083    9.50 | 9.167    1.46 | 12.25    0.73
     3.083    4.39 | 6.167    9.50 | 9.250    1.46 |

     Max.Eff.Inten.(mm/hr)=      33.63        24.33
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.93 (ii)   17.35 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.22         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.18         0.07          0.249 (iii)
```



```
     TIME TO PEAK    (hrs)=      5.25         5.33          5.25
     RUNOFF VOLUME    (mm)=     72.10        40.64         59.51
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.99         0.56          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (2272) |   Area    (ha)=   1.71
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.28         0.43
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     106.77        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.33
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.11 (ii)   16.53 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.24         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.12         0.03          0.145 (iii)
     TIME TO PEAK    (hrs)=      5.17         5.25          5.25
     RUNOFF VOLUME    (mm)=     72.10        40.64         64.23
     TOTAL RAINFALL   (mm)=     73.10        73.10         73.10
     RUNOFF COEFFICIENT   =      0.99         0.56          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
--------------------
| ADD HYD   (0016) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (2271):     3.14   0.249     5.25    59.51
        + ID2= 2 (2272):     1.71   0.145     5.25    64.23
          ================================================
          ID = 3 (0016):     4.85   0.394     5.25    61.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (0075) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)    (ha.m.)   |   (cms)    (ha.m.)
                           0.0000     0.0000   |  0.4480      0.2100
                           0.0480     0.1200   |  0.0000      0.0000

                                AREA     QPEAK     TPEAK      R.V.
                                (ha)     (cms)     (hrs)      (mm)
     INFLOW : ID= 2 (0016)      4.850     0.394      5.25      61.18
     OUTFLOW: ID= 1 (0075)      4.850     0.201      5.42      61.05

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.05
```

TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1545

CALIB
STANDHYD (1791)
ID= 1 DT= 5.0 min

Area (ha)= 2.67
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.00	0.67
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	133.42	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.68
over (min)	5.00	20.00
Storage Coeff. (min)=	4.70 (ii)	17.25 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.22	0.06
		TOTALS
PEAK FLOW (cms)=	0.19	0.04 0.225 (iii)
TIME TO PEAK (hrs)=	5.25	5.33 5.25
RUNOFF VOLUME (mm)=	72.10	39.42 63.93
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.54 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1792)
ID= 1 DT= 5.0 min

Area (ha)= 1.37
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.03	0.34
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	95.57	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	23.68
over (min)	5.00	20.00
Storage Coeff. (min)=	3.84 (ii)	16.40 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.06
		TOTALS
PEAK FLOW (cms)=	0.10	0.02 0.116 (iii)
TIME TO PEAK (hrs)=	5.17	5.33 5.25
RUNOFF VOLUME (mm)=	72.10	39.42 63.92
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.54 0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0020)
1 + 2 = 3

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1791):	2.67	0.225	5.25	63.93
+ ID2= 2 (1792):	1.37	0.116	5.25	63.92
ID = 3 (0020):	4.04	0.340	5.25	63.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0076)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1580	0.2100
0.0480	0.1200	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	4.040	0.340	5.25	63.93
OUTFLOW: ID= 1 (0076)	4.040	0.093	6.25	63.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.39
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.1571

CALIB
STANDHYD (7001)
ID= 1 DT= 5.0 min

Area (ha)= 0.61
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.06
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.77	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	********
over (min)	5.00	10.00
Storage Coeff. (min)=	3.02 (ii)	7.55 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.28	0.13
		TOTALS
PEAK FLOW (cms)=	0.05	0.00 0.056 (iii)
TIME TO PEAK (hrs)=	5.25	5.25 5.25
RUNOFF VOLUME (mm)=	72.10	49.06 69.79
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.67 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (7002)
ID= 1 DT= 5.0 min

Area (ha)= 0.65
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.58	0.07
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	65.83	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	********
over (min)	5.00	10.00

	IMPERVIOUS	PERVIOUS (i)
Storage Coeff. (min)=	3.07 (ii)	7.61 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.27	0.13
		TOTALS
PEAK FLOW (cms)=	0.05	0.01 0.060 (iii)
TIME TO PEAK (hrs)=	5.00	5.25 5.25
RUNOFF VOLUME (mm)=	72.10	49.06 69.79
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.67 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7001):	0.61	0.056	5.25	69.79
+ ID2= 2 (7002):	0.65	0.060	5.25	69.79
ID = 3 (0023):	1.26	0.116	5.25	69.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0077)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1120	0.0525
0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0023)	1.260	0.116	5.25	69.79
OUTFLOW: ID= 1 (0077)	1.260	0.077	5.33	69.29

PEAK FLOW REDUCTION [Qout/Qin](%)= 66.79
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0451

CALIB
STANDHYD (1001)
ID= 1 DT= 5.0 min

Area (ha)= 0.08
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.07	0.01
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	23.09	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	24.62
over (min)	5.00	10.00
Storage Coeff. (min)=	1.64 (ii)	6.17 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.32	0.15
		TOTALS
PEAK FLOW (cms)=	0.01	0.00 0.007 (iii)
TIME TO PEAK (hrs)=	4.67	5.25 5.25
RUNOFF VOLUME (mm)=	72.10	40.64 68.94
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.56 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1002)
ID= 1 DT= 5.0 min

Area (ha)= 0.22
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.20	0.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	38.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	24.62
over (min)	5.00	10.00
Storage Coeff. (min)=	2.22 (ii)	6.75 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.14
		TOTALS
PEAK FLOW (cms)=	0.02	0.00 0.020 (iii)
TIME TO PEAK (hrs)=	4.75	5.25 5.25
RUNOFF VOLUME (mm)=	72.10	40.64 68.94
TOTAL RAINFALL (mm)=	73.10	73.10 73.10
RUNOFF COEFFICIENT =	0.99	0.56 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1001):	0.08	0.007	5.25	68.94
+ ID2= 2 (1002):	0.22	0.020	5.25	68.94
ID = 3 (0007):	0.30	0.027	5.25	68.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0087)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1120	0.0525
0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0007)	0.300	0.027	5.25	68.94
OUTFLOW: ID= 1 (0087)	0.300	0.005	6.33	66.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.96
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0136

CALIB				
STANDHYD (1003)	Area (ha)= 0.71			
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.17	0.54
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	68.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	24.33
over (min)		5.00	20.00
Storage Coeff. (min)=		3.16 (ii)	15.58 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.27	0.07

		TOTALS
PEAK FLOW	(cms)=	0.02	0.03	0.048 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	40.64	48.18
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.56	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0098)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0087):		0.30	0.005	6.33	66.83
+ ID2= 2 (1003):		0.71	0.048	5.25	48.18
ID = 3 (0098):		1.01	0.053	5.25	53.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (6032)	Area (ha)= 0.34			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	47.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	26.60
over (min)		5.00	10.00
Storage Coeff. (min)=		2.53 (ii)	7.06 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.29	0.14

		TOTALS
PEAK FLOW	(cms)=	0.03	0.00	0.031 (iii)
TIME TO PEAK	(hrs)=	4.83	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	44.60	69.34
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.61	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (6033)	Area (ha)= 0.49			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.44	0.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	57.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	26.60
over (min)		5.00	10.00
Storage Coeff. (min)=		2.82 (ii)	7.36 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.13

		TOTALS
PEAK FLOW	(cms)=	0.04	0.00	0.045 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	44.60	69.34
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.61	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (6032):		0.34	0.031	5.25	69.34
+ ID2= 2 (6033):		0.49	0.045	5.25	69.34
ID = 3 (0054):		0.83	0.076	5.25	69.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0071)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0054)		0.830	0.076	5.25	69.34
OUTFLOW: ID= 1 (0071)		0.830	0.031	5.33	68.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 40.59
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0343

CALIB				
STANDHYD (6031)	Area (ha)= 0.60			
ID= 1 DT= 5.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00		

IMPERVIOUS PERVIOUS (i)

Surface Area	(ha)=	0.27	0.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	63.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	26.35
over (min)		5.00	20.00
Storage Coeff. (min)=		3.00 (ii)	15.03 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.28	0.07

		TOTALS
PEAK FLOW	(cms)=	0.03	0.02	0.047 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	44.60	56.96
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.61	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0099)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0071):		0.83	0.031	5.33	68.59
+ ID2= 2 (6031):		0.60	0.047	5.25	56.96
ID = 3 (0099):		1.43	0.074	5.25	63.71

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (2511)	Area (ha)= 1.82			
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.37	0.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	110.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	23.68
over (min)		5.00	20.00
Storage Coeff. (min)=		4.19 (ii)	16.74 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.24	0.06

		TOTALS
PEAK FLOW	(cms)=	0.13	0.03	0.153 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33	5.25
RUNOFF VOLUME	(mm)=	72.10	39.42	63.92
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.54	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (2512)	Area (ha)= 0.51			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.46	0.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	58.31	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	23.97
over (min)		5.00	10.00
Storage Coeff. (min)=		2.86 (ii)	7.39 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.13

		TOTALS
PEAK FLOW	(cms)=	0.04	0.00	0.046 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	39.42	68.83
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.54	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2511):		1.82	0.153	5.25	63.92
+ ID2= 2 (2512):		0.51	0.046	5.25	68.83
ID = 3 (0010):		2.33	0.200	5.25	65.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0072)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1680	0.1050
	0.0240	0.0600	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0010)		2.330	0.200	5.25	65.00
OUTFLOW: ID= 1 (0072)		2.330	0.095	5.42	64.73

PEAK FLOW REDUCTION [Qout/Qin](%)= 47.60
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0824

CALIB				
STANDHYD (2513)	Area (ha)= 0.46			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.41	0.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	55.38	40.00
Mannings n	=	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      33.63     ********
               over (min)        5.00       10.00
     Storage Coeff.  (min)=      2.77 (ii)    7.30 (ii)
     Unit Hyd. Tpeak (min)=      5.00       10.00
     Unit Hyd. peak  (cms)=      0.28        0.14
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.04        0.00      0.042 (iii)
     TIME TO PEAK    (hrs)=      4.92        5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10       39.42      68.83
     TOTAL RAINFALL   (mm)=     73.10       73.10      73.10
     RUNOFF COEFFICIENT   =      0.99        0.54       0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0073) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0525
                         0.0120     0.0300   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2513)     0.460     0.042      5.25      68.83
     OUTFLOW: ID= 1 (0073)     0.460     0.008      6.33      67.46

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.96
                  TIME SHIFT OF PEAK FLOW       (min)= 65.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0208

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-------------------
| CALIB            |
| STANDHYD  (2514) |   Area    (ha)=   0.44
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.11        0.33
     Dep. Storage     (mm)=       1.00        4.00
     Average Slope     (%)=       1.00        2.00
     Length            (m)=      54.16       40.00
     Mannings n            =      0.013       0.250

     Max.Eff.Inten.(mm/hr)=      33.63       23.68
               over (min)        5.00       20.00
     Storage Coeff.  (min)=      2.73 (ii)   15.29 (ii)
     Unit Hyd. Tpeak (min)=      5.00       20.00
     Unit Hyd. peak  (cms)=      0.29        0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.01        0.02      0.029 (iii)
     TIME TO PEAK    (hrs)=      4.83        5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10       39.42      47.25
     TOTAL RAINFALL   (mm)=     73.10       73.10      73.10
     RUNOFF COEFFICIENT   =      0.99        0.54       0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0100) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0072):     2.33   0.095     5.42    64.73
        + ID2= 2 (0073):     0.46   0.008     6.33    67.46
          ================================================
          ID = 3 (0100):     2.79   0.103     5.42    65.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0100) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0100):     2.79   0.103     5.42    65.18
        + ID2= 2 (2514):     0.44   0.029     5.25    47.25
          ================================================
          ID = 1 (0100):     3.23   0.126     5.33    62.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| STANDHYD  (2482) |   Area    (ha)=   1.24
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.74        0.50
     Dep. Storage     (mm)=       1.00        4.00
     Average Slope     (%)=       1.00        2.00
     Length            (m)=      90.92       40.00
     Mannings n            =      0.013       0.250

     Max.Eff.Inten.(mm/hr)=      33.63       25.66
               over (min)        5.00       20.00
     Storage Coeff.  (min)=      3.73 (ii)   15.89 (ii)
     Unit Hyd. Tpeak (min)=      5.00       20.00
     Unit Hyd. peak  (cms)=      0.25        0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.07        0.03      0.101 (iii)
     TIME TO PEAK    (hrs)=      5.08        5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10       43.23      60.54
     TOTAL RAINFALL   (mm)=     73.10       73.10      73.10
     RUNOFF COEFFICIENT   =      0.99        0.59       0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0074) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0840     0.0525
                         0.0120     0.0300   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2482)     1.240     0.101      5.25      60.54
     OUTFLOW: ID= 1 (0074)     1.240     0.044      5.58      60.03

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.35
                  TIME SHIFT OF PEAK FLOW       (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0399
```



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-------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (2481) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18        0.31
     Dep. Storage     (mm)=       1.00        4.00
     Average Slope     (%)=       1.00        2.00
     Length            (m)=      57.15       40.00
     Mannings n            =      0.013       0.250

     Max.Eff.Inten.(mm/hr)=      33.63       25.66
               over (min)        5.00       15.00
     Storage Coeff.  (min)=      2.82 (ii)   14.98 (ii)
     Unit Hyd. Tpeak (min)=      5.00       15.00
     Unit Hyd. peak  (cms)=      0.28        0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.02        0.02      0.037 (iii)
     TIME TO PEAK    (hrs)=      4.83        5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10       43.23      53.61
     TOTAL RAINFALL   (mm)=     73.10       73.10      73.10
     RUNOFF COEFFICIENT   =      0.99        0.59       0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0074):     1.24   0.044     5.58    60.03
        + ID2= 2 (2481):     0.49   0.037     5.25    53.61
          ================================================
          ID = 3 (0101):     1.73   0.074     5.25    58.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1231) |   Area    (ha)=   1.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.00        0.34
     Dep. Storage     (mm)=       1.00        6.00
     Average Slope     (%)=       1.00        2.00
     Length            (m)=      94.52       40.00
     Mannings n            =      0.013       0.250

     Max.Eff.Inten.(mm/hr)=      33.63       25.27
               over (min)        5.00       20.00
     Storage Coeff.  (min)=      3.82 (ii)   16.05 (ii)
     Unit Hyd. Tpeak (min)=      5.00       20.00
     Unit Hyd. peak  (cms)=      0.25        0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.09        0.02      0.114 (iii)
     TIME TO PEAK    (hrs)=      5.17        5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10       41.52      64.45
     TOTAL RAINFALL   (mm)=     73.10       73.10      73.10
     RUNOFF COEFFICIENT   =      0.99        0.57       0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1232) |   Area    (ha)=   1.44
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.08        0.36
     Dep. Storage     (mm)=       1.00        6.00
     Average Slope     (%)=       1.00        2.00
     Length            (m)=      97.98       40.00
     Mannings n            =      0.013       0.250

     Max.Eff.Inten.(mm/hr)=      33.63       25.27
               over (min)        5.00       20.00
     Storage Coeff.  (min)=      3.90 (ii)   16.14 (ii)
     Unit Hyd. Tpeak (min)=      5.00       20.00
     Unit Hyd. peak  (cms)=      0.25        0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.10        0.02      0.123 (iii)
     TIME TO PEAK    (hrs)=      5.17        5.25       5.25
     RUNOFF VOLUME    (mm)=     72.10       41.52      64.45
     TOTAL RAINFALL   (mm)=     73.10       73.10      73.10
     RUNOFF COEFFICIENT   =      0.99        0.57       0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
-------------------
| ADD HYD   (0026) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (1231):     1.34   0.114     5.25    64.45
        + ID2= 2 (1232):     1.44   0.123     5.25    64.45
          ================================================
          ID = 3 (0026):     2.78   0.238     5.25    64.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
-------------------
| RESERVOIR (0078) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2240     0.1050
                         0.0240     0.0600   |   0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0026)     2.780     0.238      5.25      64.45
     OUTFLOW: ID= 1 (0078)     2.780     0.149      5.33      64.22

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 62.73
                  TIME SHIFT OF PEAK FLOW       (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0883

-------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1233) |   Area    (ha)=   0.66
```

|ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.17
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	66.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.27
over (min)	5.00	20.00
Storage Coeff. (min)=	3.09 (ii)	15.32 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.27	0.07

TOTALS

PEAK FLOW (cms)=	0.05	0.01	0.056 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	41.52	64.44
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1234)
ID= 1 DT= 5.0 min

Area (ha)= 1.47
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.10	0.37
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	98.99	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.27
over (min)	5.00	20.00
Storage Coeff. (min)=	3.93 (ii)	16.16 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.24	0.06

TOTALS

PEAK FLOW (cms)=	0.10	0.02	0.126 (iii)
TIME TO PEAK (hrs)=	5.17	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	41.52	64.45
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0027)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1233):	0.66	0.056	5.25	64.44
+ ID2= 2 (1234):	1.47	0.126	5.25	64.45
ID = 3 (0027):	2.13	0.182	5.25	64.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0079)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2240	0.1050
0.0240	0.0600	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0027)	2.130	0.182	5.25	64.45
OUTFLOW: ID= 1 (0079)	2.130	0.089	5.42	64.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 48.76
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0747

ADD HYD (0102)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0078):	2.78	0.149	5.33	64.22
+ ID2= 2 (0079):	2.13	0.089	5.42	64.15
ID = 3 (0102):	4.91	0.237	5.33	64.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (1224)
ID= 1 DT= 5.0 min

Area (ha)= 1.20 Curve Number (CN)= 86.0
Ia (mm)= 6.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.20

Unit Hyd Qpeak (cms)= 0.229

PEAK FLOW (cms)= 0.080 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 41.437
TOTAL RAINFALL (mm)= 73.100
RUNOFF COEFFICIENT = 0.567

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1221)
ID= 1 DT= 5.0 min

Area (ha)= 2.55
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.91	0.64
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	130.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.27
over (min)	5.00	20.00
Storage Coeff. (min)=	4.63 (ii)	16.87 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.22	0.06

TOTALS

PEAK FLOW (cms)=	0.18	0.04	0.218 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	72.10	41.52	64.45
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (1222)
ID= 1 DT= 5.0 min

Area (ha)= 0.34
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.56
over (min)	5.00	10.00
Storage Coeff. (min)=	2.53 (ii)	7.06 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.14

TOTALS

PEAK FLOW (cms)=	0.03	0.00	0.031 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	41.52	69.04
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.57	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1221):	2.55	0.218	5.25	64.45
+ ID2= 2 (1222):	0.34	0.031	5.25	69.04
ID = 3 (0030):	2.89	0.248	5.25	64.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0080)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2530	0.1575
0.0360	0.0900	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0030)	2.890	0.248	5.25	64.99
OUTFLOW: ID= 1 (0080)	2.890	0.092	5.58	64.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.05
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.1075

CALIB
STANDHYD (1223)
ID= 1 DT= 5.0 min

Area (ha)= 0.37
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.15
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	49.67	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	33.63	25.27
over (min)	5.00	15.00
Storage Coeff. (min)=	2.60 (ii)	14.83 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.29	0.08

TOTALS

PEAK FLOW (cms)=	0.02	0.01	0.030 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	41.52	59.85
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.57	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0088)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0150	0.0525

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1223)	0.370	0.030	5.25	59.85
OUTFLOW: ID= 1 (0088)	0.370	0.004	7.25	57.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.67
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 0.0155

ADD HYD (0103)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0080):	2.89	0.092	5.58	64.77
+ ID2= 2 (0088):	0.37	0.004	7.25	57.46
ID = 3 (0103):	3.26	0.096	5.58	63.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0103)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0103):	3.26	0.096	5.58	63.94
+ ID2= 2 (1224):	1.20	0.080	5.25	41.44
ID = 1 (0103):	4.46	0.165	5.33	57.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (1201)	Area (ha)= 0.80				
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.27
over (min)		5.00	20.00
Storage Coeff. (min)=		3.27 (ii)	15.51 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.27	0.07

		TOTALS
PEAK FLOW	(cms)=	0.04	0.02	0.065 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	41.52	59.86
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.57	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0089)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1201)	0.800	0.065	5.25	59.86
OUTFLOW: ID= 1 (0089)	0.800	0.015	6.33	59.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 22.78
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0306

CALIB					
STANDHYD (1202)	Area (ha)= 2.01				
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.21	0.80
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	115.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.27
over (min)		5.00	20.00
Storage Coeff. (min)=		4.31 (ii)	16.55 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.06

		TOTALS
PEAK FLOW	(cms)=	0.11	0.05	0.162 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	41.52	59.86
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10

RUNOFF COEFFICIENT	=	0.99	0.57	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1203)	Area (ha)= 0.78				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	0.08
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		33.63	25.56
over (min)		5.00	10.00
Storage Coeff. (min)=		3.25 (ii)	7.78 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.27	0.13

		TOTALS
PEAK FLOW	(cms)=	0.07	0.01	0.071 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	41.52	69.04
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.57	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0038)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1202):	2.01	0.162	5.25	59.86
+ ID2= 2 (1203):	0.78	0.071	5.25	69.04
ID = 3 (0038):	2.79	0.233	5.25	62.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0081)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2240	0.1050
	0.0240	0.0600	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0038)	2.790	0.233	5.25	62.43
OUTFLOW: ID= 1 (0081)	2.790	0.139	5.33	62.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 59.78
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0859

ADD HYD (0104)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0081):	2.79	0.139	5.33	62.20
+ ID2= 2 (0089):	0.80	0.015	6.33	59.07
ID = 3 (0104):	3.59	0.150	5.33	61.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 5 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\41172be6-0c07-4dd1-9e1f-2d9947dd6300\85df17c9
Ptotal= 80.82 mm	Comments: 50yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	13.74	6.75	5.66	10.00	0.81
0.50	0.81	3.75	13.74	7.00	5.66	10.25	0.81
0.75	0.81	4.00	13.74	7.25	5.66	10.50	0.81
1.00	0.81	4.25	13.74	7.50	3.23	10.75	0.81
1.25	0.81	4.50	37.17	7.75	3.23	11.00	0.81
1.50	0.81	4.75	37.17	8.00	3.23	11.25	0.81
1.75	0.81	5.00	37.17	8.25	3.23	11.50	0.81
2.00	0.81	5.25	37.17	8.50	1.62	11.75	0.81
2.25	0.81	5.50	10.50	8.75	1.62	12.00	0.81
2.50	4.85	5.75	10.50	9.00	1.62	12.25	0.81
2.75	4.85	6.00	10.50	9.25	1.62		
3.00	4.85	6.25	10.50	9.50	0.81		
3.25	4.85	6.50	5.66	9.75	0.81		

CALIB					
STANDHYD (2271)	Area (ha)= 3.14				
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.88	1.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	144.68	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

		IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=		37.17	27.92
over (min)		5.00	20.00
Storage Coeff. (min)=		4.74 (ii)	16.49 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.22	0.06

		TOTALS
PEAK FLOW	(cms)=	0.19	0.09	0.280 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	47.13	66.74
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.58	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (2272)	Area (ha)= 1.71				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.43
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	106.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.92
over (min)		5.00	20.00
Storage Coeff. (min)=		3.95 (ii)	15.70 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.24	0.07

		TOTALS
PEAK FLOW	(cms)=	0.13	0.03	0.162 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	47.13	71.64
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.58	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0016)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (2271):	3.14	0.280	5.25	66.74
	+ ID2= 2 (2272):	1.71	0.162	5.25	71.64
	ID = 3 (0016):	4.85	0.442	5.25	68.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0075)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1		0.0000	0.0000	0.4480	0.2100
DT= 5.0 min		0.0480	0.1200	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0016)	4.850	0.442	5.25	68.47
OUTFLOW: ID= 1 (0075)	4.850	0.251	5.42	68.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 56.86
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1661

CALIB	STANDHYD (1791)	ID= 1 DT= 5.0 min	Area (ha)= 2.67	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.67
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	133.42	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.24
over (min)		5.00	20.00
Storage Coeff. (min)=		4.51 (ii)	16.39 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.06
			TOTALS
PEAK FLOW	(cms)=	0.21	0.04 0.251 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	45.80 71.31
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.57 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (1792)	ID= 1 DT= 5.0 min	Area (ha)= 1.37	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.03	0.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	95.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.24
over (min)		5.00	20.00
Storage Coeff. (min)=		3.69 (ii)	15.57 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.25	0.07
			TOTALS
PEAK FLOW	(cms)=	0.11	0.02 0.129 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	45.80 71.31
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.57 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1791):	2.67	0.251	5.25	71.31
	+ ID2= 2 (1792):	1.37	0.129	5.25	71.31
	ID = 3 (0020):	4.04	0.380	5.25	71.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0076)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1		0.0000	0.0000	0.1580	0.2100
DT= 5.0 min		0.0480	0.1200	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	4.040	0.380	5.25	71.31
OUTFLOW: ID= 1 (0076)	4.040	0.111	6.25	71.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.10
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.1713

CALIB	STANDHYD (7001)	ID= 1 DT= 5.0 min	Area (ha)= 0.61	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.55	0.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	63.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	********
over (min)		5.00	10.00
Storage Coeff. (min)=		2.90 (ii)	7.25 (ii)

		IMPERVIOUS	PERVIOUS (i)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14
			TOTALS
PEAK FLOW	(cms)=	0.06	0.01 0.062 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	56.18 77.45
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.70 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (7002)	ID= 1 DT= 5.0 min	Area (ha)= 0.65	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.07
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	65.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	********
over (min)		5.00	10.00
Storage Coeff. (min)=		2.95 (ii)	7.31 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.13
			TOTALS
PEAK FLOW	(cms)=	0.06	0.01 0.066 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	56.18 77.45
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.70 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7001):	0.61	0.062	5.25	77.45
	+ ID2= 2 (7002):	0.65	0.066	5.25	77.45
	ID = 3 (0023):	1.26	0.128	5.25	77.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0077)		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1		0.0000	0.0000	0.1120	0.0525
DT= 5.0 min		0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

INFLOW : ID= 2 (0023)		1.260	0.128	5.25	77.45
OUTFLOW: ID= 1 (0077)		1.260	0.090	5.33	76.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 70.11
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0480

CALIB	STANDHYD (1001)	ID= 1 DT= 5.0 min	Area (ha)= 0.08	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.07	0.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	23.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.22
over (min)		5.00	10.00
Storage Coeff. (min)=		1.58 (ii)	5.93 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.33	0.15
			TOTALS
PEAK FLOW	(cms)=	0.01	0.00 0.008 (iii)
TIME TO PEAK	(hrs)=	4.67	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	47.13 76.54
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.58 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (1002)	ID= 1 DT= 5.0 min	Area (ha)= 0.22	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.20	0.02
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	30.30	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.22
over (min)		5.00	10.00
Storage Coeff. (min)=		2.13 (ii)	6.49 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.31	0.14
			TOTALS
PEAK FLOW	(cms)=	0.02	0.00 0.022 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	47.13 76.54
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.58 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1001):		0.08	0.008	5.25	76.54
+ ID2= 2 (1002):		0.22	0.022	5.25	76.54
ID = 3 (0007):		0.30	0.030	5.25	76.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0087)					
IN= 2---> OUT= 1					
DT= 5.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.1120	0.0525
		0.0120	0.0300	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0007)	0.300	0.030	5.25	76.54
OUTFLOW: ID= 1 (0087)	0.300	0.006	6.33	74.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.98
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0151

CALIB			
STANDHYD (1003)	Area	(ha)=	0.71
ID= 1 DT= 5.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.17	0.54
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	68.80	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.92
over (min)		5.00	15.00
Storage Coeff. (min)=		3.03 (ii)	14.79 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.27	0.08

		TOTALS
PEAK FLOW	(cms)=	0.02 0.04 0.056 (iii)
TIME TO PEAK	(hrs)=	4.92 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 47.13 54.97
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.58 0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0098)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0087):		0.30	0.006	6.33	74.44
+ ID2= 2 (1003):		0.71	0.056	5.25	54.97
ID = 3 (0098):		1.01	0.061	5.25	60.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (6032)	Area	(ha)=	0.34
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.03
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	47.61	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.28
over (min)		5.00	10.00
Storage Coeff. (min)=		2.43 (ii)	6.79 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.30	0.14

		TOTALS
PEAK FLOW	(cms)=	0.03 0.00 0.034 (iii)
TIME TO PEAK	(hrs)=	4.83 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 51.42 76.97
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.64 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (6033)	Area	(ha)=	0.49
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.44	0.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	57.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.28
over (min)		5.00	10.00
Storage Coeff. (min)=		2.71 (ii)	7.07 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.29	0.14

		TOTALS
PEAK FLOW	(cms)=	0.05 0.00 0.050 (iii)
TIME TO PEAK	(hrs)=	4.92 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 51.42 76.97
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.64 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)

ID1= 1 (6032):		0.34	0.034	5.25	76.97
+ ID2= 2 (6033):		0.49	0.050	5.25	76.97
ID = 3 (0054):		0.83	0.084	5.25	76.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0071)					
IN= 2---> OUT= 1					
DT= 5.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.1120	0.0525
		0.0120	0.0300	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0054)	0.830	0.084	5.25	76.97
OUTFLOW: ID= 1 (0071)	0.830	0.042	5.33	76.21

PEAK FLOW REDUCTION [Qout/Qin](%)= 50.18
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0369

CALIB			
STANDHYD (6031)	Area	(ha)=	0.60
ID= 1 DT= 5.0 min	Total Imp(%)=	45.00	Dir. Conn.(%)= 45.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.27	0.33
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	63.25	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	30.02
over (min)		5.00	15.00
Storage Coeff. (min)=		2.88 (ii)	14.30 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.28	0.08

		TOTALS
PEAK FLOW	(cms)=	0.03 0.03 0.053 (iii)
TIME TO PEAK	(hrs)=	4.92 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 51.42 64.18
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.64 0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0099)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0071):		0.83	0.042	5.33	76.21
+ ID2= 2 (6031):		0.60	0.053	5.25	64.18
ID = 3 (0099):		1.43	0.093	5.25	71.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB

STANDHYD (2511)				
ID= 1 DT= 5.0 min	Area	(ha)=	1.82	
	Total Imp(%)=	75.00	Dir. Conn.(%)=	75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.37	0.46
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	110.15	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.24
over (min)		5.00	20.00
Storage Coeff. (min)=		4.02 (ii)	15.90 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.24	0.07

		TOTALS
PEAK FLOW	(cms)=	0.14 0.03 0.171 (iii)
TIME TO PEAK	(hrs)=	5.17 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 45.80 71.31
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.57 0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (2512)	Area	(ha)=	0.51
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.46	0.05
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	58.31	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	27.55
over (min)		5.00	10.00
Storage Coeff. (min)=		2.75 (ii)	7.10 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14

		TOTALS
PEAK FLOW	(cms)=	0.05 0.00 0.051 (iii)
TIME TO PEAK	(hrs)=	4.92 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 45.80 76.41
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.57 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0010)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (2511):		1.82	0.171	5.25	71.31
+ ID2= 2 (2512):		0.51	0.051	5.25	76.41
ID = 3 (0010):		2.33	0.222	5.25	72.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0072)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.1680	0.1050	
	0.0240	0.0600	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0010)	2.330	0.222	5.25	72.43
OUTFLOW: ID= 1 (0072)	2.330	0.116	5.33	72.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 52.20
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0889

CALIB				
STANDHYD (2513)	Area (ha)= 0.46			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.41	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	55.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	********
over (min)	5.00	10.00
Storage Coeff. (min)=	2.66 (ii)	7.02 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.14

		TOTALS
PEAK FLOW (cms)=	0.04	0.046 (iii)
TIME TO PEAK (hrs)=	4.92	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	76.41
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0073)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.1120	0.0525	
	0.0120	0.0300	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2513)	0.460	0.046	5.25	76.41
OUTFLOW: ID= 1 (0073)	0.460	0.009	6.33	75.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.98
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0231

CALIB

STANDHYD (2514)	Area (ha)= 0.44			
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.11	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	54.16	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	27.24
over (min)	5.00	15.00
Storage Coeff. (min)=	2.63 (ii)	14.50 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.29	0.08

		TOTALS
PEAK FLOW (cms)=	0.01	0.02	0.034 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	45.80	53.95
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.57	0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0100)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0072):	2.33	0.116	5.33	72.16
+ ID2= 2 (0073):	0.46	0.009	6.33	75.05
ID = 3 (0100):	2.79	0.125	5.33	72.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0100)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0100):	2.79	0.125	5.33	72.63
+ ID2= 2 (2514):	0.44	0.034	5.25	53.95
ID = 1 (0100):	3.23	0.153	5.25	70.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (2482)	Area (ha)= 1.24			
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.74	0.50
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	90.92	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	29.32
over (min)	5.00	20.00
Storage Coeff. (min)=	3.58 (ii)	15.11 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.26	0.07

PEAK FLOW (cms)=	0.08	0.04	*TOTALS* 0.113 (iii)
TIME TO PEAK (hrs)=	5.08	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	49.94	67.86
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.62	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0074)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0840	0.0525	
	0.0120	0.0300	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (2482)	1.240	0.113	5.25	67.86
OUTFLOW: ID= 1 (0074)	1.240	0.054	5.50	67.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 47.95
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0432

CALIB				
STANDHYD (2481)	Area (ha)= 0.49			
ID= 1 DT= 5.0 min	Total Imp(%)= 36.00	Dir. Conn.(%)= 36.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.18	0.31
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	29.32
over (min)	5.00	15.00
Storage Coeff. (min)=	2.71 (ii)	14.24 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.29	0.08

		TOTALS
PEAK FLOW (cms)=	0.02	0.02	0.042 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	49.94	60.68
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.62	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0101)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0074):	1.24	0.054	5.50	67.35
+ ID2= 2 (2481):	0.49	0.042	5.25	60.68

ID = 3 (0101):	1.73	0.091	5.25	65.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (1231)	Area (ha)= 1.34			
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.00	0.34
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	94.52	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	28.96
over (min)	5.00	20.00
Storage Coeff. (min)=	3.67 (ii)	15.26 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.07

		TOTALS
PEAK FLOW (cms)=	0.10	0.02	0.128 (iii)
TIME TO PEAK (hrs)=	5.08	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	48.19	71.90
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.60	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (1232)	Area (ha)= 1.44			
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.08	0.36
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	97.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	28.96
over (min)	5.00	20.00
Storage Coeff. (min)=	3.75 (ii)	15.34 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.07

		TOTALS
PEAK FLOW (cms)=	0.11	0.03	0.137 (iii)
TIME TO PEAK (hrs)=	5.17	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	48.19	71.90
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.60	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

ADD HYD (0026)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1231):	1.34	0.128	5.25	71.90
	+ ID2= 2 (1232):	1.44	0.137	5.25	71.90
	ID = 3 (0026):	2.78	0.265	5.25	71.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0078)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.2240	0.1050
		0.0240	0.0600	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0026)	2.780	0.265	5.25	71.90
OUTFLOW: ID= 1 (0078)	2.780	0.176	5.33	71.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 66.51
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0947

CALIB					
STANDHYD (1233)	Area (ha)= 0.66				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.17
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	66.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	28.96
over (min)	5.00	15.00
Storage Coeff. (min)=	2.97 (ii)	14.55 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.08

		TOTALS
PEAK FLOW (cms)=	0.05	0.01 0.063 (iii)
TIME TO PEAK (hrs)=	4.92	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	48.19 71.90
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.60 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1234)	Area (ha)= 1.47				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.10	0.37
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	98.99	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	28.96		
over (min)	5.00	20.00		
Storage Coeff. (min)=	3.77 (ii)	15.36 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.25	0.07		
			TOTALS	
PEAK FLOW (cms)=	0.11	0.03	0.140 (iii)	
TIME TO PEAK (hrs)=	5.17	5.25	5.25	
RUNOFF VOLUME (mm)=	79.82	48.19	71.91	
TOTAL RAINFALL (mm)=	80.82	80.82	80.82	
RUNOFF COEFFICIENT =	0.99	0.60	0.89	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0027)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1233):	0.66	0.063	5.25	71.90
	+ ID2= 2 (1234):	1.47	0.140	5.25	71.91
	ID = 3 (0027):	2.13	0.203	5.25	71.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0079)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.2240	0.1050
		0.0240	0.0600	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0027)	2.130	0.203	5.25	71.90
OUTFLOW: ID= 1 (0079)	2.130	0.114	5.33	71.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 55.95
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0802

ADD HYD (0102)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0078):	2.78	0.176	5.33	71.68
	+ ID2= 2 (0079):	2.13	0.114	5.33	71.61
	ID = 3 (0102):	4.91	0.290	5.33	71.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (1224)	Area (ha)= 1.20	Curve Number (CN)= 86.0			
ID= 1 DT= 5.0 min	Ia (mm)= 6.00	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.20				

Unit Hyd Qpeak (cms)= 0.229

PEAK FLOW (cms)= 0.092 (i)

TIME TO PEAK (hrs)=	5.250			
RUNOFF VOLUME (mm)=	48.097			
TOTAL RAINFALL (mm)=	80.820			
RUNOFF COEFFICIENT =	0.595			

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1221)	Area (ha)= 2.55				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.91	0.64
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	130.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	28.96
over (min)	5.00	20.00
Storage Coeff. (min)=	4.45 (ii)	16.04 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.23	0.06

		TOTALS
PEAK FLOW (cms)=	0.20	0.05 0.243 (iii)
TIME TO PEAK (hrs)=	5.17	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	48.19 71.91
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.60 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1222)	Area (ha)= 0.34				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	29.25
over (min)	5.00	10.00
Storage Coeff. (min)=	2.43 (ii)	6.79 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.14

		TOTALS
PEAK FLOW (cms)=	0.03	0.00 0.034 (iii)
TIME TO PEAK (hrs)=	4.83	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	48.19 76.65
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.60 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (1221):	2.55	0.243	5.25	71.91
	+ ID2= 2 (1222):	0.34	0.034	5.25	76.65
	ID = 3 (0030):	2.89	0.277	5.25	72.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0080)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.2530	0.1575
		0.0360	0.0900	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0030)	2.890	0.277	5.25	72.47
OUTFLOW: ID= 1 (0080)	2.890	0.119	5.42	72.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.11
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1160

CALIB					
STANDHYD (1223)	Area (ha)= 0.37				
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.15
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	49.67	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	37.17	28.96
over (min)	5.00	15.00
Storage Coeff. (min)=	2.49 (ii)	14.08 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.29	0.08

		TOTALS
PEAK FLOW (cms)=	0.02	0.01 0.034 (iii)
TIME TO PEAK (hrs)=	4.83	5.25 5.25
RUNOFF VOLUME (mm)=	79.82	48.19 67.15
TOTAL RAINFALL (mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT =	0.99	0.60 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0088)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.0150	0.0525

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1223)	0.370	0.034	5.25	67.15

OUTFLOW: ID= 1 (0088) 0.370 0.005 7.25 64.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.66
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 0.0174

ADD HYD (0103)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0080):	2.89	0.119	5.42	72.25
	+ ID2= 2 (0088):	0.37	0.005	7.25	64.75
	ID = 3 (0103):	3.26	0.124	5.42	71.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0103)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0103):	3.26	0.124	5.42	71.40
	+ ID2= 2 (1224):	1.20	0.092	5.25	48.10
	ID = 1 (0103):	4.46	0.207	5.33	65.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (1201) | ID= 1 DT= 5.0 min	Area (ha)= 0.80 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		5.00	15.00
Storage Coeff. (min)=		3.14 (ii)	14.73 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.27	0.08

		TOTALS
PEAK FLOW	(cms)=	0.05 0.02 0.073 (iii)
TIME TO PEAK	(hrs)=	5.00 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 48.19 67.16
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.60 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0089) | IN= 2---> OUT= 1 | DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (1201)	0.800	0.073	5.25	67.16
OUTFLOW: ID= 1 (0089)	0.800	0.022	6.25	66.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.05
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0322

CALIB STANDHYD (1202) | ID= 1 DT= 5.0 min	Area (ha)= 2.01 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.21	0.80
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	115.76	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	28.96
over (min)		5.00	20.00
Storage Coeff. (min)=		4.14 (ii)	15.73 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.24	0.07

		TOTALS
PEAK FLOW	(cms)=	0.12 0.06 0.182 (iii)
TIME TO PEAK	(hrs)=	5.17 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 48.19 67.16
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.60 0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (1203) | ID= 1 DT= 5.0 min	Area (ha)= 0.78 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.70	0.08
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	29.25
over (min)		5.00	10.00
Storage Coeff. (min)=		3.12 (ii)	7.47 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.27	0.13

		TOTALS
PEAK FLOW	(cms)=	0.07 0.01 0.079 (iii)
TIME TO PEAK	(hrs)=	5.00 5.25 5.25
RUNOFF VOLUME	(mm)=	79.82 48.19 76.65
TOTAL RAINFALL	(mm)=	80.82 80.82 80.82
RUNOFF COEFFICIENT	=	0.99 0.60 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0038)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (1202):	2.01	0.182	5.25	67.16
	+ ID2= 2 (1203):	0.78	0.079	5.25	76.65
	ID = 3 (0038):	2.79	0.261	5.25	69.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0081) | IN= 2---> OUT= 1 | DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2240	0.1050
	0.0240	0.0600	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0038)	2.790	0.261	5.25	69.82
OUTFLOW: ID= 1 (0081)	2.790	0.167	5.33	69.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 64.13
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0924

ADD HYD (0104)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0081):	2.79	0.167	5.33	69.59
	+ ID2= 2 (0089):	0.80	0.022	6.25	66.37
	ID = 3 (0104):	3.59	0.179	5.33	68.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 6 **
****

READ STORM | Ptotal= 88.54 mm	Filename: C:\Users\p001279d\AppData\Local\Temp\41172be6-0c07-4dd1-9e1f-2d9947dd6300\e7af1a94 Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

CALIB STANDHYD (2271) | ID= 1 DT= 5.0 min	Area (ha)= 3.14 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.88	1.26
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	144.68	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

Max.Eff.Inten.(mm/hr)=		40.71	31.55
over (min)		5.00	20.00
Storage Coeff. (min)=		4.57 (ii)	15.76 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.07

		TOTALS
PEAK FLOW	(cms)=	0.21 0.10 0.311 (iii)
TIME TO PEAK	(hrs)=	5.17 5.25 5.25
RUNOFF VOLUME	(mm)=	87.54 53.77 74.03
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.61 0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (2272)	ID= 1 DT= 5.0 min	Area (ha)= 1.71 Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.43
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	106.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.55
over (min)		5.00	20.00
Storage Coeff. (min)=		3.81 (ii)	15.00 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.25	0.07

		TOTALS
PEAK FLOW	(cms)=	0.15 0.03 0.179 (iii)
TIME TO PEAK	(hrs)=	5.17 5.25 5.25
RUNOFF VOLUME	(mm)=	87.54 53.77 79.09
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.61 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0016)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (2271):		3.14	0.311	5.25	74.03
+ ID2= 2 (2272):		1.71	0.179	5.25	79.09
ID = 3 (0016):		4.85	0.490	5.25	75.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0075)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.4480	0.2100
			0.0480	0.1200	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0016)	4.850	0.490	5.25	75.81
OUTFLOW: ID= 1 (0075)	4.850	0.301	5.33	75.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 61.33
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.1770

CALIB	STANDHYD (1791)	ID= 1 DT= 5.0 min	Area (ha)= 2.67 Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.67
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	133.42	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.84
over (min)		5.00	20.00
Storage Coeff. (min)=		4.35 (ii)	15.65 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00
Unit Hyd. peak (cms)=		0.23	0.07

		TOTALS
PEAK FLOW	(cms)=	0.23 0.05 0.277 (iii)
TIME TO PEAK	(hrs)=	5.17 5.25 5.25
RUNOFF VOLUME	(mm)=	87.54 52.33 78.74
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.59 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (1792)	ID= 1 DT= 5.0 min	Area (ha)= 1.37 Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.03	0.34
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	95.57	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	30.84
over (min)		5.00	15.00
Storage Coeff. (min)=		3.56 (ii)	14.86 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.26	0.08

		TOTALS
PEAK FLOW	(cms)=	0.12 0.03 0.143 (iii)
TIME TO PEAK	(hrs)=	5.08 5.25 5.25
RUNOFF VOLUME	(mm)=	87.54 52.33 78.73
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.59 0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0020)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (1791):		2.67	0.277	5.25	78.74
+ ID2= 2 (1792):		1.37	0.143	5.25	78.73
ID = 3 (0020):		4.04	0.420	5.25	78.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0076)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.1580	0.2100
			0.0480	0.1200	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0020)	4.040	0.420	5.25	78.73
OUTFLOW: ID= 1 (0076)	4.040	0.128	6.00	78.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.43
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.1854

CALIB	STANDHYD (7001)	ID= 1 DT= 5.0 min	Area (ha)= 0.61 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.55	0.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	63.77	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	********
over (min)		5.00	10.00
Storage Coeff. (min)=		2.79 (ii)	6.99 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14

		TOTALS
PEAK FLOW	(cms)=	0.06 0.01 0.068 (iii)
TIME TO PEAK	(hrs)=	4.92 5.25 5.25
RUNOFF VOLUME	(mm)=	87.54 63.38 85.12
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.72 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	STANDHYD (7002)	ID= 1 DT= 5.0 min	Area (ha)= 0.65 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.07
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	65.83	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	********
over (min)		5.00	10.00
Storage Coeff. (min)=		2.85 (ii)	7.05 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14

		TOTALS
PEAK FLOW	(cms)=	0.07 0.01 0.073 (iii)
TIME TO PEAK	(hrs)=	4.92 5.25 5.25
RUNOFF VOLUME	(mm)=	87.54 63.38 85.12
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.72 0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0023)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7001):		0.61	0.068	5.25	85.12
+ ID2= 2 (7002):		0.65	0.073	5.25	85.12
ID = 3 (0023):		1.26	0.141	5.25	85.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0077)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.1120	0.0525
			0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0023)	1.260	0.141	5.25	85.12
OUTFLOW: ID= 1 (0077)	1.260	0.102	5.25	84.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 72.60
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.0509

CALIB	STANDHYD (1001)	ID= 1 DT= 5.0 min	Area (ha)= 0.08 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.07	0.01
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	23.09	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	31.86
over (min)		5.00	10.00
Storage Coeff. (min)=		1.52 (ii)	5.72 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.33	0.15

		TOTALS
PEAK FLOW	(cms)=	0.01 0.00 0.009 (iii)
TIME TO PEAK	(hrs)=	4.67 5.25 5.25
RUNOFF VOLUME	(mm)=	87.54 53.77 84.15
TOTAL RAINFALL	(mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT	=	0.99 0.61 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (1002)	Area (ha)= 0.22				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.20	0.02
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	38.30	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	31.86
over (min)	5.00	10.00
Storage Coeff. (min)=	2.06 (ii)	6.26 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.31	0.15

		TOTALS
PEAK FLOW	(cms)=	0.024 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	84.15
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0007)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (1001):	0.08	0.009	5.25	84.15	
+ ID2= 2 (1002):	0.22	0.024	5.25	84.15	
ID = 3 (0007):	0.30	0.033	5.25	84.15	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0087)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0007)	0.300	0.033	5.25	84.15
OUTFLOW: ID= 1 (0087)	0.300	0.007	6.33	82.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.00
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0166

CALIB					
STANDHYD (1003)	Area (ha)= 0.71				
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.17	0.54
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	68.80	40.00
Mannings n =	0.013	0.250

	IMPERVIOUS	PERVIOUS (i)
Max.Eff.Inten.(mm/hr)=	40.71	31.55
over (min)	5.00	15.00
Storage Coeff. (min)=	2.92 (ii)	14.12 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.28	0.08

		TOTALS
PEAK FLOW	(cms)=	0.063 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	61.86
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0098)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0087):	0.30	0.007	6.33	82.05	
+ ID2= 2 (1003):	0.71	0.063	5.25	61.86	
ID = 3 (0098):	1.01	0.069	5.25	67.86	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (6032)	Area (ha)= 0.34				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	33.98
over (min)	5.00	10.00
Storage Coeff. (min)=	2.34 (ii)	6.54 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.14

		TOTALS
PEAK FLOW	(cms)=	0.038 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	84.61
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (6033)	Area (ha)= 0.49				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

	IMPERVIOUS	PERVIOUS (i)

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.44	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	57.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	33.98
over (min)	5.00	10.00
Storage Coeff. (min)=	2.62 (ii)	6.81 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.29	0.14

		TOTALS
PEAK FLOW	(cms)=	0.054 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	84.61
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0054)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (6032):	0.34	0.038	5.25	84.61	
+ ID2= 2 (6033):	0.49	0.054	5.25	84.61	
ID = 3 (0054):	0.83	0.092	5.25	84.61	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0071)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0525
	0.0120	0.0300	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0054)	0.830	0.092	5.25	84.61
OUTFLOW: ID= 1 (0071)	0.830	0.052	5.33	83.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 56.81
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0393

CALIB					
STANDHYD (6031)	Area (ha)= 0.60				
ID= 1 DT= 5.0 min	Total Imp(%)= 45.00	Dir. Conn.(%)= 45.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.27	0.33
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	63.25	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	33.72
over (min)	5.00	15.00
Storage Coeff. (min)=	2.78 (ii)	13.68 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00

	IMPERVIOUS	PERVIOUS (i)
Unit Hyd. peak (cms)=	0.28	0.08

		TOTALS
PEAK FLOW	(cms)=	0.060 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	71.47
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 87.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0099)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0071):	0.83	0.052	5.33	83.86	
+ ID2= 2 (6031):	0.60	0.060	5.25	71.47	
ID = 3 (0099):	1.43	0.110	5.25	78.66	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (2511)	Area (ha)= 1.82				
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.46
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	110.15	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	30.84
over (min)	5.00	20.00
Storage Coeff. (min)=	3.88 (ii)	15.18 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.07

		TOTALS
PEAK FLOW	(cms)=	0.189 (iii)
TIME TO PEAK	(hrs)=	5.25
RUNOFF VOLUME	(mm)=	78.73
TOTAL RAINFALL	(mm)=	88.54
RUNOFF COEFFICIENT	=	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (2512)	Area (ha)= 0.51				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.46	0.05
Dep. Storage (mm)=	1.00	4.00
Average Slope (%)=	1.00	2.00
Length (m)=	58.31	40.00
Mannings n =	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      40.71        31.16
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.65 (ii)    6.85 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.29         0.14
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.05         0.00      0.056 (iii)
     TIME TO PEAK    (hrs)=      4.92         5.25       5.25
     RUNOFF VOLUME    (mm)=     87.54        52.33      84.01
     TOTAL RAINFALL   (mm)=     88.54        88.54      88.54
     RUNOFF COEFFICIENT   =      0.99         0.59       0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0010) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (2511):     1.82   0.189     5.25    78.73
       + ID2= 2 (2512):     0.51   0.056     5.25    84.01
         ==========================================
         ID = 3 (0010):     2.33   0.245     5.25    79.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (0072) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.1680     0.1050
                         0.0240     0.0600   |  0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0010)    2.330     0.245      5.25      79.89
     OUTFLOW: ID= 1 (0072)    2.330     0.137      5.33      79.62

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 55.66
                    TIME SHIFT OF PEAK FLOW         (min)=  5.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0952

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| CALIB            |
| STANDHYD  (2513) |   Area    (ha)=   0.46
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.41         0.05
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     55.38        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.57 (ii)    6.77 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.29         0.14
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.05         0.00      0.051 (iii)
     TIME TO PEAK    (hrs)=      4.83         5.25       5.25
     RUNOFF VOLUME    (mm)=     87.54        52.33      84.01
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     TOTAL RAINFALL   (mm)=      88.54        88.54      88.54
     RUNOFF COEFFICIENT   =      0.99         0.59       0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0073) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.1120     0.0525
                         0.0120     0.0300   |  0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2513)    0.460     0.051      5.25      84.01
     OUTFLOW: ID= 1 (0073)    0.460     0.010      6.33      82.64

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.00
                    TIME SHIFT OF PEAK FLOW         (min)= 65.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0254

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-------------------
| CALIB            |
| STANDHYD  (2514) |   Area    (ha)=   0.44
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.11         0.33
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     54.16        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        30.84
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      2.53 (ii)   13.83 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.29         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.01         0.03      0.038 (iii)
     TIME TO PEAK    (hrs)=      4.83         5.25       5.25
     RUNOFF VOLUME    (mm)=     87.54        52.33      60.76
     TOTAL RAINFALL   (mm)=     88.54        88.54      88.54
     RUNOFF COEFFICIENT   =      0.99         0.59       0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  83.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0100) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0072):     2.33   0.137     5.33    79.62
       + ID2= 2 (0073):     0.46   0.010     6.33    82.64
         ==========================================
         ID = 3 (0100):     2.79   0.146     5.33    80.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD   (0100) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0100):     2.79   0.146     5.33    80.12
       + ID2= 2 (2514):     0.44   0.038     5.25    60.76
         ==========================================
         ID = 1 (0100):     3.23   0.179     5.25    77.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (2482) |   Area    (ha)=   1.24
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.74         0.50
     Dep. Storage     (mm)=      1.00         4.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     90.92        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        32.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      3.46 (ii)   14.45 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.26         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.08         0.04      0.126 (iii)
     TIME TO PEAK    (hrs)=      5.08         5.25       5.25
     RUNOFF VOLUME    (mm)=     87.54        56.77      75.23
     TOTAL RAINFALL   (mm)=     88.54        88.54      88.54
     RUNOFF COEFFICIENT   =      0.99         0.64       0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0074) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0840     0.0525
                         0.0120     0.0300   |  0.0000     0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (2482)    1.240     0.126      5.25      75.23
     OUTFLOW: ID= 1 (0074)    1.240     0.066      5.42      74.72

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 52.04
                    TIME SHIFT OF PEAK FLOW         (min)= 10.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0468

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-------------------
| CALIB            |
| STANDHYD  (2481) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  36.00   Dir. Conn.(%)=  36.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.18         0.31
     Dep. Storage     (mm)=      1.00         4.00
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     Average Slope     (%)=      1.00         2.00
     Length            (m)=     57.15        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        32.99
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      2.62 (ii)   13.61 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.29         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.02         0.03      0.047 (iii)
     TIME TO PEAK    (hrs)=      4.83         5.25       5.25
     RUNOFF VOLUME    (mm)=     87.54        56.77      67.83
     TOTAL RAINFALL   (mm)=     88.54        88.54      88.54
     RUNOFF COEFFICIENT   =      0.99         0.64       0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0101) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0074):     1.24   0.066     5.42    74.72
       + ID2= 2 (2481):     0.49   0.047     5.25    67.83
         ==========================================
         ID = 3 (0101):     1.73   0.108     5.25    72.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CALIB            |
| STANDHYD  (1231) |   Area    (ha)=   1.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.00         0.34
     Dep. Storage     (mm)=      1.00         6.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     94.52        40.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     40.71        32.66
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      3.54 (ii)   14.58 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.26         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.11         0.03      0.142 (iii)
     TIME TO PEAK    (hrs)=      5.08         5.25       5.25
     RUNOFF VOLUME    (mm)=     87.54        54.99      79.40
     TOTAL RAINFALL   (mm)=     88.54        88.54      88.54
     RUNOFF COEFFICIENT   =      0.99         0.62       0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (1232) |   Area    (ha)=   1.44
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|ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.08	0.36
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	97.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	5.00	15.00
Storage Coeff. (min)=	3.62 (ii)	14.66 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.25	0.08

	TOTALS
PEAK FLOW (cms)=	0.12 0.03 0.152 (iii)
TIME TO PEAK (hrs)=	5.08 5.25 5.25
RUNOFF VOLUME (mm)=	87.54 54.99 79.40
TOTAL RAINFALL (mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT =	0.99 0.62 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0026)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1231):		1.34	0.142	5.25	79.40
+ ID2= 2 (1232):		1.44	0.152	5.25	79.40
ID = 3 (0026):		2.78	0.294	5.25	79.40

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0078)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.2240	0.1050
		0.0240	0.0600	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0026)	2.780	0.294	5.25	79.40
OUTFLOW: ID= 1 (0078)	2.780	0.205	5.33	79.17

PEAK FLOW REDUCTION [Qout/Qin](%)= 69.57
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.1012

CALIB				
STANDHYD (1233)		Area	(ha)=	0.66
ID= 1 DT= 5.0 min		Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.50	0.17
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	66.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66

over (min)		5.00	15.00		
Storage Coeff. (min)=		2.86 (ii)	13.90 (ii)		
Unit Hyd. Tpeak (min)=		5.00	15.00		
Unit Hyd. peak (cms)=		0.28	0.08		
				TOTALS	
PEAK FLOW	(cms)=	0.06	0.01	0.070	(iii)
TIME TO PEAK	(hrs)=	4.92	5.25	5.25	
RUNOFF VOLUME	(mm)=	87.54	54.99	79.39	
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54	
RUNOFF COEFFICIENT	=	0.99	0.62	0.90	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (1234)		Area	(ha)=	1.47
ID= 1 DT= 5.0 min		Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.10	0.37
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	98.99	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	5.00	15.00
Storage Coeff. (min)=	3.64 (ii)	14.68 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.25	0.08

	TOTALS
PEAK FLOW (cms)=	0.12 0.03 0.155 (iii)
TIME TO PEAK (hrs)=	5.17 5.25 5.25
RUNOFF VOLUME (mm)=	87.54 54.99 79.40
TOTAL RAINFALL (mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT =	0.99 0.62 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0027)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1233):		0.66	0.070	5.25	79.39
+ ID2= 2 (1234):		1.47	0.155	5.25	79.40
ID = 3 (0027):		2.13	0.225	5.25	79.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0079)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.2240	0.1050
		0.0240	0.0600	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0027)	2.130	0.225	5.25	79.39
OUTFLOW: ID= 1 (0079)	2.130	0.138	5.33	79.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 61.26
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0859

ADD HYD (0102)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0078):		2.78	0.205	5.33	79.17
+ ID2= 2 (0079):		2.13	0.138	5.33	79.10
ID = 3 (0102):		4.91	0.343	5.33	79.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (1224)		Area	(ha)=	1.20	Curve Number (CN)= 86.0
ID= 1 DT= 5.0 min		Ia	(mm)=	6.00	# of Linear Res.(N)= 3.00
		U.H. Tp(hrs)=		0.20	

Unit Hyd Qpeak (cms)= 0.229

PEAK FLOW	(cms)=	0.105 (i)
TIME TO PEAK	(hrs)=	5.250
RUNOFF VOLUME	(mm)=	54.887
TOTAL RAINFALL	(mm)=	88.540
RUNOFF COEFFICIENT	=	0.620

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (1221)		Area	(ha)=	2.55
ID= 1 DT= 5.0 min		Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.91	0.64
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	130.38	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.66
over (min)	5.00	20.00
Storage Coeff. (min)=	4.29 (ii)	15.33 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.23	0.07

	TOTALS
PEAK FLOW (cms)=	0.22 0.05 0.268 (iii)
TIME TO PEAK (hrs)=	5.17 5.25 5.25
RUNOFF VOLUME (mm)=	87.54 54.99 79.40
TOTAL RAINFALL (mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT =	0.99 0.62 0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (1222)		Area	(ha)=	0.34
ID= 1 DT= 5.0 min		Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.31	0.03
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	47.61	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	40.71	32.96
over (min)	5.00	10.00
Storage Coeff. (min)=	2.34 (ii)	6.54 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.14

	TOTALS
PEAK FLOW (cms)=	0.03 0.00 0.038 (iii)
TIME TO PEAK (hrs)=	4.83 5.25 5.25
RUNOFF VOLUME (mm)=	87.54 54.99 84.28
TOTAL RAINFALL (mm)=	88.54 88.54 88.54
RUNOFF COEFFICIENT =	0.99 0.62 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0030)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (1221):		2.55	0.268	5.25	79.40
+ ID2= 2 (1222):		0.34	0.038	5.25	84.28
ID = 3 (0030):		2.89	0.306	5.25	79.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0080)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.2530	0.1575
		0.0360	0.0900	0.0000	0.0000

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0030)	2.890	0.306	5.25	79.97
OUTFLOW: ID= 1 (0080)	2.890	0.147	5.42	79.76

PEAK FLOW REDUCTION [Qout/Qin](%)= 47.94
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1246

CALIB				
STANDHYD (1223)		Area	(ha)=	0.37
ID= 1 DT= 5.0 min		Total Imp(%)=	60.00	Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.15
Dep. Storage (mm)=	1.00	6.00
Average Slope (%)=	1.00	2.00
Length (m)=	49.67	40.00
Mannings n =	0.013	0.250

```
     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      2.41 (ii)   13.45 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.30         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.03         0.01     0.038 (iii)
     TIME TO PEAK    (hrs)=      4.83         5.25      5.25
     RUNOFF VOLUME    (mm)=     87.54        54.99     74.50
     TOTAL RAINFALL   (mm)=     88.54        88.54     88.54
     RUNOFF COEFFICIENT   =      0.99         0.62      0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (0088) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0150      0.0525

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1223)     0.370     0.038      5.25      74.50
     OUTFLOW: ID= 1 (0088)     0.370     0.006      7.25      72.11

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.66
                    TIME SHIFT OF PEAK FLOW       (min)=120.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0193

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (0103) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0080):     2.89   0.147     5.42    79.76
       + ID2= 2 (0088):     0.37   0.006     7.25    72.11
         ================================================
         ID = 3 (0103):     3.26   0.151     5.42    78.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD   (0103) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0103):     3.26   0.151     5.42    78.89
       + ID2= 2 (1224):     1.20   0.105     5.25    54.89
         ================================================
         ID = 1 (0103):     4.46   0.247     5.33    72.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1201) |   Area    (ha)=   0.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.32
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
```



```
     Length            (m)=      73.03        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      3.03 (ii)   14.07 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.27         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.05         0.03     0.081 (iii)
     TIME TO PEAK    (hrs)=      5.00         5.25      5.25
     RUNOFF VOLUME    (mm)=     87.54        54.99     74.51
     TOTAL RAINFALL   (mm)=     88.54        88.54     88.54
     RUNOFF COEFFICIENT   =      0.99         0.62      0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (0089) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120      0.0525
                         0.0120     0.0300   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (1201)     0.800     0.081      5.25      74.51
     OUTFLOW: ID= 1 (0089)     0.800     0.029      5.67      73.73

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.22
                    TIME SHIFT OF PEAK FLOW       (min)= 25.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0339

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1202) |   Area    (ha)=   2.01
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.21         0.80
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     115.76        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.00 (ii)   15.04 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.24         0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.14         0.07     0.202 (iii)
     TIME TO PEAK    (hrs)=      5.17         5.25      5.25
     RUNOFF VOLUME    (mm)=     87.54        54.99     74.52
     TOTAL RAINFALL   (mm)=     88.54        88.54     88.54
     RUNOFF COEFFICIENT   =      0.99         0.62      0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```



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--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD  (1203) |   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.70         0.08
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.96
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.01 (ii)    7.21 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.28         0.14
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.08         0.01     0.086 (iii)
     TIME TO PEAK    (hrs)=      5.00         5.25      5.25
     RUNOFF VOLUME    (mm)=     87.54        54.99     84.28
     TOTAL RAINFALL   (mm)=     88.54        88.54     88.54
     RUNOFF COEFFICIENT   =      0.99         0.62      0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0038) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (1202):     2.01   0.202     5.25    74.52
       + ID2= 2 (1203):     0.78   0.086     5.25    84.28
         ================================================
         ID = 3 (0038):     2.79   0.288     5.25    77.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (0081) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2240      0.1050
                         0.0240     0.0600   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0038)     2.790     0.288      5.25      77.25
     OUTFLOW: ID= 1 (0081)     2.790     0.194      5.33      77.02

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 67.21
                    TIME SHIFT OF PEAK FLOW       (min)=  5.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0986

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (0104) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0081):     2.79   0.194     5.33    77.02
       + ID2= 2 (0089):     0.80   0.029     5.67    73.73
         ================================================
         ID = 3 (0104):     3.59   0.219     5.33    76.29
```



```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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Humber Watershed

407 TWY Sub-areas – Proposed Condition with SWM

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         V V    I      SS   U   U A     A L
          VV    I    SSSSS  UUUUU A     A LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O   Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\b3d8a765-aeac-406b-941b-9a2e2ff3789c\Scenario.out

  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\b3d8a765-aeac-406b-941b-9a2e2ff3789c\Scenario.sum


DATE: 06/04/2018                          TIME: 11:08:10

USER:


COMMENTS: _____________________________________________________

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  **************************
  ** SIMULATION NUMBER:   7 **
  **************************


-------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              b3d8a765-aeac-406b-941b-9a2e2ff3789c\1e23840f
| Ptotal= 36.00 mm |    Comments: 2yr/6hr
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   12.24 |   3.75    5.04 |  5.50    0.72
                0.50    0.72 |  2.25   12.24 |   4.00    2.88 |  5.75    0.72
                0.75    0.72 |  2.50   33.12 |   4.25    2.88 |  6.00    0.72
                1.00    0.72 |  2.75   33.12 |   4.50    1.44 |  6.25    0.72
                1.25    0.72 |  3.00    9.36 |   4.75    1.44 |
                1.50    4.32 |  3.25    9.36 |   5.00    0.72 |
                1.75    4.32 |  3.50    5.04 |   5.25    0.72 |

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-------------------
| CALIB           |
| STANDHYD  (4506) |   Area    (ha)=   1.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=  40.88   Dir. Conn.(%)=  40.72
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.55          0.79
```



```
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      94.52         40.00
     Mannings n            =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   0.00 |  1.667   4.32 |  3.250   9.36 |  4.83    0.72
                0.167   0.00 |  1.750   4.32 |  3.333   5.04 |  4.92    0.72
                0.250   0.00 |  1.833  12.24 |  3.417   5.04 |  5.00    0.72
                0.333   0.72 |  1.917  12.24 |  3.500   5.04 |  5.08    0.72
                0.417   0.72 |  2.000  12.24 |  3.583   5.04 |  5.17    0.72
                0.500   0.72 |  2.083  12.24 |  3.667   5.04 |  5.25    0.72
                0.583   0.72 |  2.167  12.24 |  3.750   5.04 |  5.33    0.72
                0.667   0.72 |  2.250  12.24 |  3.833   2.88 |  5.42    0.72
                0.750   0.72 |  2.333  33.12 |  3.917   2.88 |  5.50    0.72
                0.833   0.72 |  2.417  33.12 |  4.000   2.88 |  5.58    0.72
                0.917   0.72 |  2.500  33.12 |  4.083   2.88 |  5.67    0.72
                1.000   0.72 |  2.583  33.12 |  4.167   2.88 |  5.75    0.72
                1.083   0.72 |  2.667  33.12 |  4.250   2.88 |  5.83    0.72
                1.167   0.72 |  2.750  33.12 |  4.333   1.44 |  5.92    0.72
                1.250   0.72 |  2.833   9.36 |  4.417   1.44 |  6.00    0.72
                1.333   4.32 |  2.917   9.36 |  4.500   1.44 |  6.08    0.72
                1.417   4.32 |  3.000   9.36 |  4.583   1.44 |  6.17    0.72
                1.500   4.32 |  3.083   9.36 |  4.667   1.44 |  6.25    0.72
                1.583   4.32 |  3.167   9.36 |  4.750   1.44 |

     Max.Eff.Inten.(mm/hr)=      33.12         11.01
               over (min)        5.00         25.00
     Storage Coeff.  (min)=      3.84 (ii)    20.90 (ii)
     Unit Hyd. Tpeak (min)=      5.00         25.00
     Unit Hyd. peak  (cms)=      0.25          0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.05          0.02          0.061 (iii)
     TIME TO PEAK    (hrs)=      2.75          3.00           2.75
     RUNOFF VOLUME    (mm)=     35.00          9.85          20.08
     TOTAL RAINFALL   (mm)=     36.00         36.00          36.00
     RUNOFF COEFFICIENT   =      0.97          0.27           0.56

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.2     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  42.96   Dir. Conn.(%)=  42.88
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.90          1.20
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     118.32         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.12          9.46
               over (min)        5.00         25.00
     Storage Coeff.  (min)=      4.40 (ii)    22.52 (ii)
     Unit Hyd. Tpeak (min)=      5.00         25.00
     Unit Hyd. peak  (cms)=      0.23          0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.08          0.02          0.096 (iii)
     TIME TO PEAK    (hrs)=      2.75          3.00           2.75
     RUNOFF VOLUME    (mm)=     35.00          8.55          19.88
     TOTAL RAINFALL   (mm)=     36.00         36.00          36.00
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     RUNOFF COEFFICIENT   =      0.97          0.24           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (4512) |   Area    (ha)=   0.29
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.09          0.20
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      43.97         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.12         32.68
               over (min)        5.00         15.00
     Storage Coeff.  (min)=      2.43 (ii)    13.47 (ii)
     Unit Hyd. Tpeak (min)=      5.00         15.00
     Unit Hyd. peak  (cms)=      0.30          0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.01          0.02          0.024 (iii)
     TIME TO PEAK    (hrs)=      2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=     35.00         28.67          30.63
     TOTAL RAINFALL   (mm)=     36.00         36.00          36.00
     RUNOFF COEFFICIENT   =      0.97          0.80           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  99.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (4511) |   Area    (ha)=   1.56
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40          0.16
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     101.98         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.12         29.98
               over (min)        5.00         10.00
     Storage Coeff.  (min)=      4.02 (ii)    8.58 (ii)
     Unit Hyd. Tpeak (min)=      5.00         10.00
     Unit Hyd. peak  (cms)=      0.24          0.12
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.13          0.01          0.141 (iii)
     TIME TO PEAK    (hrs)=      2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=     35.00         24.73          33.97
     TOTAL RAINFALL   (mm)=     36.00         36.00          36.00
     RUNOFF COEFFICIENT   =      0.97          0.69           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  97.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0082) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0300     0.1050

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4511)     1.560     0.141      2.75      33.97
     OUTFLOW: ID= 1 (0082)     1.560     0.012      4.25      33.40

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.57
                   TIME SHIFT OF PEAK FLOW          (min)= 90.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0423

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-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   4.25
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.83          0.43
     Dep. Storage     (mm)=       1.00         10.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     168.33         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.12     ********
               over (min)        5.00         10.00
     Storage Coeff.  (min)=      5.43 (ii)    9.99 (ii)
     Unit Hyd. Tpeak (min)=      5.00         10.00
     Unit Hyd. peak  (cms)=      0.20          0.11
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.35          0.01          0.360 (iii)
     TIME TO PEAK    (hrs)=      2.75          2.83           2.75
     RUNOFF VOLUME    (mm)=     35.00          8.19          32.32
     TOTAL RAINFALL   (mm)=     36.00         36.00          36.00
     RUNOFF COEFFICIENT   =      0.97          0.23           0.90


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.8     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   1.53
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                        IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.38          0.15
     Dep. Storage     (mm)=       1.00         10.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     101.00         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.12     ********
               over (min)        5.00         10.00
     Storage Coeff.  (min)=      4.00 (ii)    8.56 (ii)
     Unit Hyd. Tpeak (min)=      5.00         10.00
     Unit Hyd. peak  (cms)=      0.24          0.12
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.13          0.00          0.130 (iii)
     TIME TO PEAK    (hrs)=      2.75          2.83           2.75
     RUNOFF VOLUME    (mm)=     35.00          8.19          32.32
     TOTAL RAINFALL   (mm)=     36.00         36.00          36.00
```

```
     RUNOFF COEFFICIENT   =       0.97          0.23          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.8     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

--------------------
| ADD HYD   (0065) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (****):     4.25   0.360     2.75    32.32
       + ID2= 2 (****):     1.53   0.130     2.75    32.32
         ==========================================
         ID = 3 (0065):     5.78   0.491     2.75    32.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

-------------------------------------------------------------------------------
--------------------
| RESERVOIR (0084) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)  |   (cms)     (ha.m.)
                          0.0000    0.0000    |  0.1040      0.3675

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0065)     5.780     0.491      2.75      32.32
     OUTFLOW: ID= 1 (0084)     5.780     0.042      4.25      32.16

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.61
                    TIME SHIFT OF PEAK FLOW         (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1493

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   1.52
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.37         0.15
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     100.66        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.12     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.99 (ii)    8.55 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.24         0.12
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.13         0.01          0.131 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=     35.00        12.32          32.73
     TOTAL RAINFALL   (mm)=     36.00        36.00          36.00
     RUNOFF COEFFICIENT   =      0.97         0.34           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.4     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0083) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)  |   (cms)     (ha.m.)
                          0.0000    0.0000    |  0.0300      0.1050

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     1.520     0.131      2.75      32.73
     OUTFLOW: ID= 1 (0083)     1.520     0.011      4.25      32.15

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.64
                    TIME SHIFT OF PEAK FLOW         (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0397

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.40
|ID= 1 DT= 5.0 min |   Total Imp(%)=  55.36   Dir. Conn.(%)=  54.72
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22         0.18
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      51.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.12        15.25
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      2.67 (ii)   17.65 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.29         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.02         0.00          0.024 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.92           2.75
     RUNOFF VOLUME    (mm)=     35.00        12.47          24.77
     TOTAL RAINFALL   (mm)=     36.00        36.00          36.00
     RUNOFF COEFFICIENT   =      0.97         0.35           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.4     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0083):     1.52   0.011     4.25    32.15
       + ID2= 2 (****):     0.40   0.024     2.75    24.77
         ==========================================
         ID = 3 (0106):     1.92   0.033     2.75    30.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      48.99        40.00
     Mannings n           =      0.013        0.250
```



```
     Max.Eff.Inten.(mm/hr)=      33.12     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.59 (ii)    7.15 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.29         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.03         0.00          0.031 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=     35.00        8.54           32.35
     TOTAL RAINFALL   (mm)=     36.00        36.00          36.00
     RUNOFF COEFFICIENT   =      0.97         0.24           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0085) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)  |   (cms)     (ha.m.)
                          0.0000    0.0000    |  0.0150      0.0525

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     0.360     0.031      2.75      32.35
     OUTFLOW: ID= 1 (0085)     0.360     0.003      4.25      29.90

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.64
                    TIME SHIFT OF PEAK FLOW         (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0093

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--------------------
| CALIB            |
| STANDHYD  (0107) |   Area    (ha)=   3.75
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.37         0.38
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     158.11        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.12     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      5.23 (ii)    9.79 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.21         0.11
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.31         0.01          0.319 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=     35.00        8.54           32.35
     TOTAL RAINFALL   (mm)=     36.00        36.00          36.00
     RUNOFF COEFFICIENT   =      0.97         0.24           0.90


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0108) |
| IN= 2---> OUT= 1 |
```



```
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)  |   (cms)     (ha.m.)
                          0.0000    0.0000    |  0.0150      0.2625

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0107)     3.750     0.319      2.75      32.35
     OUTFLOW: ID= 1 (0108)     3.750     0.006      6.25      31.16

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.02
                    TIME SHIFT OF PEAK FLOW         (min)=210.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1128

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--------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0085):     0.36   0.003     4.25    29.90
       + ID2= 2 (0108):     3.75   0.006     6.25    31.16
         ==========================================
         ID = 3 (0110):     4.11   0.009     4.75    31.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  **************************
  ** SIMULATION NUMBER:   8 **
  **************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              b3d8a765-aeac-406b-941b-9a2e2ff3789c\6ad9edc5
| Ptotal= 47.81 mm |    Comments: 5yr/6hr
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00   16.25 |  3.75    6.69 |  5.50    0.96
               0.50    0.96 |  2.25   16.25 |  4.00    3.82 |  5.75    0.96
               0.75    0.96 |  2.50   43.98 |  4.25    3.82 |  6.00    0.96
               1.00    0.96 |  2.75   43.98 |  4.50    1.91 |  6.25    0.96
               1.25    0.96 |  3.00   12.43 |  4.75    1.91 |
               1.50    5.74 |  3.25   12.43 |  5.00    0.96 |
               1.75    5.74 |  3.50    6.69 |  5.25    0.96 |

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| CALIB            |
| STANDHYD  (4506) |   Area    (ha)=   1.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=  40.88   Dir. Conn.(%)=  40.72
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.55         0.79
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      94.52        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 |  1.667    5.74 |  3.250   12.43 |  4.83    0.96
              0.167    0.00 |  1.750    5.74 |  3.333    6.69 |  4.92    0.96
              0.250    0.00 |  1.833   16.25 |  3.417    6.69 |  5.00    0.96
              0.333    0.96 |  1.917   16.25 |  3.500    6.69 |  5.08    0.96
              0.417    0.96 |  2.000   16.25 |  3.583    6.69 |  5.17    0.96
              0.500    0.96 |  2.083   16.25 |  3.667    6.69 |  5.25    0.96
```

0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

```
     Max.Eff.Inten.(mm/hr)=      43.98        19.88
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.43 (ii)   16.90 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.26         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.07         0.03      0.092 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.92       2.75
     RUNOFF VOLUME    (mm)=     46.81        16.75      28.98
     TOTAL RAINFALL   (mm)=     47.81        47.81      47.81
     RUNOFF COEFFICIENT   =      0.98         0.35       0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  42.96   Dir. Conn.(%)=  42.88
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.90         1.20
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.32        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      43.98        17.42
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.93 (ii)   18.12 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.24         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.11         0.04       0.142 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.92       2.75
     RUNOFF VOLUME    (mm)=     46.81        14.75      28.49
     TOTAL RAINFALL   (mm)=     47.81        47.81      47.81
     RUNOFF COEFFICIENT   =      0.98         0.31       0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (4512) |   Area    (ha)=   0.29
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
-------------------
                           IMPERVIOUS    PERVIOUS (i)
```



```
     Surface Area     (ha)=       0.09         0.20
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      43.97        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      43.98        43.86
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      2.17 (ii)   11.98 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.31         0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.01         0.02       0.033 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75       2.75
     RUNOFF VOLUME    (mm)=     46.81        40.43      42.42
     TOTAL RAINFALL   (mm)=     47.81        47.81      47.81
     RUNOFF COEFFICIENT   =      0.98         0.85       0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| CALIB           |
| STANDHYD  (4511) |   Area    (ha)=   1.56
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40         0.16
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     101.98        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      43.98        41.48
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.59 (ii)    7.66 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.26         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.17         0.02       0.189 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75       2.75
     RUNOFF VOLUME    (mm)=     46.81        36.17      45.74
     TOTAL RAINFALL   (mm)=     47.81        47.81      47.81
     RUNOFF COEFFICIENT   =      0.98         0.76       0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  97.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0082) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0300     0.1050

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4511)      1.560     0.189      2.75      45.74
     OUTFLOW: ID= 1 (0082)      1.560     0.016      4.25      45.18

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.63
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
```



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                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0570

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   4.25
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.83         0.43
     Dep. Storage     (mm)=       1.00        10.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     168.33        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      43.98     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      4.85 (ii)    8.92 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.22         0.12
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.47         0.02       0.486 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75       2.75
     RUNOFF VOLUME    (mm)=     46.81        15.14      43.64
     TOTAL RAINFALL   (mm)=     47.81        47.81      47.81
     RUNOFF COEFFICIENT   =      0.98         0.32       0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   1.53
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.38         0.15
     Dep. Storage     (mm)=       1.00        10.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     101.00        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      43.98     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.57 (ii)    7.64 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.26         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.17         0.01       0.175 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75       2.75
     RUNOFF VOLUME    (mm)=     46.81        15.14      43.64
     TOTAL RAINFALL   (mm)=     47.81        47.81      47.81
     RUNOFF COEFFICIENT   =      0.98         0.32       0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  81.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD   (0065) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
```



```
       ID1= 1 (****):     4.25   0.486     2.75    43.64
     + ID2= 2 (****):     1.53   0.175     2.75    43.64
       ==========================================
       ID = 3 (0065):     5.78   0.661     2.75    43.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR (0084) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1040     0.3675

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0065)      5.780     0.661      2.75      43.64
     OUTFLOW: ID= 1 (0084)      5.780     0.057      4.25      43.49

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.63
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2015

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-------------------
| CALIB           |
| STANDHYD  (****) |   Area    (ha)=   1.52
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.37         0.15
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     100.66        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      43.98     ********
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.56 (ii)    7.63 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.26         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.17         0.01       0.177 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75       2.75
     RUNOFF VOLUME    (mm)=     46.81        20.41      44.17
     TOTAL RAINFALL   (mm)=     47.81        47.81      47.81
     RUNOFF COEFFICIENT   =      0.98         0.43       0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR (0083) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0300     0.1050

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)      1.520     0.177      2.75      44.17
     OUTFLOW: ID= 1 (0083)      1.520     0.015      4.25      43.58

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.67
                TIME SHIFT OF PEAK FLOW         (min)= 90.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0536
```

CALIB			
STANDHYD (****)	Area (ha)= 0.40		
ID= 1 DT= 5.0 min	Total Imp(%)= 55.36	Dir. Conn.(%)= 54.72	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.18
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	51.64	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	24.86
over (min)	5.00	15.00
Storage Coeff. (min)=	2.39 (ii)	14.70 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.30	0.08

		TOTALS
PEAK FLOW (cms)=	0.03	0.01	0.035 (iii)
TIME TO PEAK (hrs)=	2.75	2.83	2.75
RUNOFF VOLUME (mm)=	46.81	20.61	34.92
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.43	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0106)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0083):	1.52	0.015	4.25	43.58
+ ID2= 2 (****):	0.40	0.035	2.75	34.92
ID = 3 (0106):	1.92	0.047	2.75	41.78

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 0.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.32	0.04
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	48.99	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	********
over (min)	5.00	10.00
Storage Coeff. (min)=	2.31 (ii)	6.38 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.30	0.15

		TOTALS
PEAK FLOW (cms)=	0.04	0.00	0.041 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	46.81	14.73	43.60
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.31	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0085)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0150	0.0525

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	0.360	0.041	2.75	43.60
OUTFLOW: ID= 1 (0085)	0.360	0.004	4.25	41.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.68
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0125

CALIB			
STANDHYD (0107)	Area (ha)= 3.75		
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.37	0.38
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	158.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	43.98	********
over (min)	5.00	10.00
Storage Coeff. (min)=	4.67 (ii)	8.74 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.22	0.12

		TOTALS
PEAK FLOW (cms)=	0.41	0.02	0.428 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	46.81	14.73	43.60
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.31	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0108)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0150	0.2625

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	3.750	0.428	2.75	43.60
OUTFLOW: ID= 1 (0108)	3.750	0.009	6.25	42.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.03
TIME SHIFT OF PEAK FLOW (min)=210.00
MAXIMUM STORAGE USED (ha.m.)= 0.1520

ADD HYD (0110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0085):	0.36	0.004	4.25	41.15
+ ID2= 2 (0108):	3.75	0.009	6.25	42.10
ID = 3 (0110):	4.11	0.012	4.75	42.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 9 **
****

READ STORM	Filename: C:\Users\p001279d\AppD ata\Local\Temp\ b3d8a765-aeac-406b-941b-9a2e2ff3789c\c4074bcd
Ptotal= 55.69 mm	Comments: 10yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	18.94	3.75	7.80	5.50	1.11
0.50	1.11	2.25	18.94	4.00	4.46	5.75	1.11
0.75	1.11	2.50	51.24	4.25	4.46	6.00	1.11
1.00	1.11	2.75	51.24	4.50	2.23	6.25	1.11
1.25	1.11	3.00	14.48	4.75	2.23		
1.50	6.68	3.25	14.48	5.00	1.11		
1.75	6.68	3.50	7.80	5.25	1.11		

CALIB			
STANDHYD (4506)	Area (ha)= 1.34		
ID= 1 DT= 5.0 min	Total Imp(%)= 40.88	Dir. Conn.(%)= 40.72	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.79
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	94.52	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

Max.Eff.Inten.(mm/hr)= 51.24 25.87

over (min)	5.00	20.00	
Storage Coeff. (min)=	3.23 (ii)	15.35 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.27	0.07	
			TOTALS
PEAK FLOW (cms)=	0.08	0.04	0.113 (iii)
TIME TO PEAK (hrs)=	2.75	2.92	2.75
RUNOFF VOLUME (mm)=	54.69	21.91	35.25
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.39	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)= 2.10		
ID= 1 DT= 5.0 min	Total Imp(%)= 42.96	Dir. Conn.(%)= 42.88	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.90	1.20
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	118.32	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	51.24	22.87
over (min)	5.00	20.00
Storage Coeff. (min)=	3.69 (ii)	16.43 (ii)
Unit Hyd. Tpeak (min)=	5.00	20.00
Unit Hyd. peak (cms)=	0.25	0.06

			TOTALS
PEAK FLOW (cms)=	0.13	0.05	0.173 (iii)
TIME TO PEAK (hrs)=	2.75	2.92	2.75
RUNOFF VOLUME (mm)=	54.69	19.45	34.56
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.35	0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (4512)	Area (ha)= 0.29		
ID= 1 DT= 5.0 min	Total Imp(%)= 31.90	Dir. Conn.(%)= 31.50	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.09	0.20
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	43.97	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	51.24	51.22
over (min)	5.00	15.00
Storage Coeff. (min)=	2.04 (ii)	11.26 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.31	0.09

			TOTALS
PEAK FLOW (cms)=	0.01	0.03	0.038 (iii)
TIME TO PEAK (hrs)=	2.67	2.75	2.75
RUNOFF VOLUME (mm)=	54.69	48.29	50.28

```
     TOTAL RAINFALL   (mm)=      55.69         55.69          55.69
     RUNOFF COEFFICIENT   =       0.98          0.87           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD  (4511)   |   Area    (ha)=   1.56
|ID= 1 DT= 5.0 min   |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.40          0.16
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     101.98         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      51.24         49.04
                 over (min)        5.00         10.00
     Storage Coeff.  (min)=       3.38 (ii)     7.21 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.26          0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.20          0.02          0.220 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69         43.89          53.61
     TOTAL RAINFALL   (mm)=      55.69         55.69          55.69
     RUNOFF COEFFICIENT   =       0.98          0.79           0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  97.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0082)   |
| IN= 2---> OUT= 1   |
| DT=  5.0 min       |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0300     0.1050

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (4511)     1.560     0.220      2.75      53.61
     OUTFLOW: ID= 1 (0082)     1.560     0.019      4.25      53.04

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.66
                    TIME SHIFT OF PEAK FLOW       (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0668

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****)   |   Area    (ha)=   4.25
|ID= 1 DT= 5.0 min   |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.83          0.43
     Dep. Storage     (mm)=       1.00         10.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     168.33         40.00
     Mannings n             =     0.013         0.250
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     Max.Eff.Inten.(mm/hr)=      51.24     ********
                 over (min)        5.00         10.00
     Storage Coeff.  (min)=       4.56 (ii)     8.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.23          0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.54          0.03          0.570 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69         20.41          51.26
     TOTAL RAINFALL   (mm)=      55.69         55.69          55.69
     RUNOFF COEFFICIENT   =       0.98          0.37           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****)   |   Area    (ha)=   1.53
|ID= 1 DT= 5.0 min   |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.38          0.15
     Dep. Storage     (mm)=       1.00         10.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     101.00         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      51.24     ********
                 over (min)        5.00         10.00
     Storage Coeff.  (min)=       3.36 (ii)     7.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.26          0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.20          0.01          0.206 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69         20.41          51.26
     TOTAL RAINFALL   (mm)=      55.69         55.69          55.69
     RUNOFF COEFFICIENT   =       0.98          0.37           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  81.8    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0065)   |
|   1 +  2 =  3      |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (****):     4.25   0.570     2.75    51.26
        + ID2= 2 (****):     1.53   0.206     2.75    51.26
          ==========================================================
          ID = 3 (0065):     5.78   0.776     2.75    51.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0084)   |
| IN= 2---> OUT= 1   |
| DT=  5.0 min       |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1040     0.3675
```



```
                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0065)     5.780     0.776      2.75      51.26
     OUTFLOW: ID= 1 (0084)     5.780     0.067      4.25      51.11

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.63
                    TIME SHIFT OF PEAK FLOW       (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2367

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****)   |   Area    (ha)=   1.52
|ID= 1 DT= 5.0 min   |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.37          0.15
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     100.66         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      51.24     ********
                 over (min)        5.00         10.00
     Storage Coeff.  (min)=       3.35 (ii)     7.18 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.26          0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.19          0.01          0.207 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69         26.31          51.85
     TOTAL RAINFALL   (mm)=      55.69         55.69          55.69
     RUNOFF COEFFICIENT   =       0.98          0.47           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0083)   |
| IN= 2---> OUT= 1   |
| DT=  5.0 min       |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0300     0.1050

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     1.520     0.207      2.75      51.85
     OUTFLOW: ID= 1 (0083)     1.520     0.018      4.25      51.27

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.68
                    TIME SHIFT OF PEAK FLOW       (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0629

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****)   |   Area    (ha)=   0.40
|ID= 1 DT= 5.0 min   |   Total Imp(%)=  55.36   Dir. Conn.(%)=  54.72
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22          0.18
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      51.64         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      51.24         31.75
                 over (min)        5.00         15.00
```



```
     Storage Coeff.  (min)=       2.25 (ii)    13.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.30          0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03          0.01          0.043 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69         26.54          41.93
     TOTAL RAINFALL   (mm)=      55.69         55.69          55.69
     RUNOFF COEFFICIENT   =       0.98          0.48           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD   (0106)   |
|   1 +  2 =  3      |          AREA    QPEAK    TPEAK     R.V.
--------------------           (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0083):     1.52   0.018     4.25    51.27
        + ID2= 2 (****):     0.40   0.043     2.75    41.93
          ==========================================================
          ID = 3 (0106):     1.92   0.056     2.75    49.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (****)   |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min   |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32          0.04
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      48.99         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      51.24     ********
                 over (min)        5.00         10.00
     Storage Coeff.  (min)=       2.18 (ii)     6.00 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.31          0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05          0.00          0.048 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69         19.43          51.16
     TOTAL RAINFALL   (mm)=      55.69         55.69          55.69
     RUNOFF COEFFICIENT   =       0.98          0.35           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0085)   |
| IN= 2---> OUT= 1   |
| DT=  5.0 min       |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0150     0.0525

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
```

INFLOW : ID= 2 (****) 0.360 0.048 2.75 51.16
OUTFLOW: ID= 1 (0085) 0.360 0.004 4.25 48.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.69
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0147

| CALIB | STANDHYD (0107) | ID= 1 DT= 5.0 min |

Area (ha)= 3.75
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.37	0.38
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	158.11	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	51.24	********
over (min)	5.00	10.00
Storage Coeff. (min)=	4.39 (ii)	8.22 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.23	0.13

		TOTALS
PEAK FLOW (cms)=	0.48	0.02	0.502 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	54.69	19.43	51.16
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.35	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (0108) | IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0150	0.2625

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	3.750	0.502	2.75	51.16
OUTFLOW: ID= 1 (0108)	3.750	0.010	6.25	49.40

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.03
TIME SHIFT OF PEAK FLOW (min)=210.00
MAXIMUM STORAGE USED (ha.m.)= 0.1783

| ADD HYD (0110) | 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0085):	0.36	0.004	4.25	48.70
+ ID2= 2 (0108):	3.75	0.010	6.25	49.40
ID = 3 (0110):	4.11	0.014	4.75	49.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 10 **
****

READ STORM | Filename: C:\Users\p001279d\AppData\Local\Temp\b3d8a765-aeac-406b-941b-9a2e2ff3789c\6ec920b0
Ptotal= 65.59 mm | Comments: 25yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	22.30	3.75	9.18	5.50	1.31
0.50	1.31	2.25	22.30	4.00	5.25	5.75	1.31
0.75	1.31	2.50	60.35	4.25	5.25	6.00	1.31
1.00	1.31	2.75	60.35	4.50	2.62	6.25	1.31
1.25	1.31	3.00	17.06	4.75	2.62		
1.50	7.87	3.25	17.06	5.00	1.31		
1.75	7.87	3.50	9.18	5.25	1.31		

| CALIB | STANDHYD (4506) | ID= 1 DT= 5.0 min |

Area (ha)= 1.34
Total Imp(%)= 40.88 Dir. Conn.(%)= 40.72

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.55	0.79
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	94.52	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

			TOTALS
Max.Eff.Inten.(mm/hr)=	60.35	33.85	
over (min)	5.00	15.00	
Storage Coeff. (min)=	3.02 (ii)	13.91 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.27	0.08	
PEAK FLOW (cms)=	0.09	0.06	0.146 (iii)
TIME TO PEAK (hrs)=	2.75	2.83	2.75
RUNOFF VOLUME (mm)=	64.59	28.86	43.40
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.44	0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB | STANDHYD (****) | ID= 1 DT= 5.0 min |

Area (ha)= 2.10
Total Imp(%)= 42.96 Dir. Conn.(%)= 42.88

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.90	1.20
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	118.32	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	60.35	30.24
over (min)	5.00	15.00
Storage Coeff. (min)=	3.46 (ii)	14.85 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.26	0.08

		TOTALS
PEAK FLOW (cms)=	0.15	0.07	0.222 (iii)
TIME TO PEAK (hrs)=	2.75	2.83	2.75
RUNOFF VOLUME (mm)=	64.59	25.85	42.46
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.39	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB | STANDHYD (4512) | ID= 1 DT= 5.0 min |

Area (ha)= 0.29
Total Imp(%)= 31.90 Dir. Conn.(%)= 31.50

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.09	0.20
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	43.97	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	60.35	60.44
over (min)	5.00	15.00
Storage Coeff. (min)=	1.91 (ii)	10.54 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.32	0.09

		TOTALS
PEAK FLOW (cms)=	0.02	0.03	0.046 (iii)
TIME TO PEAK (hrs)=	2.67	2.75	2.75
RUNOFF VOLUME (mm)=	64.59	58.17	60.17
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.89	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| CALIB | STANDHYD (4511) |

Area (ha)= 1.56

ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.40	0.16
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	101.98	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	60.35	58.44
over (min)	5.00	10.00
Storage Coeff. (min)=	3.16 (ii)	6.75 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.27	0.14

		TOTALS
PEAK FLOW (cms)=	0.24	0.02	0.260 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	64.59	53.64	63.49
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.82	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (0082) | IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0300	0.1050

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (4511)	1.560	0.260	2.75	63.49
OUTFLOW: ID= 1 (0082)	1.560	0.023	4.25	62.93

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.69
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0791

| CALIB | STANDHYD (****) | ID= 1 DT= 5.0 min |

Area (ha)= 4.25
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.83	0.43
Dep. Storage (mm)=	1.00	10.00
Average Slope (%)=	1.00	2.00
Length (m)=	168.33	40.00
Mannings n =	0.013	0.250
Max.Eff.Inten.(mm/hr)=	60.35	********
over (min)	5.00	10.00
Storage Coeff. (min)=	4.27 (ii)	7.86 (ii)
Unit Hyd. Tpeak (min)=	5.00	10.00
Unit Hyd. peak (cms)=	0.23	0.13

		TOTALS
PEAK FLOW (cms)=	0.64	0.04	0.677 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	64.59	27.55	60.89
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.42	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 1.53				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.38	0.15
Dep. Storage (mm)=	1.00	10.00
Average Slope (%)=	1.00	2.00
Length (m)=	101.00	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	60.35	********	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.15 (ii)	6.73 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.27	0.14	
			TOTALS
PEAK FLOW (cms)=	0.23	0.01	0.244 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	64.59	27.55	60.88
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.42	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0065)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (****):	4.25	0.677	2.75	60.89
+ ID2= 2 (****):	1.53	0.244	2.75	60.88
ID = 3 (0065):	5.78	0.921	2.75	60.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0084)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1040	0.3675

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0065)	5.780	0.921	2.75	60.88
OUTFLOW: ID= 1 (0084)	5.780	0.080	4.25	60.73

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.63
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.2811

CALIB					
STANDHYD (****)	Area (ha)= 1.52				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.37	0.15
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	100.66	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	60.35	********	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.14 (ii)	6.73 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.27	0.14	
			TOTALS
PEAK FLOW (cms)=	0.23	0.02	0.245 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	64.59	34.13	61.54
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.52	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0083)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0300	0.1050

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	1.520	0.245	2.75	61.54
OUTFLOW: ID= 1 (0083)	1.520	0.021	4.25	60.96

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.69
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0746

CALIB					
STANDHYD (****)	Area (ha)= 0.40				
ID= 1 DT= 5.0 min	Total Imp(%)= 55.36	Dir. Conn.(%)= 54.72			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.22	0.18
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	51.64	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	60.35	42.05	
over (min)	5.00	15.00	
Storage Coeff. (min)=	2.10 (ii)	12.08 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.31	0.09	
			TOTALS
PEAK FLOW (cms)=	0.04	0.02	0.053 (iii)
TIME TO PEAK (hrs)=	2.75	2.83	2.75
RUNOFF VOLUME (mm)=	64.59	34.40	50.90
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.52	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0106)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0083):	1.52	0.021	4.25	60.96
+ ID2= 2 (****):	0.40	0.053	2.75	50.90
ID = 3 (0106):	1.92	0.069	2.75	58.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (****)	Area (ha)= 0.36				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.32	0.04
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	48.99	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	60.35	********	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.04 (ii)	5.62 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.05	0.00	0.057 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	64.59	25.82	60.71
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.39	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0085)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0150	0.0525

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	0.360	0.057	2.75	60.71
OUTFLOW: ID= 1 (0085)	0.360	0.005	4.25	58.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.70
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0174

CALIB					
STANDHYD (0107)	Area (ha)= 3.75				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.37	0.38

Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	158.11	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	60.35	********	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.12 (ii)	7.70 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.24	0.13	
			TOTALS
PEAK FLOW (cms)=	0.57	0.03	0.594 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	64.59	25.82	60.71
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.39	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0108)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0150	0.2625

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	3.750	0.594	2.75	60.71
OUTFLOW: ID= 1 (0108)	3.750	0.012	6.25	58.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.03
TIME SHIFT OF PEAK FLOW (min)=210.00
MAXIMUM STORAGE USED (ha.m.)= 0.2116

ADD HYD (0110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0085):	0.36	0.005	4.25	58.25
+ ID2= 2 (0108):	3.75	0.012	6.25	58.63
ID = 3 (0110):	4.11	0.017	4.75	58.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 11 **
****

READ STORM	Filename: C:\Users\p001279d\AppD ata\Local\Temp\ b3d8a765-aeac-406b-941b-9a2e2ff3789c\080533be
Ptotal= 73.00 mm	Comments: 50yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	24.82	3.75	10.22	5.50	1.46
0.50	1.46	2.25	24.82	4.00	5.84	5.75	1.46
0.75	1.46	2.50	67.16	4.25	5.84	6.00	1.46
1.00	1.46	2.75	67.16	4.50	2.92	6.25	1.46
1.25	1.46	3.00	18.98	4.75	2.92		

1.50	8.76	3.25	18.98	5.00	1.46	
1.75	8.76	3.50	10.22	5.25	1.46	

CALIB			
STANDHYD (4506)	Area (ha)=	1.34	
ID= 1 DT= 5.0 min	Total Imp(%)=	40.88	Dir. Conn.(%)= 40.72

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.55	0.79
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	94.52	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	40.09	
over (min)		5.00	15.00	
Storage Coeff. (min)=		2.90 (ii)	13.07 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.28	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.10	0.07	0.168 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	72.00	34.35	49.68
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.47	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	2.10	
ID= 1 DT= 5.0 min	Total Imp(%)=	42.96	Dir. Conn.(%)= 42.88

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.20
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.32	40.00

Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	36.06
over (min)		5.00	15.00
Storage Coeff. (min)=		3.31 (ii)	13.93 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.26	0.08
			TOTALS
PEAK FLOW	(cms)=	0.17	0.09 0.255 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83 2.75
RUNOFF VOLUME	(mm)=	72.00	30.94 48.54
TOTAL RAINFALL	(mm)=	73.00	73.00 73.00
RUNOFF COEFFICIENT	=	0.99	0.42 0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (4512)	Area (ha)=	0.29	
ID= 1 DT= 5.0 min	Total Imp(%)=	31.90	Dir. Conn.(%)= 31.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.09	0.20
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	43.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	67.32
over (min)		5.00	15.00
Storage Coeff. (min)=		1.83 (ii)	10.10 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.32	0.10
			TOTALS
PEAK FLOW	(cms)=	0.02	0.03 0.051 (iii)
TIME TO PEAK	(hrs)=	2.67	2.75 2.75
RUNOFF VOLUME	(mm)=	72.00	65.57 67.57
TOTAL RAINFALL	(mm)=	73.00	73.00 73.00
RUNOFF COEFFICIENT	=	0.99	0.90 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (4511)	Area (ha)=	1.56	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.40	0.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	101.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	65.42
over (min)		5.00	10.00
Storage Coeff. (min)=		3.03 (ii)	6.47 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.27	0.14
			TOTALS

PEAK FLOW	(cms)=	0.26	0.03 0.290 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75 2.75
RUNOFF VOLUME	(mm)=	72.00	60.96 70.89
TOTAL RAINFALL	(mm)=	73.00	73.00 73.00
RUNOFF COEFFICIENT	=	0.99	0.84 0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0082)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0300	0.1050	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (4511)	1.560	0.290	2.75	70.89
OUTFLOW: ID= 1 (0082)	1.560	0.025	4.25	70.33

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.71
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0883

CALIB			
STANDHYD (****)	Area (ha)=	4.25	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.83	0.43
Dep. Storage	(mm)=	1.00	10.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	168.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	********
over (min)		5.00	10.00
Storage Coeff. (min)=		4.09 (ii)	7.53 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.24	0.13
			TOTALS
PEAK FLOW	(cms)=	0.71	0.04 0.757 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75 2.75
RUNOFF VOLUME	(mm)=	72.00	33.19 68.12
TOTAL RAINFALL	(mm)=	73.00	73.00 73.00
RUNOFF COEFFICIENT	=	0.99	0.45 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (****)	Area (ha)=	1.53	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.38	0.15
Dep. Storage	(mm)=	1.00	10.00
Average Slope	(%)=	1.00	2.00

Length	(m)=	101.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	********
over (min)		5.00	10.00
Storage Coeff. (min)=		3.01 (ii)	6.45 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14
			TOTALS
PEAK FLOW	(cms)=	0.26	0.02 0.273 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75 2.75
RUNOFF VOLUME	(mm)=	72.00	33.19 68.12
TOTAL RAINFALL	(mm)=	73.00	73.00 73.00
RUNOFF COEFFICIENT	=	0.99	0.45 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0065)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (****):	4.25	0.757	2.75	68.12
+	ID2= 2 (****):	1.53	0.273	2.75	68.12
	ID = 3 (0065):	5.78	1.030	2.75	68.12

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0084)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.1040	0.3675	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0065)	5.780	1.030	2.75	68.12
OUTFLOW: ID= 1 (0084)	5.780	0.089	4.25	67.96

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.64
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.3145

CALIB			
STANDHYD (****)	Area (ha)=	1.52	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.37	0.15
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	100.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		67.16	********
over (min)		5.00	10.00
Storage Coeff. (min)=		3.01 (ii)	6.44 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14
			TOTALS
PEAK FLOW	(cms)=	0.26	0.02 0.274 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75 2.75

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     RUNOFF VOLUME    (mm)=      72.00          40.21          68.82
     TOTAL RAINFALL   (mm)=      73.00          73.00          73.00
     RUNOFF COEFFICIENT   =       0.99           0.55           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0083) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0300     0.1050

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     1.520     0.274      2.75      68.82
     OUTFLOW: ID= 1 (0083)     1.520     0.024      4.25      68.24

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.70
                    TIME SHIFT OF PEAK FLOW          (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0834

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.40
|ID= 1 DT= 5.0 min |   Total Imp(%)=  55.36   Dir. Conn.(%)=  54.72
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22          0.18
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      51.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      67.16         49.01
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       2.02 (ii)   11.40 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.31          0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04          0.02          0.060 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.83           2.75
     RUNOFF VOLUME    (mm)=      72.00         40.51          57.72
     TOTAL RAINFALL   (mm)=      73.00         73.00          73.00
     RUNOFF COEFFICIENT   =       0.99          0.55           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0106) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0083):     1.52   0.024     4.25    68.24
      + ID2= 2 (****):     0.40   0.060     2.75    57.72
        ================================================
        ID = 3 (0106):     1.92   0.078     2.75    66.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32          0.04
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      40.99         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      67.16     ********
               over (min)        5.00         10.00
     Storage Coeff.  (min)=       1.95 (ii)    5.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.31          0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.06          0.00          0.064 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      72.00         30.91          67.89
     TOTAL RAINFALL   (mm)=      73.00         73.00          73.00
     RUNOFF COEFFICIENT   =       0.99          0.42           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0085) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0150     0.0525

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)     0.360     0.064      2.75      67.89
     OUTFLOW: ID= 1 (0085)     0.360     0.006      4.25      65.43

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.71
                    TIME SHIFT OF PEAK FLOW          (min)= 90.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0195

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0107) |   Area    (ha)=   3.75
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.37          0.38
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     158.11         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      67.16     ********
               over (min)        5.00         10.00
     Storage Coeff.  (min)=       3.94 (ii)    7.38 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.24          0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.63          0.03          0.664 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      72.00         30.91          67.89
     TOTAL RAINFALL   (mm)=      73.00         73.00          73.00
```



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     RUNOFF COEFFICIENT   =       0.99           0.42           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0108) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0150     0.2625

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0107)     3.750     0.664      2.75      67.89
     OUTFLOW: ID= 1 (0108)     3.750     0.014      6.25      65.56

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.04
                    TIME SHIFT OF PEAK FLOW          (min)=210.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2366

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--------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (0085):     0.36   0.006     4.25    65.43
      + ID2= 2 (0108):     3.75   0.014     6.25    65.56
        ================================================
        ID = 3 (0110):     4.11   0.019     4.75    65.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:  12 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              b3d8a765-aeac-406b-941b-9a2e2ff3789c\99f22811
| Ptotal= 80.31 mm |    Comments: 100yr/6hr
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00   27.30 |'  3.75   11.24 |  5.50    1.61
               0.50    1.61 |  2.25   27.30 |'  4.00    6.42 |  5.75    1.61
               0.75    1.61 |  2.50   73.88 |'  4.25    6.42 |  6.00    1.61
               1.00    1.61 |  2.75   73.88 |'  4.50    3.21 |  6.25    1.61
               1.25    1.61 |  3.00   20.88 |'  4.75    3.21 |
               1.50    9.64 |  3.25   20.88 |'  5.00    1.61 |
               1.75    9.64 |  3.50   11.24 |'  5.25    1.61 |

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--------------------
| CALIB            |
| STANDHYD  (4506) |   Area    (ha)=   1.34
|ID= 1 DT= 5.0 min |   Total Imp(%)=  40.88   Dir. Conn.(%)=  40.72
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.55          0.79
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      94.52         40.00
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     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    9.64 |  3.250   20.88 |  4.83    1.61
               0.167    0.00 | 1.750    9.64 |  3.333   11.24 |  4.92    1.61
               0.250    0.00 | 1.833   27.30 |  3.417   11.24 |  5.00    1.61
               0.333    1.61 | 1.917   27.30 |  3.500   11.24 |  5.08    1.61
               0.417    1.61 | 2.000   27.30 |  3.583   11.24 |  5.17    1.61
               0.500    1.61 | 2.083   27.30 |  3.667   11.24 |  5.25    1.61
               0.583    1.61 | 2.167   27.30 |  3.750   11.24 |  5.33    1.61
               0.667    1.61 | 2.250   27.30 |  3.833    6.42 |  5.42    1.61
               0.750    1.61 | 2.333   73.88 |  3.917    6.42 |  5.50    1.61
               0.833    1.61 | 2.417   73.88 |  4.000    6.42 |  5.58    1.61
               0.917    1.61 | 2.500   73.88 |  4.083    6.42 |  5.67    1.61
               1.000    1.61 | 2.583   73.88 |  4.167    6.42 |  5.75    1.61
               1.083    1.61 | 2.667   73.88 |  4.250    6.42 |  5.83    1.61
               1.167    1.61 | 2.750   73.88 |  4.333    3.21 |  5.92    1.61
               1.250    1.61 | 2.833   20.88 |  4.417    3.21 |  6.00    1.61
               1.333    9.64 | 2.917   20.88 |  4.500    3.21 |  6.08    1.61
               1.417    9.64 | 3.000   20.88 |  4.583    3.21 |  6.17    1.61
               1.500    9.64 | 3.083   20.88 |  4.667    3.21 |  6.25    1.61
               1.583    9.64 | 3.167   20.88 |  4.750    3.21 |

     Max.Eff.Inten.(mm/hr)=      73.88         48.01
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       2.79 (ii)   12.25 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.28          0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.11          0.08          0.191 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.83           2.75
     RUNOFF VOLUME    (mm)=      79.31         39.96          55.98
     TOTAL RAINFALL   (mm)=      80.31         80.31          80.31
     RUNOFF COEFFICIENT   =       0.99          0.50           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
             THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (****) |   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  42.96   Dir. Conn.(%)=  42.88
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.90          1.20
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     118.32         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      73.88         43.63
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       3.19 (ii)   13.02 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.27          0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.18          0.11          0.290 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.83           2.75
     RUNOFF VOLUME    (mm)=      79.31         36.18          54.67
     TOTAL RAINFALL   (mm)=      80.31         80.31          80.31
     RUNOFF COEFFICIENT   =       0.99          0.45           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (4512)	Area	(ha)=	0.29	
ID= 1 DT= 5.0 min	Total Imp(%)=	31.90	Dir. Conn.(%)=	31.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.09	0.20
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	43.97	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	74.10
over (min)		5.00	10.00
Storage Coeff. (min)=		1.76 (ii)	9.72 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.32	0.11

		TOTALS
PEAK FLOW	(cms)=	0.02 0.04 0.058 (iii)
TIME TO PEAK	(hrs)=	2.67 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 72.87 74.88
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.91 0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (4511)	Area	(ha)=	1.56	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.40	0.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	101.98	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	72.28
over (min)		5.00	10.00
Storage Coeff. (min)=		2.92 (ii)	6.23 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.15

		TOTALS
PEAK FLOW	(cms)=	0.29 0.03 0.319 (iii)
TIME TO PEAK	(hrs)=	2.75 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 68.20 78.20
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.85 0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 97.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0082)						
IN= 2---> OUT= 1						
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)		
	0.0000	0.0000	0.0300	0.1050		

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (4511)	1.560	0.319	2.75	78.20
OUTFLOW: ID= 1 (0082)	1.560	0.028	4.25	77.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.72
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0974

CALIB				
STANDHYD (****)	Area	(ha)=	4.25	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.83	0.43
Dep. Storage	(mm)=	1.00	10.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	168.33	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	********
over (min)		5.00	10.00
Storage Coeff. (min)=		3.94 (ii)	7.25 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.24	0.14

		TOTALS
PEAK FLOW	(cms)=	0.78 0.05 0.837 (iii)
TIME TO PEAK	(hrs)=	2.75 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 38.96 75.27
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.49 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)=	1.53	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.38	0.15
Dep. Storage	(mm)=	1.00	10.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	101.00	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	********
over (min)		5.00	10.00
Storage Coeff. (min)=		2.90 (ii)	6.21 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.15

		TOTALS
PEAK FLOW	(cms)=	0.28 0.02 0.302 (iii)
TIME TO PEAK	(hrs)=	2.75 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 38.96 75.27
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.49 0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 81.8 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0065)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (****):	4.25	0.837	2.75	75.27
	+ ID2= 2 (****):	1.53	0.302	2.75	75.27
	ID = 3 (0065):	5.78	1.138	2.75	75.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0084)						
IN= 2---> OUT= 1						
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)		
	0.0000	0.0000	0.1040	0.3675		

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0065)	5.780	1.138	2.75	75.27
OUTFLOW: ID= 1 (0084)	5.780	0.098	4.25	75.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.64
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.3475

CALIB				
STANDHYD (****)	Area	(ha)=	1.52	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.37	0.15
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	100.66	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	********
over (min)		5.00	10.00
Storage Coeff. (min)=		2.89 (ii)	6.20 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.15

		TOTALS
PEAK FLOW	(cms)=	0.28 0.02 0.303 (iii)
TIME TO PEAK	(hrs)=	2.75 2.75 2.75
RUNOFF VOLUME	(mm)=	79.31 46.38 76.02
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.58 0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0083)

IN= 2---> OUT= 1						
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)		
	0.0000	0.0000	0.0300	0.1050		

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (****)	1.520	0.303	2.75	76.02
OUTFLOW: ID= 1 (0083)	1.520	0.026	4.25	75.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.70
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0922

CALIB				
STANDHYD (****)	Area	(ha)=	0.40	
ID= 1 DT= 5.0 min	Total Imp(%)=	55.36	Dir. Conn.(%)=	54.72

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.18
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	51.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	55.96
over (min)		5.00	15.00
Storage Coeff. (min)=		1.94 (ii)	10.84 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.31	0.09

		TOTALS
PEAK FLOW	(cms)=	0.04 0.02 0.067 (iii)
TIME TO PEAK	(hrs)=	2.75 2.83 2.75
RUNOFF VOLUME	(mm)=	79.31 46.69 64.52
TOTAL RAINFALL	(mm)=	80.31 80.31 80.31
RUNOFF COEFFICIENT	=	0.99 0.58 0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0106)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0083):	1.52	0.026	4.25	75.43
	+ ID2= 2 (****):	0.40	0.067	2.75	64.52
	ID = 3 (0106):	1.92	0.087	2.75	73.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (****)	Area	(ha)=	0.36	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.32	0.04
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	48.99	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	********

```
                                        Pro-CTL(H)
               over (min)        5.00         10.00
     Storage Coeff.  (min)=       1.88 (ii)    5.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.32          0.16
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07          0.00          0.071 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75          2.75
     RUNOFF VOLUME    (mm)=      79.31         36.15         74.99
     TOTAL RAINFALL   (mm)=      80.31         80.31         80.31
     RUNOFF COEFFICIENT   =       0.99          0.45          0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (0085) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0150      0.0525

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (****)      0.360     0.071      2.75       74.99
     OUTFLOW: ID= 1 (0085)      0.360     0.006      4.25       72.54

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.71
                   TIME SHIFT OF PEAK FLOW         (min)= 90.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0215

--------------------------------------------------------------------------------
-------------------
| CALIB             |
| STANDHYD  (0107) |   Area    (ha)=   3.75
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        3.37          0.38
     Dep. Storage     (mm)=        1.00          5.00
     Average Slope     (%)=        1.00          2.00
     Length            (m)=      158.11         40.00
     Mannings n           =       0.013         0.250

     Max.Eff.Inten.(mm/hr)=       73.88      ********
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       3.80 (ii)    7.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.25          0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.69          0.04          0.734 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75          2.75
     RUNOFF VOLUME    (mm)=      79.31         36.15         74.99
     TOTAL RAINFALL   (mm)=      80.31         80.31         80.31
     RUNOFF COEFFICIENT   =       0.99          0.45          0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR (0108) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
```



```
                                        Pro-CTL(H)
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0150      0.2625

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0107)      3.750     0.734      2.75       74.99
     OUTFLOW: ID= 1 (0108)      3.750     0.015      6.25       72.42

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.04
                   TIME SHIFT OF PEAK FLOW         (min)=210.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2614

--------------------------------------------------------------------------------

-------------------
| ADD HYD   (0110) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0085):     0.36   0.006     4.25    72.54
        + ID2= 2 (0108):     3.75   0.015     6.25    72.42
          ==========================================
          ID = 3 (0110):     4.11   0.021     4.75    72.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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APPENDIX D

Hydraulic Analysis (Water Crossings and HEC-RAS)

APPENDIX **D: Hydraulic Analysis (Water Crossings and HEC-RAS)**

Figure D.1: Drainage Area Map (WC#E1)

Table D.2: HEC-RAS Modelling Results for Water Crossing E1

Figure D.2: Drainage Area Map (Small Tributary Located West of Kennedy Rd)

Modelling Results of Culvert Analysis for Small Tributary Located West of Kennedy Rd

Figure D.4: Drainage Area Map (WC#E2, E3, E4,E5)

Table D.3: HEC-RAS Modelling Results for Water Crossing E3

Table D.4: HEC-RAS Modelling Results for Water Crossing E4

Table D.5: HEC-RAS Modelling Results for Water Crossing E5

Figure D.11: Drainage Area Map (WC#E6, E7,E8)

Figure D.11 A: WC#E6, E7,E8 Delineation

Table D.6: HEC-RAS Modelling Results for Water Crossing E6

Table D.7: HEC-RAS Modelling Results for Water Crossing E7

Table D.8: HEC-RAS Modelling Results for Water Crossing E8

Figure D.18: Drainage Area Map (WC#M1,M2,M3,M4)

Table D.9: HEC-RAS Modelling Results for Water Crossing M1

Table D.10: HEC-RAS Modelling Results for Water Crossing M2

Table D.11: HEC-RAS Modelling Results for Water Crossing M3

Table D.12: HEC-RAS Modelling Results for Water Crossing M4

Figure D.27: Drainage Area Map (WC#M5, M6, M7)

Figure D.27-A: WC #M5 and M6 Catchment Area

Table D.13: HEC-RAS Modelling Results for Water Crossing M5

Table D.14: HEC-RAS Modelling Results for Water Crossing M6

Table D.15: HEC-RAS Modelling Results for Water Crossing M7

Figure D.33: Drainage Area Map(WC#M8)

Table D.16: HEC-RAS Modelling Results for Water Crossing M8

Figure D.36: Drainage Area Map (WC#H1, H2)

Table D.17: HEC-RAS Modelling Results for Water Crossing H1

Table D.18: HEC-RAS Modelling Results for Water Crossing H2

Table D.19: HEC-RAS Modelling Results for Water Crossing H6

Table D.20: HEC-RAS Modelling Results for Water Crossing H7

Figure D.50: Drainage Area Map (WC#H8)

Table D.21: HEC-RAS Modelling Results for Water Crossing H8

METRIC

559
35.16 | 38

559

603–A.1
22.96 | 45

603

HURONTARIO ST

568–A
3.04 | 24

HWY 407

568

605–A
3.77 | 49

605

E1

603–A.2
0.94 | 45

603

E2

HYDRO CORRIDOR

FLETCHER'S CREEK

DRAWING NAME: J:\Division\TTV\drainage\602896 - 407_Transitway Huroontario\CAD\Design\Drainage Mosaic\602896-WATERCOURSE_CROSSING.dwg
MODIFIED: Nov 16, 2017 4:16pm
CREATED:

Ontario PARSONS IBI GROUP

SCALE
1:5000

LEGEND
- TRANSITWAY LIMITS
- ENCLOSED TRANSITWAY
- PROPOSED 407 TRANSITWAY
- WATER COURSE
- SUBWATERSHED DRAINAGE AREA BOUNDARY
- EXISTING POND
- WATERCOURSE CROSSING
- 123 AREA ID
- AREA (ha) 98-1 (0.44 | 90) % IMPERVIOUS

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
WATERCOURSE CROSSING # E1

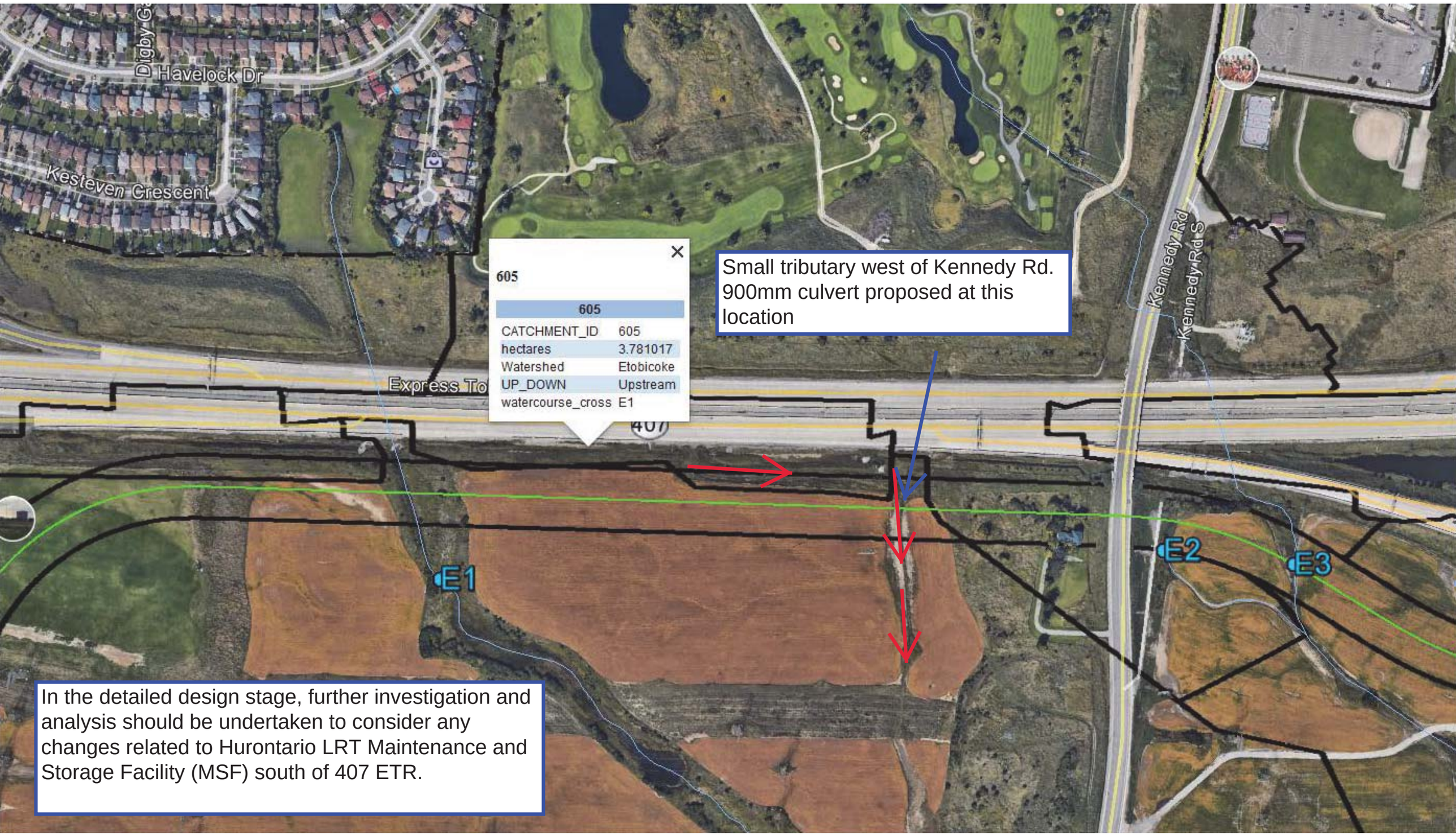
DRAWING SET
DRAINAGE AREA MAP

FIGURE
D-1

DATE
NOV. 2017

Table D.2: HEC-RAS Modelling Results for Water Crossing E1

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
462.05	462.05	2-Yr	1.29	1.29	0.00	200.25	200.25	0.00
462.05	462.05	5-Yr	1.69	1.69	0.00	200.29	200.29	0.00
462.05	462.05	10-Yr	2.06	2.06	0.00	200.32	200.32	0.00
462.05	462.05	25-Yr	2.62	2.62	0.00	200.37	200.37	0.00
462.05	462.05	50-Yr	3.08	3.08	0.00	200.40	200.40	0.00
462.05	462.05	100-Yr	3.56	3.56	0.00	200.43	200.43	0.00
462.05	462.05	Check Flow	4.62	4.62	0.00	200.51	200.51	0.00
462.05	462.05	Regional	7.56	7.56	0.00	200.65	200.65	0.00
383.2	383.2	2-Yr	1.29	1.29	0.00	199.63	199.64	0.01
383.2	383.2	5-Yr	1.69	1.69	0.00	199.66	199.67	0.01
383.2	383.2	10-Yr	2.06	2.06	0.00	199.68	199.70	0.02
383.2	383.2	25-Yr	2.62	2.62	0.00	199.72	199.74	0.02
383.2	383.2	50-Yr	3.08	3.08	0.00	199.75	199.77	0.02
383.2	383.2	100-Yr	3.56	3.56	0.00	199.78	199.80	0.02
383.2	383.2	Check Flow	4.62	4.62	0.00	199.84	199.87	0.03
383.2	383.2	Regional	7.56	7.56	0.00	200.03	200.05	0.02
260	260				HWY 407 Culvert			
257.06	257.06	2-Yr	1.29	1.29	0.00	199.62	199.64	0.02
257.06	257.06	5-Yr	1.69	1.69	0.00	199.65	199.66	0.01
257.06	257.06	10-Yr	2.06	2.06	0.00	199.67	199.69	0.02
257.06	257.06	25-Yr	2.62	2.62	0.00	199.71	199.73	0.02
257.06	257.06	50-Yr	3.08	3.08	0.00	199.73	199.75	0.02
257.06	257.06	100-Yr	3.56	3.56	0.00	199.75	199.77	0.02
257.06	257.06	Check Flow	4.62	4.62	0.00	199.80	199.83	0.03
257.06	257.06	Regional	7.56	7.56	0.00	199.91	199.94	0.03
220	220				407 TWY Culvert			
214.44	214.44	2-Yr	1.29	1.29	0.00	199.63	199.64	0.01
214.44	214.44	5-Yr	1.69	1.69	0.00	199.65	199.67	0.02
214.44	214.44	10-Yr	2.06	2.06	0.00	199.68	199.69	0.01
214.44	214.44	25-Yr	2.62	2.62	0.00	199.71	199.73	0.02
214.44	214.44	50-Yr	3.08	3.08	0.00	199.73	199.75	0.02
214.44	214.44	100-Yr	3.56	3.56	0.00	199.76	199.78	0.02
214.44	214.44	Check Flow	4.62	4.62	0.00	199.81	199.83	0.02
214.44	214.44	Regional	7.56	7.56	0.00	199.93	199.95	0.02
140.61	140.61	2-Yr	1.29	1.29	0.00	199.58	199.58	0.00
140.61	140.61	5-Yr	1.69	1.69	0.00	199.59	199.59	0.00
140.61	140.61	10-Yr	2.06	2.06	0.00	199.60	199.60	0.00
140.61	140.61	25-Yr	2.62	2.62	0.00	199.62	199.62	0.02
140.61	140.61	50-Yr	3.08	3.08	0.00	199.65	199.65	0.00
140.61	140.61	100-Yr	3.56	3.56	0.00	199.66	199.66	0.00
140.61	140.61	Check Flow	4.62	4.62	0.00	199.69	199.69	0.00
140.61	140.61	Regional	7.56	7.56	0.00	199.76	199.76	0.00


Havelock Dr
Kesteven Crescent
Kennedy Rd
Kennedy Rd S
605
605
CATCHMENT_ID 605
hectares 3.781017
Watershed Etobicoke
UP_DOWN Upstream
watercourse_cross E1
Small tributary west of Kennedy Rd. 900mm culvert proposed at this location
E1
E2
E3
In the detailed design stage, further investigation and analysis should be undertaken to consider any changes related to Hurontario LRT Maintenance and Storage Facility (MSF) south of 407 ETR.

Culvert Calculator Report
headwater

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	197.92	m	Headwater Depth/Height	0.88	
Computed Headwater Elev	196.92	m	Discharge	0.8440	m³/s
Inlet Control HW Elev.	196.88	m	Tailwater Elevation	196.53	m
Outlet Control HW Elev.	196.92	m	Control Type	Outlet Control	

Grades					
Upstream Invert	196.11	m	Downstream Invert	195.99	m
Length	30.00	m	Constructed Slope	0.004000	m/m

Hydraulic Profile					
Profile	M2		Depth, Downstream	0.54	m
Slope Type	Mild		Normal Depth	0.57	m
Flow Regime	Subcritical		Critical Depth	0.54	m
Velocity Downstream	2.09	m/s	Critical Slope	0.004670	m/m

Section					
Section Shape	Circular		Mannings Coefficient	0.013	
Section Material	Concrete		Span	0.91	m
Section Size	900 mm		Rise	0.91	m
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	196.92	m	Upstream Velocity Head	0.20	m
Ke	0.20		Entrance Loss	0.04	m

Inlet Control Properties					
Inlet Control HW Elev.	196.88	m	Flow Control	Unsubmerged	
Inlet Type	Groove end w/headwall		Area Full	0.7	m²
K	0.00180		HDS 5 Chart	1	
M	2.00000		HDS 5 Scale	2	
C	0.02920		Equation Form	1	
Y	0.74000				

© Bentley Systems, Inc.

METRIC

251

709

KENNEDY RD

709
7.69 | 4

248

251–A
77.20 | 24

248–A
27.21 | 36

643
7.16 | 48

643

HWY 407

HWY 410

251–E4
7.68 | 24

248

251

E1

E2

E3

E4

E5

HYDRO CORRIDOR

FARMHOUSE COURT

NOTE:
HYDRAULIC MODEL FOR E5 WATER CROSSING PROVIDED BY TRCA.
HYDROLOGIC ANALYSIS NOT REQUIRED.

DRAWING NAME: J:\Division\TT\Drainage\602896 - 407_Transitway Huron\ontario\CAD\Design\Drainage Mosaic\602896 - WATERCOURSE_CROSSING.dwg
MODIFIED: Nov 16, 2017 4:22pm
CREATED:

Ontario PARSONS IBI GROUP

SCALE
1:7500

LEGEND
- TRANSITWAY LIMITS
- ENCLOSED TRANSITWAY
- PROPOSED 407 TRANSITWAY
- WATER COURSE
- SUBWATERSHED DRAINAGE AREA BOUNDARY (123)
- EXISTING POND
- WATERCOURSE CROSSING
- AREA (ha) (98-1: 0.44 | 50) AREA ID / % IMPERVIOUS

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
WATERCOURSE CROSSING # E2 - E3 - E4 - E5

DRAWING SET
DRAINAGE AREA MAP

FIGURE
D-4

DATE
NOV. 2017

Table D.3: HEC-RAS Modelling Results for Water Crossing E3

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
365.68	365.68	2-Yr	2.19	2.19	0	195.52	195.52	0
365.68	365.68	5-Yr	3.07	3.07	0	195.57	195.57	0
365.68	365.68	10-Yr	3.69	3.69	0	195.6	195.6	0
365.68	365.68	25-Yr	4.49	4.49	0	195.64	195.64	0
365.68	365.68	50-Yr	5.1	5.1	0	195.66	195.66	0
365.68	365.68	100-Yr	5.73	5.73	0	195.69	195.69	0
365.68	365.68	Check Flow	7.45	7.45	0	195.75	195.75	0
365.68	365.68	Regional	11.13	11.13	0	195.86	195.86	0
217.03	217.03	2-Yr	2.19	2.19	0	193.59	193.59	0
217.03	217.03	5-Yr	3.07	3.07	0	193.74	193.74	0
217.03	217.03	10-Yr	3.69	3.69	0	193.84	193.84	0
217.03	217.03	25-Yr	4.49	4.49	0	193.96	193.96	0
217.03	217.03	50-Yr	5.1	5.1	0	194.05	194.05	0
217.03	217.03	100-Yr	5.73	5.73	0	194.13	194.13	0
217.03	217.03	Check Flow	7.45	7.45	0	194.35	194.35	0
217.03	217.03	Regional	11.13	11.13	0	194.76	194.76	0
240	240			HWY 407 Culvert				
190.6	190.6	2-Yr	2.19	2.19	0	193.05	193.02	-0.03
190.6	190.6	5-Yr	3.07	3.07	0	193.14	193.05	-0.09
190.6	190.6	10-Yr	3.69	3.69	0	193.21	193.03	-0.18
190.6	190.6	25-Yr	4.49	4.49	0	193.29	193.05	-0.24
190.6	190.6	50-Yr	5.1	5.1	0	193.34	193.1	-0.24
190.6	190.6	100-Yr	5.73	5.73	0	193.37	193.17	-0.2
190.6	190.6	Check Flow	7.45	7.45	0	193.47	193.38	-0.09
190.6	190.6	Regional	11.13	11.13	0	193.61	193.82	0.21
123.96	123.96	2-Yr	2.19	2.19	0	192.73	192.81	0.08
123.96	123.96	5-Yr	3.07	3.07	0	192.78	192.91	0.13
123.96	123.96	10-Yr	3.69	3.69	0	192.79	192.99	0.2
123.96	123.96	25-Yr	4.49	4.49	0	192.79	193.11	0.32
123.96	123.96	100-Yr	5.73	5.73	0	192.82	193.29	0.47
123.96	123.96	Check Flow	7.45	7.45	0	192.87	193.52	0.65
123.96	123.96	Regional	11.13	11.13	0	192.92	193.98	1.06
93.1	93.1	2-Yr	2.19	2.19	0	192.21	192.38	0.17
93.1	93.1	5-Yr	3.07	3.07	0	192.24	192.73	0.49
93.1	93.1	10-Yr	3.69	3.69	0	192.3	192.82	0.52
93.1	93.1	50-Yr	5.1	5.1	0	192.37	193.02	0.65
93.1	93.1	100-Yr	5.73	5.73	0	192.39	193.11	0.72
93.1	93.1	Check Flow	7.45	7.45	0	192.46	193.32	0.86
93.1	93.1	Regional	11.13	11.13	0	192.56	193.72	1.16
80	80			407 TWY Culvert				
73.89	73.89	2-Yr	2.19	2.19	0	192.11	192.15	0.04

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
73.89	73.89	5-Yr	3.07	3.07	0	192.19	192.24	0.05
73.89	73.89	10-Yr	3.69	3.69	0	192.23	192.28	0.05
73.89	73.89	25-Yr	4.49	4.49	0	192.28	192.34	0.06
73.89	73.89	50-Yr	5.1	5.1	0	192.31	192.37	0.06
73.89	73.89	100-Yr	5.73	5.73	0	192.33	192.41	0.08
73.89	73.89	Check Flow	7.45	7.45	0	192.4	192.48	0.08
73.89	73.89	Regional	11.13	11.13	0	192.5	192.62	0.12
27.51	27.51	2-Yr	2.19	2.19				
27.51	27.51	5-Yr	3.07	3.07	0	191.9	191.9	0
27.51	27.51	10-Yr	3.69	3.69	0	191.93	191.93	0
27.51	27.51	25-Yr	4.49	4.49	0	191.95	191.95	0
27.51	27.51	50-Yr	5.1	5.1	0	191.97	191.97	0
27.51	27.51	100-Yr	5.73	5.73	0	191.99	191.99	0
27.51	27.51	Check Flow	7.45	7.45	0	192.03	192.03	0
27.51	27.51	Regional	11.13	11.13	0	192.11	192.11	0
150.22	150.22	2-Yr	0	0	0	192.82	192.82	0
150.22	150.22	5-Yr	0	0	0	192.82	192.82	0
150.22	150.22	10-Yr	0	0	0	192.82	192.82	0
150.22	150.22	25-Yr	0	0	0	192.82	192.82	0
150.22	150.22	50-Yr	0	0	0	192.82	192.82	0
150.22	150.22	100-Yr	0	0	0	192.82	192.82	0
150.22	150.22	Check Flow	0	0	0	192.82	192.82	0
150.22	150.22	Regional	0	0	0	192.82	192.82	0
70.1	70.1	2-Yr	0	0	0	191.91	191.91	0
70.1	70.1	5-Yr	0	0	0	191.91	191.91	0
70.1	70.1	10-Yr	0	0	0	191.91	191.91	0
70.1	70.1	25-Yr	0	0	0	191.91	191.91	0
70.1	70.1	50-Yr	0	0	0	191.91	191.91	0
70.1	70.1	100-Yr	0	0	0	191.91	191.91	0
70.1	70.1	Check Flow	0	0	0	191.91	191.91	0
70.1	70.1	Regional	0	0	0	191.91	191.91	0

Table D.4: HEC-RAS Modelling Results for Water Crossing E4

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
307.6	307.6	2-Yr	0.16	0.16	0.00	193.56	193.56	0.00
307.6	307.6	5-Yr	0.22	0.22	0.00	193.62	193.62	0.00
307.6	307.6	10-Yr	0.27	0.27	0.00	193.66	193.66	0.00
307.6	307.6	25-Yr	0.34	0.34	0.00	193.72	193.72	0.00
307.6	307.6	50-Yr	0.39	0.39	0.00	193.75	193.75	0.00
307.6	307.6	100-Yr	0.44	0.44	0.00	193.78	193.78	0.00
307.6	307.6	Check Flow	0.58	0.58	0.00	193.87	193.87	0.00
307.6	307.6	Regional	1.17	1.17	0.00	194.18	194.18	0.00
300	300				HWY 407 Culvert			
192.63	192.63	2-Yr	0.16	0.16	0.00	190.61	190.56	-0.05
192.63	192.63	5-Yr	0.22	0.22	0.00	190.64	190.59	-0.05
192.63	192.63	10-Yr	0.27	0.27	0.00	190.65	190.62	-0.03
192.63	192.63	25-Yr	0.34	0.34	0.00	190.66	190.65	-0.01
192.63	192.63	50-Yr	0.39	0.39	0.00	190.67	190.67	0.00
192.63	192.63	100-Yr	0.44	0.44	0.00	190.69	190.69	0.00
192.63	192.63	Check Flow	0.58	0.58	0.00	190.75	190.75	0.00
192.63	192.63	Regional	1.17	1.17	0.00	190.94	191.01	0.07
142.99	142.99	2-Yr	0.16	0.16	0.00	190.07	190.25	0.18
142.99	142.99	5-Yr	0.22	0.22	0.00	190.09	190.31	0.22
142.99	142.99	10-Yr	0.27	0.27	0.00	190.10	190.35	0.25
142.99	142.99	25-Yr	0.34	0.34	0.00	190.11	190.41	0.30
142.99	142.99	50-Yr	0.39	0.39	0.00	190.12	190.44	0.32
142.99	142.99	100-Yr	0.44	0.44	0.00	190.13	190.47	0.34
142.99	142.99	Check Flow	0.58	0.58	0.00	190.15	190.56	0.41
142.99	142.99	Regional	1.17	1.17	0.00	190.22	190.87	0.65
	115				407 TWY Culvert			
113.95	113.95	2-Yr	0.16	0.16	0.00	189.81	189.82	0.01
113.95	113.95	5-Yr	0.22	0.22	0.00	189.85	189.86	0.01
113.95	113.95	10-Yr	0.27	0.27	0.00	189.87	189.89	0.02
113.95	113.95	25-Yr	0.34	0.34	0.00	189.89	189.92	0.03
113.95	113.95	50-Yr	0.39	0.39	0.00	189.91	189.95	0.04
113.95	113.95	100-Yr	0.44	0.44	0.00	189.92	189.97	0.05
113.95	113.95	Check Flow	0.58	0.58	0.00	189.95	190.02	0.07
113.95	113.95	Regional	1.17	1.17	0.00	190.02	190.15	0.13
59.31	59.31	2-Yr	0.16	0.16	0.00	189.19	189.19	0.00
59.31	59.31	5-Yr	0.22	0.22	0.00	189.21	189.21	0.00
59.31	59.31	10-Yr	0.27	0.27	0.00	189.22	189.22	0.00
59.31	59.31	25-Yr	0.34	0.34	0.00	189.24	189.24	0.00
59.31	59.31	50-Yr	0.39	0.39	0.00	189.25	189.25	0.00
59.31	59.31	100-Yr	0.44	0.44	0.00	189.25	189.25	0.00
59.31	59.31	Check Flow	0.58	0.58	0.00	189.28	189.28	0.00
59.31	59.31	Regional	1.17	1.17	0.00	189.35	189.35	0.00

Table D.5: HEC-RAS Modelling Results for Water Crossing E5

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
25.19	25.19	2-Yr	33.07	33.07	0.00	182.60	182.56	-0.04
25.19	25.19	5-Yr	47.45	47.45	0.00	182.84	182.80	-0.04
25.19	25.19	10-Yr	57.23	57.23	0.00	182.97	182.94	-0.03
25.19	25.19	25-Yr	70.03	70.03	0.00	183.13	183.10	-0.03
25.19	25.19	50-Yr	79.62	79.62	0.00	183.24	183.21	-0.03
25.19	25.19	100-Yr	90.27	90.27	0.00	183.35	183.33	-0.02
25.19	25.19	Check Flow	132.96	132.96	0.00	183.77	183.76	-0.01
25.19	25.19	Regional	270.64	270.64	0.00	184.86	184.85	-0.01
25.18	25.18	2-Yr	33.07	33.07	0.00	182.49	182.41	-0.08
25.18	25.18	5-Yr	47.45	47.45	0.00	182.71	182.66	-0.05
25.18	25.18	10-Yr	57.23	57.23	0.00	182.84	182.80	-0.04
25.18	25.18	25-Yr	70.03	70.03	0.00	182.99	182.95	-0.04
25.18	25.18	50-Yr	79.62	79.62	0.00	183.09	183.06	-0.03
25.18	25.18	100-Yr	90.27	90.27	0.00	183.19	183.16	-0.03
25.18	25.18	Check Flow	132.96	132.96	0.00	183.55	183.53	-0.02
25.18	25.18	Regional	270.64	270.64	0.00	184.38	184.37	-0.01
25.175	25.175				HWY 407 Bridge			
25.17	25.17	2-Yr	33.07	33.07	0.00	181.66	181.49	-0.17
25.17	25.17	5-Yr	47.45	47.45	0.00	181.79	181.64	-0.15
25.17	25.17	10-Yr	57.23	57.23	0.00	181.87	181.74	-0.13
25.17	25.17	25-Yr	70.03	70.03	0.00	181.95	181.83	-0.12
25.17	25.17	50-Yr	79.62	79.62	0.00	182.01	181.89	-0.12
25.17	25.17	100-Yr	90.27	90.27	0.00	182.06	181.95	-0.11
25.17	25.17	Check Flow	132.96	132.96	0.00	182.24	182.15	-0.09
25.17	25.17	Regional	270.64	270.64	0.00	183.33	183.36	0.03
25.164	25.164	2-Yr	33.07	33.07	0.00	181.28	181.29	0.01
25.164	25.164	5-Yr	47.45	47.45	0.00	181.45	181.45	0.00
25.164	25.164	10-Yr	57.23	57.23	0.00	181.54	181.54	0.00
25.164	25.164	25-Yr	70.03	70.03	0.00	181.62	181.67	0.05
25.164	25.164	50-Yr	79.62	79.62	0.00	181.68	181.74	0.06
25.164	25.164	100-Yr	90.27	90.27	0.00	181.74	181.82	0.08
25.164	25.164	Check Flow	132.96	132.96	0.00	181.95	182.06	0.11
25.164	25.164	Regional	270.64	270.64	0.00	183.39	183.42	0.03
25.162	25.162				TWY Bridge			
25.16	25.16	2-Yr	33.07	33.07	0.00	181.09	181.15	0.06
25.16	25.16	5-Yr	47.45	47.45	0.00	181.10	181.13	0.03
25.16	25.16	10-Yr	57.23	57.23	0.00	181.14	181.17	0.03
25.16	25.16	25-Yr	70.03	70.03	0.00	181.21	181.26	0.05
25.16	25.16	50-Yr	79.62	79.62	0.00	181.26	181.33	0.07
25.16	25.16	100-Yr	90.27	90.27	0.00	181.30	181.39	0.09
25.16	25.16	Check Flow	132.96	132.96	0.00	181.78	181.76	-0.02
25.16	25.16	Regional	270.64	270.64	0.00	183.36	183.36	0.00

METRIC

655

659

443

179

659
24.81 | 47

655–A
100.1 | 61

443–A
11.27 | 59

179–A
1.25 | 30

HWY 407

HWY 407

DIXIE RD

ETOBICOKE CREEK

E6

E7

E8

NOTE:
HYDRAULIC MODEL FOR E6 & E8 WATER CROSSINGS PROVIDED BY TRCA.
HYDROLOGIC ANALYSIS NOT REQUIRED.

LEGEND

- TRANSITWAY LIMITS
- ENCLOSED TRANSITWAY
- PROPOSED 407 TRANSITWAY
- WATER COURSE
- SUBWATERSHED DRAINAGE AREA BOUNDARY (123)
- EXISTING POND
- WATERCOURSE CROSSING
- AREA (ha) / % IMPERVIOUS (98-1 / 0.44 | 90) — AREA ID

Ontario PARSONS IBI GROUP

SCALE
1:7500

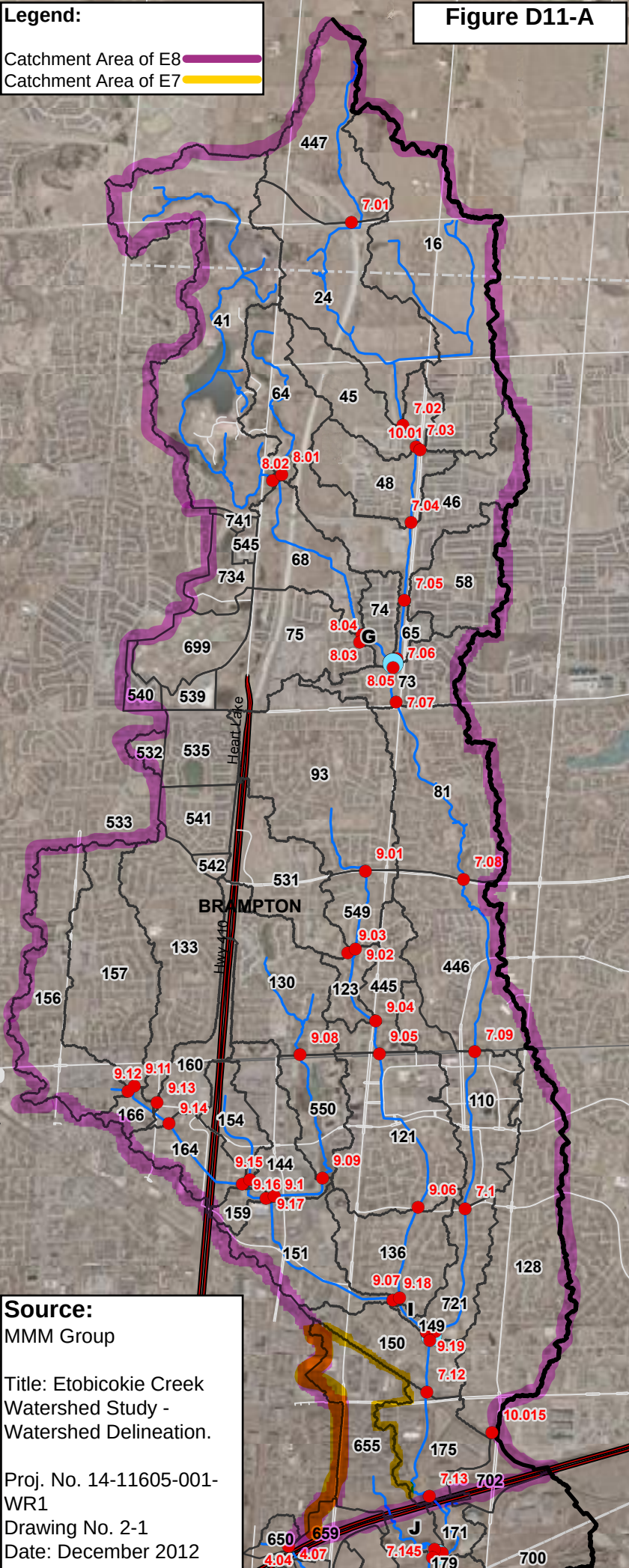
407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
WATERCOURSE CROSSING # E6 - E7 - E8

DRAWING SET
DRAINAGE AREA MAP

FIGURE
D-11

DATE
NOV. 2017

DRAWING NAME: J:\Division\TT\Drainage\602896 - 407_Transitway Huronontario\CAD\Design\Drainage Mosaic\602896- WATERCOURSE_CROSSING.dwg
MODIFIED: Nov 16, 2017 4:36pm
CREATED:



Source:
MMM Group

Title: Etobicokie Creek Watershed Study - Watershed Delineation.

Proj. No. 14-11605-001-WR1
Drawing No. 2-1
Date: December 2012

Table D.6: HEC-RAS Modelling Results for Water Crossing E6

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
29.26	29.26	Regional	67.10	67.10	0.00	184.23	184.11	-0.12
29.26	29.26	350-year	61.40	61.40	0.00	183.79	183.79	0.00
29.26	29.26	100-year	45.65	45.65	0.00	183.38	183.38	0.00
29.26	29.26	50-year	41.34	41.34	0.00	183.26	183.26	0.00
29.26	29.26	25-year	37.28	37.28	0.00	183.14	183.14	0.00
29.26	29.26	10-year	31.20	31.20	0.00	182.92	182.92	0.00
29.26	29.26	5-year	26.29	26.29	0.00	182.70	182.70	0.00
29.26	29.26	2-year	19.64	19.64	0.00	182.36	182.36	0.00
29.26	29.26	Check Flow	59.35	59.35	0.00	183.82	183.82	0
29.25	29.5	Regional	81.23	81.23	0.00	183.76	184.04	0.28
29.25	29.5	350-year	65.23	65.23	0.00	183.39	183.39	0.00
29.25	29.5	100-year	50.94	50.94	0.00	183.03	183.03	0.00
29.25	29.5	50-year	47.06	47.06	0.00	182.93	182.93	0.00
29.25	29.5	25-year	43.16	43.16	0.00	182.82	182.82	0.00
29.25	29.5	10-year	36.60	36.60	0.00	182.63	182.63	0.00
29.25	29.5	5-year	30.80	30.80	0.00	182.46	182.46	0.00
29.25	29.5	2-year	22.89	22.89	0.00	182.20	182.20	0.00
29.25	29.5	Check Flow	66.22	66.22	0.00	183.41	183.41	0.00
29.24	46				HWY 407 Culvert			
29.23	29.23	Regional	81.23	81.23	0.00	182.50	182.50	0.00
29.23	29.23	350-year	65.23	65.23	0.00	182.31	182.31	0.00
29.23	29.23	100-year	50.94	50.94	0.00	182.08	182.08	0.00
29.23	29.23	50-year	47.06	47.06	0.00	182.00	182.00	0.00
29.23	29.23	25-year	43.16	43.16	0.00	181.77	181.77	0.00
29.23	29.23	10-year	36.60	36.60	0.00	181.65	181.65	0.00
29.23	29.23	5-year	30.80	30.80	0.00	181.54	181.54	0.00
29.23	29.23	2-year	22.89	22.89	0.00	181.38	181.38	0.00
29.23	29.23	Check Flow	66.22	66.22	0.00	182.32	182.32	0
29.215	29.215	Regional	81.23	81.23	0.00	182.51	182.50	-0.01
29.215	29.215	350-year	65.23	65.23	0.00	182.28	182.28	0.00
29.215	29.215	100-year	50.94	50.94	0.00	182.04	182.03	-0.01
29.215	29.215	50-year	47.06	47.06	0.00	181.95	181.95	0.00
29.215	29.215	25-year	43.16	43.16	0.00	181.64	181.64	0.00
29.215	29.215	10-year	36.60	36.60	0.00	181.50	181.50	0.00
29.215	29.215	5-year	30.80	30.80	0.00	181.38	181.38	0.00
29.215	29.215	2-year	22.89	22.89	0.00	181.23	181.23	0.00
29.215	29.215	Check Flow	66.22	66.22	0.00	182.30	182.30	0

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
29.205	29.205	Regional	81.23	81.23	0.00	182.42	182.42	0.00
29.205	29.205	350-year	65.23	65.23	0.00	182.20	182.20	0.00
29.205	29.205	100-year	50.94	50.94	0.00	181.94	181.93	-0.01
29.205	29.205	50-year	47.06	47.06	0.00	181.84	181.84	0.00
29.205	29.205	25-year	43.16	43.16	0.00	181.37	181.37	0.00
29.205	29.205	10-year	36.60	36.60	0.00	181.17	181.17	0.00
29.205	29.205	5-year	30.80	30.80	0.00	180.99	180.99	0.00
29.205	29.205	2-year	22.89	22.89	0.00	180.75	180.75	0.00
29.205	29.205	Check Flow	66.22	66.22	0.00	182.22	182.21	-0.01
29.18	29.18	Regional	81.23	81.23	0.00	182.22	182.21	-0.01
29.18	29.18	350-year	65.23	65.23	0.00	182.03	182.03	0.00
29.18	29.18	100-year	50.94	50.94	0.00	181.80	181.80	0.00
29.18	29.18	50-year	47.06	47.06	0.00	181.72	181.72	0.00
29.18	29.18	25-year	43.16	43.16	0.00	180.74	180.75	0.01
29.18	29.18	10-year	36.60	36.60	0.00	180.49	180.51	0.02
29.18	29.18	5-year	30.80	30.80	0.00	180.29	180.30	0.01
29.18	29.18	2-year	22.89	22.89	0.00	180.02	180.02	0.00
29.18	29.18	Check Flow	66.22	66.22	0.00	182.05	182.04	-0.01
29.17	47				Dixie Road Bridge			
29.16	29.16	Regional	81.23	81.23	0.00	180.25	180.25	0.00
29.16	29.16	350-year	65.23	65.23	0.00	179.99	179.99	0.00
29.16	29.16	100-year	50.94	50.94	0.00	179.78	179.89	0.11
29.16	29.16	50-year	47.06	47.06	0.00	179.76	179.85	0.09
29.16	29.16	25-year	43.16	43.16	0.00	179.74	179.83	0.09
29.16	29.16	10-year	36.60	36.60	0.00	179.70	179.76	0.06
29.16	29.16	5-year	30.80	30.80	0.00	179.64	179.68	0.04
29.16	29.16	2-year	22.89	22.89	0.00	179.50	179.53	0.03
29.16	29.16	Check Flow	66.22	66.22	0.00	180.00	180.00	0
					0			0

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
29.155	29.155	Regional	81.23	81.23	0.00	180.43	180.37	-0.06
29.155	29.155	350-year	65.23	65.23	0.00	180.22	180.15	-0.07
29.155	29.155	100-year	50.94	50.94	0.00	179.95	179.92	-0.03
29.155	29.155	50-year	47.06	47.06	0.00	179.88	179.86	-0.02
29.155	29.155	25-year	43.16	43.16	0.00	179.81	179.81	0.00
29.155	29.155	10-year	36.60	36.60	0.00	179.68	179.72	0.04
29.155	29.155	5-year	30.80	30.80	0.00	179.54	179.61	0.07
29.155	29.155	2-year	22.89	22.89	0.00	179.35	179.40	0.05
29.155	29.155	Check Flow	66.22	66.22	0.00	180.23	180.17	-0.06
29.152				407 TWY Bridge				
29.15	29.15	Regional	81.23	81.23	0.00	180.38	180.30	-0.08
29.15	29.15	350-year	65.23	65.23	0.00	180.18	180.08	-0.10
29.15	29.15	100-year	50.94	50.94	0.00	179.92	179.85	-0.07
29.15	29.15	50-year	47.06	47.06	0.00	179.85	179.78	-0.07
29.15	29.15	25-year	43.16	43.16	0.00	179.78	179.71	-0.07
29.15	29.15	10-year	36.60	36.60	0.00	179.66	179.59	-0.07
29.15	29.15	5-year	30.80	30.80	0.00	179.53	179.48	-0.05
29.15	29.15	2-year	22.89	22.89	0.00	179.33	179.29	-0.04
29.15	29.15	Check Flow	66.22	66.22	0.00	180.19	180.10	-0.09
29.14	29.14	Regional	81.23	81.23	0.00	180.30	180.24	-0.06
29.14	29.14	350-year	65.23	65.23	0.00	180.07	180.01	-0.06
29.14	29.14	100-year	50.94	50.94	0.00	179.83	179.76	-0.07
29.14	29.14	50-year	47.06	47.06	0.00	179.76	179.69	-0.07
29.14	29.14	25-year	43.16	43.16	0.00	179.68	179.61	-0.07
29.14	29.14	10-year	36.60	36.60	0.00	179.54	179.48	-0.06
29.14	29.14	5-year	30.80	30.80	0.00	179.41	179.35	-0.06
29.14	29.14	2-year	22.89	22.89	0.00	179.21	179.16	-0.05
29.14	29.14	Check Flow	66.22	66.22	0.00	180.08	180.02	-0.06
29.13	29.13	Regional	81.23	81.23	0.00	180.14	180.17	0.03
29.13	29.13	350-year	65.23	65.23	0.00	179.88	179.93	0.05
29.13	29.13	100-year	50.94	50.94	0.00	179.63	179.66	0.03
29.13	29.13	50-year	47.06	47.06	0.00	179.56	179.59	0.03
29.13	29.13	25-year	43.16	43.16	0.00	179.48	179.51	0.03
29.13	29.13	10-year	36.60	36.60	0.00	179.35	179.37	0.02
29.13	29.13	5-year	30.80	30.80	0.00	179.22	179.24	0.02
29.13	29.13	2-year	22.89	22.89	0.00	179.03	179.04	0.01
29.13	29.13	Check Flow	66.22	66.22	0.00	179.90	179.95	0.05

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
29.12	29.12	Regional	81.23	81.23	0.00	180.01	180.01	0.00
29.12	29.12	350-year	65.23	65.23	0.00	179.71	179.71	0.00
29.12	29.12	100-year	50.94	50.94	0.00	179.45	179.45	0.00
29.12	29.12	50-year	47.06	47.06	0.00	179.38	179.38	0.00
29.12	29.12	25-year	43.16	43.16	0.00	179.30	179.30	0.00
29.12	29.12	10-year	36.60	36.60	0.00	179.15	179.15	0.00
29.12	29.12	5-year	30.80	30.80	0.00	179.02	179.02	0.00
29.12	29.12	2-year	22.89	22.89	0.00	178.81	178.81	0.00
29.12	29.12	Check Flow	66.22	66.22	0.00	179.73	179.73	0
29.11	29.11	Regional	81.23	81.23	0.00	179.20	179.20	0.00
29.11	29.11	350-year	65.23	65.23	0.00	179.12	179.12	0.00
29.11	29.11	100-year	50.94	50.94	0.00	178.99	178.99	0.00
29.11	29.11	50-year	47.06	47.06	0.00	178.94	178.94	0.00
29.11	29.11	25-year	43.16	43.16	0.00	178.88	178.88	0.00
29.11	29.11	10-year	36.60	36.60	0.00	178.76	178.76	0.00
29.11	29.11	5-year	30.80	30.80	0.00	178.62	178.62	0.00
29.11	29.11	2-year	22.89	22.89	0.00	178.42	178.42	0.00
29.11	29.11	Check Flow	66.22	66.22	0.00	179.12	179.12	0

Table D.7: HEC-RAS Modelling Results for Water Crossing E7

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
920.26	920.26	2 Year	3.62	3.62	0.00	179.17	179.17	0.00
920.26	920.26	5 Year	4.8	4.8	0.00	179.35	179.35	0.00
920.26	920.26	10 Year	5.6	5.6	0.00	179.47	179.48	0.01
920.26	920.26	25 Year	6.62	6.62	0.00	179.57	179.58	0.01
920.26	920.26	50 Year	7.37	7.37	0.00	179.65	179.66	0.01
920.26	920.26	100 year	8.13	8.13	0.00	179.72	179.73	0.01
920.26	920.26	350 year	10.66	10.66	0.00	179.97	179.99	0.02
920.26	920.26	Regional	11.52	11.52	0.00	180.54	180.57	0.03
858.59	858.59	2 Year	3.62	3.62	0.00	178.94	178.95	0.01
858.59	858.59	5 Year	4.80	4.80	0.00	179.27	179.28	0.01
858.59	858.59	10 Year	5.60	5.60	0.00	179.42	179.42	0.00
858.59	858.59	25 Year	6.62	6.62	0.00	179.52	179.53	0.01
858.59	858.59	50 Year	7.37	7.37	0.00	179.60	179.61	0.01
858.59	858.59	100 year	8.13	8.13	0.00	179.68	179.69	0.01
858.59	858.59	350 year	10.66	10.66	0.00	179.93	179.95	0.02
858.59	858.59	Regional	11.52	11.52	0.00	180.52	180.55	0.03
800	800				HWY 407 Culvert			
750.66	750.66	2-Yr	3.62	3.62	0.00	178.95	178.96	0.01
750.66	750.66	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
750.66	750.66	10-Yr	5.60	5.60	0.00	179.42	179.43	0.01
750.66	750.66	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
750.66	750.66	50-Yr	7.37	7.37	0.00	179.60	179.61	0.01
750.66	750.66	100-Yr	8.13	8.13	0.00	179.68	179.69	0.01
750.66	750.66	Check Flow	10.66	10.66	0.00	179.93	179.95	0.02
750.66	750.66	Regional	11.52	11.52	0.00	180.52	180.55	0.03
681.72	681.72	2-Yr	3.62	3.62	0.00	178.95	178.96	0.01
681.72	681.72	5-Yr	4.80	4.80	0.00	179.28	179.29	0.01
681.72	681.72	10-Yr	5.60	5.60	0.00	179.42	179.43	0.01
681.72	681.72	25-Yr	6.62	6.62	0.00	179.53	179.54	0.01
681.72	681.72	50-Yr	7.37	7.37	0.00	179.61	179.62	0.01
681.72	681.72	100-Yr	8.13	8.13	0.00	179.68	179.69	0.01
681.72	681.72	Check Flow	10.66	10.66	0.00	179.94	179.95	0.01
681.72	681.72	Regional	11.52	11.52	0.00	180.53	180.55	0.02
626.16	626.16	2-Yr	3.62	3.62	0.00	178.94	178.96	0.02
626.16	626.16	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
626.16	626.16	10-Yr	5.60	5.60	0.00	179.42	179.43	0.01
626.16	626.16	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
626.16	626.16	50-Yr	7.37	7.37	0.00	179.61	179.62	0.01
626.16	626.16	100-Yr	8.13	8.13	0.00	179.68	179.69	0.01
626.16	626.16	Check Flow	10.66	10.66	0.00	179.93	179.95	0.02
626.16	626.16	Regional	11.52	11.52	0.00	180.53	180.55	0.02

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
553.65	553.65	2-Yr	3.62	3.62	0.00	178.94	178.95	0.01
553.65	553.65	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
553.65	553.65	10-Yr	5.60	5.60	0.00	179.42	179.43	0.01
553.65	553.65	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
553.65	553.65	50-Yr	7.37	7.37	0.00	179.61	179.61	0.00
553.65	553.65	100-Yr	8.13	8.13	0.00	179.68	179.69	0.01
553.65	553.65	Check Flow	10.66	10.66	0.00	179.93	179.95	0.02
553.65	553.65	Regional	11.52	11.52	0.00	180.53	180.55	0.02
476.37	476.37	2-Yr	3.62	3.62	0.00	178.94	178.95	0.01
476.37	476.37	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
476.37	476.37	10-Yr	5.60	5.60	0.00	179.42	179.43	0.01
476.37	476.37	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
476.37	476.37	50-Yr	7.37	7.37	0.00	179.61	179.61	0.00
476.37	476.37	100-Yr	8.13	8.13	0.00	179.68	179.69	0.01
476.37	476.37	Check Flow	10.66	10.66	0.00	179.93	179.95	0.02
476.37	476.37	Regional	11.52	11.52	0.00	180.53	180.55	0.02
425.61	425.61	2-Yr	3.62	3.62	0.00	178.94	178.95	0.01
425.61	425.61	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
425.61	425.61	10-Yr	5.60	5.60	0.00	179.42	179.43	0.01
425.61	425.61	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
425.61	425.61	50-Yr	7.37	7.37	0.00	179.61	179.61	0.00
425.61	425.61	100-Yr	8.13	8.13	0.00	179.68	179.69	0.01
425.61	425.61	Check Flow	10.66	10.66	0.00	179.93	179.95	0.02
425.61	425.61	Regional	11.52	11.52	0.00	180.53	180.55	0.02
367.77	367.77	2-Yr	3.62	3.62	0.00	178.94	178.95	0.01
367.77	367.77	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
367.77	367.77	10-Yr	5.60	5.60	0.00	179.42	179.43	0.01
367.77	367.77	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
367.77	367.77	50-Yr	7.37	7.37	0.00	179.61	179.61	0.00
367.77	367.77	100-Yr	8.13	8.13	0.00	179.68	179.69	0.01
367.77	367.77	Check Flow	10.66	10.66	0.00	179.93	179.95	0.02
367.77	367.77	Regional	11.52	11.52	0.00	180.53	180.55	0.02
295.3	295.3	2-Yr	3.62	3.62	0.00	178.94	178.95	0.01
295.3	295.3	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
295.3	295.3	10-Yr	5.60	5.60	0.00	179.42	179.43	0.01
295.3	295.3	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
295.3	295.3	50-Yr	7.37	7.37	0.00	179.61	179.61	0.00
295.3	295.3	100-Yr	8.13	8.13	0.00	179.68	179.69	0.01
295.3	295.3	Check Flow	10.66	10.66	0.00	179.93	179.95	0.02
295.3	295.3	Regional	11.52	11.52	0.00	180.53	180.55	0.02
149.79	149.79	2-Yr	3.62	3.62	0.00	178.94	178.95	0.01

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
149.79	149.79	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
149.79	149.79	10-Yr	5.60	5.60	0.00	179.42	179.42	0.00
149.79	149.79	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
149.79	149.79	50-Yr	7.37	7.37	0.00	179.60	179.61	0.01
149.79	149.79	100-Yr	8.13	8.13	0.00	179.68	179.69	0.01
149.79	149.79	Check Flow	10.66	10.66	0.00	179.93	179.95	0.02
149.79	149.79	Regional	11.52	11.52	0.00	180.53	180.55	0.02
122	122			407 TWY Culvert				
119.41	119.41	2-Yr	3.62	3.62	0.00	178.94	178.94	0.00
119.41	119.41	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
119.41	119.41	10-Yr	5.60	5.60	0.00	179.42	179.42	0.00
119.41	119.41	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
119.41	119.41	50-Yr	7.37	7.37	0.00	179.60	179.61	0.01
119.41	119.41	100-Yr	8.13	8.13	0.00	179.68	179.68	0.00
119.41	119.41	Check Flow	10.66	10.66	0.00	179.93	179.94	0.01
119.41	119.41	Regional	11.52	11.52	0.00	180.53	180.54	0.01
42.7	42.7	2-Yr	3.62	3.62	0.00	178.94	178.94	0.00
42.7	42.7	5-Yr	4.80	4.80	0.00	179.28	179.28	0.00
42.7	42.7	10-Yr	5.60	5.60	0.00	179.42	179.42	0.00
42.7	42.7	25-Yr	6.62	6.62	0.00	179.53	179.53	0.00
42.7	42.7	50-Yr	7.37	7.37	0.00	179.60	179.61	0.01
42.7	42.7	100-Yr	8.13	8.13	0.00	179.68	179.68	0.00
42.7	42.7	Check Flow	10.66	10.66	0.00	179.93	179.94	0.01
42.7	42.7	Regional	11.52	11.52	0.00	180.53	180.54	0.01

Table D.8: HEC-RAS Modelling Results for Water Crossing E8

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
933.75	933.75	2-Yr	41.99	41.99	0.00	180.70	180.70	0.00
933.75	933.75	5-Yr	58.66	58.66	0.00	180.96	180.96	0.00
933.75	933.75	10-Yr	70.12	70.12	0.00	181.12	181.12	0.00
933.75	933.75	25-Yr	85.22	85.22	0.00	181.33	181.32	-0.01
933.75	933.75	50-Yr	97.08	97.08	0.00	181.48	181.48	0.00
933.75	933.75	100-Yr	108.96	108.96	0.00	181.63	181.62	-0.01
933.75	933.75	350-Yr	157.10	157.10	0.00	182.17	182.17	0.00
933.75	933.75	Regional	314.67	314.67	0.00	184.57	184.43	-0.14
869.7	869.7	2-Yr	41.99	41.99	0.00	180.60	180.60	0.00
869.7	869.7	5-Yr	58.66	58.66	0.00	180.85	180.85	0.00
869.7	869.7	10-Yr	70.12	70.12	0.00	181.01	181.01	0.00
869.7	869.7	25-Yr	85.22	85.22	0.00	181.20	181.19	-0.01
869.7	869.7	50-Yr	97.08	97.08	0.00	181.34	181.33	-0.01
869.7	869.7	100-Yr	108.96	108.96	0.00	181.47	181.46	-0.01
869.7	869.7	Regional	314.67	314.67	0.00	184.11	184.32	0.21
785.71	785.71	2-Yr	41.99	41.99	0.00	180.26	180.26	0.00
785.71	785.71	5-Yr	58.66	58.66	0.00	180.41	180.41	0.00
785.71	785.71	10-Yr	70.12	70.12	0.00	180.50	180.50	0.00
785.71	785.71	25-Yr	85.22	85.22	0.00	180.60	180.61	0.01
785.71	785.71	50-Yr	97.08	97.08	0.00	180.67	180.68	0.01
785.71	785.71	100-Yr	108.96	108.96	0.00	180.73	180.75	0.02
785.71	785.71	Check Flow	157.10	157.10	0.00	180.98	180.99	0.01
785.71	785.71	Regional	314.67	314.67	0.00	181.85	181.85	0.00
732.59	732.59	2-Yr	41.99	41.99	0.00	180.07	180.07	0.00
732.59	732.59	5-Yr	58.66	58.66	0.00	180.25	180.25	0.00
732.59	732.59	10-Yr	70.12	70.12	0.00	180.35	180.37	0.02
732.59	732.59	25-Yr	85.22	85.22	0.00	180.48	180.50	0.02
732.59	732.59	100-Yr	108.96	108.96	0.00	180.65	180.69	0.04
732.59	732.59	Check Flow	157.10	157.10	0.00	180.96	181.04	0.08
732.59	732.59	Regional	314.67	314.67	0.00	181.72	181.90	0.18
627.12	627.12	2-Yr	41.99	41.99	0.00	179.72	179.73	0.01
627.12	627.12	5-Yr	58.66	58.66	0.00	179.87	179.93	0.06
627.12	627.12	10-Yr	70.12	70.12	0.00	179.97	180.08	0.11
627.12	627.12	50-Yr	97.08	97.08	0.00	180.16	180.31	0.15
627.12	627.12	100-Yr	108.96	108.96	0.00	180.24	180.41	0.17
627.12	627.12	Check Flow	157.10	157.10	0.00	180.53	180.76	0.23
627.12	627.12	Regional	314.67	314.67	0.00	181.22	181.60	0.38
567.25	567.25	2-Yr	41.99	41.99	0.00	179.62	179.67	0.05
567.25	567.25	5-Yr	58.66	58.66	0.00	179.78	179.89	0.11

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
567.25	567.25	10-Yr	70.12	70.12	0.00	179.88	180.05	0.17
567.25	567.25	25-Yr	85.22	85.22	0.00	180.00	180.18	0.18
567.25	567.25	50-Yr	97.08	97.08	0.00	180.09	180.29	0.20
567.25	567.25	100-Yr	108.96	108.96	0.00	180.17	180.39	0.22
567.25	567.25	Check Flow	157.10	157.10	0.00	180.47	180.75	0.28
567.25	567.25	Regional	314.67	314.67	0.00	181.20	181.60	0.40
527.15	527.15	2-Yr	41.99	41.99				
527.15	527.15	5-Yr	58.66	58.66	0.00	179.56	179.79	0.23
527.15	527.15	10-Yr	70.12	70.12	0.00	179.67	179.96	0.29
527.15	527.15	25-Yr	85.22	85.22	0.00	179.79	180.07	0.28
527.15	527.15	50-Yr	97.08	97.08	0.00	179.87	180.18	0.31
527.15	527.15	100-Yr	108.96	108.96	0.00	179.95	180.28	0.33
527.15	527.15	Check Flow	157.10	157.10	0.00	180.23	180.63	0.40
527.15	527.15	Regional	314.67	314.67	0.00	180.90	181.47	0.57
480.25	480.25	2-Yr	41.99	41.99	0.00	179.11	179.50	0.39
480.25	480.25	5-Yr	58.66	58.66	0.00	179.37	179.74	0.37
480.25	480.25	10-Yr	70.12	70.12	0.00	179.50	179.92	0.42
480.25	480.25	25-Yr	85.22	85.22	0.00	179.62	180.02	0.40
480.25	480.25	50-Yr	97.08	97.08	0.00	179.70	180.13	0.43
480.25	480.25	100-Yr	108.96	108.96	0.00	179.78	180.23	0.45
480.25	480.25	Check Flow	157.10	157.10	0.00	180.05	180.58	0.53
480.25	480.25	Regional	314.67	314.67	0.00	180.69	181.40	0.71
422.08	422.08	2-Yr	41.99	41.99	0.00	178.90	179.47	0.57
422.08	422.08	5-Yr	58.66	58.66	0.00	179.24	179.70	0.46
422.08	422.08	10-Yr	70.12	70.12	0.00	179.38	179.88	0.50
422.08	422.08	25-Yr	85.22	85.22	0.00	179.48	179.98	0.50
422.08	422.08	50-Yr	97.08	97.08	0.00	179.54	180.09	0.55
422.08	422.08	100-Yr	108.96	108.96	0.00	179.61	180.19	0.58
422.08	422.08	Check Flow	157.10	157.10	0.00	179.84	180.53	0.69
422.08	422.08	Regional	314.67	314.67	0.00	180.33	181.33	1.00
				407 TWY Bridge				
383.7	383.7	2-Yr	41.99	41.99	0.00	178.86	179.45	0.59
383.7	383.7	5-Yr	58.66	58.66	0.00	179.22	179.68	0.46
383.7	383.7	10-Yr	70.12	70.12	0.00	179.36	179.87	0.51
383.7	383.7	25-Yr	85.22	85.22	0.00	179.45	179.96	0.51
383.7	383.7	50-Yr	97.08	97.08	0.00	179.52	180.06	0.54
383.7	383.7	100-Yr	108.96	108.96	0.00	179.59	180.16	0.57
383.7	383.7	Check Flow	157.10	157.10	0.00	179.80	180.50	0.70
383.7	383.7	Regional	314.67	314.67	0.00	180.27	181.29	1.02

METRIC

124

99

99–A
43.89 | 38

124–A.2
80.19 | 60

125–A
1.02 | 38

124–A.1
3.97 | 60

CNR HALTON

TORBRAM RD

HWY 407

M1

M2

M3

M4

125

106

NOTE:
HYDRAULIC MODEL FOR M4 WATER CROSSING PROVIDED BY TRCA.
HYDROLOGIC ANALYSIS NOT REQUIRED.

LEGEND

- TRANSITWAY LIMITS
- ENCLOSED TRANSITWAY
- PROPOSED 407 TRANSITWAY
- WATER COURSE
- SUBWATERSHED DRAINAGE AREA BOUNDARY (123)
- EXISTING POND
- WATERCOURSE CROSSING
- AREA (ha) / AREA ID (98-1) / % IMPERVIOUS (0.44 | 90)

Ontario PARSONS IBI GROUP

SCALE
1:7500

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
WATERCOURSE CROSSING # M1 - M2 - M3 - M4

DRAWING SET
DRAINAGE AREA MAP

FIGURE
D-18

DATE
June 2018

DRAWING NAME: J:\Division\TT\Drainage\602896 - 407_Transitway Huronontario\CAD\Design\Drainage Mosaic\602896- WATERCOURSE_CROSSING.dwg
MODIFIED: Nov 16, 2017 4:39pm
CREATED:

Table D.9: HEC-RAS Modelling Results for Water Crossing M1

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
708.2	708.2	2-yr	1.62	1.62	0.00	181.98	181.98	0.00
708.2	708.2	5-yr	2.27	2.27	0.00	182.1	182.1	0.00
708.2	708.2	10-yr	2.73	2.73	0.00	182.14	182.14	0.00
708.2	708.2	25-yr	3.3	3.3	0.00	182.19	182.19	0.00
708.2	708.2	50-yr	3.73	3.73	0.00	182.22	182.22	0.00
708.2	708.2	100-yr	4.17	4.17	0.00	182.24	182.24	0.00
708.2	708.2	Check Flow	5.42	5.42	0.00	182.31	182.31	0.00
708.2	708.2	Regional	6.15	6.15	0.00	182.34	182.34	0.00
					0.00			0.00
609.7	609.7	2-yr	1.62	1.62	0.00	181.18	181.18	0.00
609.7	609.7	5-yr	2.27	2.27	0.00	181.23	181.23	0.00
609.7	609.7	10-yr	2.73	2.73	0.00	181.26	181.26	0.00
609.7	609.7	25-yr	3.30	3.30	0.00	181.29	181.29	0.00
609.7	609.7	50-yr	3.73	3.73	0.00	181.32	181.32	0.00
609.7	609.7	100-yr	4.17	4.17	0.00	181.34	181.34	0.00
609.7	609.7	Check Flow	5.42	5.42	0.00	181.40	181.40	0.00
609.7	609.7	Regional	6.15	6.15	0.00	181.44	181.44	0.00
420	420				HWY 407 Culvert			
409.63	409.63	2-yr	1.62	1.62	0.00	179.75	179.43	-0.32
409.63	409.63	5-yr	2.27	2.27	0.00	179.87	179.52	-0.35
409.63	409.63	10-yr	2.73	2.73	0.00	179.94	179.57	-0.37
409.63	409.63	25-yr	3.30	3.30	0.00	180.02	179.63	-0.39
409.63	409.63	50-yr	3.73	3.73	0.00	180.05	179.66	-0.39
409.63	409.63	100-yr	4.17	4.17	0.00	180.07	179.70	-0.37
409.63	409.63	Check Flow	5.42	5.42	0.00	180.14	179.76	-0.38
409.63	409.63	Regional	6.15	6.15	0.00	180.19	179.80	-0.39

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
380	380			407 TWY Culvert				
366.38	366.38	2-yr	1.62	1.62	0.00	179.63	179.43	-0.20
366.38	366.38	5-yr	2.27	2.27	0.00	179.71	179.52	-0.19
366.38	366.38	10-yr	2.73	2.73	0.00	179.74	179.57	-0.17
366.38	366.38	25-yr	3.30	3.30	0.00	179.77	179.63	-0.14
366.38	366.38	50-yr	3.73	3.73	0.00	179.87	179.66	-0.21
366.38	366.38	100-yr	4.17	4.17	0.00	179.90	179.70	-0.20
366.38	366.38	Check Flow	5.42	5.42	0.00	179.96	179.76	-0.20
366.38	366.38	Regional	6.15	6.15	0.00	179.96	179.80	-0.16
299.85	299.85	2-yr	1.62	1.62	0.00	179.36	179.36	0.00
299.85	299.85	5-yr	2.27	2.27	0.00	179.45	179.45	0.00
299.85	299.85	10-yr	2.73	2.73	0.00	179.50	179.50	0.00
299.85	299.85	25-yr	3.30	3.30	0.00	179.56	179.56	0.00
299.85	299.85	50-yr	3.73	3.73	0.00	179.59	179.59	0.00
299.85	299.85	100-yr	4.17	4.17	0.00	179.62	179.62	0.00
299.85	299.85	Check Flow	5.42	5.42	0.00	179.67	179.67	0.00
299.85	299.85	Regional	6.15	6.15	0.00	179.71	179.71	0.00
212.97	212.97	2-yr	1.62	1.62	0.00	178.65	178.65	0.00
212.97	212.97	5-yr	2.27	2.27	0.00	178.74	178.74	0.00
212.97	212.97	10-yr	2.73	2.73	0.00	178.80	178.80	0.00
212.97	212.97	25-yr	3.30	3.30	0.00	178.86	178.86	0.00
212.97	212.97	50-yr	3.73	3.73	0.00	178.91	178.91	0.00
212.97	212.97	100-yr	4.17	4.17	0.00	178.95	178.95	0.00
212.97	212.97	Check Flow	5.42	5.42	0.00	179.14	179.14	0.00
212.97	212.97	Regional	6.15	6.15	0.00	179.19	179.19	0.00

Table D.10: HEC-RAS Modelling Results for Water Crossing M2

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
329.41	329.41	2-yr	0.21	0.21	0.00	181.72	181.72	0.00
329.41	329.41	5-yr	0.28	0.28	0.00	181.77	181.77	0.00
329.41	329.41	10-yr	0.34	0.34	0.00	181.81	181.81	0.00
329.41	329.41	25-yr	0.40	0.40	0.00	181.85	181.85	0.00
329.41	329.41	50-yr	0.45	0.45	0.00	181.87	181.87	0.00
329.41	329.41	100-yr	0.50	0.50	0.00	181.90	181.90	0.00
329.41	329.41	Check Flow	0.65	0.65	0.00	181.97	181.97	0.00
329.41	329.41	Regional	0.71	0.71	0.00	182.00	182.00	0.00
230	230				**HWY 407 Culvert**			
214.2	214.2	2-yr	0.21	0.21	0.00	181.23	181.23	0.00
214.2	214.2	5-yr	0.28	0.28	0.00	181.26	181.26	0.00
214.2	214.2	10-yr	0.34	0.34	0.00	181.29	181.29	0.00
214.2	214.2	25-yr	0.40	0.40	0.00	181.31	181.31	0.00
214.2	214.2	50-yr	0.45	0.45	0.00	181.33	181.32	-0.01
214.2	214.2	100-yr	0.50	0.50	0.00	181.34	181.34	0.00
214.2	214.2	Check Flow	0.65	0.65	0.00	181.39	181.39	0.00
214.2	214.2	Regional	0.71	0.71	0.00	181.41	181.41	0.00
					0			
192.95	192.95	2-yr	0.21	0.21	0.00	180.11	180.16	0.05
192.95	192.95	5-yr	0.28	0.28	0.00	180.12	180.18	0.06
192.95	192.95	10-yr	0.34	0.34	0.00	180.13	180.23	0.10
192.95	192.95	25-yr	0.40	0.40	0.00	180.13	180.25	0.12
192.95	192.95	50-yr	0.45	0.45	0.00	180.14	180.26	0.12
192.95	192.95	100-yr	0.50	0.50	0.00	180.14	180.28	0.14
192.95	192.95	Check Flow	0.65	0.65	0.00	180.15	180.32	0.17
192.95	192.95	Regional	0.71	0.71	0.00	180.16	180.33	0.17
160	160				**407 TWY Culvert**			
151.02	151.02	2-yr	0.21	0.21	0.00	179.55	179.51	-0.04
151.02	151.02	5-yr	0.28	0.28	0.00	179.56	179.53	-0.03
151.02	151.02	10-yr	0.34	0.34	0.00	179.57	179.55	-0.02
151.02	151.02	25-yr	0.40	0.40	0.00	179.57	179.57	0.00
151.02	151.02	50-yr	0.45	0.45	0.00	179.58	179.59	0.01
151.02	151.02	100-yr	0.50	0.50	0.00	179.58	179.60	0.02
151.02	151.02	Check Flow	0.65	0.65	0.00	179.59	179.64	0.05
151.02	151.02	Regional	0.71	0.71	0.00	179.60	179.65	0.05
98.85	98.85	2-yr	0.21	0.21	0.00	179.09	179.09	0.00
98.85	98.85	5-yr	0.28	0.28	0.00	179.10	179.10	0.00
98.85	98.85	10-yr	0.34	0.34	0.00	179.11	179.11	0.00
98.85	98.85	25-yr	0.40	0.40	0.00	179.11	179.11	0.00
98.85	98.85	50-yr	0.45	0.45	0.00	179.12	179.12	0.00
98.85	98.85	100-yr	0.50	0.50	0.00	179.12	179.12	0.00
98.85	98.85	Check Flow	0.65	0.65	0.00	179.14	179.14	0.00
98.85	98.85	Regional	0.71	0.71	0.00	179.14	179.14	0.00

Table D.11: HEC-RAS Modelling Results for Water Crossing M3

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
456.97	456.97	2-YR	3.44	3.44	0.00	179.25	179.25	0.00
456.97	456.97	5-YR	4.66	4.66	0.00	179.38	179.37	-0.01
456.97	456.97	10-YR	5.49	5.49	0.00	179.45	179.44	-0.01
456.97	456.97	25-YR	6.55	6.55	0.00	179.55	179.52	-0.03
456.97	456.97	50-YR	7.34	7.34	0.00	179.61	179.58	-0.03
456.97	456.97	100-YR	8.13	8.13	0.00	179.68	179.64	-0.04
456.97	456.97	Regional	11.44	11.44	0.00	179.90	179.89	-0.01
402.73	402.73	2-YR	3.44	3.44	0.00	178.81	178.79	-0.02
402.73	402.73	5-YR	4.66	4.66	0.00	178.89	178.88	-0.01
402.73	402.73	10-YR	5.49	5.49	0.00	178.95	178.93	-0.02
402.73	402.73	25-YR	6.55	6.55	0.00	179.01	179.05	0.04
402.73	402.73	50-YR	7.34	7.34	0.00	179.06	179.11	0.05
402.73	402.73	100-YR	8.13	8.13	0.00	179.10	179.18	0.08
402.73	402.73	Regional	11.44	11.44	0.00	179.38	179.41	0.03
300	300				HWY 407 Culvert			
297.33	297.33	2-YR	3.44	3.44	0.00	178.74	178.77	0.03
297.33	297.33	5-YR	4.66	4.66	0.00	178.82	178.87	0.05
297.33	297.33	10-YR	5.49	5.49	0.00	178.87	178.94	0.07
297.33	297.33	25-YR	6.55	6.55	0.00	178.94	179.01	0.07
297.33	297.33	50-YR	7.34	7.34	0.00	178.99	179.06	0.07
297.33	297.33	100-YR	8.13	8.13	0.00	179.03	179.10	0.07
297.33	297.33	Regional	11.44	11.44	0.00	179.21	179.27	0.06
266.08	266.08	2-YR	3.44	3.44	0.00	178.74	178.71	-0.03
266.08	266.08	5-YR	4.66	4.66	0.00	178.84	178.80	-0.04
266.08	266.08	10-YR	5.49	5.49	0.00	178.90	178.86	-0.04
266.08	266.08	25-YR	6.55	6.55	0.00	178.97	178.93	-0.04
266.08	266.08	50-YR	7.34	7.34	0.00	179.01	178.97	-0.04
266.08	266.08	100-YR	8.13	8.13	0.00	179.06	179.01	-0.05
266.08	266.08	Regional	11.44	11.44	0.00	179.22	179.17	-0.05
245	245				407 TWY Culvert			
241.1	241.1	2-YR	3.44	3.44	0.00	178.68	178.69	0.01
241.1	241.1	5-YR	4.66	4.66	0.00	178.77	178.78	0.01
241.1	241.1	10-YR	5.49	5.49	0.00	178.82	178.84	0.02
241.1	241.1	50-YR	7.34	7.34	0.00	178.93	178.94	0.01
241.1	241.1	100-YR	8.13	8.13	0.00	178.97	178.97	0.00
241.1	241.1	Regional	11.44	11.44	0.00	179.12	179.10	-0.02
190	190	2-YR	3.44	3.44	0.00	178.30	178.30	0.00
190	190	5-YR	4.66	4.66	0.00	178.37	178.37	0.00
190	190	10-YR	5.49	5.49	0.00	178.41	178.41	0.00
190	190	25-YR	6.55	6.55	0.00	178.46	178.46	0.00
190	190	50-YR	7.34	7.34	0.00	178.49	178.49	0.00

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
190	190	100-YR	8.13	8.13	0.00	178.52	178.52	0.00
190	190	Regional	11.44	11.44	0.00	178.64	178.64	0.00

Table D.12: HEC-RAS Modelling Results for Water Crossing M4

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
4.0215	4.0215	2yr	20.80	20.80	0.00	178.56	178.56	0.00
4.0215	4.0215	5yr	30.10	30.10	0.00	178.98	178.98	0.00
4.0215	4.0215	10yr	36.70	36.70	0.00	178.99	178.99	0.00
4.0215	4.0215	25yr	44.50	44.50	0.00	179.35	179.35	0.00
4.0215	4.0215	50yr	50.20	50.20	0.00	179.52	179.52	0.00
4.0215	4.0215	100yr	56.00	56.00	0.00	179.85	179.85	0.00
4.0215	4.0215	Reg.	83.40	83.40	0.00	181.51	181.51	0.00
4.02	4.02	2yr	18.30	18.30	0.00	178.09	178.09	0.00
4.02	4.02	5yr	34.10	34.10	0.00	178.90	178.90	0.00
4.02	4.02	10yr	33.80	33.80	0.00	178.88	178.88	0.00
4.02	4.02	25yr	42.70	42.70	0.00	179.28	179.28	0.00
4.02	4.02	50yr	47.00	47.00	0.00	179.47	179.47	0.00
4.02	4.02	100yr	55.00	55.00	0.00	179.79	179.79	0.00
4.02	4.02	Reg.	87.40	87.40	0.00	181.51	181.51	0.00
4.0195	4.0195				Steeles Ave Culvert			
4.019	4.019	2yr	18.30	18.30	0.00	177.52	177.52	0.00
4.019	4.019	5yr	34.10	34.10	0.00	178.26	178.26	0.00
4.019	4.019	10yr	33.80	33.80	0.00	178.25	178.25	0.00
4.019	4.019	25yr	42.70	42.70	0.00	178.62	178.62	0.00
4.019	4.019	50yr	47.00	47.00	0.00	178.78	178.78	0.00
4.019	4.019	100yr	55	55	0.00	179.08	179.08	0.00
4.019	4.019	Reg.	87.40	87.40	0.00	180.48	180.63	0.15
4.018	4,018	2yr	18.3	18.3	0.00	177.52	177.52	0
4.018	4.018	5yr	34.10	34.10	0.00	178.25	178.25	0.00
4.018	4.018	10yr	33.80	33.80	0.00	178.24	178.24	0.00
4.018	4.018	25yr	42.70	42.70	0.00	178.60	178.60	0.00
4.018	4.018	50yr	47.00	47.00	0.00	178.77	178.77	0.00
4.017	4.018	100yr	55.00	55.00	0.00	179.07	179.07	0.00
4.017	4.018	Reg.	87.40	87.40	0.00	180.46	180.61	0.15
4.0171	4.0171				HWY 407 Culvet			
4.017	4.017	2yr	18.3	18.3	0.00	177.28	177.24	-0.04
4.017	4.017	5yr	34.10	34.10	0.00	177.55	177.71	0.16
4.017	4.017	10yr	33.80	33.80	0.00	177.54	177.70	0.16
4.017	4.017	25yr	42.70	42.70	0.00	177.63	177.74	0.11
4.017	4.017	50yr	47.00	47.00	0.00	177.66	177.87	0.21
4.017	4.017	100yr	55.00	55.00	0.00	177.70	178.48	0.78
4.017	4.017	Reg.	87.40	87.40	0.00	178.13	179.43	1.30
4.0158	4.0158				407 TWY Culvert			
4.0155	4.0155	2yr	18.30	18.30	0.00	177.24	177.14	-0.10
4.0155	4.0155	5yr	34.10	34.10	0.00	177.55	177.36	-0.19
4.0155	4.0155	10yr	33.80	33.80	0.00	177.55	177.36	-0.19
4.0155	4.0155	25yr	42.7	42.7	0.00	177.68	177.45	-0.23

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
4.0155	4.0155	50yr	47.00	47.00	0.00	177.74	177.49	-0.25
4.0155	4.0155	100yr	55.00	55.00	0.00	177.84	177.54	-0.30
4.0155	4.0155	Reg.	87.40	87.40	0.00	178.17	178.02	-0.15
4.0155	4.0155	2yr	18.30	18.30	0.00	176.83	176.83	0.00
4.0155	4.0155	5yr	34.10	34.10	0.00	177.15	177.15	0.00
4.0155	4.0155	10yr	33.80	33.80	0.00	177.15	177.15	0.00
4.0155	4.0155	25yr	42.7	42.7	0.00	177.25	177.25	0.00
4.0155	4.0155	50yr	47.00	47.00	0.00	177.29	177.29	0.00
4.0155	4.0155	100yr	55.00	55.00	0.00	177.37	177.37	0.00
4.0155	4.0155	Reg.	87.40	87.40	0.00	177.61	177.61	0.00

METRIC

117–A.1
26.94 | 53

115–A
210.14 | 53

115

118

118–A
57.78 | 53

117

117–A.3
4.30 | 53

117–A.2
83.02 | 53

HWY 407

M5

M6

M7

AIRPORT RD

CNR

122

122–A.1
0.33 | 53

NOTE:
HYDRAULIC MODEL FOR M7 WATER CROSSING PROVIDED BY TRCA.
HYDROLOGIC ANALYSIS NOT REQUIRED.

LEGEND

- TRANSITWAY LIMITS
- ENCLOSED TRANSITWAY
- PROPOSED 407 TRANSITWAY
- WATER COURSE
- SUBWATERSHED DRAINAGE AREA BOUNDARY (123)
- EXISTING POND
- WATERCOURSE CROSSING
- AREA (ha) / % IMPERVIOUS (98-1 | 0.44 | 90)
- AREA ID

Ontario PARSONS IBI GROUP

SCALE
1:7500

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
WATERCOURSE CROSSING # M5 - M6 - M7

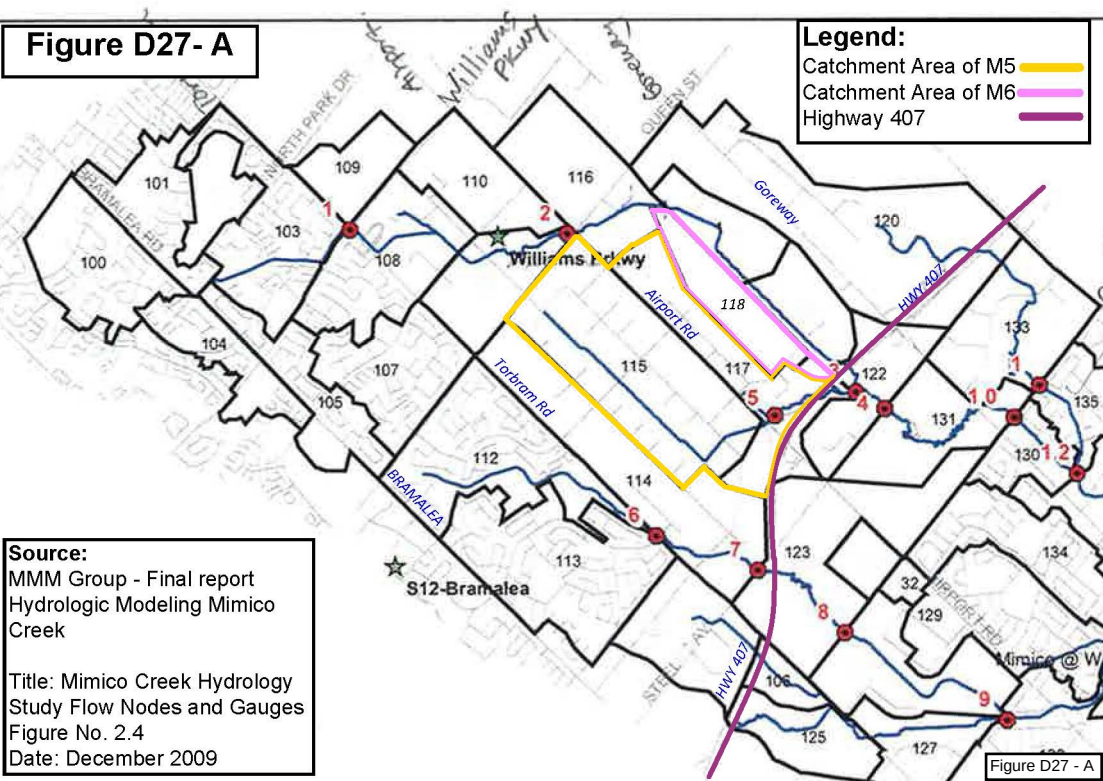
DRAWING SET
DRAINAGE AREA MAP

FIGURE
D-27

DATE
NOV. 2017

DRAWING NAME: J:\Division\TT\Drainage\602896 - 407_Transitway Hurontario\CAD\Design\Drainage Mosaic\602896- WATERCOURSE_CROSSING.dwg
MODIFIED: Nov 16, 2017 4:56pm
CREATED:

Figure D27- A



Source:
MMM Group - Final report
Hydrologic Modeling Mimico Creek

Title: Mimico Creek Hydrology Study Flow Nodes and Gauges
Figure No. 2.4
Date: December 2009

Table D.13: HEC-RAS Modelling Results for Water Crossing M5

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
683.26	683.26	2-yr	8.09	8.09	0.00	177.56	177.56	0.00
683.26	683.26	5-yr	11.10	11.10	0.00	177.70	177.70	0.00
683.26	683.26	10-yr	13.17	13.17	0.00	177.78	177.78	0.00
683.26	683.26	25-yr	15.81	15.81	0.00	177.87	177.87	0.00
683.26	683.26	50-yr	17.78	17.78	0.00	177.94	177.94	0.00
683.26	683.26	100-yr	19.77	19.77	0.00	177.99	177.99	0.00
683.26	683.26	Regional	25.70	25.70	0.00	178.14	178.14	0.00
456.44	456.44	2-yr	8.09	8.09	0.00	173.79	173.79	0.00
456.44	456.44	5-yr	11.10	11.10	0.00	173.95	173.95	0.00
456.44	456.44	10-yr	13.17	13.17	0.00	174.05	174.05	0.00
456.44	456.44	25-yr	15.81	15.81	0.00	174.17	174.17	0.00
456.44	456.44	50-yr	17.78	17.78	0.00	174.26	174.26	0.00
456.44	456.44	100-yr	19.77	19.77	0.00	174.35	174.35	0.00
456.44	456.44	Regional	25.70	25.70	0.00	174.59	174.59	0.00
320	320				HWY 407 Culvert			
314.98	314.98	2-yr	8.09	8.09	0.00	173.17	173.13	-0.04
314.98	314.98	5-yr	11.10	11.10	0.00	173.28	173.23	-0.05
314.98	314.98	10-yr	13.17	13.17	0.00	173.34	173.29	-0.05
314.98	314.98	25-yr	15.81	15.81	0.00	173.42	173.35	-0.07
314.98	314.98	50-yr	17.78	17.78	0.00	173.46	173.41	-0.05
314.98	314.98	100-yr	19.77	19.77	0.00	173.51	173.46	-0.05
314.98	314.98	Regional	25.70	25.70	0.00	173.59	173.56	-0.03
					0			
208.05	208.05	2-yr	8.09	8.09	0.00	172.69	172.71	0.02
208.05	208.05	5-yr	11.10	11.10	0.00	172.80	172.83	0.03
208.05	208.05	10-yr	13.17	13.17	0.00	172.86	172.90	0.04
208.05	208.05	25-yr	15.81	15.81	0.00	172.93	172.97	0.04
208.05	208.05	50-yr	17.78	17.78	0.00	172.99	173.02	0.03
208.05	208.05	100-yr	19.77	19.77	0.00	173.03	173.08	0.05
208.05	208.05	Regional	25.70	25.70	0.00	173.15	173.22	0.07

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
190	190				407 TWY			
187.38	187.38	2-yr	8.09	8.09	0.00	172.70	172.70	0.00
187.38	187.38	5-yr	11.10	11.10	0.00	172.82	172.82	0.00
187.38	187.38	25 y-yr	13.17	13.17	0.00	172.88	172.88	0.00
187.38	187.38	10-yr	15.81	15.81	0.00	172.95	172.95	0.00
187.38	187.38	50-yr	17.78	17.78	0.00	173.01	172.99	-0.02
187.38	187.38	100-yr	19.77	19.77	0.00	173.05	173.03	-0.02
187.38	187.38	Regional	25.70	25.70	0.00	173.16	173.14	-0.02
133.25	133.25	2-yr	8.09	8.09	0.00	172.41	172.41	0.00
133.25	133.25	5-yr	11.10	11.10	0.00	172.56	172.56	0.00
133.25	133.25	10-yr	13.17	13.17	0.00	172.61	172.61	0.00
133.25	133.25	25-yr	15.81	15.81	0.00	172.67	172.67	0.00
133.25	133.25	50-yr	17.78	17.78	0.00	172.71	172.71	0.00
133.25	133.25	100-yr	19.77	19.77	0.00	172.75	172.75	0.00
133.25	133.25	Regional	25.70	25.70	0.00	172.84	172.84	0.00

Table D.14: HEC-RAS Modelling Results for Water Crossing M6

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
420.2	420.2	2-yr	3.27	3.27	0.00	173.42	173.42	0.00
420.2	420.2	5-yr	4.48	4.48	0.00	173.53	173.53	0.00
420.2	420.2	10-yr	5.31	5.31	0.00	173.61	173.61	0.00
420.2	420.2	25-yr	6.36	6.36	0.00	173.69	173.69	0.00
420.2	420.2	50-yr	7.14	7.14	0.00	173.76	173.76	0.00
420.2	420.2	100-yr	7.93	7.93	0.00	173.82	173.82	0.00
420.2	420.2	Regional	10.31	10.31	0.00	173.99	173.99	0.00
343.05	343.05	2-yr	3.27	3.27	0.00	173.30	173.30	0.00
343.05	343.05	5-yr	4.48	4.48	0.00	173.39	173.39	0.00
343.05	343.05	10-yr	5.31	5.31	0.00	173.45	173.45	0.00
343.05	343.05	25-yr	6.36	6.36	0.00	173.52	173.52	0.00
343.05	343.05	50-yr	7.14	7.14	0.00	173.57	173.57	0.00
343.05	343.05	100-yr	7.93	7.93	0.00	173.62	173.62	0.00
343.05	343.05	Regional	10.31	11.32	0.00	173.75	173.75	0.00
330	330			407 TWY Culvert				
325	325	2-yr	3.27	3.27	0.00	172.70	172.70	0.00
325	325	5-yr	4.48	4.48	0.00	172.77	172.77	0.00
325	325	10-yr	5.31	5.31	0.00	172.82	172.82	0.00
325	325	25-yr	6.36	6.36	0.00	172.87	172.87	0.00
325	325	50-yr	7.14	7.14	0.00	172.91	172.91	0.00
325	325	100-yr	7.93	7.93	0.00	172.94	172.94	0.00
325	325	Check Flow	10.31	10.31	0.00	173.05	173.05	0.00

Table D.15: HEC-RAS Modelling Results for Water Crossing M7

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
7.027	7.027	2-Yr	6.10	6.10	0.00	172.20	172.20	0.00
7.027	7.027	5-Yr	12.00	12.00	0.00	172.66	172.66	0.00
7.027	7.027	10-Yr	16.60	16.60	0.00	172.90	172.90	0.00
7.027	7.027	25-Yr	23.10	23.10	0.00	173.18	173.18	0.00
7.027	7.027	50-Yr	28.20	28.20	0.00	173.36	173.36	0.00
7.027	7.027	100-Yr	33.70	33.70	0.00	173.54	173.54	0.00
7.027	7.027	Reg.	100.80	100.80	0.00	175.30	175.30	0.00
7.026	7.026	2-Yr	6.10	6.10	0.00	172.24	172.24	0.00
7.026	7.026	5-Yr	12.00	12.00	0.00	172.66	172.66	0.00
7.026	7.026	10-Yr	16.60	16.60	0.00	172.90	172.90	0.00
7.026	7.026	25-Yr	23.10	23.10	0.00	173.18	173.18	0.00
7.026	7.026	50-Yr	28.20	28.20	0.00	173.36	173.36	0.00
7.026	7.026	100-Yr	33.70	33.70	0.00	173.54	173.54	0.00
7.026	7.026	Reg.	100.80	100.80	0.00	175.31	175.31	0.00
7.025	7.025	2-Yr	6.10	6.10	0.00	172.07	172.07	0.00
7.025	7.025	5-Yr	12.00	12.00	0.00	172.43	172.43	0.00
7.025	7.025	10-Yr	16.60	16.60	0.00	172.64	172.64	0.00
7.025	7.025	25-Yr	23.10	23.10	0.00	172.87	172.87	0.00
7.025	7.025	50-Yr	28.20	28.20	0.00	173.02	173.02	0.00
7.025	7.025	100-Yr	33.70	33.70	0.00	173.17	173.17	0.00
7.025	7.025	Reg.	100.80	100.80	0.00	175.05	175.05	0.00
7.0241	7.0241				HWY 407 Bridge			
7.024	7.024	2-Yr	6.10	6.10	0.00	171.56	171.58	0.02
7.024	7.024	5-Yr	12.00	12.00	0.00	171.81	171.81	0.00
7.024	7.024	10-Yr	16.60	16.60	0.00	172.00	172.01	0.01
7.024	7.024	25-Yr	23.10	23.10	0.00	172.31	172.31	0.00
7.024	7.024	50-Yr	28.20	28.20	0.00	172.49	172.50	0.01
7.024	7.024	100-Yr	33.70	33.70	0.00	172.68	172.69	0.01
7.024	7.024	Reg.	100.80	100.80	0.00	173.70	173.79	0.09
7.023	7.023	2-Yr	6.10	6.10	0.00	171.58	171.60	0.02
7.023	7.023	5-Yr	12.00	12.00	0.00	171.88	171.88	0.00
7.023	7.023	10-Yr	16.60	16.60	0.00	172.10	172.10	0.00
7.023	7.023	25-Yr	23.10	23.10	0.00	172.41	172.41	0.00
7.023	7.023	50-Yr	28.20	28.20	0.00	172.61	172.61	0.00
7.023	7.023	100-Yr	33.70	33.70	0.00	172.80	172.81	0.01
7.023	7.023	Reg.	100.80	100.80	0.00	174.00	174.06	0.06

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
7.0225	7.0225	2-Yr	6.10	6.10	0.00	171.54	171.57	0.03
7.0225	7.0225	5-Yr	12.00	12.00	0.00	171.86	171.87	0.01
7.0225	7.0225	10-Yr	16.60	16.60	0.00	172.09	172.09	0.00
7.0225	7.0225	25-Yr	23.10	23.10	0.00	172.40	172.40	0.00
7.0225	7.0225	50-Yr	28.20	28.20	0.00	172.60	172.60	0.00
7.0225	7.0225	100-Yr	33.70	33.70	0.00	172.80	172.80	0.00
7.0225	7.0225	Reg.	100.80	100.80	0.00	173.99	174.05	0.06
7.0224	7.0224				407 TWY Bridge			
7.0223	7.0223	2-Yr	6.10	6.10	0.00	171.50	171.50	0.00
7.0223	7.0223	5-Yr	12.00	12.00	0.00	171.85	171.85	0.00
7.0223	7.0223	10-Yr	16.60	16.60	0.00	172.08	172.08	0.00
7.0223	7.0223	25-Yr	23.10	23.10	0.00	172.40	172.40	0.00
7.0223	7.0223	50-Yr	28.20	28.20	0.00	172.60	172.60	0.00
7.0223	7.0223	100-Yr	33.70	33.70	0.00	172.79	172.79	0.00
7.0223	7.0223	Reg.	100.80	100.80	0.00	173.99	173.99	0.00
7.022	7.022	2-Yr	6.10	6.10	0.00	171.51	171.51	0.00
7.022	7.022	5-Yr	12.00	12.00	0.00	171.85	171.85	0.00
7.022	7.022	10-Yr	16.60	16.60	0.00	172.08	172.08	0.00
7.022	7.022	25-Yr	23.10	23.10	0.00	172.40	172.40	0.00
7.022	7.022	50-Yr	28.20	28.20	0.00	172.60	172.60	0.00
7.022	7.022	100-Yr	33.70	33.70	0.00	172.79	172.79	0.00
7.022	7.022	Reg.	100.80	100.80	0.00	173.99	173.99	0.00

METRIC

98

120

GOREWAY DR

GOREWOOD DR

FINCH AVE W

HWY 407

M8

120–A
240.5 30

98–A
20.98 30

LEGEND

- TRANSITWAY LIMITS
- ENCLOSED TRANSITWAY
- PROPOSED 407 TRANSITWAY
- WATER COURSE
- SUBWATERSHED DRAINAGE AREA BOUNDARY (123)
- EXISTING POND
- WATERCOURSE CROSSING
- AREA (ha) / AREA ID / % IMPERVIOUS (98-1: 0.44, 90)

Ontario PARSONS IBI GROUP

SCALE 1:7500

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
WATERCOURSE CROSSING # M8

DRAWING SET
DRAINAGE AREA MAP

FIGURE D-33

DATE NOV. 2017

DRAWING NAME: J:\Division\TT\Drainage\602896 - 407_Transitway Huronontario\CAD\Design\Drainage Mosaic\602896- WATERCOURSE_CROSSING.dwg
MODIFIED: Nov 16, 2017 5:00pm
CREATED:

Table D.16: HEC-RAS Modelling Results for Water Crossing M8

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
359.2	359.2	2yr	9.70	9.70	0.00	172.97	172.97	0.00
359.2	359.2	5yr	14.08	14.08	0.00	173.26	173.26	0.00
359.2	359.2	10yr	17.26	17.26	0.00	173.47	173.47	0.00
359.2	359.2	25yr	21.39	21.39	0.00	173.71	173.71	0.00
359.2	359.2	50yr	24.61	24.61	0.00	173.90	173.90	0.00
359.2	359.2	100yr	27.69	27.69	0.00	174.04	174.04	0.00
359.2	359.2	Reg.	34.66	34.66	0.00	174.32	174.35	0.03
238.06	238.06	2yr	9.70	9.70	0.00	172.73	172.73	0.00
238.06	238.06	5yr	14.08	14.08	0.00	173.01	173.01	0.00
238.06	238.06	10yr	17.26	17.26	0.00	173.20	173.20	0.00
238.06	238.06	25yr	21.39	21.39	0.00	173.43	173.43	0.00
238.06	238.06	50yr	24.61	24.61	0.00	173.60	173.60	0.00
238.06	238.06	100yr	27.69	27.69	0.00	174.00	174.00	0.00
238.06	238.06	Reg.	34.66	34.66	0.00	174.30	174.33	0.03
100	100				HWY 407 Culvert			
93.78	93.78	2yr	9.70	9.70	0.00	172.26	172.38	0.12
93.78	93.78	5yr	14.08	14.08	0.00	172.52	172.66	0.14
93.78	93.78	10yr	17.26	17.26	0.00	172.58	172.84	0.26
93.78	93.78	25yr	21.39	21.39	0.00	172.60	173.07	0.47
93.78	93.78	50yr	24.61	24.61	0.00	172.59	173.24	0.65
93.78	93.78	100yr	27.69	27.69	0.00	172.64	173.39	0.75
93.78	93.78	Reg.	34.66	34.66	0.00	172.85	173.85	1.00
60.13	60.13	2yr	9.70	9.70	0.00	172.18	172.29	0.11
60.13	60.13	5yr	14.08	14.08	0.00	172.54	172.57	0.03
60.13	60.13	10yr	17.26	17.26	0.00	172.64	172.76	0.12
60.13	60.13	25yr	21.39	21.39	0.00	172.74	172.99	0.25
60.13	60.13	50yr	24.61	24.61	0.00	172.79	173.16	0.37
60.13	60.13	100yr	27.69	27.69	0.00	172.83	173.32	0.49
60.13	60.13	Reg.	34.66	34.66	0.00	172.91	173.80	0.89
50	50				407 TWY Culvert			
38.1	38.1	2yr	9.70	9.70	0.00	172.07	172.01	-0.06
38.1	38.1	5yr	14.08	14.08	0.00	172.39	172.31	-0.08
38.1	38.1	10yr	17.26	17.26	0.00	172.54	172.42	-0.12
38.1	38.1	25yr	21.39	21.39	0.00	172.65	172.47	-0.18
38.1	38.1	50yr	24.61	24.61	0.00	172.71	172.46	-0.25
38.1	38.1	100yr	27.69	27.69	0.00	172.75	172.51	-0.24
38.1	38.1	Reg.	34.66	34.66	0.00	172.83	172.72	-0.11

METRIC

26.16

26.16–A
81.76 | 60

44.02

44.02–A
42.53 | 23

45.10

FUTURE 427 GAP CONNECTION

45.10
211.7 | 25

45.09

45.09–A
27.03 | 55

HWY 407

27.06–A
1.43 | 42

27.06

H1

H2

ALBION RD

HWY 427

HWY 27

HWY 50

WEST HUMB

NOTE:
HYDRAULIC MODEL FOR H1 WATER CROSSING PROVIDED BY TRCA.
HYDROLOGIC ANALYSIS NOT REQUIRED.

LEGEND

- TRANSITWAY LIMITS
- ENCLOSED TRANSITWAY
- PROPOSED 407 TRANSITWAY
- WATER COURSE
- SUBWATERSHED DRAINAGE AREA BOUNDARY (123)
- EXISTING POND
- WATERCOURSE CROSSING
- AREA (ha) (98-1 / 0.44 / 90) AREA ID % IMPERVIOUS

Ontario PARSONS IBI GROUP

SCALE
1:10000

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
WATERCOURSE CROSSING # H1 - H2

DRAWING SET
DRAINAGE AREA MAP

FIGURE
D-36

DATE
NOV. 2017

DRAWING NAME: J:\Division\TT\Drainage\602896 - 407_Transitway Huron ontario\CAD\Design\Drainage Mosaic\602896- WATERCOURSE_CROSSING.dwg
MODIFIED: Nov 16, 2017 5:09pm
CREATED:

Table D.17: HEC-RAS Modelling Results for Water Crossing H1

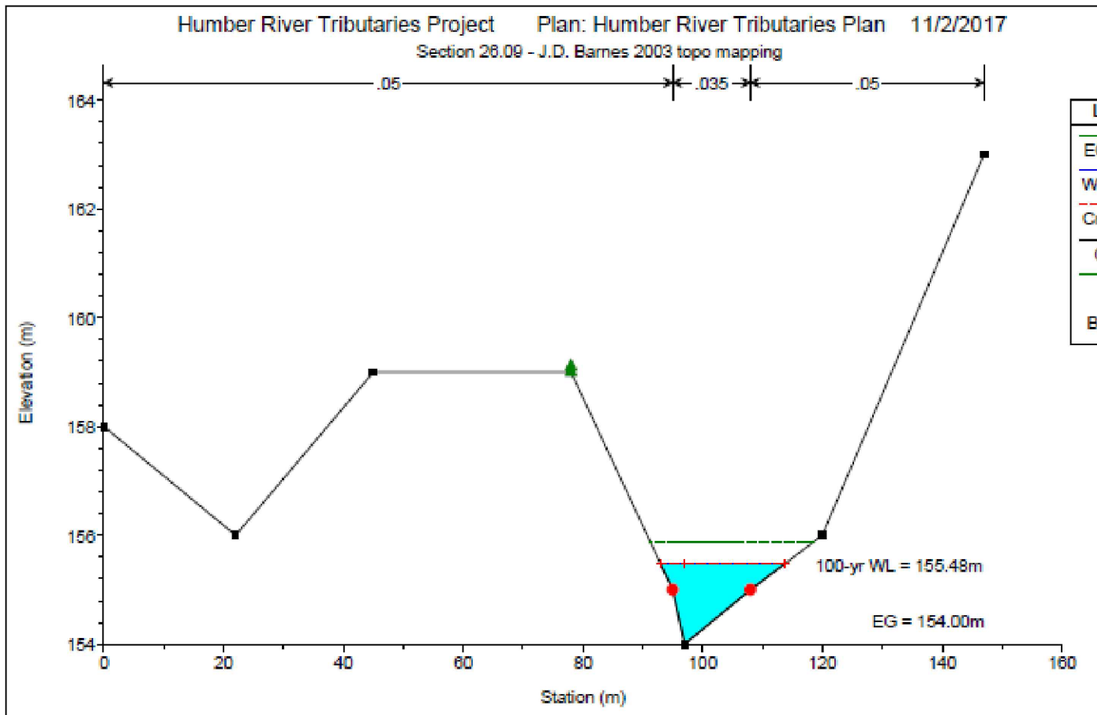
Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
4045.65	4045.65	REGIONAL	664.88	664.88	0.00	168.49	168.49	0.00
4045.65	4045.65	100 YEAR	195.72	195.72	0.00	166.65	166.64	-0.01
4045.65	4045.65	50 YEAR	170.82	170.82	0.00	166.66	166.66	0.00
4045.65	4045.65	25 YEAR	146.54	146.54	0.00	166.58	166.58	0.00
4045.65	4045.65	10 YEAR	115.33	115.33	0.00	166.16	166.16	0.00
4045.65	4045.65	5 YEAR	90.54	90.54	0.00	165.58	165.58	0.00
4045.65	4045.65	2 YEAR	56.54	56.54	0.00	165.48	165.48	0.00
4045.64	4045.64	REGIONAL	672.76	672.76	0.00	168.29	168.29	0.00
4045.645	4045.645	100 YEAR	195.72	195.72	0.00	166.62	166.62	0.00
4045.645	4045.645	50 YEAR	170.82	170.82	0.00	166.64	166.64	0.00
4045.645	4045.645	25 YEAR	146.54	146.54	0.00	166.56	166.56	0.00
4045.645	4045.645	10 YEAR	115.33	115.33	0.00	166.14	166.14	0.00
4045.645	4045.645	5 YEAR	90.54	90.54	0.00	165.56	165.56	0.00
4045.645	4045.645	2 YEAR	56.54	56.54	0.00	165.48	165.48	0.00
4045.642	4045.642				**HWY 407 Bridge**			
4045.636	4045.636	REGIONAL	672.76	672.76	0.00	168.20	168.20	0.00
4045.636	4045.636	100 YEAR	197.78	197.78	0.00	166.55	166.55	0.00
4045.64	4045.64	50 YEAR	172.62	172.62	0.00	166.60	166.60	0.00
4045.64	4045.64	25 YEAR	148.09	148.09	0.00	166.53	166.53	0.00
4045.64	4045.64	10 YEAR	116.57	116.57	0.00	166.11	166.11	0.00
4045.64	4045.64	5 YEAR	91.50	91.50	0.00	165.51	165.51	0.00
4045.64	4045.64	2 YEAR	57.13	57.13	0.00	165.45	165.45	0.00
4045.633	4045.633	REGIONAL	672.76	672.76	0.00	167.99	167.99	0.00
4045.633	4045.633	100 YEAR	197.78	197.78	0.00	166.51	166.51	0.00
4045.633	4045.633	50 YEAR	172.62	172.62	0.00	166.56	166.56	0.00
4045.633	4045.633	25 YEAR	148.09	148.09	0.00	166.52	166.52	0.00
4045.633	4045.633	10 YEAR	116.57	116.57	0.00	166.10	166.10	0.00
4045.633	4045.633	5 YEAR	91.50	91.50	0.00	165.50	165.50	0.00
4045.633	4045.633	2 YEAR	57.13	57.13	0.00	165.45	165.45	0.00
4045.634	4045.634				**407 TWY Bridge**			
4045.631	4045.631	REGIONAL	672.76	672.76	0.00	167.18	167.18	0.00
4045.631	4045.631	100 YEAR	197.78	197.78	0.00	166.42	166.42	0.00
4045.631	4045.631	50 YEAR	172.62	172.62	0.00	166.49	166.49	0.00
4045.631	4045.631	25 YEAR	148.09	148.09	0.00	166.45	166.45	0.00
4045.631	4045.631	10 YEAR	116.57	116.57	0.00	166.08	166.08	0.00
4045.631	4045.631	5 YEAR	91.50	91.50	0.00	165.48	165.48	0.00
4045.631	4045.631	2 YEAR	57.13	57.13	0.00	165.44	165.44	0.00

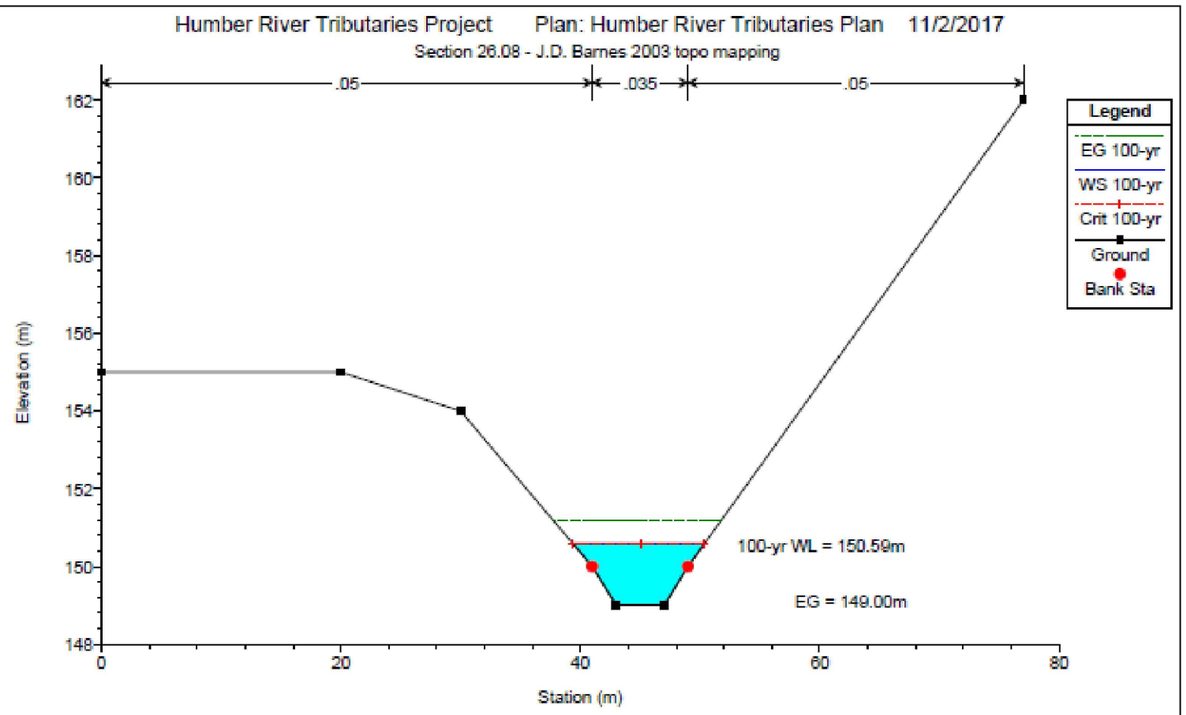
Table D.18: HEC-RAS Modelling Results for Water Crossing H2

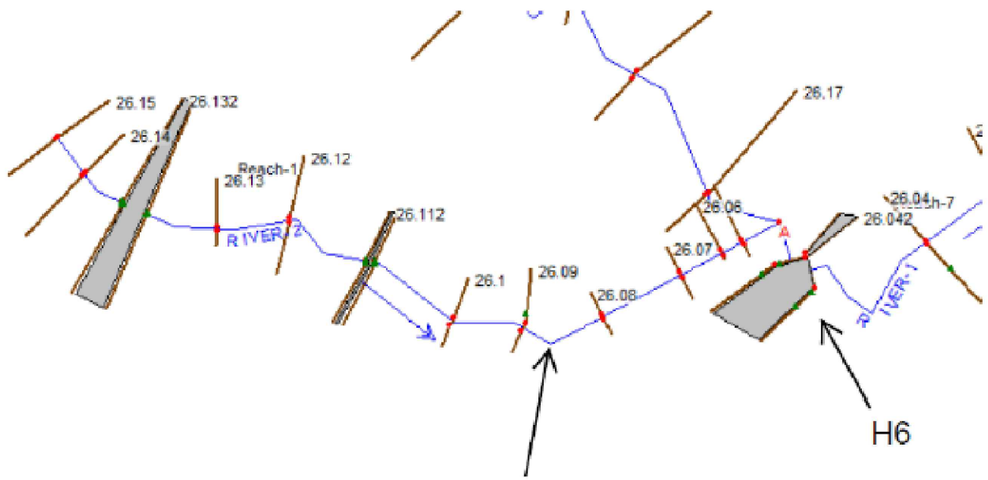
Proposed River Station	Profile	Proposed Flow	Proposed W.S. Elevation
		(m^3/s)	(m)
800	2-Yr	2.30	174.14
800	5-Yr	3.58	174.21
800	10-Yr	4.51	174.26
800	25-Yr	5.74	174.34
800	50-Yr	6.67	174.40
800	100-Yr	7.60	174.46
800	Check Flow	9.88	174.63
800	Regional	18.28	175.25
700	2-Yr	2.30	173.67
700	5-Yr	3.58	173.82
700	10-Yr	4.51	173.92
700	25-Yr	5.74	174.04
700	50-Yr	6.67	174.13
700	100-Yr	7.60	174.21
700	Check Flow	9.88	174.39
700	Regional	18.28	174.98
		HWY 407 Culvert	
600	2-Yr	2.30	172.10
600	5-Yr	3.58	172.23
600	10-Yr	4.51	172.31
600	25-Yr	5.74	172.40
600	50-Yr	6.67	172.46
600	100-Yr	7.60	172.52
600	Check Flow	9.88	172.65
600	Regional	18.28	173.05
500	2-Yr	2.30	171.92
500	5-Yr	3.58	172.03
500	10-Yr	4.51	172.10
500	25-Yr	5.74	172.19
500	50-Yr	6.67	172.26
500	100-Yr	7.60	172.32
500	Check Flow	9.88	172.45
500	Regional	18.28	172.89

Proposed River Station	Profile	Proposed Flow	Proposed W.S. Elevation
407 On-Ramp Culvert (From 407 ETR Patrol Yard)			
400	2-Yr	2.30	171.54
400	5-Yr	3.58	171.57
400	10-Yr	4.51	171.62
400	25-Yr	5.74	171.67
400	50-Yr	6.67	171.71
400	100-Yr	7.60	171.75
400	Check Flow	9.88	171.96
400	Regional	18.28	172.59
300	2-Yr	2.30	171.24
300	5-Yr	3.58	171.36
300	10-Yr	4.51	171.46
300	25-Yr	5.74	171.59
300	50-Yr	6.67	171.69
300	100-Yr	7.60	171.79
300	Check Flow	9.88	172.01
300	Regional	18.28	172.65
200	2-Yr	2.30	170.94
200	5-Yr	3.58	171.12
200	10-Yr	4.51	171.27
200	25-Yr	5.74	171.43
200	50-Yr	6.67	171.54
200	100-Yr	7.60	171.64
200	Check Flow	9.88	171.86
200	Regional	18.28	172.43
407 TWY Culvert			
100	2-Yr	2.30	170.82
100	5-Yr	3.58	171.05
100	10-Yr	4.51	171.18
100	25-Yr	5.74	171.33
100	50-Yr	6.67	171.44
100	100-Yr	7.60	171.53
100	Check Flow	9.88	171.74
100	Regional	18.28	172.26

Proposed River Station	Profile	Proposed Flow	Proposed W.S. Elevation
90	2-Yr	2.30	169.85
90	5-Yr	3.58	170.06
90	10-Yr	4.51	170.18
90	25-Yr	5.74	170.32
90	50-Yr	6.67	170.41
90	100-Yr	7.60	170.50
90	Check Flow	9.88	170.69
90	Regional	18.28	171.21







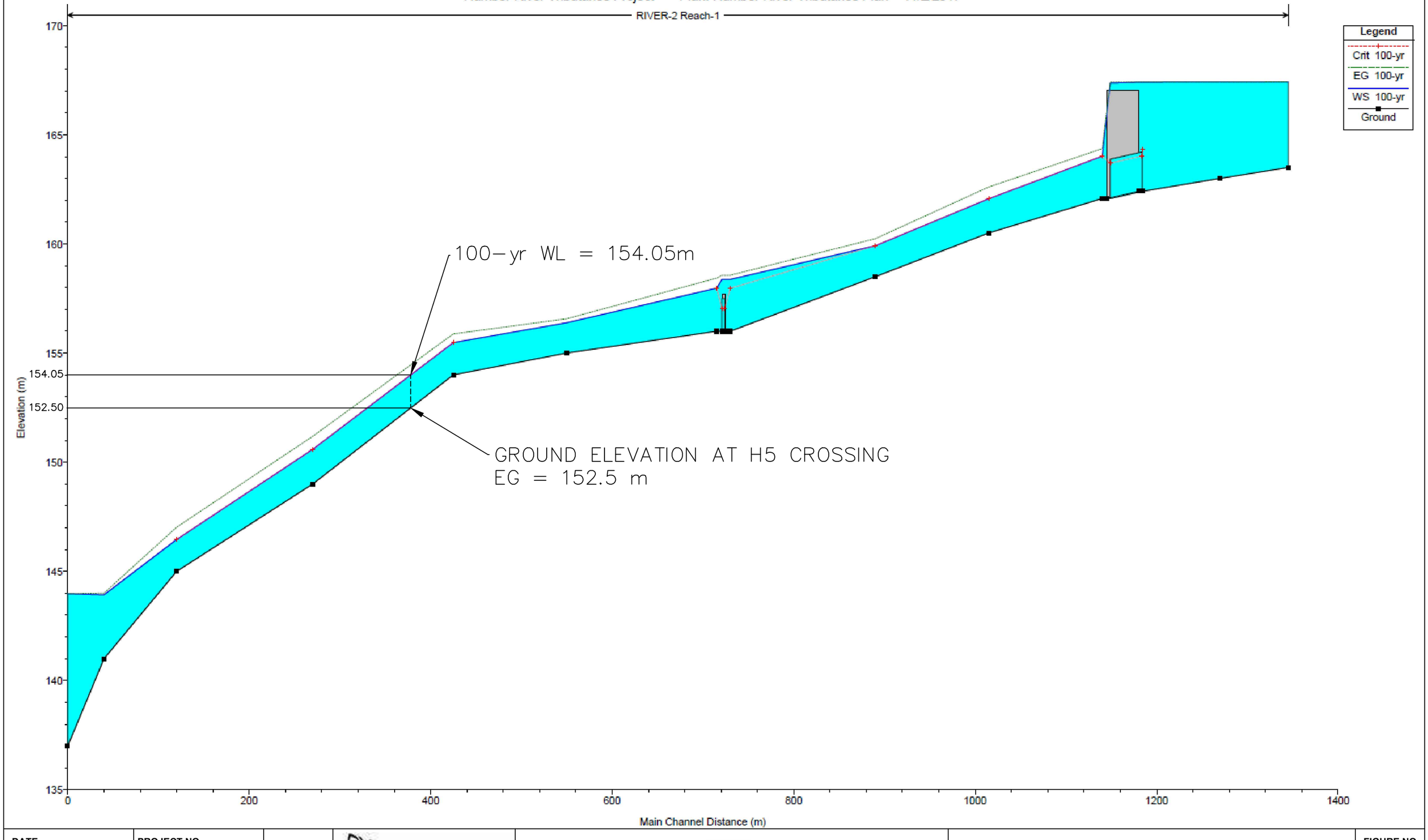
Approximate location of H5
Bottom of Channel Elevation = 152.54m

$$100\,yr\,WL = 155.48 - \frac{155.48 - 150.59}{154.00 - 149.00} \times (154.00 - 152.54)$$

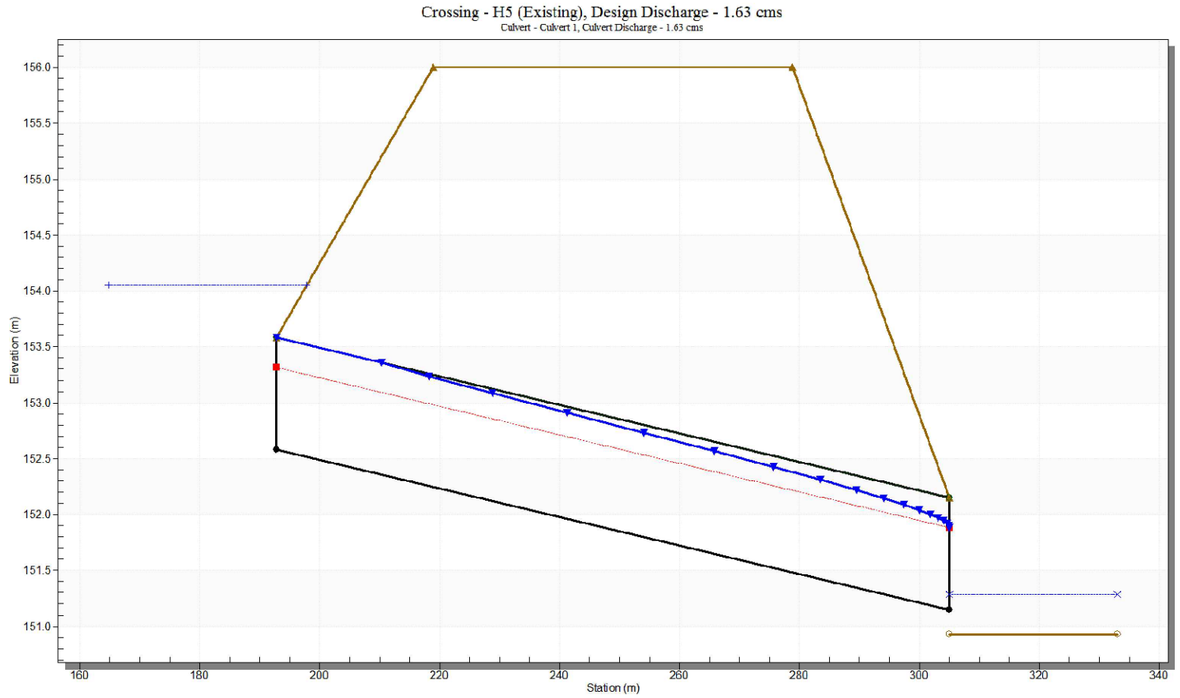
$$100\,yr\,WL = 154.05$$

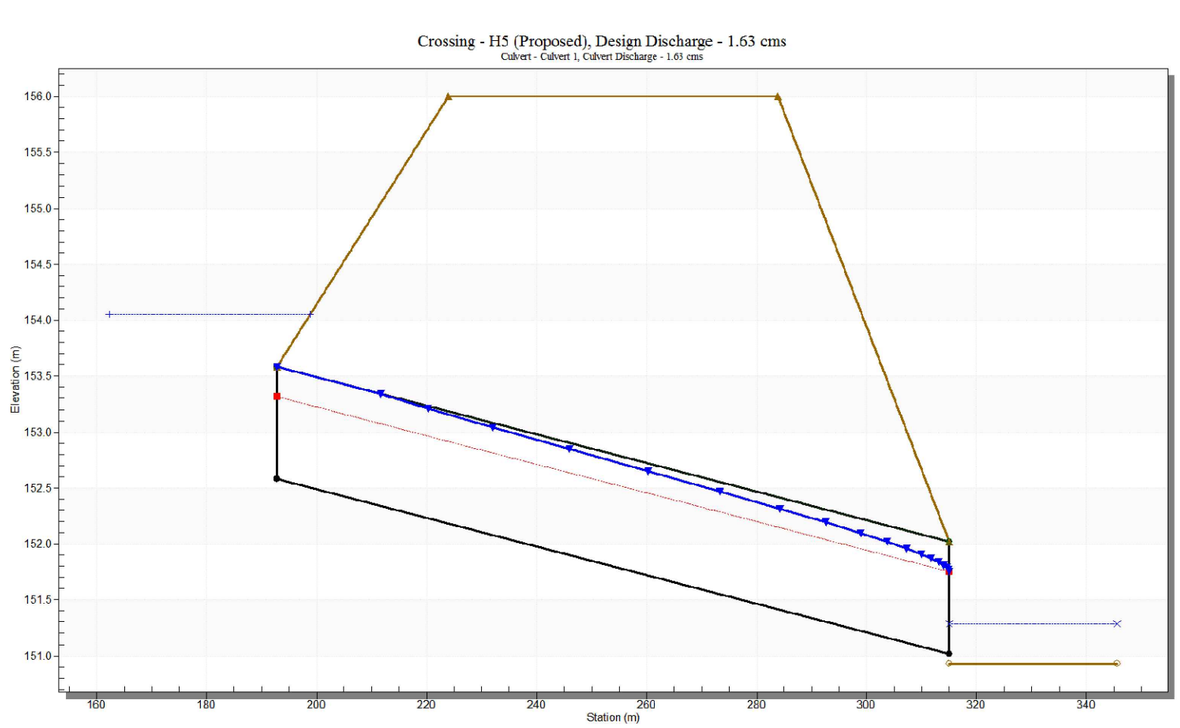
DATE NOVEMBER 2017	**PROJECT NO.** 602896		Ontario	PARSONS IBI	625 COCHRANE DRIVE, SUITE 500 MARKHAM ON L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	H5 HYDRAULIC ANALYSIS - HEC-RAS CROSS SECTIONS AND INTERPOLATION TO FIND 100-yr WL AT H5 CROSSING 407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	**FIGURE NO.** D.42
SCALE N.T.S.							

Humber River Tributaries Project Plan: Humber River Tributaries Plan 11/2/2017



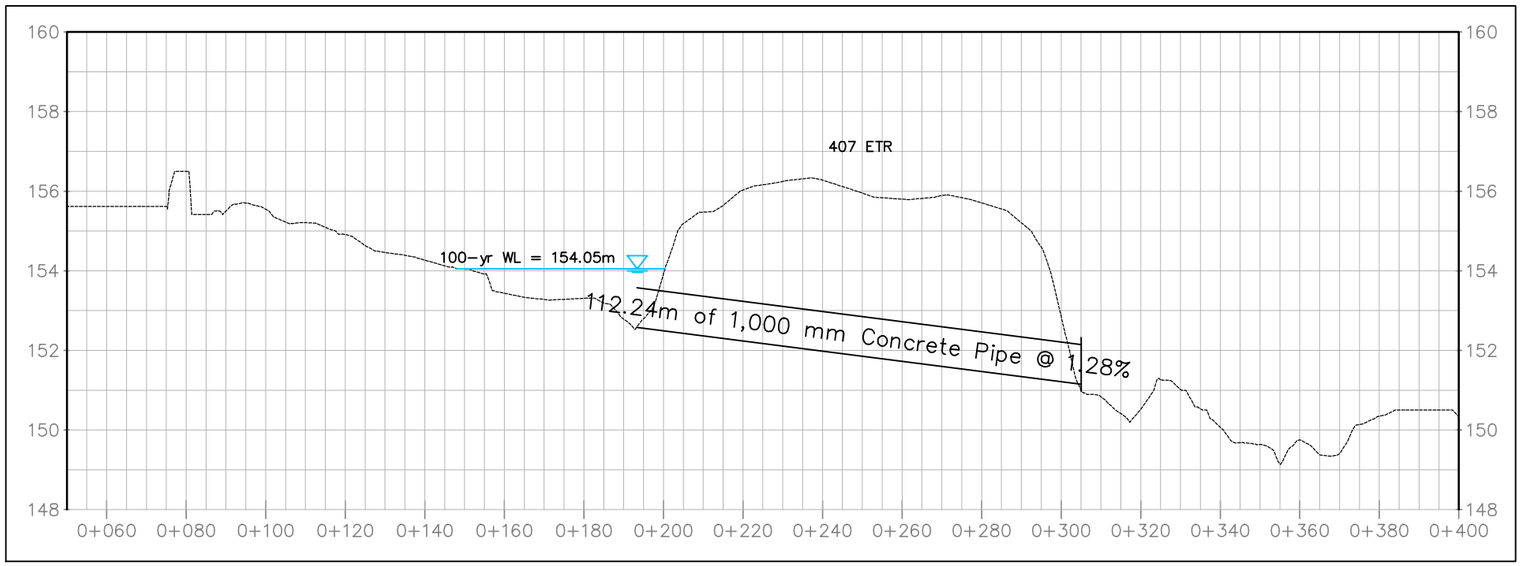
DATE NOVEMBER 2017	**PROJECT NO.** 602896		Ontario	PARSONS IBI	625 COCHRANE DRIVE, SUITE 500 MARKHAM ON L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	H5 HYDRAULIC ANALYSIS - HEC-RAS 100-yr PROFILE	**FIGURE NO.** D.43
SCALE N.T.S.						407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	



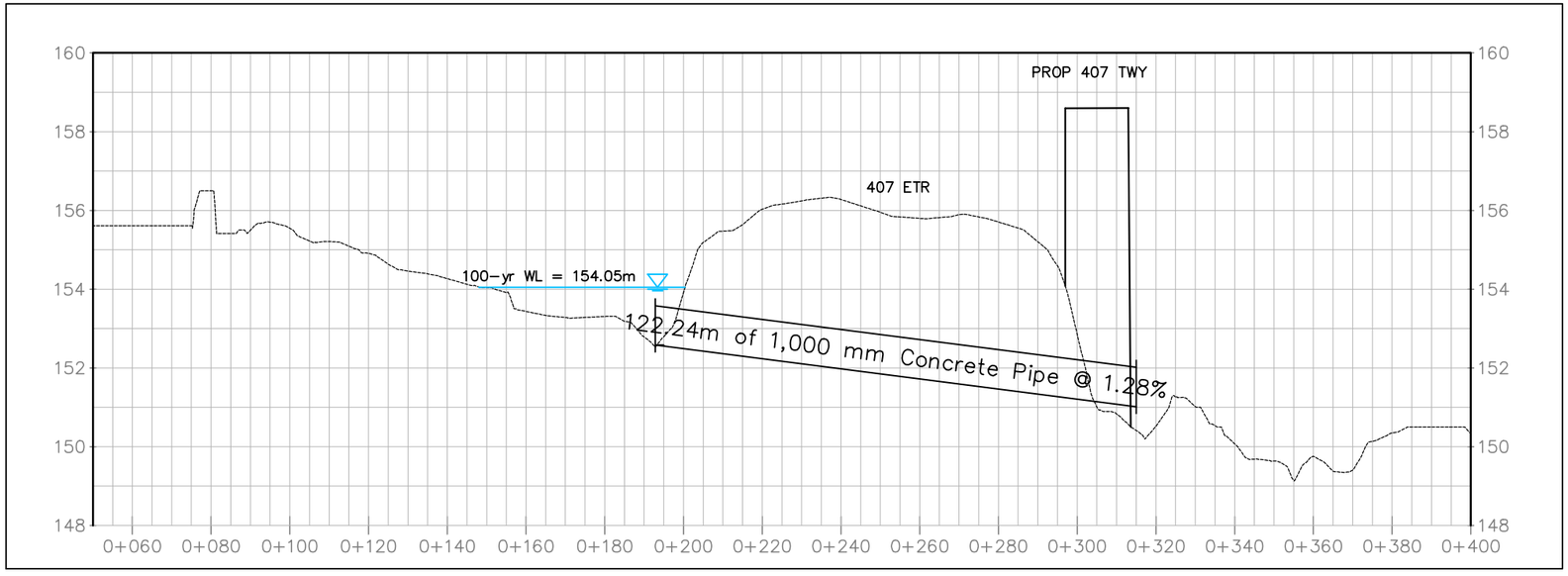


DATE NOVEMBER 2017	**PROJECT NO.** 602896		Ontario	PARSONS IBI	625 COCHRANE DRIVE, SUITE 500 MARKHAM ON L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	H5 HYDRAULIC ANALYSIS - HY-8 RESULTS 407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	**FIGURE NO.** D.44
SCALE N.T.S.							

H5 PROFILE (EXISTING)



H5 PROFILE (PROPOSED)

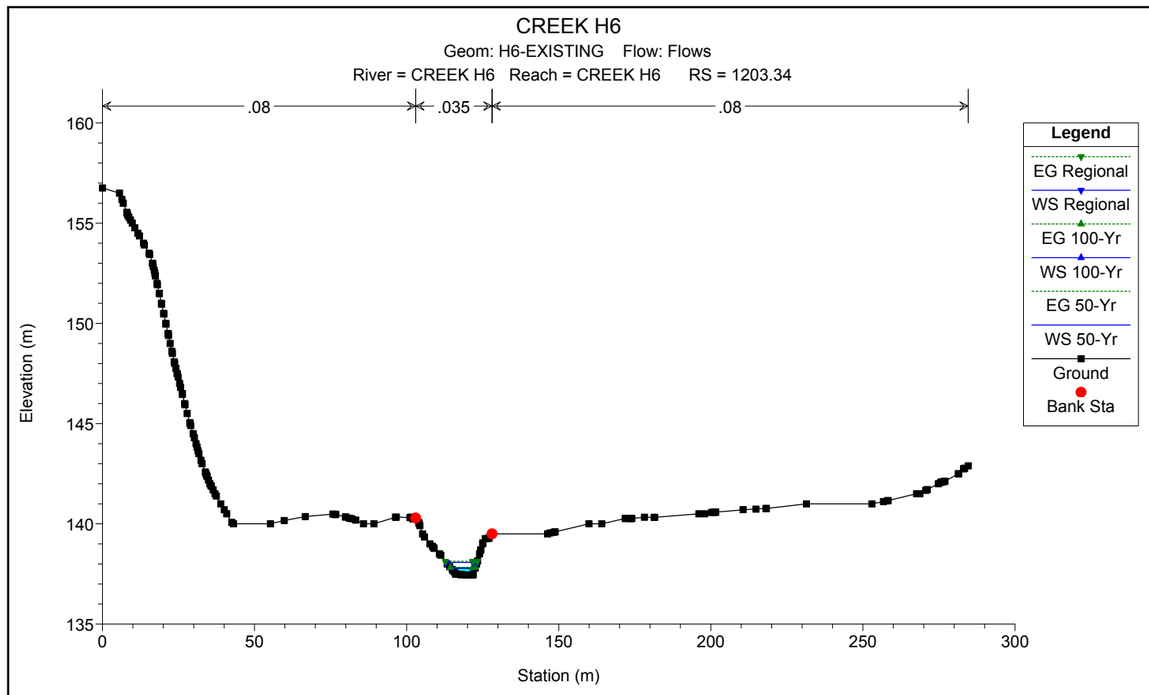


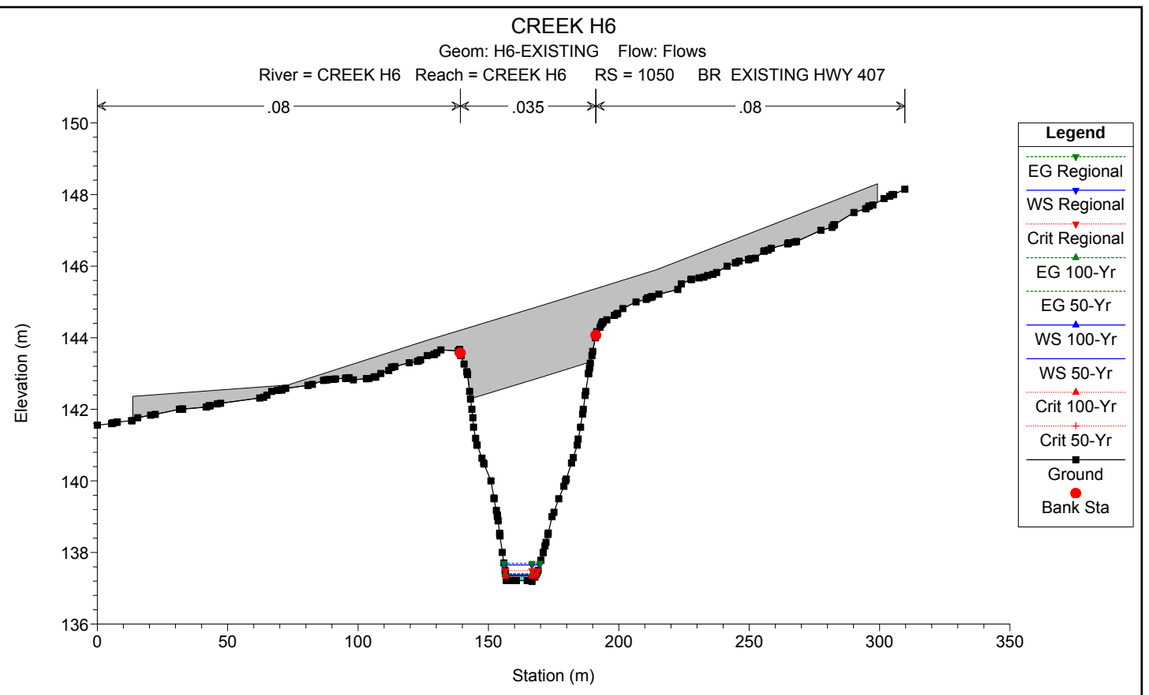
DATE NOVEMBER 2017	**PROJECT NO.** 602896		Ontario	PARSONS IBI	625 COCHRANE DRIVE, SUITE 500 MARKHAM ON L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	H5 HYDRAULIC ANALYSIS - PROFILES	**FIGURE NO.** D.45
SCALE N.T.S.						407 TRANSITWAY (G.W.P. 14-20001) FROM WEST OF HURONTARIO STREET TO EAST OF HIGHWAY 400	

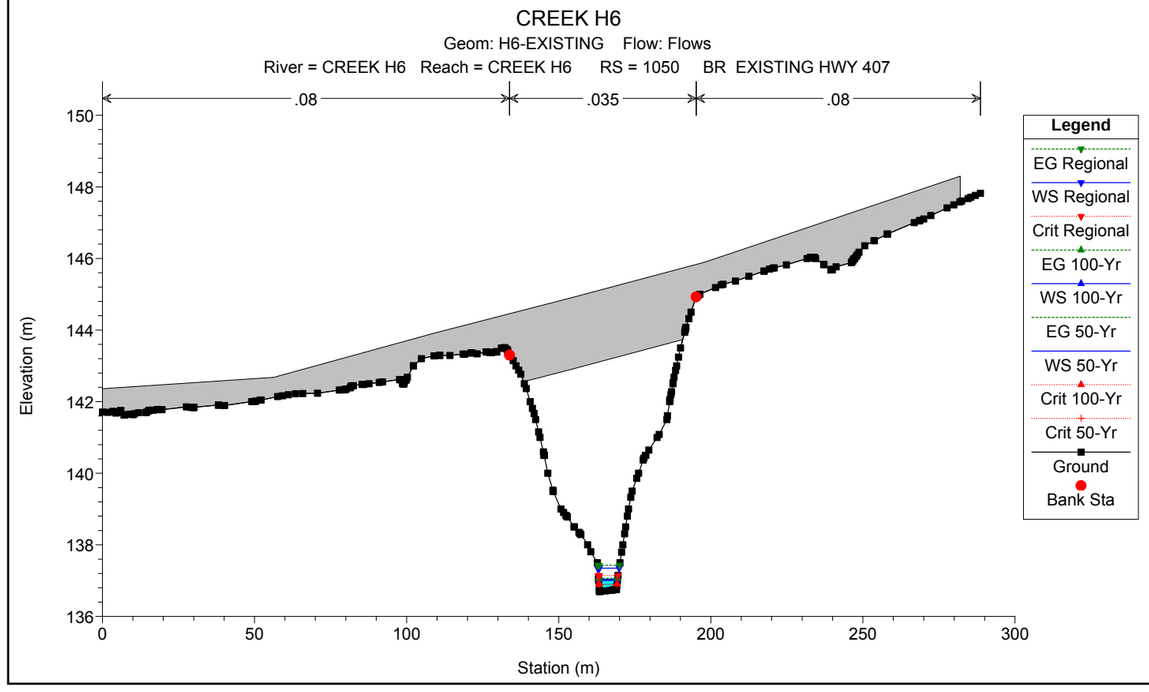
Table D.18: HEC-RAS Modelling Results for Water Crossing H6

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
1203.34	1203.34	2-Yr	0.28	0.28	0.00	137.60	137.60	0.00
1203.34	1203.34	5-Yr	0.52	0.52	0.00	137.67	137.66	-0.01
1203.34	1203.34	10-Yr	0.72	0.72	0.00	137.71	137.71	0.00
1203.34	1203.34	25-Yr	0.90	0.90	0.00	137.74	137.74	0.00
1203.34	1203.34	50-Yr	1.20	1.20	0.00	137.78	137.78	0.00
1203.34	1203.34	100-Yr	1.41	1.41	0.00	137.81	137.81	0.00
1203.34	1203.34	Check Flow	1.83	1.83	0.00	137.85	137.85	0.00
1203.34	1203.34	Regional	4.99	4.99	0.00	138.07	138.07	0.00
1088.99	1088.99	2-Yr	0.28	0.28	0.00	137.30	137.30	0.00
1088.99	1088.99	5-Yr	0.52	0.52	0.00	137.32	137.32	0.00
1088.99	1088.99	10-Yr	0.72	0.72	0.00	137.34	137.34	0.00
1088.99	1088.99	25-Yr	0.90	0.90	0.00	137.36	137.36	0.00
1088.99	1088.99	50-Yr	1.20	1.20	0.00	137.39	137.38	-0.01
1088.99	1088.99	100-Yr	1.41	1.41	0.00	137.40	137.40	0.00
1088.99	1088.99	Check Flow	1.83	1.83	0.00	137.44	137.44	0.00
1088.99	1088.99	Regional	4.99	4.99	0.00	137.66	137.66	0.00
1050	1050	**HWY 407 Bridge**						
1020.58	1020.58	2-Yr	0.28	0.28	0.00	136.78	136.83	0.05
1020.58	1020.58	5-Yr	0.52	0.52	0.00	136.82	136.88	0.06
1020.58	1020.58	10-Yr	0.72	0.72	0.00	136.84	136.90	0.06
1020.58	1020.58	25-Yr	0.90	0.90	0.00	136.86	136.93	0.07
1020.58	1020.58	50-Yr	1.20	1.20	0.00	136.89	136.96	0.07
1020.58	1020.58	100-Yr	1.41	1.41	0.00	136.90	136.99	0.09
1020.58	1020.58	Check Flow	1.83	1.83	0.00	136.94	137.03	0.09
1020.58	1020.58	Regional	4.99	4.99	0.00	137.14	137.28	0.14
	1010	**407 TWY Bridge**						
1000.49	1000.49	2-Yr	0.28	0.28	0.00	136.51	136.51	0.00
1000.49	1000.49	5-Yr	0.52	0.52	0.00	136.57	136.57	0.00
1000.49	1000.49	10-Yr	0.72	0.72	0.00	136.61	136.61	0.00
1000.49	1000.49	25-Yr	0.90	0.90	0.00	136.63	136.64	0.01
1000.49	1000.49	50-Yr	1.20	1.20	0.00	136.68	136.68	0.00
1000.49	1000.49	100-Yr	1.41	1.41	0.00	136.70	136.71	0.01
1000.49	1000.49	Check Flow	1.83	1.83	0.00	136.75	136.75	0.00
1000.49	1000.49	Regional	4.99	4.99	0.00	136.99	137.00	0.01
892.69	892.69	2-Yr	0.28	0.28	0.00	136.37	136.37	0.00
892.69	892.69	5-Yr	0.52	0.52	0.00	136.40	136.40	0.00
892.69	892.69	10-Yr	0.72	0.72	0.00	136.42	136.42	0.00
892.69	892.69	25-Yr	0.90	0.90	0.00	136.43	136.43	0.00
892.69	892.69	50-Yr	1.20	1.20	0.00	136.45	136.45	0.00
892.69	892.69	100-Yr	1.41	1.41	0.00	136.46	136.46	0.00
892.69	892.69	Check Flow	1.83	1.83	0.00	136.49	136.49	0.00
892.69	892.69	Regional	4.99	4.99	0.00	136.63	136.63	0.00

Figure D.46 HEC-RAS Output(Water Surface Profile Plot) - Humber Creek (H6-EX)







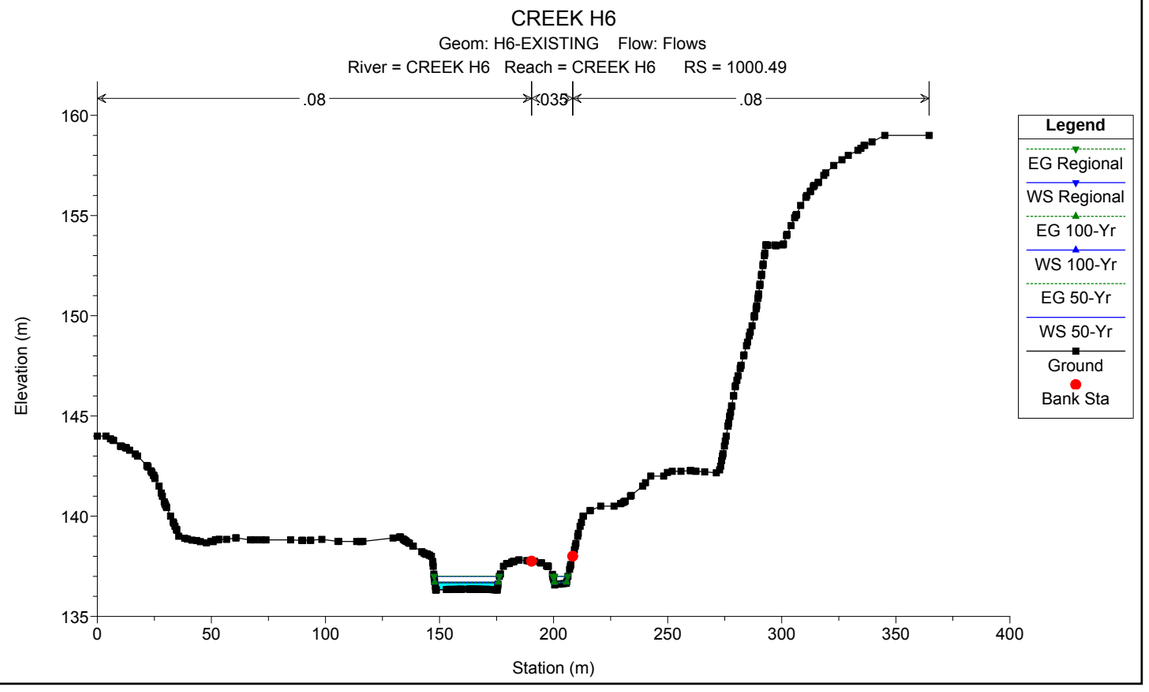
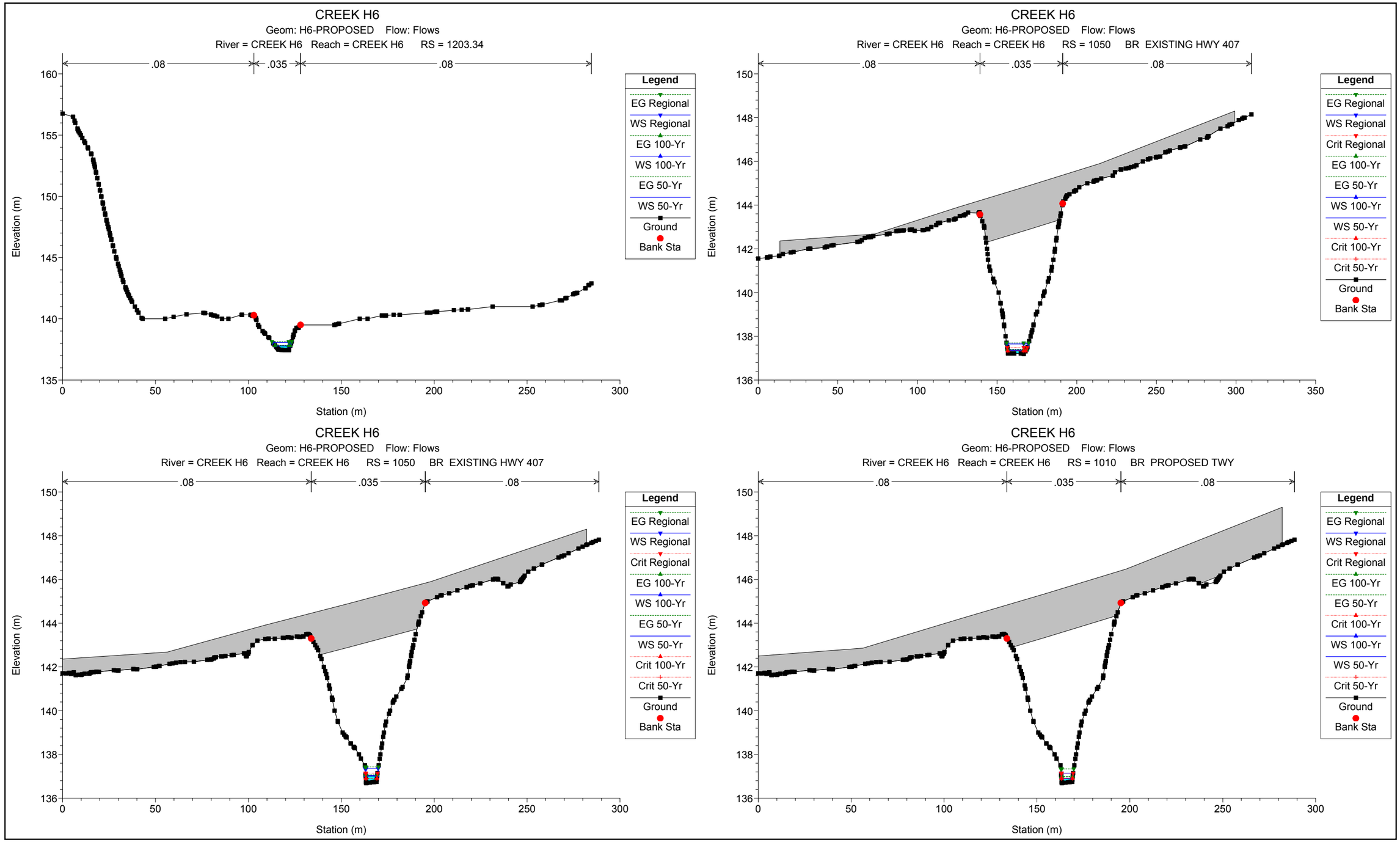
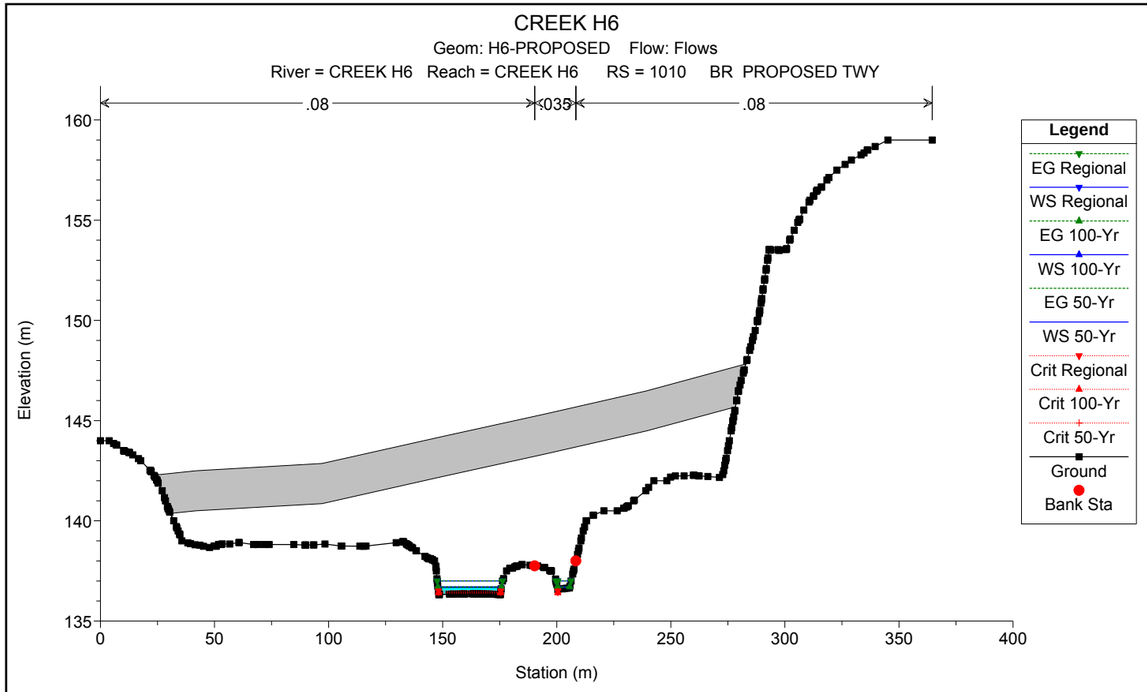


Figure D.47 HEC-RAS Output(Water Surface Profile Plot) - Humber Creek (H6-PR)




CREEK H6
Geom: H6-PROPOSED Flow: Flows
River = CREEK H6 Reach = CREEK H6 RS = 1010 BR PROPOSED TWY
.08
.035
.08
Elevation (m)
Station (m)
Legend
EG Regional
WS Regional
EG 100-Yr
WS 100-Yr
EG 50-Yr
WS 50-Yr
Crit Regional
Crit 100-Yr
Crit 50-Yr
Ground
Bank Sta

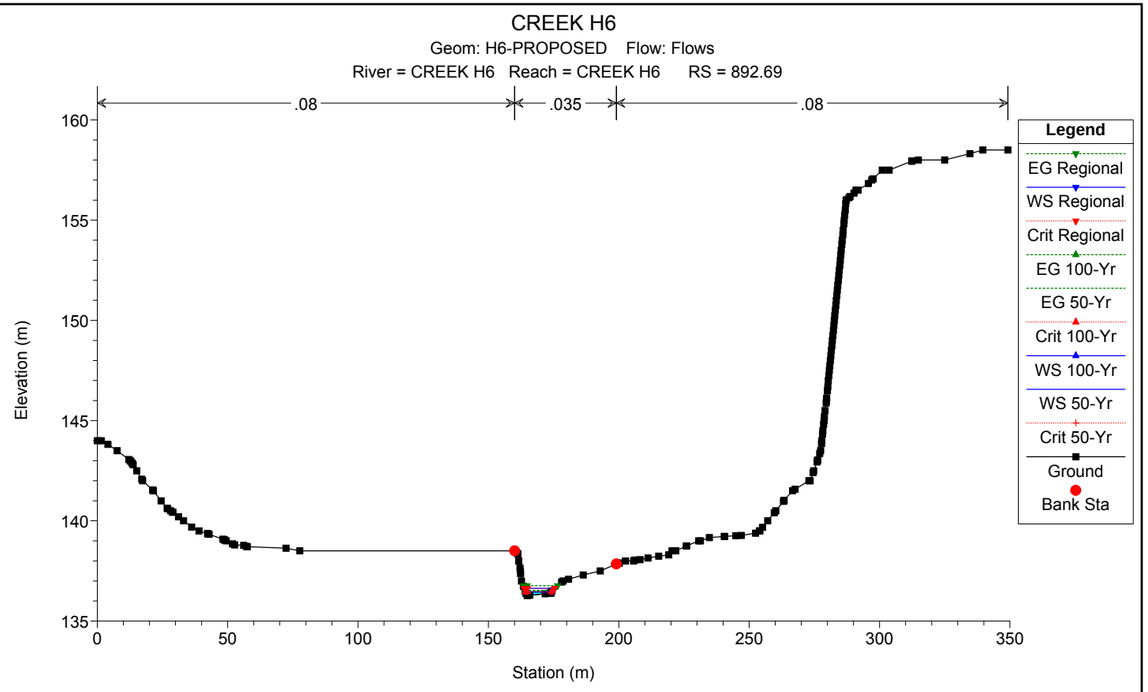

CREEK H6
Geom: H6-PROPOSED Flow: Flows
River = CREEK H6 Reach = CREEK H6 RS = 892.69
.08
.035
.08
Elevation (m)
Station (m)
Legend
EG Regional
WS Regional
Crit Regional
EG 100-Yr
EG 50-Yr
Crit 100-Yr
WS 100-Yr
WS 50-Yr
Crit 50-Yr
Ground
Bank Sta

Table D.20: HEC-RAS Modelling Results for Water Crossing H7

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
27.42	27.42	2--Yr	68.10	68.10	0.00	135.85	135.87	0.02
27.42	27.42	5-yr	112.40	112.40	0.00	136.39	136.41	0.02
27.42	27.42	10-Yr	146.10	146.10	0.00	136.68	136.70	0.02
27.42	27.42	25-Yr	193.20	193.20	0.00	137.11	137.12	0.01
27.42	27.42	50-Yr	229.90	229.90	0.00	137.41	137.42	0.01
27.42	27.42	100-Yr	268.10	268.10	0.00	137.72	137.72	0.00
27.42	27.42	Regional	920.30	920.30	0.00	145.87	145.87	0.00
27.412	27.412	2-yr	68.10	68.10	0.00	135.59	135.64	0.05
27.412	27.412	5-yr	112.40	112.40	0.00	136.27	136.29	0.02
27.412	27.412	10-yr	146.10	146.10	0.00	136.59	136.61	0.02
27.412	27.412	25-yr	193.20	193.20	0.00	137.04	137.05	0.01
27.412	27.412	50-yr	229.90	229.90	0.00	137.35	137.35	0.00
27.412	27.412	100-yr	268.10	268.10	0.00	137.66	137.66	0.00
27.412	27.412	Regional	920.30	920.30	0.00	141.44	141.43	-0.01
27.4115	27.4115				HWY 407 Bridge			
27.411	27.411	2-yr	68.10	68.10	0.00	135.18	135.29	0.11
27.411	27.411	5-yr	112.40	112.40	0.00	135.97	136.06	0.09
27.411	27.411	10-yr	146.10	146.10	0.00	136.41	136.45	0.04
27.411	27.411	25-yr	193.20	193.20	0.00	136.93	136.95	0.02
27.411	27.411	50-yr	229.90	229.90	0.00	137.26	137.27	0.01
27.411	27.411	100-yr	268.10	268.10	0.00	137.58	137.59	0.01
27.411	27.411	Check Flow	348.50	348.50	0.00	139.31	139.31	0.00
27.411	27.411	Regional	920.30	920.30	0.00	141.37	141.36	-0.01
27.4106	27.4106				407 TWY Bridge			
27.4105	27.4105	2-yr	68.10	68.10	0.00	135.28	135.31	0.03
27.4105	27.4105	5-yr	112.40	112.40	0.00	136.03	136.06	0.03
27.4105	27.4105	10-yr	146.10	146.10	0.00	136.46	136.46	0.00
27.4105	27.4105	25-yr	193.20	193.20	0.00	136.96	136.96	0.00
27.4105	27.4105	100-yr	268.10	268.10	0.00	137.61	137.60	-0.01
27.4105	27.4105	Check Flow	348.50	348.50	0.00	139.33	139.32	-0.01
27.4105	27.4105	Regional	920.30	920.30	0.00	141.41	141.38	-0.03
27.41	27.41	2-yr	77.20	77.20	0.00	135.09	135.09	0.00
27.41	27.41	5-yr	130.40	130.40	0.00	135.90	135.91	0.01
27.41	27.41	10-yr	172.70	172.70	0.00	136.35	136.36	0.01
27.41	27.41	50-yr	269.30	269.30	0.00	137.20	137.20	0.00
27.41	27.41	100-yr	312.30	312.30	0.00	137.53	137.52	-0.01
27.41	27.41	Check Flow	406.00	406.00	0.00	139.29	139.29	0.00
27.41	27.41	Regional	1042.00	1042.00	0.00	141.31	141.30	-0.01

METRIC

27.08

27.07

27.08–A
251.1 | 65

27.07–A.4
76.95 | 43

27.07–A.3
28.25 | 43

H8

PINE VALLEY DR

HWY 407

WESTON RD

HIGHWAY 400

NOTE:
HYDRAULIC MODEL FOR H5, H6 & H7 WATER CROSSINGS PROVIDED BY TRCA.
HYDROLOGIC ANALYSIS NOT REQUIRED.

Ontario PARSONS IBI GROUP

SCALE
1:10000

LEGEND
- TRANSITWAY LIMITS
- ENCLOSED TRANSITWAY
- PROPOSED 407 TRANSITWAY
- WATER COURSE
- SUBWATERSHED DRAINAGE AREA BOUNDARY (123)
- EXISTING POND
- WATERCOURSE CROSSING
- AREA (ha) (98-1 / 0.44 | 90) AREA ID / % IMPERVIOUS

407 TRANSITWAY
PROJECT No. 602896
WEST OF HURONTARIO STREET TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
WATERCOURSE CROSSING # **H8**

DRAWING SET
DRAINAGE AREA MAP

FIGURE
D-50

DATE
NOV. 2017

DRAWING NAME: J:\Division\TT\Drainage\602896 - 407_Transitway Huron\ontario\CAD\Design\Drainage Mosaic\602896 - WATERCOURSE_CROSSING.dwg
MODIFIED: Nov 16, 2017 6:23pm
CREATED:

Table D.21: HEC-RAS Modelling Results for Water Crossing H8

Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(m)	(m)
2944.28	2944.28	2-Yr	13.58	13.58	0	174.61	174.59	-0.02
2944.28	2944.28	5-Yr	18.77	18.77	0	174	173.8	-0.2
2944.28	2944.28	10-Yr	22.45	22.45	0	174	173.8	-0.2
2944.28	2944.28	25-Yr	27.01	27.01	0	174.01	173.81	-0.2
2944.28	2944.28	50-Yr	30.45	30.45	0	174	173.81	-0.19
2944.28	2944.28	100-Yr	33.88	33.88	0	174.01	173.81	-0.2
2944.28	2944.28	Check Flow	44.04	44.04	0	174	173.82	-0.18
2944.28	2944.28	Regional	49.67	49.67	0	174.01	173.82	-0.19
2888.52	2888.52				HWY 407 Culvert			
2832.76	2832.76	2-Yr	13.58	13.58	0.00	173.29	173.26	-0.03
2832.76	2832.76	5-Yr	18.77	18.77	0.00	174.00	173.80	-0.20
2832.76	2832.76	10-Yr	22.45	22.45	0.00	174.00	173.80	-0.20
2832.76	2832.76	25-Yr	27.01	27.01	0.00	174.00	173.80	-0.20
2832.76	2832.76	50-Yr	30.45	30.45	0.00	174.00	173.80	-0.20
2832.76	2832.76	100-Yr	33.88	33.88	0.00	174.00	173.80	-0.20
2832.76	2832.76	Check Flow	44.04	44.04	0.00	174.00	173.80	-0.20
2832.76	2832.76	Regional	49.67	49.67	0.00	174.00	173.80	-0.20
2722.75	2722.75	2-Yr	13.58	13.58	0.00	170.34	170.24	-0.10
2722.75	2722.75	5-Yr	18.77	18.77	0.00	170.40	170.30	-0.10
2722.75	2722.75	10-Yr	22.45	22.45	0.00	170.44	170.33	-0.11
2722.75	2722.75	25-Yr	27.01	27.01	0.00	170.46	170.37	-0.09
2722.75	2722.75	50-Yr	30.45	30.45	0.00	170.42	170.40	-0.02
2722.75	2722.75	100-Yr	33.88	33.88	0.00	170.43	170.43	0.00
2722.75	2722.75	Check Flow	44.04	44.04	0.00	170.51	170.51	0.00
2722.75	2722.75	Regional	49.67	49.67	0.00	170.55	170.55	0.00
2352.1	2352.1	2-Yr	13.58	13.58	0.00	166.78	166.90	0.12
2352.1	2352.1	5-Yr	18.77	18.77	0.00	166.84	166.96	0.12
2352.1	2352.1	10-Yr	22.45	22.45	0.00	166.89	167.01	0.12
2352.1	2352.1	25-Yr	27.01	27.01	0.00	166.97	167.06	0.09
2352.1	2352.1	50-Yr	30.45	30.45	0.00	167.07	167.09	0.02
2352.1	2352.1	100-Yr	33.88	33.88	0.00	167.12	167.12	0.00
2352.1	2352.1	Check Flow	44.04	44.04	0.00	167.20	167.20	0.00
2352.1	2352.1	Regional	49.67	49.67	0.00	167.24	167.24	0.00
1966.14	1966.14	2-Yr	13.58	13.58	0.00	163.66	163.56	-0.10
1966.14	1966.14	5-Yr	18.77	18.77	0.00	163.73	163.62	-0.11
1966.14	1966.14	10-Yr	22.45	22.45	0.00	163.76	163.65	-0.11
1966.14	1966.14	25-Yr	27.01	27.01	0.00	163.78	163.68	-0.10
1966.14	1966.14	50-Yr	30.45	30.45	0.00	163.74	163.71	-0.03
1966.14	1966.14	100-Yr	33.88	33.88	0.00	163.73	163.73	0.00
1966.14	1966.14	Check Flow	44.04	44.04	0.00	163.80	163.80	0.00
1966.14	1966.14	Regional	49.67	49.67	0.00	163.83	163.83	0.00

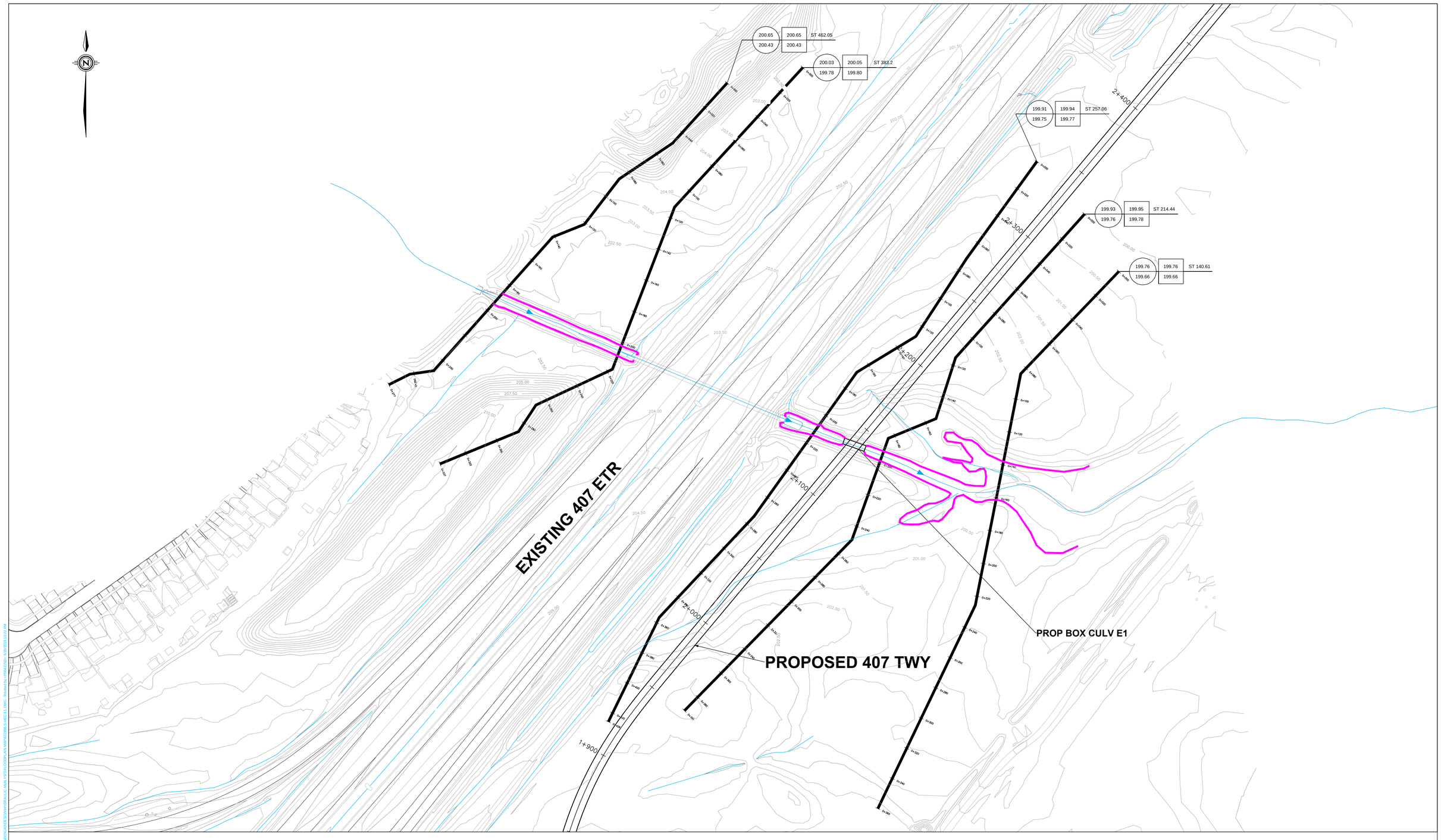
Existing River Station	Proposed River Station	Profile	Existing Flow	Proposed Flow	Difference	Existing W.S. Elevation	Proposed W.S. Elevation	Difference
1744.2	1744.2	2-Yr	13.58	13.58	0.00	161.71	161.88	0.17
1744.2	1744.2	5-Yr	18.77	18.77	0.00	161.77	161.93	0.16
1744.2	1744.2	10-Yr	22.45	22.45	0.00	161.80	162.00	0.20
1744.2	1744.2	25-Yr	27.01	27.01	0.00	161.88	162.12	0.24
1744.2	1744.2	50-Yr	30.45	30.45	0.00	162.00	162.21	0.21
1744.2	1744.2	100-Yr	33.88	33.88	0.00	162.10	162.30	0.20
1744.2	1744.2	Check Flow	44.04	44.04	0.00	162.34	162.53	0.19
1744.2	1744.2	Regional	49.67	49.67	0.00	162.46	162.65	0.19
1725	1725			407 TWY Bridge				
1710.81	1710.81	2-Yr	13.58	13.58	0.00	161.52	161.64	0.12
1710.81	1710.81	5-Yr	18.77	18.77	0.00	161.68	161.82	0.14
1710.81	1710.81	10-Yr	22.45	22.45	0.00	161.79	161.95	0.16
1710.81	1710.81	25-Yr	27.01	27.01	0.00	161.93	162.08	0.15
1710.81	1710.81	50-Yr	30.45	30.45	0.00	162.03	162.19	0.16
1710.81	1710.81	100-Yr	33.88	33.88	0.00	162.12	162.28	0.16
1710.81	1710.81	Check Flow	44.04	44.04	0.00	162.36	162.51	0.15
1710.81	1710.81	Regional	49.67	49.67	0.00	162.47	162.63	0.16
1595.41	1595.41	2-Yr	13.58	13.58	0.00	160.77	160.77	0.00
1595.41	1595.41	5-Yr	18.77	18.77	0.00	160.99	160.99	0.00
1595.41	1595.41	10-Yr	22.45	22.45	0.00	161.13	161.13	0.00
1595.41	1595.41	25-Yr	27.01	27.01	0.00	161.30	161.30	0.00
1595.41	1595.41	50-Yr	30.45	30.45	0.00	161.39	161.39	0.00
1595.41	1595.41	100-Yr	33.88	33.88	0.00	161.50	161.50	0.00
1595.41	1595.41	Check Flow	44.04	44.04	0.00	161.74	161.74	0.00
1595.41	1595.41	Regional	49.67	49.67	0.00	161.83	161.83	0.00

APPENDIX E

Floodplain Mapping

APPENDIX **E: Floodplain Mapping**

Figure E.1:	HEC-RAS Analysis - Etobicoke Creek Watercrossing E1 Floodplain Map
Figure E.2:	HEC-RAS Analysis - Etobicoke Creek Watercrossing E3-4 Floodplain Map
Figure E.3:	HEC-RAS Analysis - Etobicoke Creek Watercrossing E5 Floodplain Map
Figure E.4.a:	HEC-RAS Analysis - Etobicoke Creek Watercrossing E6 Floodplain Map
Figure E.4.b:	HEC-RAS Analysis - Etobicoke Creek Watercrossing E6 Floodplain Map
Figure E.5:	HEC-RAS Analysis - Etobicoke Creek Watercrossing E7 Floodplain Map
Figure E.6:	HEC-RAS Analysis - Etobicoke Creek Watercrossing E8 Floodplain Map
Figure E.7:	HEC-RAS Analysis - Mimico Creek Watercrossing M1 Floodplain Map
Figure E.8:	HEC-RAS Analysis - Mimico Creek Watercrossing M2 Floodplain Map
Figure E.9:	HEC-RAS Analysis - Mimico Creek Watercrossing M3 Floodplain Map
Figure E.10:	HEC-RAS Analysis - Mimico Creek Watercrossing M4 Floodplain Map
Figure E.11:	HEC-RAS Analysis - Mimico Creek Watercrossing M5-6 Floodplain Map
Figure E.12:	HEC-RAS Analysis - Mimico Creek Watercrossing M7 Floodplain Map
Figure E.13:	HEC-RAS Analysis - Mimico Creek Watercrossing M8 Floodplain Map
Figure E.14:	HEC-RAS Analysis - Humber Creek Watercrossing H1 Floodplain Map
Figure E.15:	HEC-RAS Analysis - Humber Creek Watercrossing H5 100-Yr Floodplain Map
Figure E.16.a:	HEC-RAS Analysis - Humber Creek Watercrossing H6 100-Yr Floodplain Map
Figure E.16.b:	Rainbow Creek Floodplain Map from Proposed Transitway ST.19+200 to ST.19+600
Figure E.17:	HEC-RAS Analysis - Humber Creek Watercrossing H7 Floodplain Map
Figure E.18.a:	HEC-RAS Analysis - Humber Creek Watercrossing H8 Floodplain Map
Figure E.18.b:	HEC-RAS Analysis - Humber Creek Watercrossing H8 Floodplain Map



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST
EX 100 | PR 100
CROSS SECTION NUMBER
PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000

5m 0m 10m 20m 30m

DATE: JUNE 2018

SCALE: 1 : 1000

Ontario

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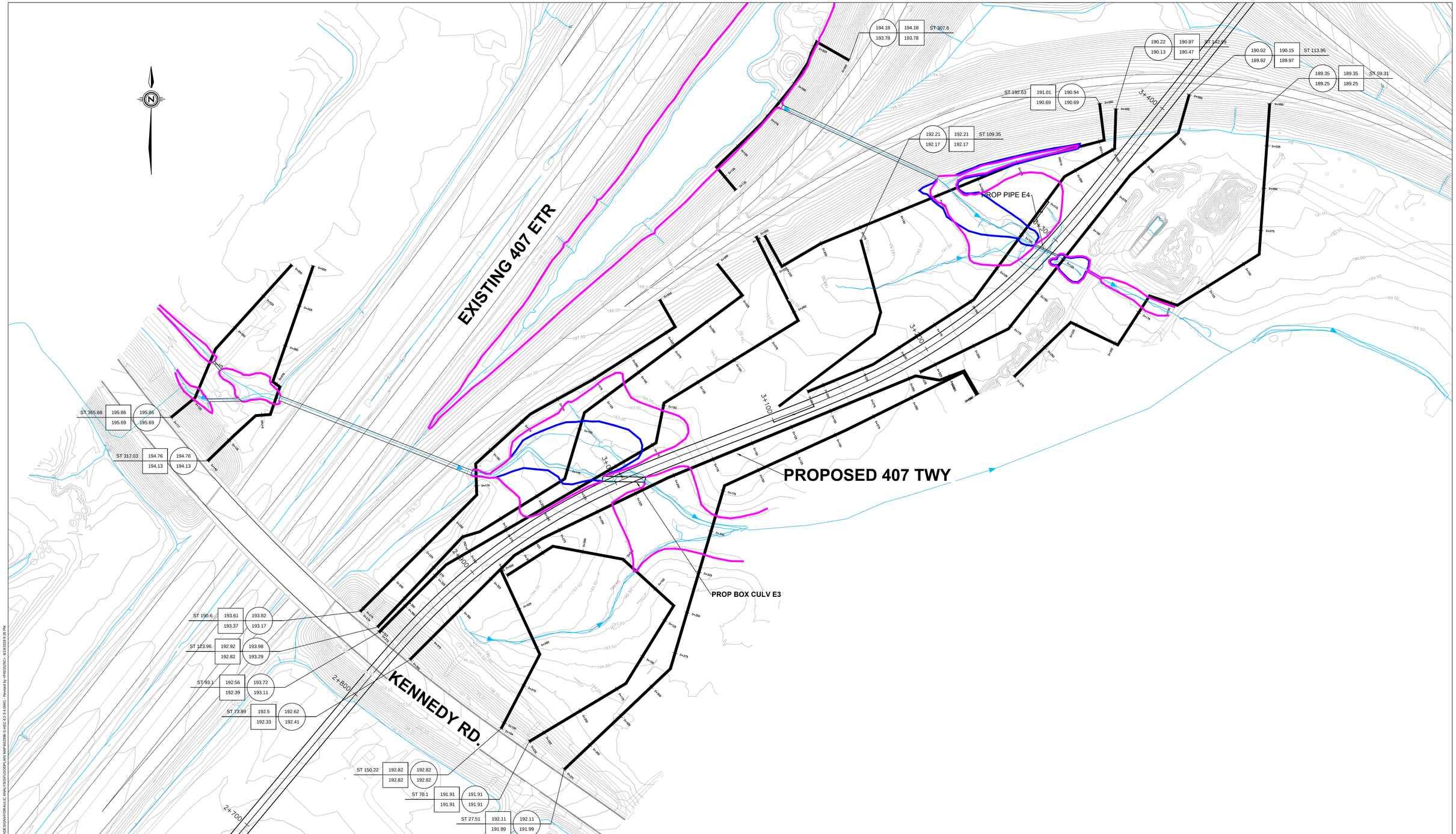
FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.1 - HEC-RAS ANALYSIS - ETOBICOKE CREEK WATERCROSSING E1 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG / EX 100 — PR REG / PR 100 — HEC ST

CROSS SECTION NUMBER

PARSONS HEC-RAS SECTION

PROPOSED WL ELEVATION (m)

EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000

5m 0m 10m 20m 30m

DATE: JUNE 2018

SCALE: 1 : 1000

Ontario

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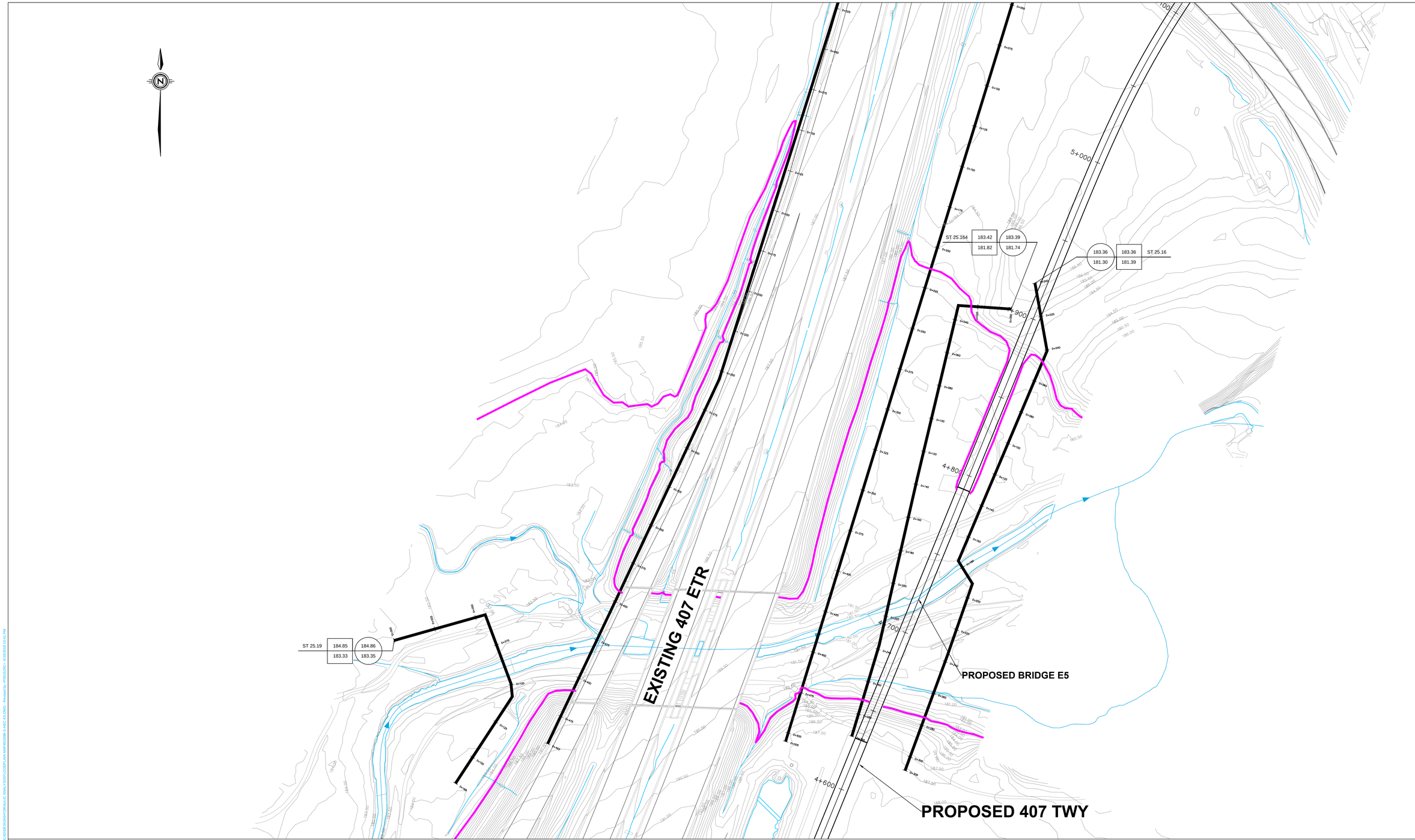
FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.2 - HEC-RAS ANALYSIS - ETOBICOKE CREEK WATERCROSSING E3-4 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST
EX 100 | PR 100

CROSS SECTION NUMBER

PARSONS HEC-RAS SECTION

PROPOSED WL ELEVATION (m)

EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000

5m 0m 10m 20m 30m

DATE: JUNE 2018

SCALE: 1 : 1000

Ontario

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FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.3 - HEC-RAS ANALYSIS - ETOBICOKE CREEK WATERCROSSING E5 FLOODPLAIN MAP

EXISTING 407 ETR

DIXIE ROAD

PROPOSED DIXIE ROAD STATION

PROPOSED BRIDGE E6

PROPOSED 407 TWY

184.23	184.11	ST 29.26
183.38	183.38	
183.76	184.04	ST 29.25
183.03	183.03	
182.50	182.50	ST 29.23
182.08	182.08	
182.51	182.50	ST 29.215
182.04	182.03	
182.42	182.42	ST 29.205
181.94	181.93	
182.22	182.21	ST 29.18
181.80	181.80	
180.25	180.25	ST 29.16
179.78	179.89	
180.43	180.37	ST 29.155
179.95	179.92	
180.38	180.30	ST 29.15
179.92	179.85	
180.30	180.24	ST 29.14
179.83	179.76	
180.14	180.17	ST 29.13
179.63	179.66	
180.01	180.01	ST 29.12
179.45	179.45	

FOR ADDITIONAL DOWNSTREAM INFORMATION SEE FIGURE E.4b

LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE
- PROPOSED 100-yr FLOODLINE

EX REG / EX 100 / PR REG / PR 100 / HEC ST — CROSS SECTION NUMBER — PARSONS HEC-RAS SECTION — PROPOSED WL ELEVATION (m) — EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018

SCALE: 1 : 1000

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FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.4a - HEC-RAS ANALYSIS - ETOBICOKE CREEK WATERCROSSING E6 FLOODPLAIN MAP

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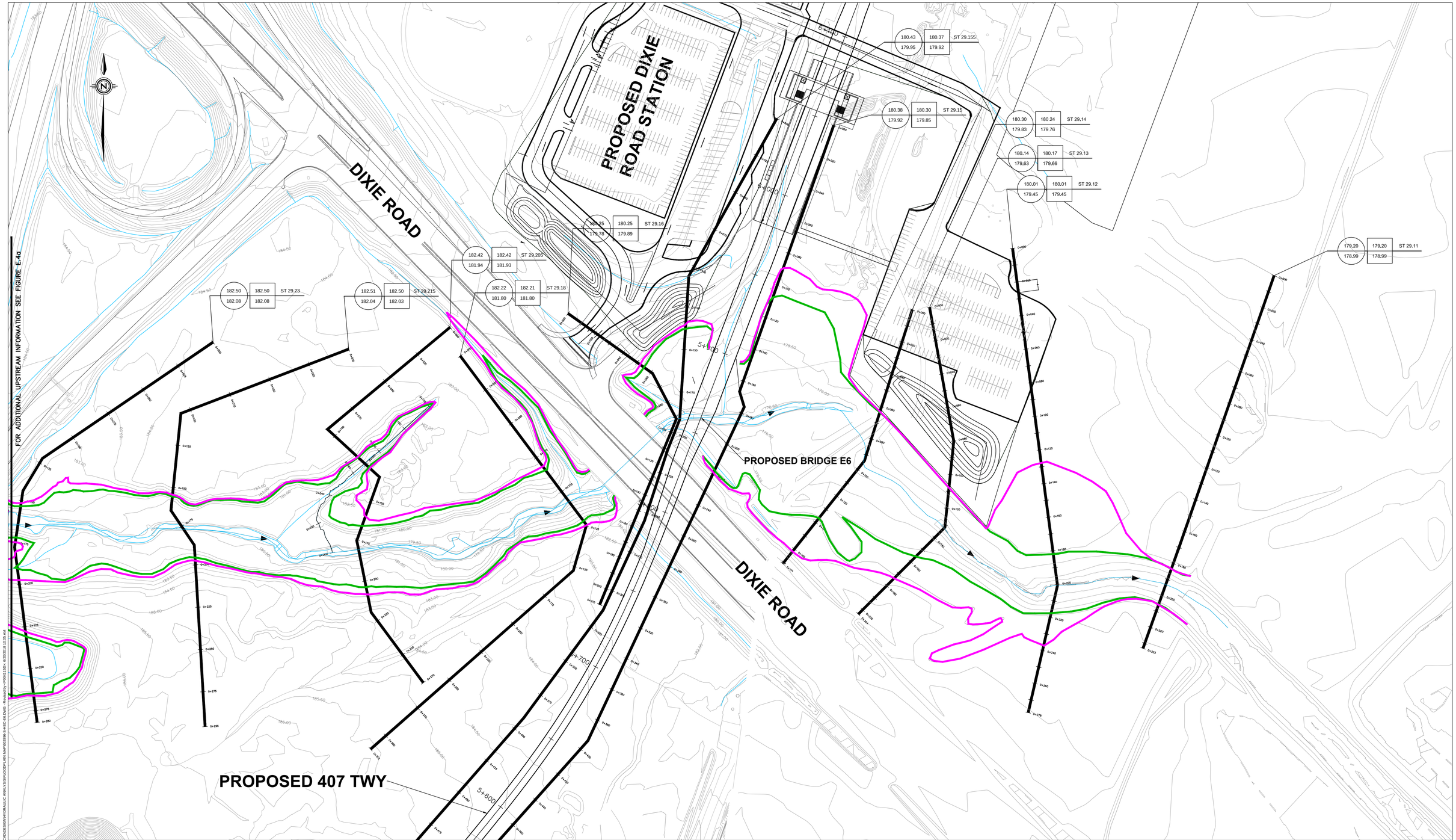

LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE
- PROPOSED 100-yr FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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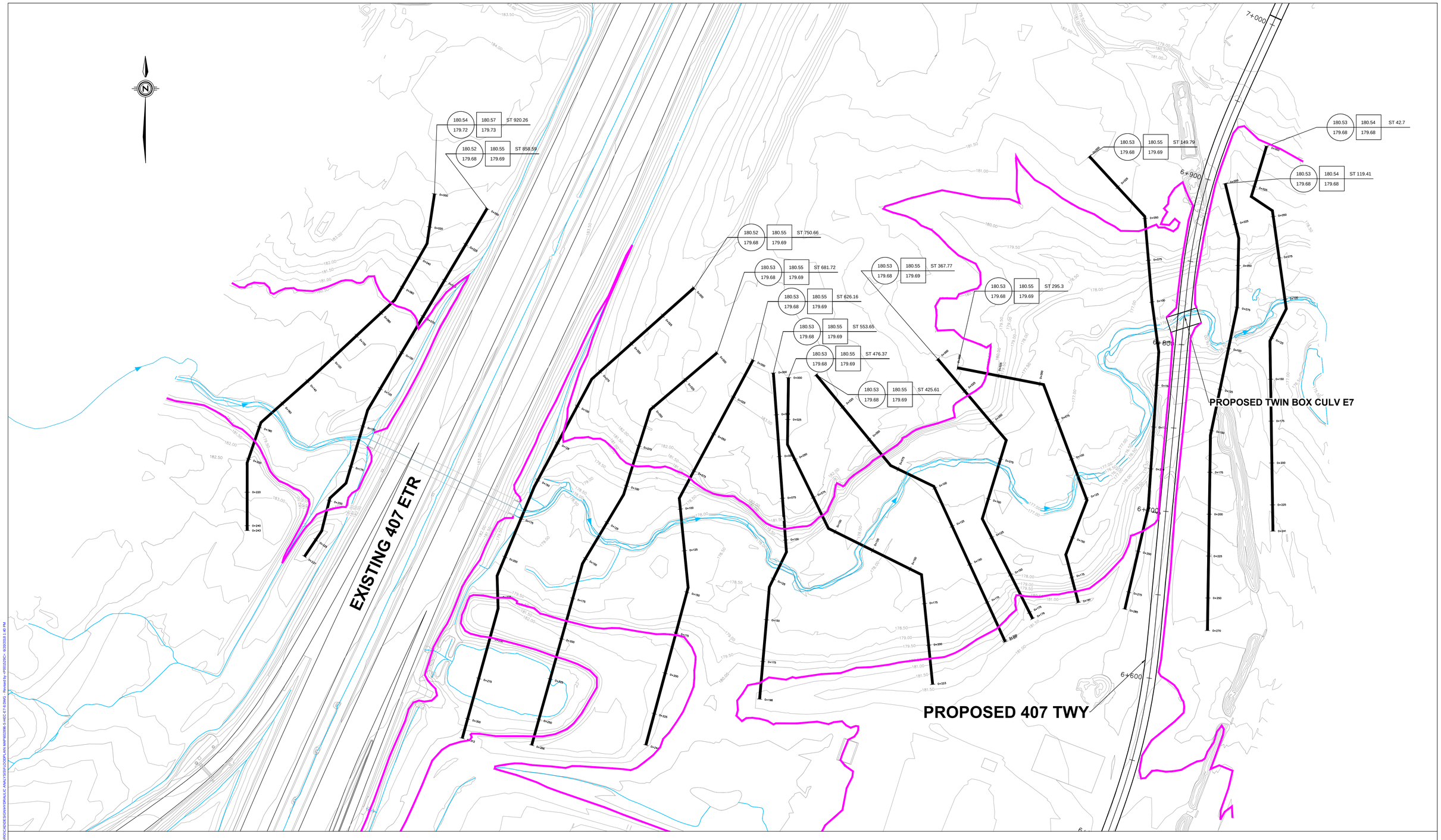
FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.4b - HEC-RAS ANALYSIS - ETOBICOKE CREEK WATERCROSSING E6 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG / EX 100 — EXISTING UPDATED WL ELEVATION (m)
PR REG / PR 100 — PROPOSED WL ELEVATION (m)
HEC ST — CROSS SECTION NUMBER
PARSONS HEC-RAS SECTION

SCALE HORIZONTAL
1:1000

5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.5 - HEC-RAS ANALYSIS - ETOBICOKE CREEK WATERCROSSING E7 FLOODPLAIN MAP

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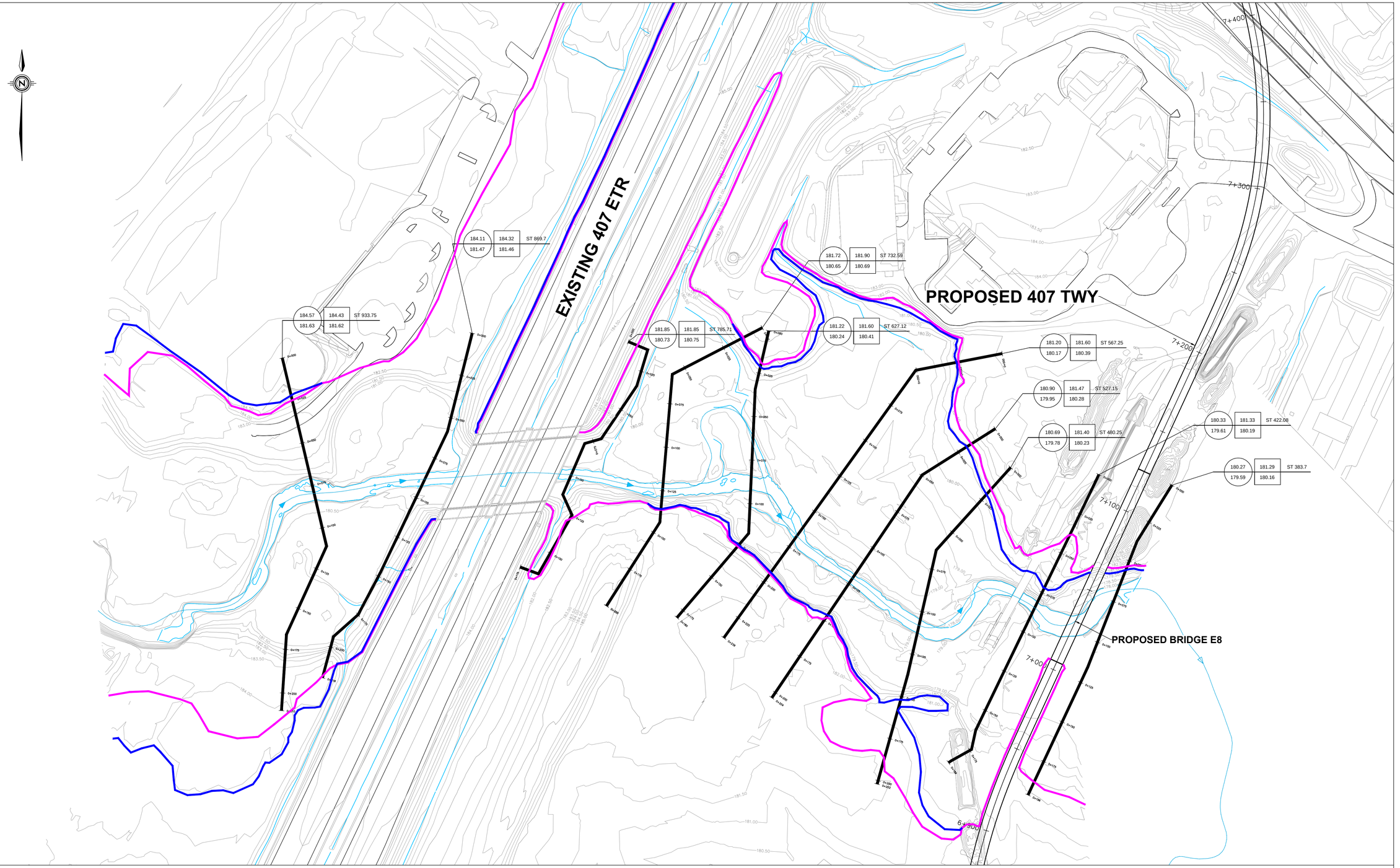

LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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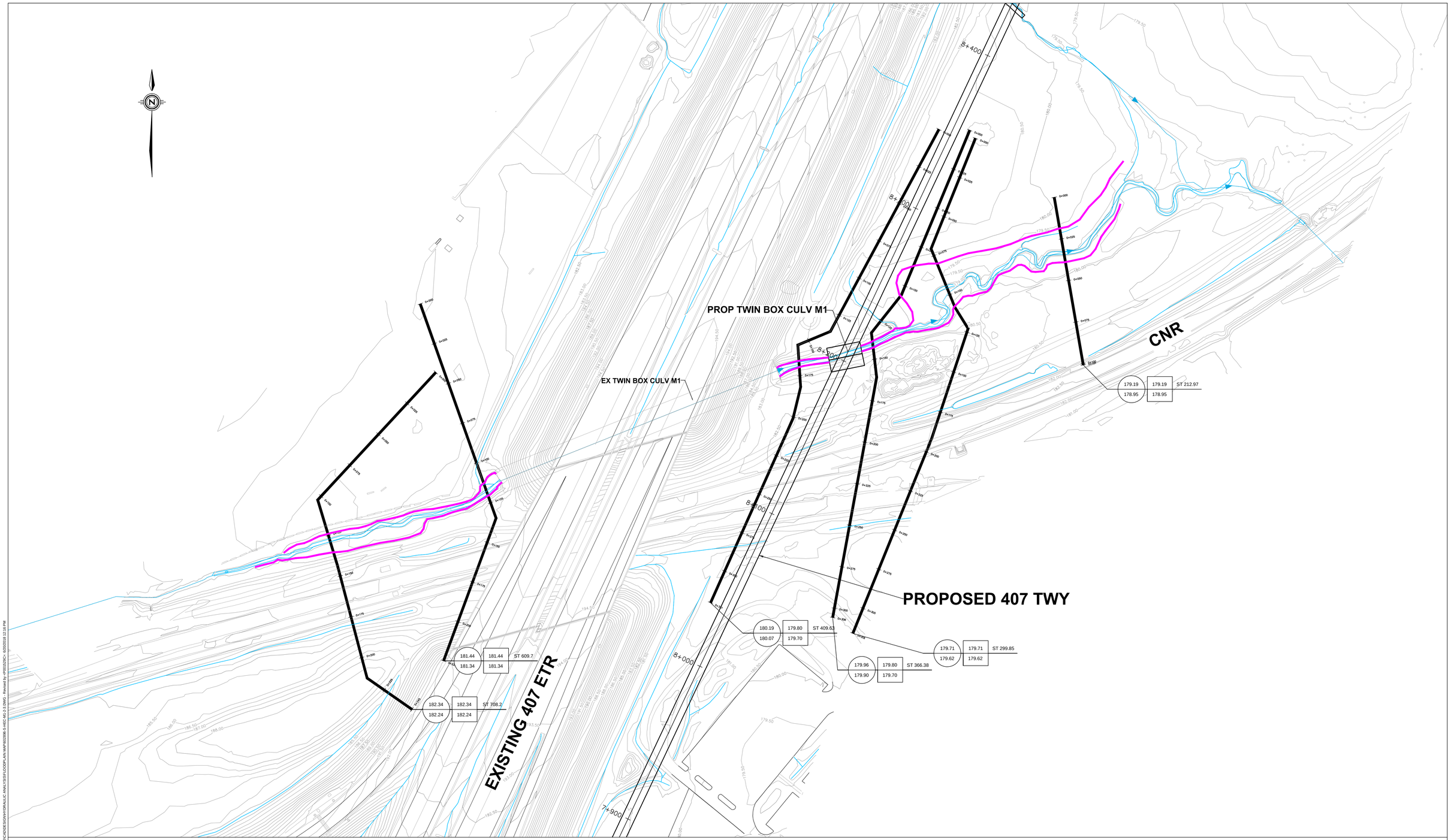
FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.6 - HEC-RAS ANALYSIS - ETOBICOKE CREEK WATERCROSSING E8 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

Ontario

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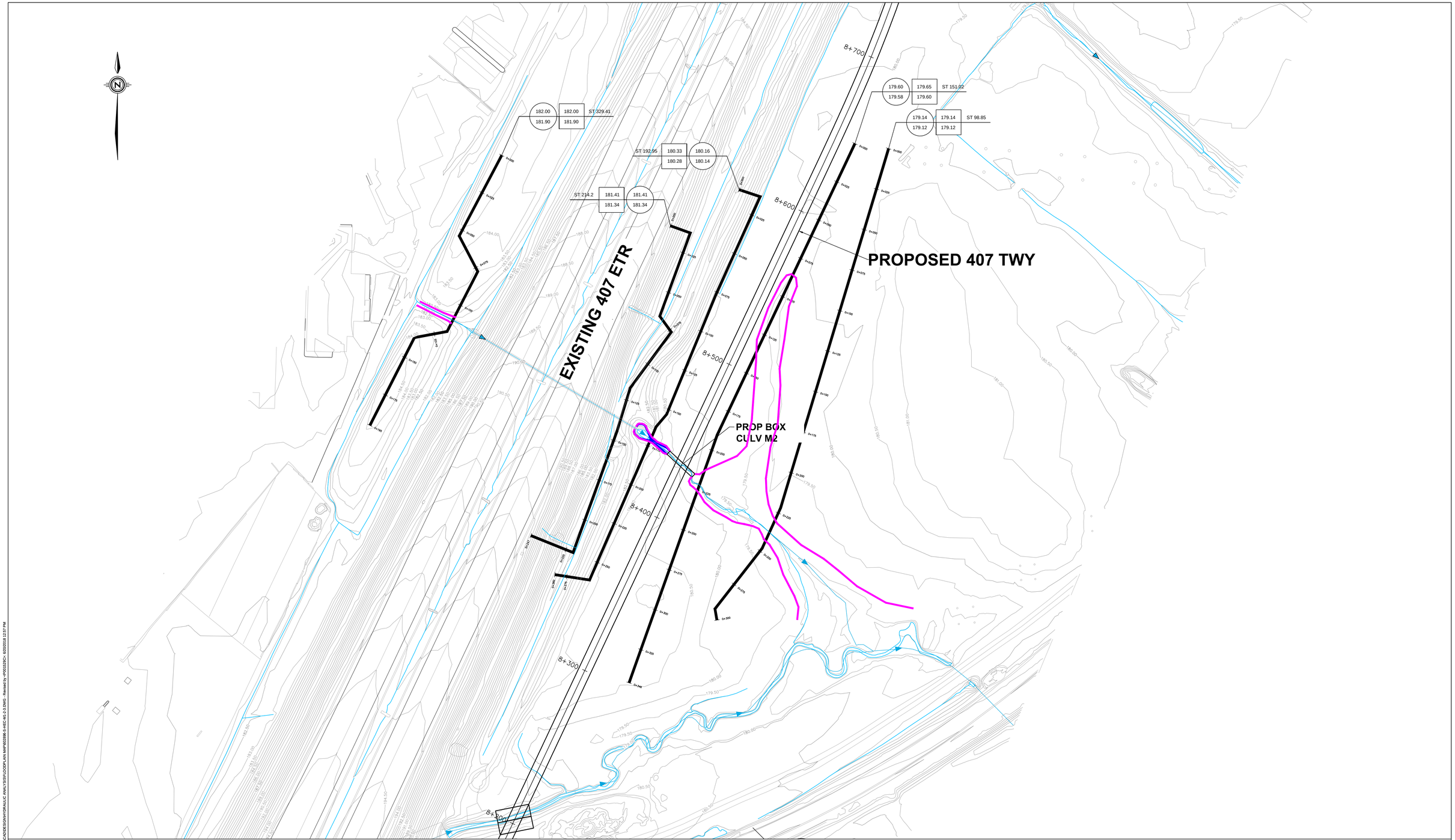
407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.7 - HEC-RAS ANALYSIS - ETOBICOKE CREEK WATERCROSSING M1 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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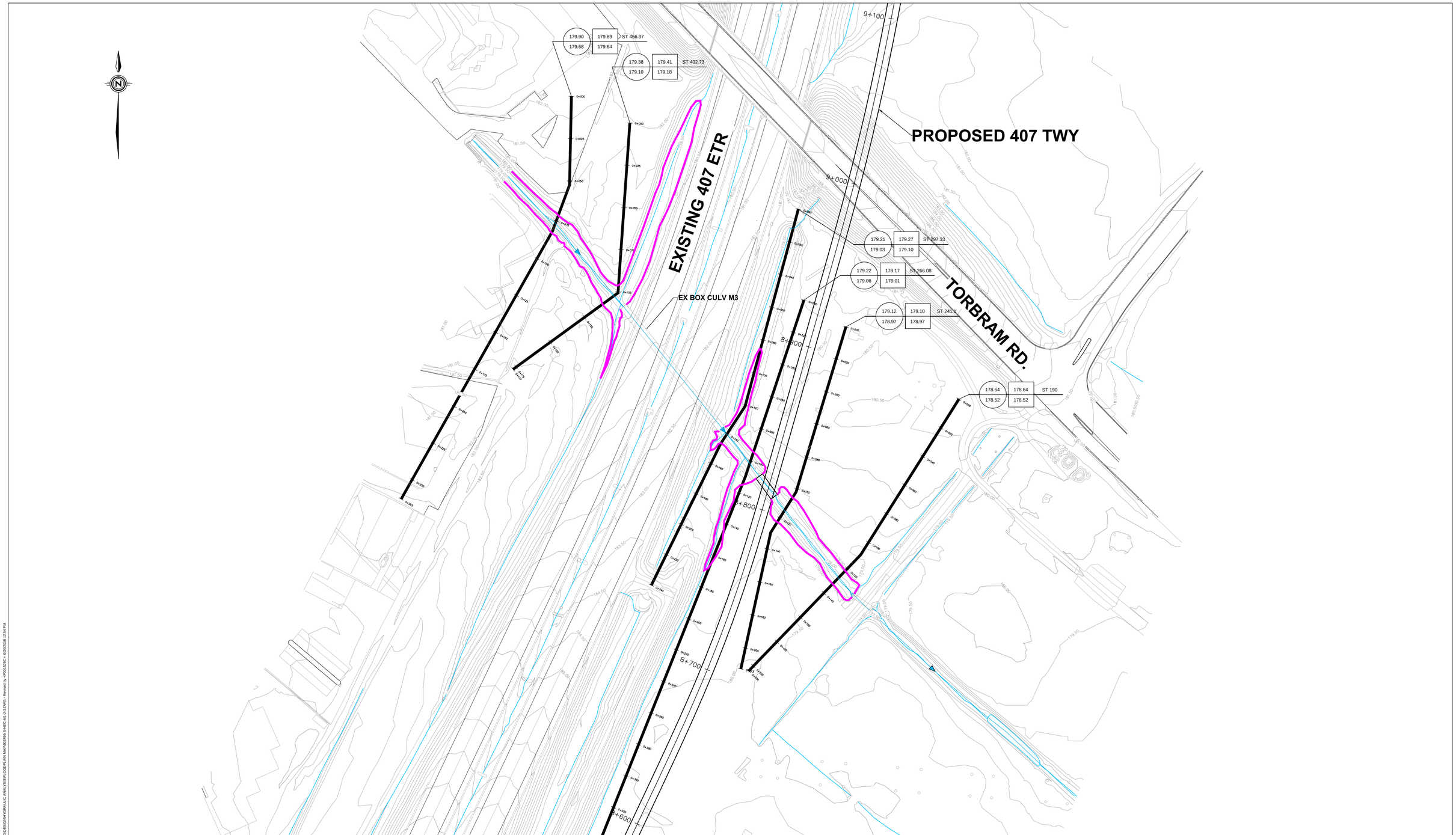
FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.8 - HEC-RAS ANALYSIS - MIMICO CREEK WATERCROSSING M2 FLOODPLAIN MAP

File: J:\DIVISION\TT\DRAINAGE\602896 - 407_TRANSITWAY HURONONTARIO\CAD\DESIGN\HYDRAULIC ANALYSIS\FLOODPLAIN MAP\602896-S-HEC-M1-2-3.DWG - Revised by <P001529C>: 6/20/2018 12:57 PM



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

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SCALE: 1 : 1000

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407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.9 - HEC-RAS ANALYSIS - MIMICO CREEK WATERCROSSING M3 FLOODPLAIN MAP

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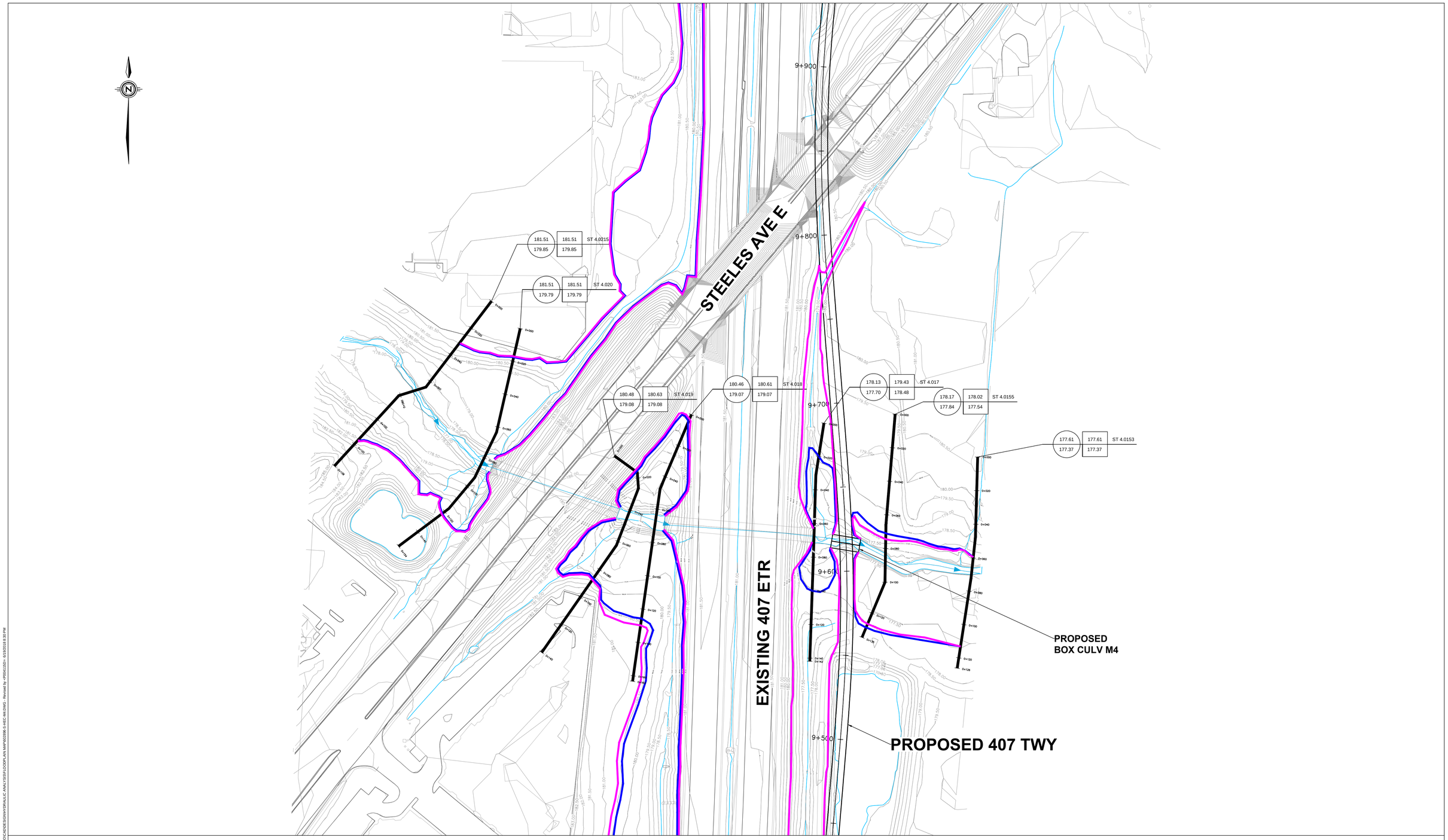

LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST
EX 100 | PR 100
CROSS SECTION NUMBER
PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000

5m 0m 10m 20m 30m

DATE: JUNE 2018

SCALE: 1 : 1000

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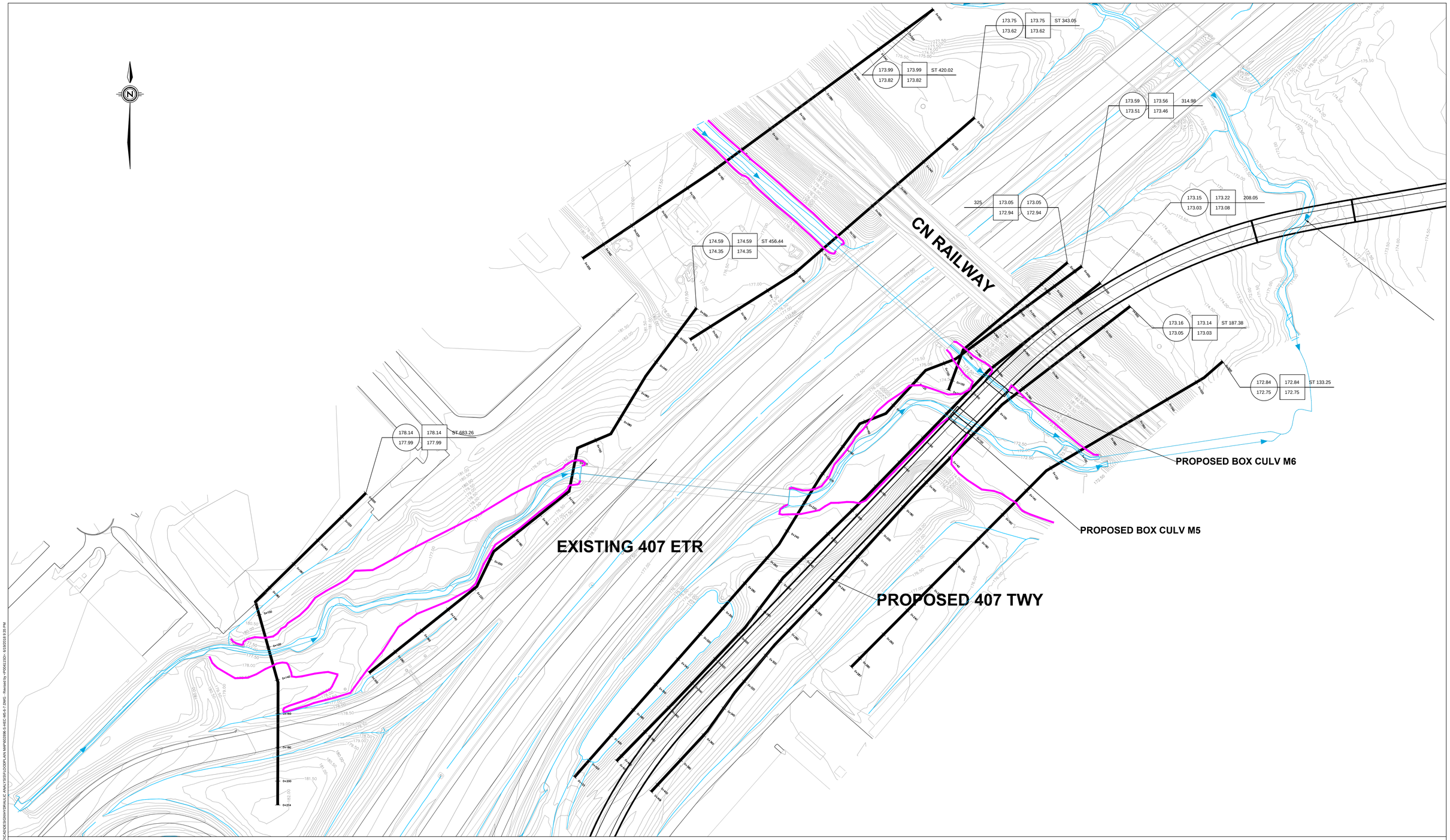
407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.10 - HEC-RAS ANALYSIS - MIMICO CREEK WATERCROSSING M4 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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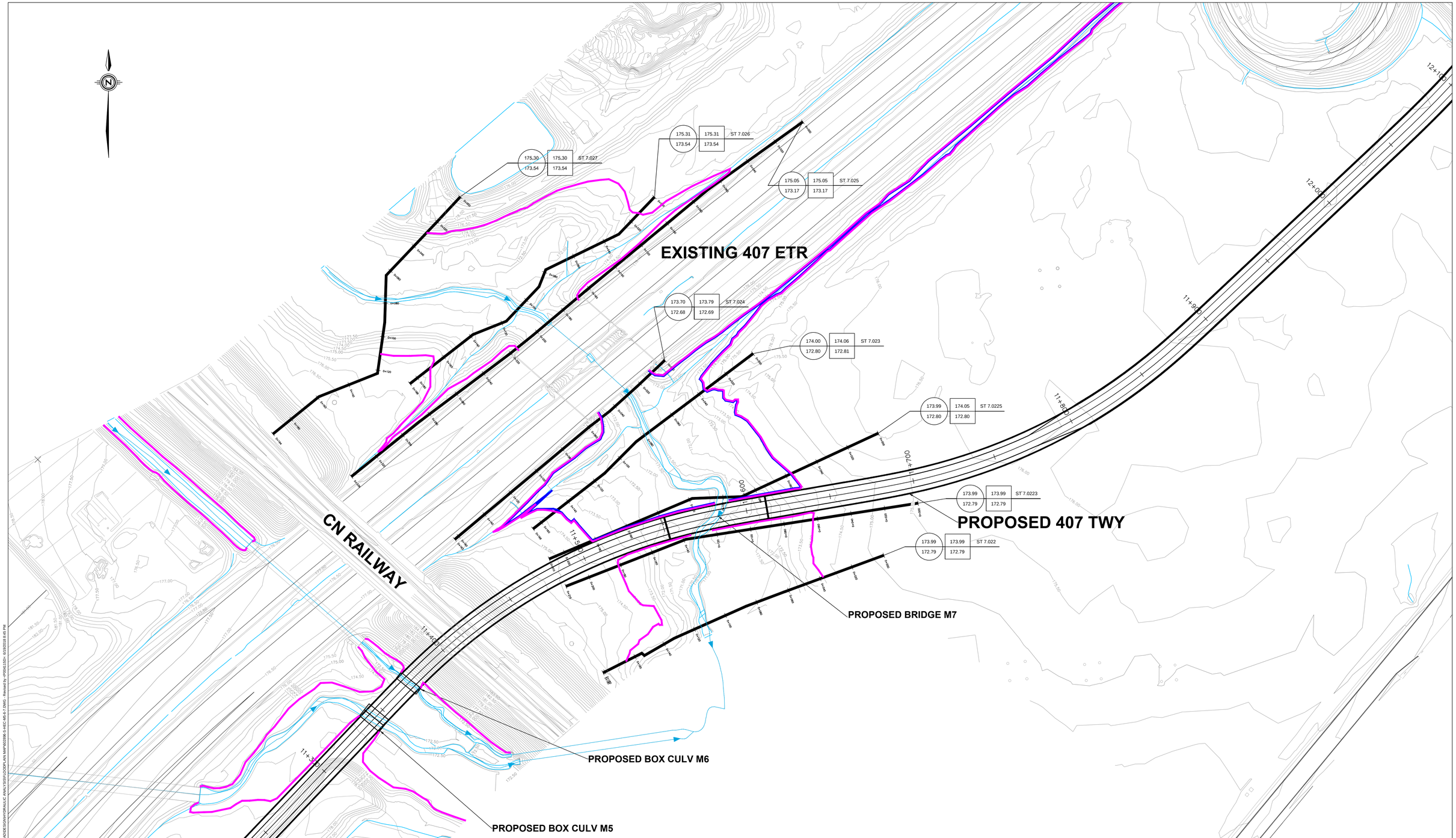
407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.11 - HEC-RAS ANALYSIS - MIMICO CREEK WATERCROSSING M5-6 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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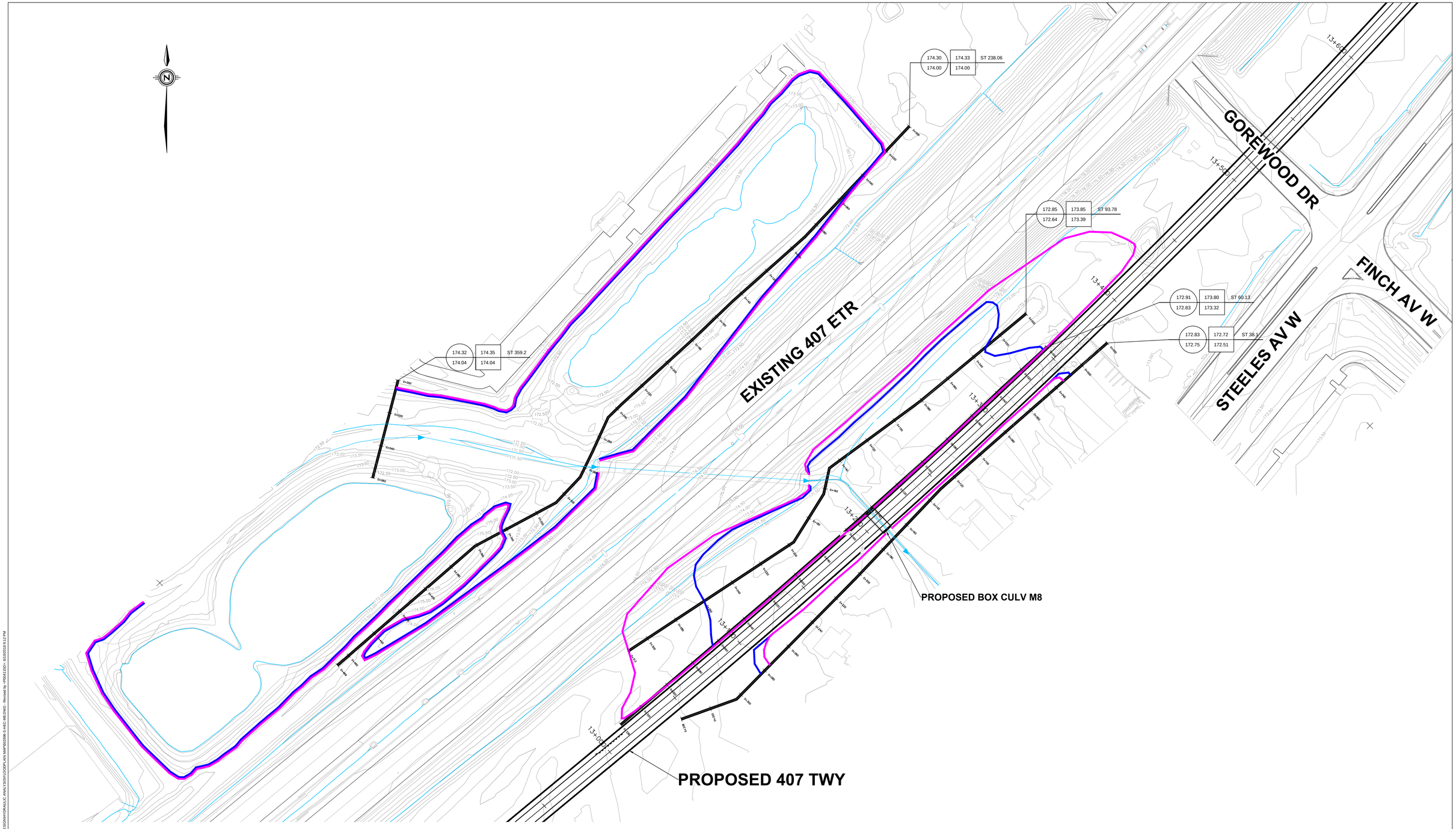
407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.12 - HEC-RAS ANALYSIS - MIMICO CREEK WATERCROSSING M7 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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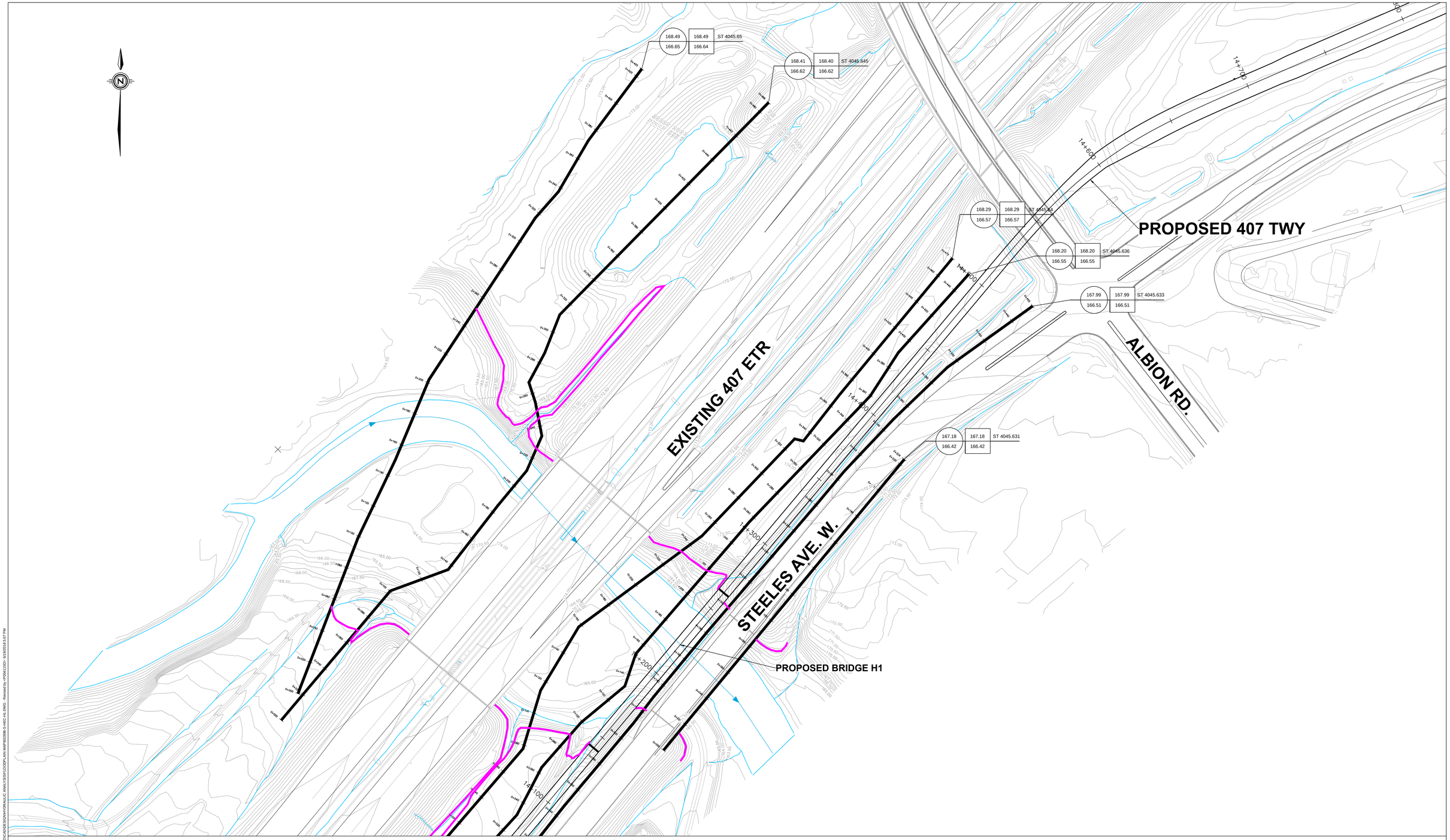
FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.13 - HEC-RAS ANALYSIS - MIMICO CREEK WATERCROSSING M8 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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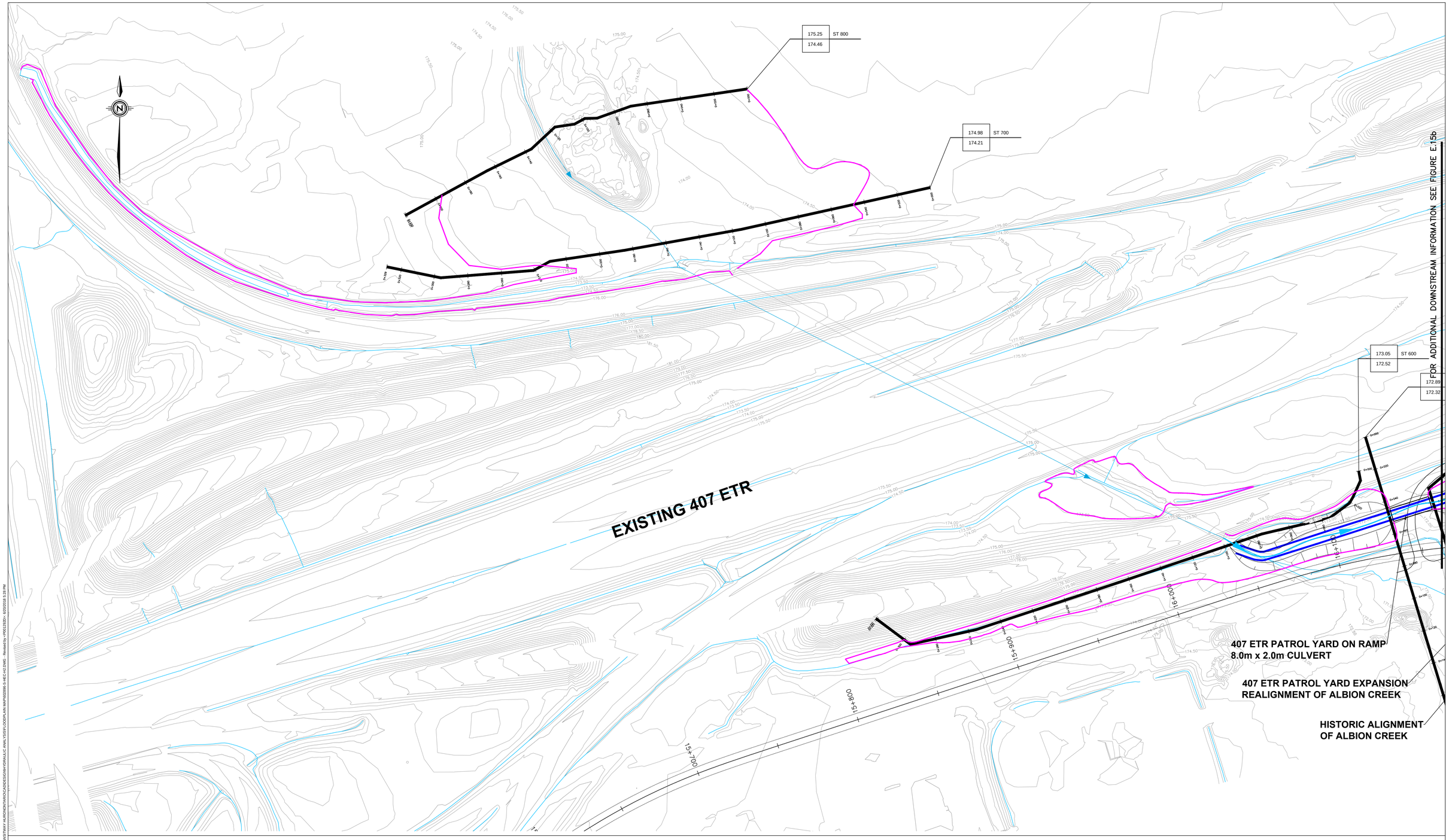
407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.14 - HEC-RAS ANALYSIS - HUMBER CREEK WATERCROSSING H1 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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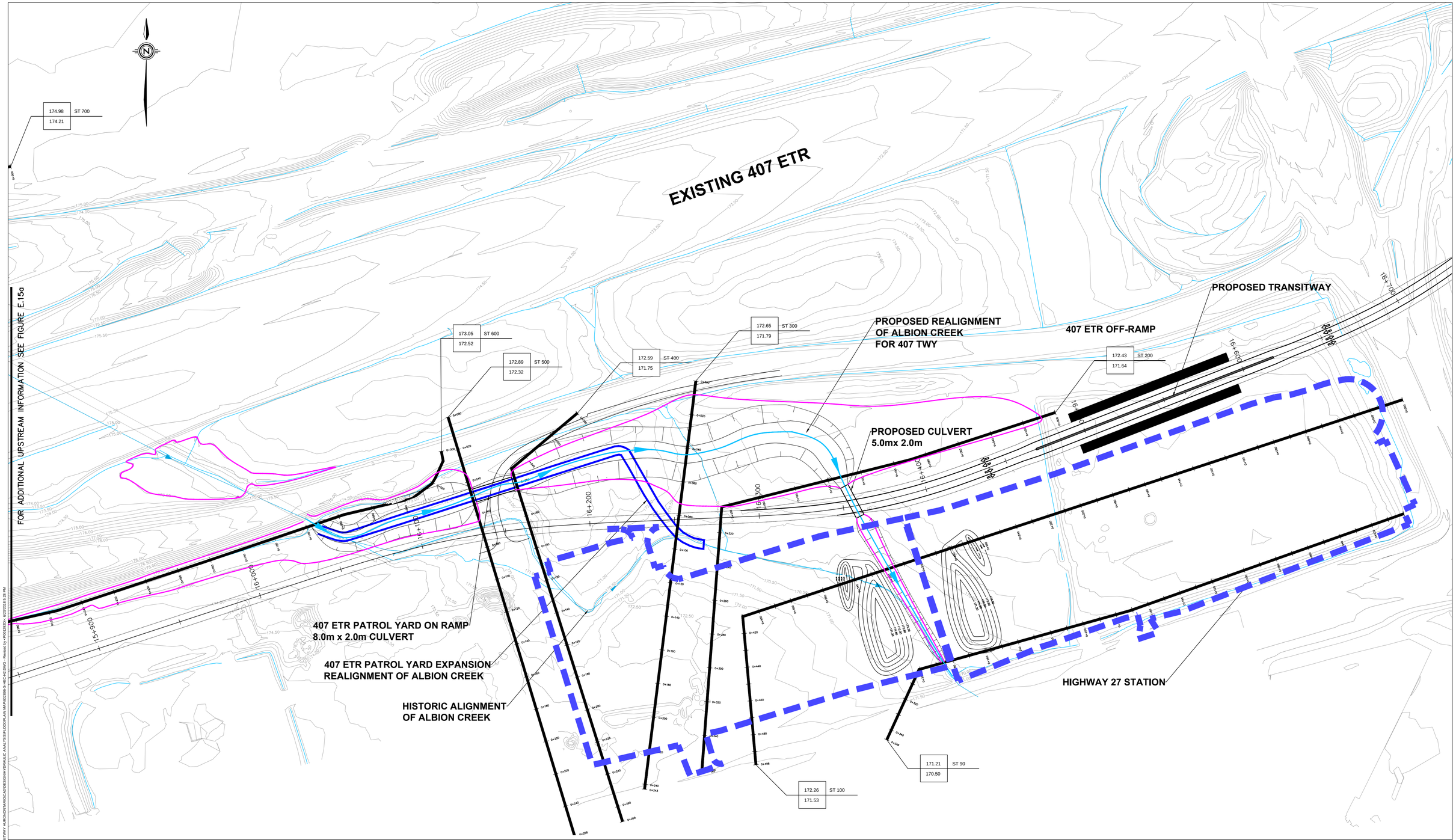
407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.15a - HEC-RAS ANALYSIS - HUMBER CREEK WATERCROSSING H2 100-Yr FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JUNE 2018
SCALE: 1 : 1000

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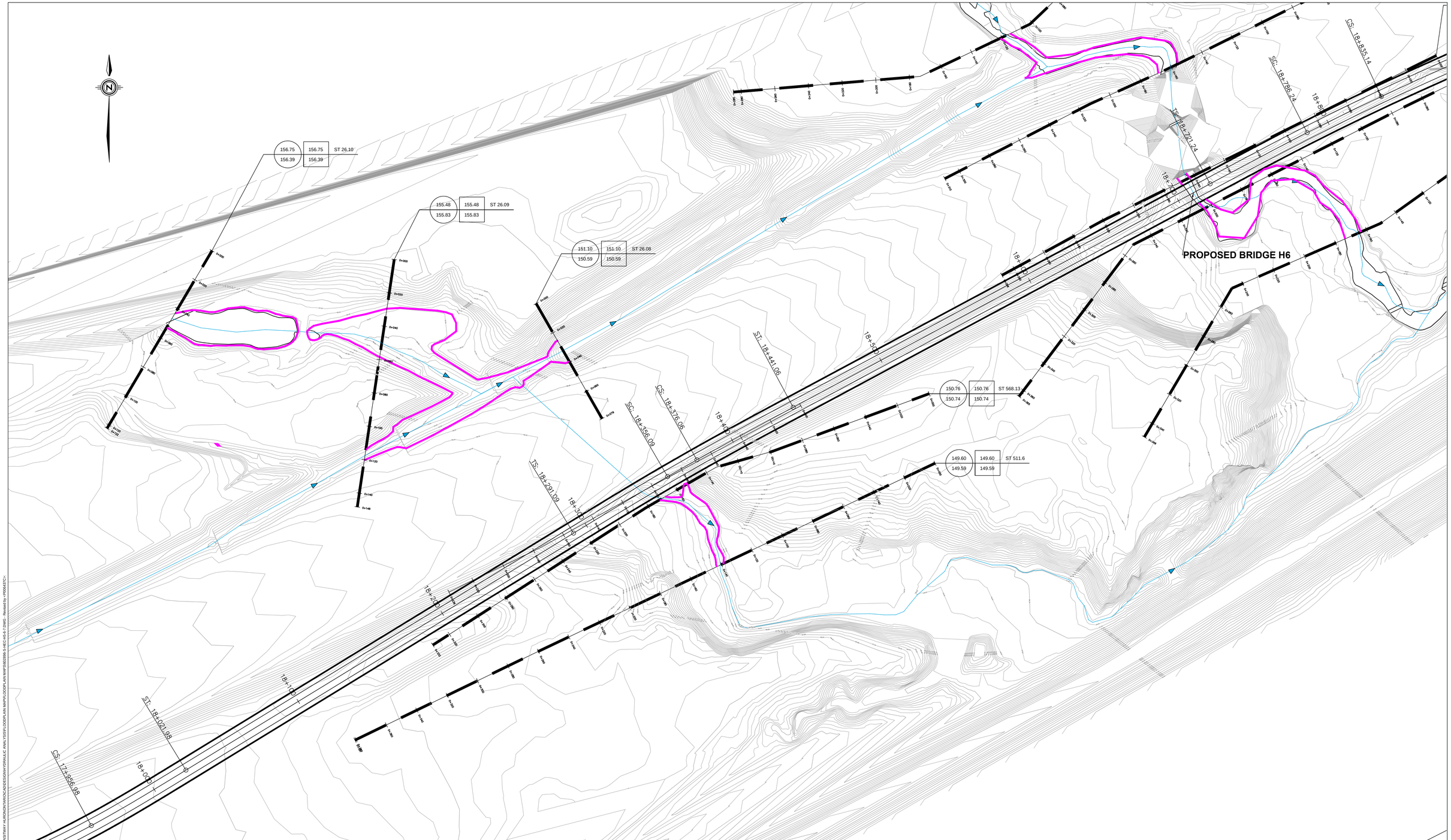
407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.15b - HEC-RAS ANALYSIS - HUMBER CREEK WATERCROSSING H2 100-Yr FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- PROPOSED 100-Yr FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JULY 2017
SCALE: 1 : 1000

Ontario

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FAX: 905-943-0400

407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.16 - HEC-RAS ANALYSIS - HUMBER CREEK WATERCROSSING H5 100-Yr FLOODPLAIN MAP

LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- PROPOSED 100-Yr FLOODLINE

EX REG | PR REG | HEC ST — CROSS SECTION NUMBER
EX 100 | PR 100 — PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000 — 5m 0m 10m 20m 30m

DATE: JULY 2017
SCALE: 1 : 1000

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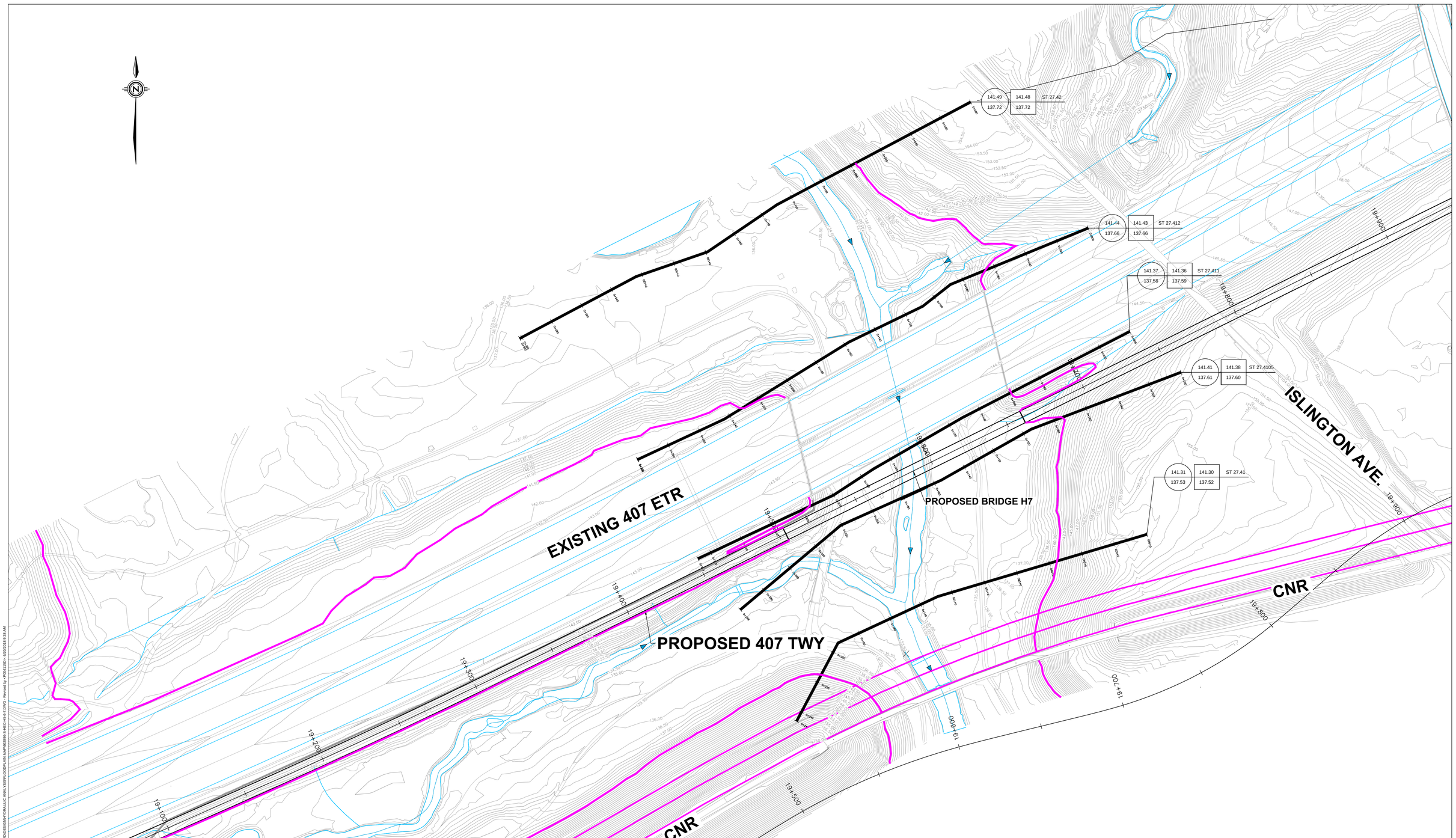
407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

Figure E.17.a - HEC-RAS ANALYSIS - HUMBER CREEK WATERCROSSING H6 100-Yr FLOODPLAIN MAP

LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- PROPOSED 100-Yr FLOODLINE

SCALE HORIZONTAL 1:500	DATE: JULY 2017 SCALE: 1 : 500	Ontario	PARSONS 625 COCHRANE DRIVE, SUITE 500 MARKHAM, ONTARIO L3R 9R9 TEL: 905-943-0500 FAX: 905-943-0400	407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET Figure E.17.b - RAINBOW CREEK FLOODPLAIN MAP FROM PROP TWY ST.19+200 TO ST.19+600



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST
EX 100 | PR 100
CROSS SECTION NUMBER
PARSONS HEC-RAS SECTION
PROPOSED WL ELEVATION (m)
EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000

5m 0m 10m 20m 30m

DATE: JUNE 2018

SCALE: 1 : 1000

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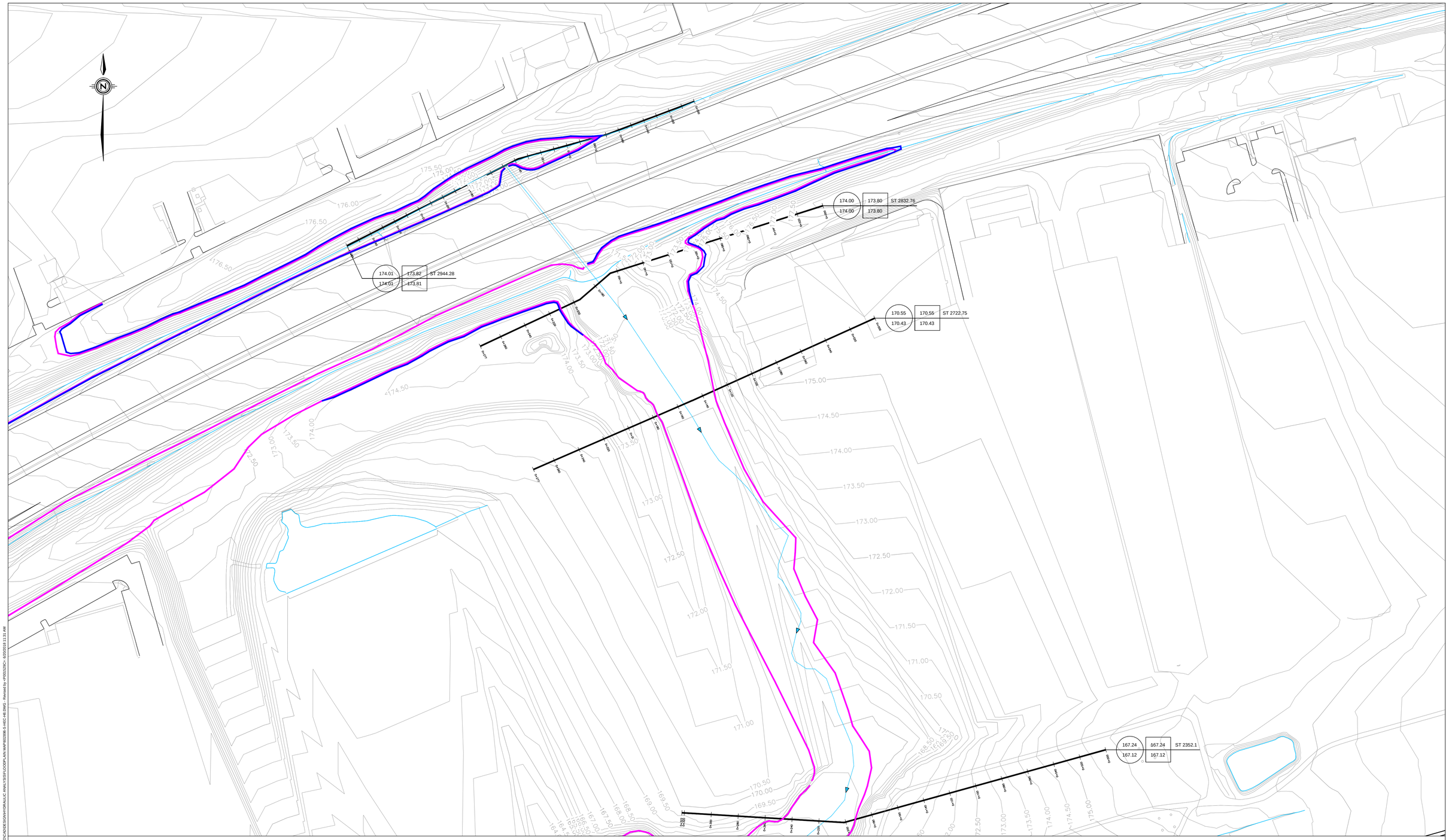
Figure E.17 - HEC-RAS ANALYSIS - HUMBER CREEK WATERCROSSING H7 FLOODPLAIN MAP



LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST
EX 100 | PR 100

CROSS SECTION NUMBER

PARSONS HEC-RAS SECTION

PROPOSED WL ELEVATION (m)

EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000

5m 0m 10m 20m 30m

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SCALE: 1 : 1250

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407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

FIGURE E.18a - HEC-RAS ANALYSIS - HUMBER WATER CROSSING H8 FLOODPLAIN MAP

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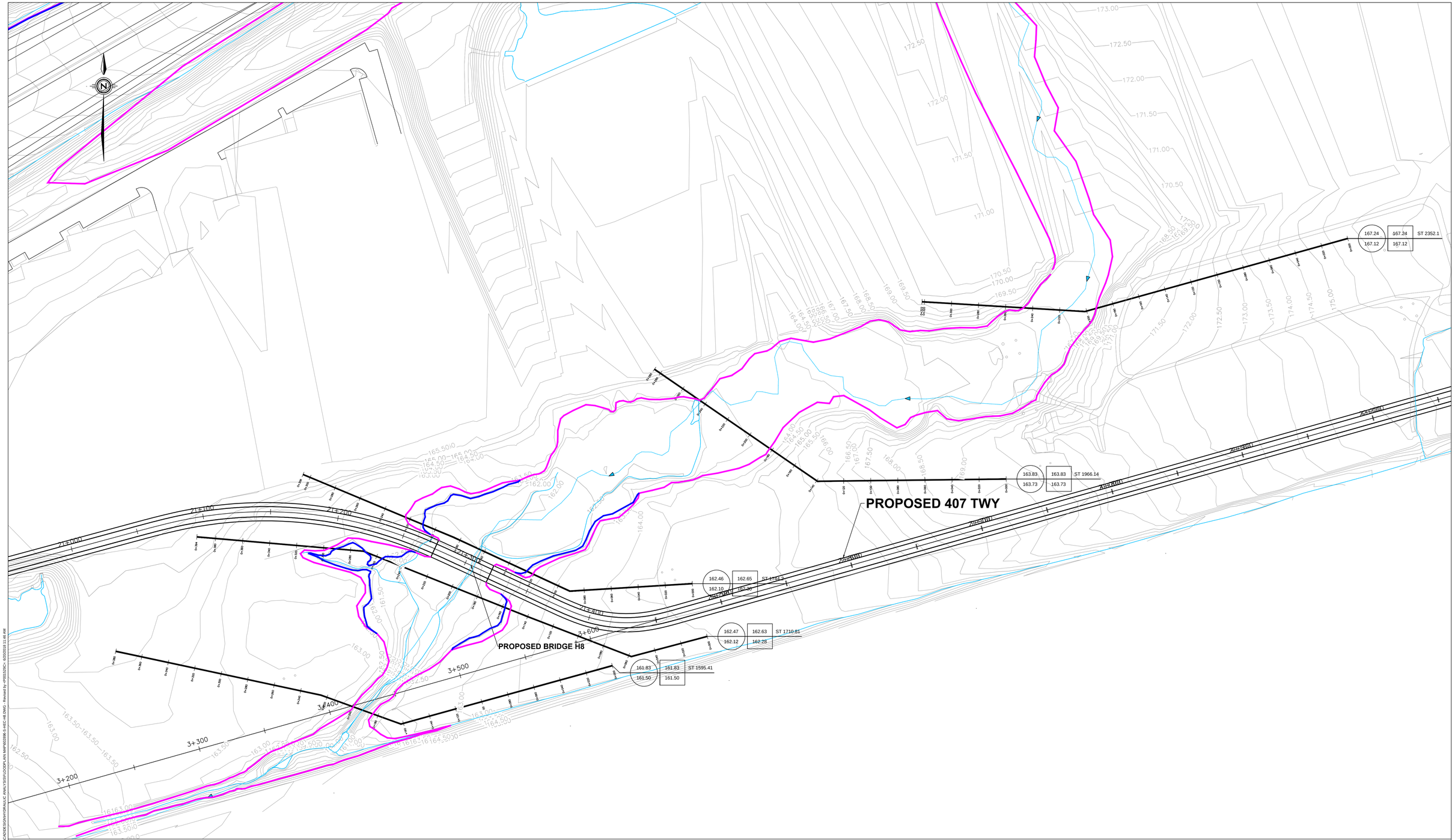

LEGEND

- EXISTING 407 ETR
- PROPOSED 407 TWY
- CREEK FLOW DIRECTION
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING REGULATORY FLOODLINE
- PROPOSED REGULATORY FLOODLINE

EX REG | PR REG | HEC ST
EX 100 | PR 100

CROSS SECTION NUMBER

PARSONS HEC-RAS SECTION

PROPOSED WL ELEVATION (m)

EXISTING UPDATED WL ELEVATION (m)

SCALE HORIZONTAL 1:1000

5m 0m 10m 20m 30m

DATE: JUNE 2018

SCALE: 1 : 1250

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407 TRANSITWAY FROM HURONTARIO STREET TO JANE STREET

FIGURE E.18b - HEC-RAS ANALYSIS - HUMBER WATER CROSSING H8 FLOODPLAIN MAP

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APPENDIX F

PROPOSED STATIONS

HYDROLOGIC ANALYSIS AND SWM DESIGN

APPENDIX F: Proposed Stations- Hydrologic Analysis and SWM Design

HURONTARIO STATION

Figure F1: Hurontario Station – Drainage Area Map and SWMF-1A, SWMF-1B Details

Table F.1A-a: Hurontario Station Proposed SWMF-1A Hydrologic Analysis - Existing Condition

Table F.1A-b: Hurontario Station Proposed SWMF-1A Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.1A-c: Hurontario Station Proposed SWMF-1A Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.1A-d: Hurontario Station Proposed SWMF-1A Design Parameters

Table F.1A-e: Hurontario Station Proposed SWMF-1A Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.1A-f: Hurontario Station Proposed SWMF-1A - 25 mm Drawdown Time Calculations

Table F.1A-g: Hurontario Station Proposed SWMF-1A Inlet Pipe Sizing

Table F.1A-h: Hurontario Station Proposed SWMF-1A Outlet Pipe Sizing

Table F.1A-i: Hurontario Station Proposed SWMF-1A Spillway

Table F.1B-a: Hurontario Station Proposed SWMF-1B Hydrologic Analysis - Existing Condition

Table F.1B-b: Hurontario Station Proposed SWMF-1B Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.1B-c: Hurontario Station Proposed SWMF-1B Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.1B-d: Hurontario Station Proposed SWMF-1B Design Parameters

Table F.1B-e: Hurontario Station Proposed SWMF-1B Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.1B-f: Hurontario Station Proposed SWMF-1B - 25 mm Drawdown Time Calculations

Table F.1B-g: Hurontario Station Proposed SWMF-1B Inlet Pipe Sizing

Table F.1B-h: Hurontario Station Proposed SWMF-1B Outlet Pipe Sizing

Table F.1B-i: Hurontario Station Proposed SWMF-1B Spillway

VO Output Files: 12-hour AES

VO Output Files: 4-hour Chicago

APPENDIX F: Proposed Stations- Hydrologic Analysis and SWM Design

DIXIE STATION

Figure F2: Dixie Station – Drainage Area Map and SWMF-2A, SWMF-2B Details

Table F.2A-a: Dixie West Station Proposed SWMF-2A Hydrologic Analysis - Existing Condition

Table F.2A-b: Dixie West Station Proposed SWMF-2A Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.2A-c: Dixie West Station Proposed SWMF-2A Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.2A-d: Dixie West Station Proposed SWMF-2A Design Parameters

Table F.2A-e: Dixie West Station Proposed SWMF-2A Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.2A-f: Dixie West Station Proposed SWMF-2A - 25 mm Drawdown Time Calculations

Table F.2A-g: Dixie West Station Proposed SWMF-2A Inlet Pipe Sizing

Table F.2A-h: Dixie West Station Proposed SWMF-2A Outlet Pipe Sizing

Table F.2A-i: Dixie West Station Proposed SWMF-2A Spillway

VO Output Files: 12-hour AES

VO Output Files: 4-hour Chicago

Table F.2B-a: Dixie East Station Proposed SWMF-2B Hydrologic Analysis - Existing Condition

Table F.2B-b: Dixie East Station Proposed SWMF-2B Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.2B-c: Dixie East Station Proposed SWMF-2B Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.2B-d: Dixie East Station Proposed SWMF-2B Design Parameters

Table F.2B-e: Dixie East Station Proposed SWMF-2B Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.2B-f: Dixie East Station Proposed SWMF-2B - 25 mm Drawdown Time Calculations

Table F.2B-g: Dixie East Station Proposed SWMF-2B Inlet Pipe Sizing

Table F.2B-h: Dixie East Station Proposed SWMF-2B Outlet Pipe Sizing

Table F.2B-i: Dixie East Station Proposed SWMF-2B Spillway

VO Output Files: 12-hour AES

VO Output Files: 4-hour Chicago

APPENDIX F: Proposed Stations- Hydrologic Analysis and SWM Design

AIRPORT STATION

Figure F3: Airport Station – Drainage Area Map and SWMF-3 Details

Visual OTTHYMO Modelling Schematic: Airport Station Proposed SWMF-3

Table F.3-a: Airport Station Proposed SWMF-3 Hydrologic Analysis - Existing Condition

Table F.3-b: Airport Station Proposed SWMF-3 Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.3-c: Airport Station Proposed SWMF-3 Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.3-d: Airport Station Proposed SWMF-3 Design Parameters

Table F.3-e: Airport Station Proposed SWMF-3 Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.3-f: Airport Station Proposed SWMF-3 - 25 mm Drawdown Time Calculations

Table F.3-g: Airport Station Proposed SWMF-3 Inlet Pipe Sizing

Table F.3-h: Airport Station Proposed SWMF-3 Outlet Pipe Sizing

Table F.3-i: Airport Station Proposed SWMG-3 Spillway

VO Output Files: 12-hour AES

VO Output Files: 4-hour Chicago

GOREWAY STATION

Figure F4: Goreway Station – Drainage Area Map and SWMF-4

Visual OTTHYMO Modelling Schematic: Goreway Station SWMF-4

Table F.4-a: Goreway Station Proposed SWMF-4 Hydrologic Analysis - Existing Condition

Table F.4-b: Goreway Station Proposed SWMF-4 Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.4-c: Goreway Station Proposed SWMF-4 Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.4-d: Goreway Station Proposed SWMF-4 Design Parameters

Table F.4-e: Goreway Station Proposed SWMF-4 Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.4-f: Goreway Station Proposed SWMF-4 - 25 mm Drawdown Time Calculations

Table F.4-g: Goreway Station Proposed SWMF-4 Inlet Pipe Sizing

Table F.4-h: Goreway Station Proposed SWMF-4 Outlet Pipe Sizing

Table F.4-i: Goreway Station Proposed SWMF-4 Spillway

VO Output Files: 12-hour AES

VO Output Files: 4-hour Chicago

APPENDIX F: Proposed Stations- Hydrologic Analysis and SWM Design

HWY 50 STATION

Figure F5: HWY 50 Station – Drainage Area Map and SWMF-5A, SWMF-5B Details

Visual OTTHYMO Modelling Schematic: HWY 50 Station Proposed SWMF-5A

Table F.5A-a: HWY 50 Station Proposed SWMF-5A Hydrologic Analysis - Existing Condition

Table F.5A-b: HWY 50 Station Proposed SWMF-5A Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.5A-c: HWY 50 Station Proposed SWMF-5A Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.5A-d: HWY 50 Station Proposed SWMF-5A Design Parameters

Table F.5A-e: HWY 50 Station Proposed SWMF-5A Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.5A-f: HWY 50 Station Proposed SWMF-5A - 25 mm Drawdown Time Calculations

Table F.5A-g: HWY 50 Station Proposed SWMF-5A Inlet Pipe Sizing

Table F.5A-h: HWY 50 Station Proposed SWMF-5A Outlet Pipe Sizing

Table F.5A-i: HWY 50 Station Proposed SWMF-5A Spillway

VO Output Files: 6-hour AES

VO Output Files: 4-hour Chicago

Visual OTTHYMO Modelling Schematic: HWY 50 Station Proposed SWMF-5B

Table F.5B-a: HWY 50 Station Proposed SWMF-5B Hydrologic Analysis - Existing Condition

Table F.5B-b: HWY 50 Station Proposed SWMF-5B Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.5B-c: HWY 50 Station Proposed SWMF-5B Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.5B-d: HWY 50 Station Proposed SWMF-5B Design Parameters

Table F.5B-e: HWY 50 Station Proposed SWMF-5B Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.5B-f: HWY 50 Station Proposed SWMF-5B - 25 mm Drawdown Time Calculations

Table F.5B-g: HWY 50 Station Proposed SWMF-5B Inlet Pipe Sizing

Table F.5B-h: HWY 50 Station Proposed SWMF-5B Outlet Pipe Sizing

Table F.5B-i: HWY 50 Station Proposed SWMF-5B Spillway

VO Output Files: 6-hour AES

VO Output Files: 4-hour Chicago

APPENDIX F: Proposed Stations- Hydrologic Analysis and SWM Design

HWY 27 STATION

Figure F6: HWY 27 Station – Drainage Area Map and SWMF-6 Details

Visual OTTHYMO Modelling Schematic: HWY 27 Station Proposed SWMF-6

Table F.6-a: HWY 27 Station Proposed SWMF-6 Hydrologic Analysis - Existing Condition

Table F.6-b: HWY 27 Station Proposed SWMF-6 Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.6-c: HWY 27 Station Proposed SWMF-6 Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.6-d: HWY 27 Station Proposed SWMF-6 Design Parameters

Table F.6-e: HWY 27 Station Proposed SWMF-6 Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.6-f: HWY 27 Station Proposed SWMF-6 - 25 mm Drawdown Time Calculations

Table F.6-g: HWY 27 Station Proposed SWMF-6 Inlet Pipe Sizing

Table F.6-h: HWY 27 Station Proposed SWMF-6 Outlet Pipe Sizing

Table F.6-i: HWY 27 Station Proposed SWMF-6 Spillway

VO Output Files: 6-hour AES

VO Output Files: 4-hour Chicago

PINE VALLEY STATION

Figure F7: Pine Valley Station – Drainage Area Map and SWMF-7 Details

Visual OTTHYMO Modelling Schematic: Pine Valley Station SWMF-7

Table F.7-a: Pine Valley Station Proposed SWMF-7 Hydrologic Analysis - Existing Condition

Table F.7-b: Pine Valley Station Proposed SWMF-7 Hydrologic Analysis Post-Development Condition (12hr AES)

Table F.7-c: Pine Valley Station Proposed SWMF-7 Hydrologic Analysis Post-Development Condition (4hr Chicago)

Table F.7-d: Pine Valley Station Proposed SWMF-7 Design Parameters

Table F.7-e: Pine Valley Station Proposed SWMF-7 Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Table F.7-f: Pine Valley Station Proposed SWMF-7 - 25 mm Drawdown Time Calculations

Table F.7-g: Pine Valley Station Proposed SWMF-7 Inlet Pipe Sizing

Table F.7-h: Pine Valley Station Proposed SWMF-7 Outlet Pipe Sizing

Table F.7-i: Pine Valley Station Proposed SWMF-7 Spillway

VO Output Files: 6-hour AES

VO Output Files: 4-hour Chicago

HURONTARIO STREET STATION

REGIONAL MUNICIPALITY OF PEEL
CITY OF BRAMPTON

HURONTARIO STREET

OUTLET CONTROL STRUCTURE

SWMF-1A

HYDRO SUB-STATION ACCESS ROAD

POND OUTLET INV. 200.30

PERMANENT WL 200.50m

100-Yr WL 201.44m

BERM

ACCESS ROAD

POND INLET

DRAINAGE FROM TWY 603

H-101 | 0.13 | 90

TWY

SWMF-1B

PERMANENT WL 200.98m

100-Yr WL 201.72m

OUTLET CONTROL STRUCTURE

HURONTARIO STREET STATION

TOPFLIGHT DR.

VICKSBURGH DRIVE

METRIC

TS: 1+620.44

1+600.00

ST: 1+585.52

CS: 1+530.52

1+500.00

TS: 1+327.55

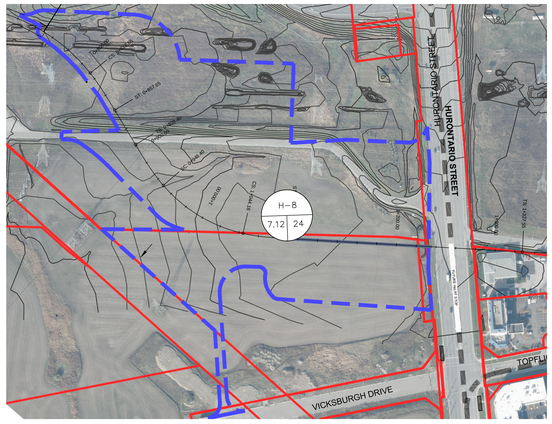
SC: 1+382.55

1+400.00

1+300.00

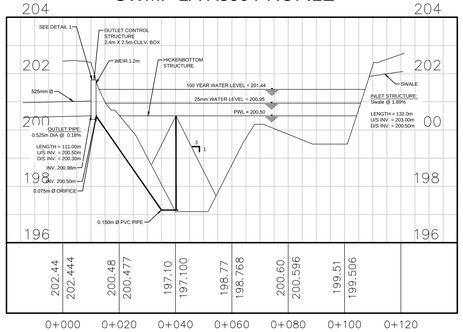
SC: 1+675.44

H-1 | 2.69 | 80
H-2 | 0.19 | 90
H-3 | 0.30 | 24
H-4 | 0.65 | 90
H-5 | 0.29 | 90
H-6 | 0.19 | 90
H-7 | 0.16 | 90
H-8 | 0.77 | 90
H-9 | 0.74 | 90
H-11 | 0.68 | 24
H-12 | 0.74 | 24



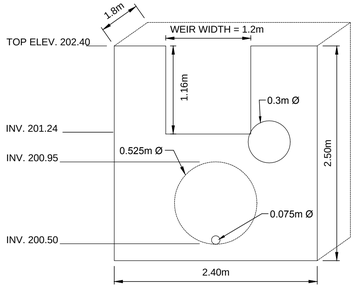
EXISTING DRAINAGE

SWMF-1A Xsec PROFILE

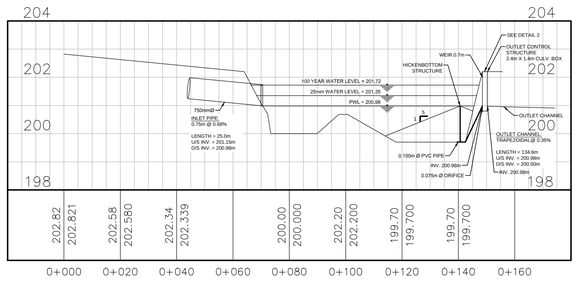


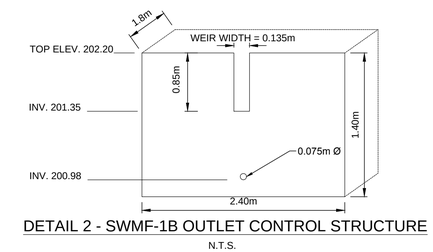
DETAIL 1 - SWMF-1A OUTLET CONTROL STRUCTURE

N.T.S.



SWMF-1B Xsec PROFILE





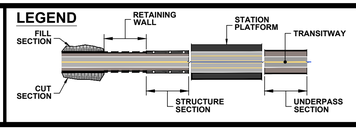
DETAIL 2 - SWMF-1B OUTLET CONTROL STRUCTURE

N.T.S.

PARSONS | IBI GROUP

SCALE 1:1000

LEGEND



- 407 TWY BOUNDARY IN DRAINAGE ANALYSIS
- PROPERTY LINE
- FLOW DIRECTION
- OVF
- AREA ID
- AREA (ha) 98-1 | 0.44 | 90 % IMPERVIOUS

407 TRANSITWAY

WEST OF HURONTARIO ROAD TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
HURONTARIO STREET STATION

DRAWING SET: STATION DRAINAGE AREA MAP

PLATE: F-1

DATE: JULY 2018

DRAWING NAME: \\XCCAN52FS01\Projects\Division\TTI\Drainage\602896 - 407_Transitway Hurontario\CAD\Design\Stations\Hurontario\Hurontario Station.dwg
CREATED:
MODIFIED: Jul 19, 2018 2:56pm

HURONTARIO STATION SWMF-1A

Table F.1A-d: Hurontario Street Station Proposed SWMF-1A - Design Parameters

Pond Catchment Area 3.84 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Level 1	238	m^3/ha	Interpolated from Table 3.2 (MOECC)	*760.32*	m^3
Extended	40	m^3/ha	(or 25mm rainfall event whichever greater)	153.6	m^3
25 mm Event From OTTHYMO	16.399	mm		*629.72*	m^3
% imperviousness	78	%			
Permanent Volume Required				*760.32*	m^3

Quantity Control Required

Total Volume required up to and including the 100 yr storm **1,325.00** m^3

Total Pond Volume Required (Permanent and Extended) **2,085.32** m^3

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	7	Minimum Forebay length	m
r	2	Length to width ratio	-
Qp	0.01	Peak flow rate from the pond during design quality storm	m^3/s
Vs	0.0003	settling velocity	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Minimum Width 1.06 m

Dist	8	Minimum Dispersion Length	
Q	0.54	Inlet Flow Rate	(10 year Storm)
d	3.4	Depth of the Permanent Pool	
Vf	0.15	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

Width = Dist/8 Width 1.06 m

Design Quality Storm MOECC Eq 4.9

$$i_{25} = 43C + 5.9$$

A	3.84	Area	
C	78	Runoff Coefficient	
i	39.44	Intensity	mm/hr
Qp	0.33	Flow Rational Method	

Flow Velocity Check

Qd	0.54	Inlet Flow Rate	m^3/s
A	15.95	Crossectional Area	m^2
Vfb	0.034	Flow Velocity	m/s
	Yes	< 0.15	

Forebay Dimensions

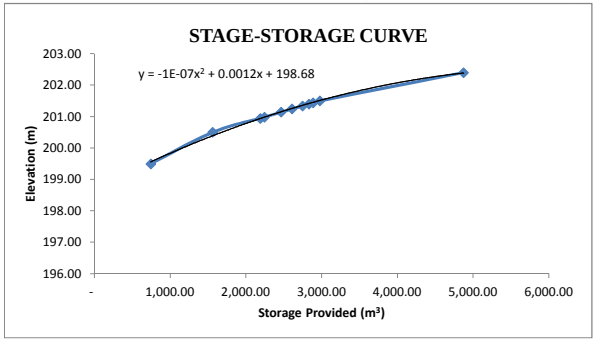
3:1	Average Side Slope	%
29.00	Top Length	m
12.60	Bottom Length	m
20.00	Average Top Width	m
2.00	Bottom Width	m
1.45	Average Depth of the Pool	m
438.77	Approximate Volume of the Pool	m^3
1561.66	Total Permanent Pool Volume	m^3
0.28	Forebay/Total Volume Ratio	
513.83	Forebay Area	m^2
1088.68	Total Permanent Pool Area	
0.47	Forebay/Total Area Ratio	
1.89	Average L/W Ratio Check	

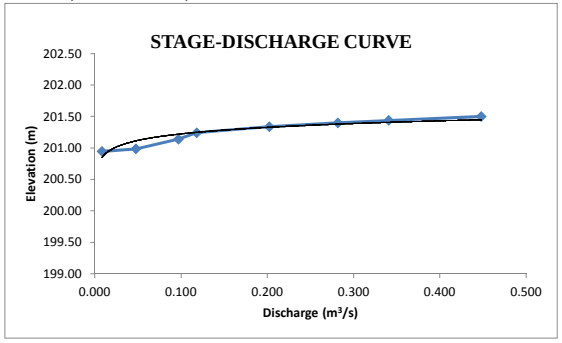
Forebay Cleanout Frequency

Ac	3.84	Contributing Area	(ha)
Ds	0.6	Maximum Sediment Depth	(m)
Vsf	163	Maximum Sediment Volume	(m3)
a	90%	Impervious Level	%
da	4.1	Annual Sediment Loading	(m^3/ha/yr) (Table 6.3 MOECC Manual)
Fs	10.4	Forebay Cleanout Frequency	(years)
	75%	Target Maintenance TSS Removal Efficiency	

Table F.1A-e: Hurontario Street Station - Proposed SWMF-1A - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	Discharge Orifice 1 200.50 0.075	Orifice 2 200.95 0.300	Weir 1 201.24 1.200	Total	Description
197.10		75.22	75.22											
199.50	20.94	524.39	545.33	310.3	744.66	744.66	-							
200.50	128.70	959.98	1,088.68	817.0	817.00	1,561.66			0.0000	0.000			0.000	**Permanent Water Level (> than required of 760.32)**
200.95						2,191.38	629.72	0.45	0.0630	0.008	0.000		0.008	*25-mm*
200.98						2,246.66	685.00	0.48	0.0685	0.009	0.039		0.048	*2-yr*
201.14						2,466.66	905.00	0.64	0.0905	0.010	0.087		0.097	*5-yr*
201.24						2,610.66	1,049.00	0.74	0.1049	0.011	0.107	0.000	0.118	*10-yr*
201.34						2,748.66	1,187.00	0.84	0.1187	0.011	0.124	0.067	0.202	*25-yr*
201.40						2,832.66	1,271.00	0.90	0.1271	0.012	0.133	0.137	0.282	*50-yr*
201.44						2,886.66	1,325.00	0.94	0.1325	0.012	0.138	0.190	0.341	*100-yr*
201.50	292.98	1445.15	1,738.13	1413.4	1,413.40	2,975.07	1,413.40	1.00	0.1413	0.012	0.147	0.289	0.448	
202.40	513.83	1966.29	2,480.12	2109.1	1,898.21	4,873.28	3,311.62	1.90	0.3312	0.017	0.238	2.746	3.001	





Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q	Varies	Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Weir Discharge

If $L > 2 * H_{max}$: $Q = 1.837 * (L - 0.06 * H_{max}) * H_{max}^{1.5}$

If $L < 2 * H_{max}$: $Q = 1.837 * L * H_{max}^{1.5}$

Q	Varies	Discharge	(m^3/s)
L	1.200	Weir Length	(m)
H	Varies	Hydraulic Head	m

Table F.1A-f: Hurontario Street Station- Proposed SWMF 1A
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	630	m^3
Orifice	0.07500	m	Initial Head:	0.45	m
Area	0.00442	m^2	Detention:	24.00	hrs
				1,440.00	min

F A L L I N G H E A D E Q U A T I O N

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.4455	0.0082	2.47	629.72	627.25
5	0.4438	0.0082	2.46	627.25	624.79
10	0.4420	0.0082	2.46	624.79	622.33
15	0.4403	0.0082	2.45	622.33	619.88
20	0.4386	0.0082	2.45	619.88	617.43
25	0.4368	0.0081	2.44	617.43	614.98
30	0.4351	0.0081	2.44	614.98	612.54
35	0.4334	0.0081	2.43	612.54	610.11
40	0.4317	0.0081	2.43	610.11	607.68
45	0.4299	0.0081	2.43	607.68	605.25
50	0.4282	0.0081	2.42	605.25	602.83
55	0.4265	0.0081	2.42	602.83	600.42
60	0.4248	0.0080	2.41	600.42	598.01
65	0.4231	0.0080	2.41	598.01	595.60
70	0.4214	0.0080	2.40	595.60	593.20
75	0.4197	0.0080	2.40	593.20	590.80
80	0.4180	0.0080	2.39	590.80	588.41
85	0.4163	0.0080	2.39	588.41	586.03
90	0.4146	0.0079	2.38	586.03	583.64
95	0.4129	0.0079	2.38	583.64	581.27
100	0.4113	0.0079	2.37	581.27	578.90
105	0.4096	0.0079	2.37	578.90	576.53
		-- B R E A K --			-
1420	0.0834	0.0036	1.07	123.52	122.45
1425	0.0827	0.0035	1.06	122.45	121.39
1430	0.0819	0.0035	1.06	121.39	120.33
1435	0.0812	0.0035	1.05	120.33	119.28
1440	0.0804	0.0035	1.05	119.28	118.23

Table F.1A-g: Hurontario Street Station Proposed SWMF-1A Inlet Swale Sizing

UP INV=	203.00	m
DS INV=	200.50	m
L=	132	m
SLOPE=	1.89	%

10-yr uncontrolled from the Site= 0.799 m^3/s

Mannings' Equation			TRAPEZOIDAL CHANNEL		
Flow Depth (m) =	0.400				
Side Slope Ratio (H:V) =	3	/1	Top width	2.9	
Bed Width (m)=	0.50		Hyd. Rad, 'R'		
Area (m^2)=	0.680		0.224436	m	
Wetted Perimeter (m)=	3.030	m	Friction Slope Sf		
Slope (%) =	1.89		0.0189	m/m	
Manning 'n' =	0.035		Velocity		
Channel Capacity, Q =	0.986	m3/sec	1.451	m/s	81%

Table F.1A-h: Hurontario Street Station Proposed SWMF-1A Outlet Pipe Sizing

UP INV= 200.50 m
DS INV= 200.30 m
L= 111 m
SLOPE= 0.18 %

100-yr uncontrolled from the Site= 2.889 m^3/s

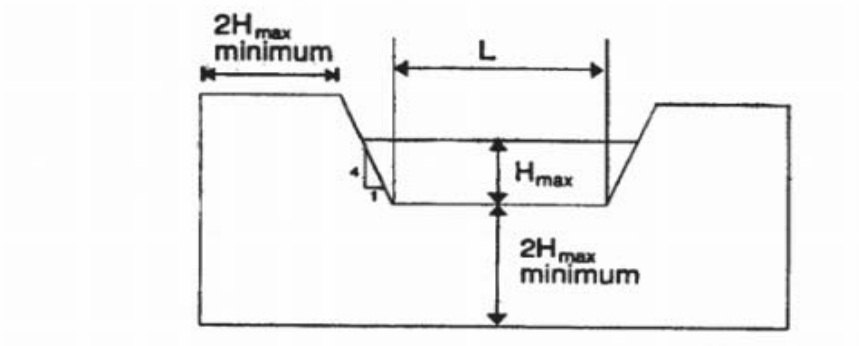
Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.525	111.00	0.013	0.18	0.18	1580%

Table F.1A-i: Hurontario Station Proposed SWMF-1A Spillway

Trapezoidal Weir

Hmax=	0.3 m	2H=	0.6 m (MIN.)
Q=	0.415 m^3/s	or 2H=	1 m
L=	1.36 m		

Trapezoidal (Cipolletti)



$$0.1 < Q < 11\, m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

HURONTARIO STATION SWMF-1B

Hurontario Street Station Proposed Hydrologic Analysis - Existing Condition

Input parameters

Proposed Hurontario Street Station is located within Fletchers Watershed, Proposed Hurontario Street Station SWMF-1B for Bus Loop area and Transitway area, located within Fletchers Watershed also.

For modeling purposes, since the modelling area is close to Subcatchment 568 in Etobicoke Watershed, the input parameters of subcatcment 568 are used in VO2 (Standhyd), Subcatchment 100 is in Fletchers Watershed, the input parameters of subcatcment 100 are used in VO2 (Standhyd)

Drainage ID	100
CN=	84
Ia=	4
Drainage area Total (ha)=	7.33

Table F-1A & 1B-a: Hurontario Street Station Hydrologic Analysis - Existing Condition

Return Period	VO2 ID 101	
	EX Qp-12hr AES (m^3/s)	EX Qp-Chicago 4hr (m^3/s)
2-yr	0.213	0.425
5-yr	0.322	0.657
10-yr	0.396	0.799
25-yr	0.492	0.993
50-yr	0.564	1.387
100-yr	0.637	1.583

Hurontario Street Station Proposed SWMF-1A & 1B Hydrologic Analysis - Post-Development Conditior

Table F.1A & 1B-b: Hurontario Street Station Proposed SWMF-1A & 1B Hydrologic Analysis Post-Development Condition (12 hr AES

12hr AES Return Period	**Allowable Release Rates** ID 101 (A = 7.33 ha)	**Post-Development Condition (Uncontrolled)** VO2 ID 500 (A = 7.46 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	VO2 ID 500 (A = 7.46ha)	**Decrease from Allowable to Post-Dev Controlled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	**(%)**	**Release Rate** (m^3/s)	**(%)**
2-yr	0.213	0.340	59.62%	0.102	-108.82%
5-yr	0.322	0.459	42.55%	0.165	-95.15%
10-yr	0.396	0.540	36.36%	0.213	-85.92%
25-yr	0.492	0.640	30.08%	0.312	-57.69%
50-yr	0.564	0.715	26.77%	0.416	-35.58%
100-yr	0.637	0.789	23.86%	0.533	-19.51%

Table F.1A & 1B-c.1: Hurontario Street Station Proposed SWMF-1A & 1B Hydrologic Analysis Post-Development Condition (12 hr AES

12hr AES Return Period	**SWMF-1A POST-DEVELOPMENT CONDITION** VO2 ID 601 (A = 3.84 ha)		**SWMF-1B POST-DEVELOPMENT CONDITION** VO2 ID 600 (A = 2.20 ha)	
	Storage Provided (m^3)	**Release Rate** (m^3/s)	**Storage Provided** (m^3)	**Release Rate** (m^3/s)
2-yr	685	0.053	606	0.014
5-yr	905	0.097	763	0.025
10-yr	1049	0.118	866	0.034
25-yr	1187	0.195	986	0.047
50-yr	1271	0.271	1072	0.056
100-yr	1325	0.350	1155	0.066

Table F.1A & 1B-c.2: Hurontario Street Station Hydrologic Analysis - Proposed Condition (4 hr Chicago)

4hr Chicago Return Period	**Allowable Release Rates** ID 101 (A = 7.33 ha)	**Post-Development Condition (Uncontrolled)** ID 500 (A = 7.46 ha)	**Increase from Allowable to Post-Dev Uncontrolled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	(%)
2-yr	0.425	1.156	172.00%
5-yr	0.657	1.606	144.44%
10-yr	0.799	1.938	142.55%
25-yr	0.993	2.320	133.64%
50-yr	1.387	2.608	88.03%
100-yr	1.583	2.888	82.44%

Table F.1B-d: Hurontario Street Station Proposed SWMF-1B - Design Parameters

Pond Catchment Area 2.22 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Level 1	250	m^3/ha	Interpolated from Table 3.2 (MOECC)	*466.20*	m^3
Extended	40	m^3/ha	(or 25mm rainfall event whichever greater)	88.8	m^3
25 mm Event From OTTHYMO	20.633	mm		*458.05*	m^3
% imperviousness	90	%			
Permanent Volume Required				*466.20*	m^3

Quantity Control Required

Total Volume required up to and including the 100 yr storm **1,155.00** m^3

Total Pond Volume Required (Permanent and Extended) **1,621.20** m^3

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	7	Minimum Forebay length	m
r	2	Length to width ratio	-
Qp	0.01	Peak flow rate from the pond during design quality storm	m^3/s
Vs	0.0003	settling velocity	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Minimum Width 2.81 m

Dist	22	Minimum Dispersion Length	
Q	0.54	Inlet Flow Rate	(10 year Storm)
d	1.3	Depth of the Permanent Pool	
Vf	0.15	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

Width = Dist/8 Width 2.81 m

Design Quality Storm MOECC Eq 4.9

$$i_{25} = 43C + 5.9$$

A	2.22	Area	
C	90	Runoff Coefficient	
i	44.6	Intensity	mm/hr
Qp	0.25	Flow Rational Method	

Flow Velocity Check

Qd	0.54	Inlet Flow Rate	m^3/s
A	7.21	Crossectional Area	m^2
Vfb	0.075	Flow Velocity	m/s
	Yes	< 0.15	

Forebay Dimensions

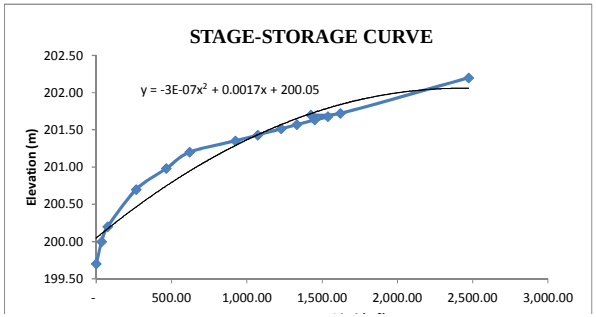
5:1	Average Side Slope	%
33.70	Top Length	m
16.70	Bottom Length	m
24.00	Average Top Width	m
3.20	Bottom Width	m
0.53	Average Depth of the Pool	m
228.49	Approximate Volume of the Pool	m^3
466.20	Total Permanent Pool Volume	m^3
0.49	Forebay/Total Volume Ratio	
634.81	Forebay Area	m^2
728.82	Total Permanent Pool Area	
0.87	Forebay/Total Area Ratio	
1.85	Average L/W Ratio Check	

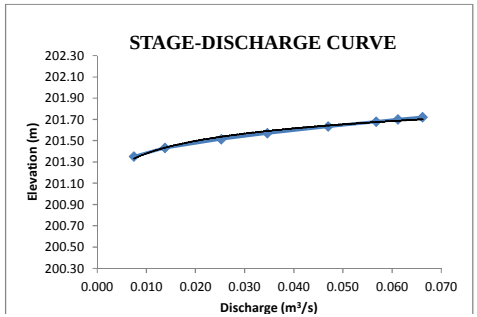
Forebay Cleanout Frequency

Ac	2.22	Contributing Area	(ha)
Ds	0.6	Maximum Sediment Depth	(m)
Vsf	85	Maximum Sediment Volume	(m3)
a	90%	Impervious Level	%
da	4.1	Annual Sediment Loading	(m^3/ha/yr) (Table 6.3 MOECC Manual)
Fs	9.3	Forebay Cleanout Frequency	(years)
	75%	Target Maintenance TSS Removal Efficiency	

Table F.1B-e: Hurontario Street Station - Proposed SWMF-1B - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/ Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	Discharge Orifice 1 200.98 0.075	Discharge Weir 201.35 0.135	Discharge Total	Description
			-										
199.70		38.41	38.41		-	-							
200.00	86.07	113.28	199.34	118.9	35.66	35.66							
200.20		201.33	201.33	200.3	40.07	75.73							
200.70	141.20	416.06	557.26	379.3	189.65	265.38	-						
200.98			728.82			***466.20***	-	0.00	0.0000	0.000		0.000	**Permanent Water Level**
201.20	257.70	602.23	859.94	708.6	354.30	619.68	172.06	0.22	0.0172				
201.35						924.25	458.05	0.37	0.0458	0.007	0.000	0.007	*25-mm*
201.43						1,072.20	606.00	0.45	0.0606	0.008	0.005	0.014	*2-yr*
201.52						1,229.20	763.00	0.53	0.0763	0.009	0.016	0.025	*5-yr*
201.57						1,332.20	866.00	0.59	0.0866	0.009	0.025	0.035	*10-yr*
201.63						1,452.20	986.00	0.65	0.0986	0.010	0.037	0.047	*25-yr*
201.68						1,538.20	1,072.00	0.70	0.1072	0.010	0.046	0.057	*50-yr*
201.70	1496.14	871.14	2,367.28	1613.6	806.80	1,426.48	1,109.32	0.72	0.1109	0.010	0.051	0.061	
201.72						1,621.20	1,155.00	0.74	0.1155	0.011	0.056	0.066	*100-yr*
202.20	634.81	1183.61	1,818.43	2092.9	1,046.43	2,472.91	2,155.75	1.22	0.2156	0.014	0.193	0.207	





Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q	Varies	Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Weir Discharge

If $L > 2 * H_{max}$ $\quad Q = 1.837 * (L - 0.06 * H_{max}) * H_{max}^{1.5}$

If $L < 2 * H_{max}$ $\quad Q = 1.837 * L * H_{max}^{1.5}$

Q	Varies	Discharge	(m^3/s)
L	0.135	Weir Length	(m)
H	Varies	Hydraulic Head	m

Table F.1B-f: Hurontario Street Station- Proposed SWMF-1B
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	458	m^3
Orifice	0.07500	m	Initial Head:	0.37	m
Area	0.00442	m^2	Detention:	24.00	hrs
				1,440.00	min

F A L L I N G H E A D E Q U A T I O N

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.3692	0.0075	2.25	458.05	455.81
5	0.3674	0.0075	2.24	455.81	453.56
10	0.3655	0.0075	2.24	453.56	451.33
15	0.3637	0.0074	2.23	451.33	449.10
20	0.3619	0.0074	2.23	449.10	446.87
25	0.3602	0.0074	2.22	446.87	444.65
30	0.3584	0.0074	2.21	444.65	442.44
35	0.3566	0.0074	2.21	442.44	440.23
40	0.3548	0.0073	2.20	440.23	438.03
45	0.3530	0.0073	2.20	438.03	435.83
50	0.3513	0.0073	2.19	435.83	433.64
55	0.3495	0.0073	2.19	433.64	431.45
60	0.3477	0.0073	2.18	431.45	429.27
65	0.3460	0.0073	2.18	429.27	427.09
70	0.3442	0.0072	2.17	427.09	424.92
75	0.3425	0.0072	2.16	424.92	422.76
80	0.3407	0.0072	2.16	422.76	420.60
85	0.3390	0.0072	2.15	420.60	418.45
90	0.3372	0.0072	2.15	418.45	416.30
95	0.3355	0.0071	2.14	416.30	414.16
100	0.3338	0.0071	2.14	414.16	412.02
		-- B R E A K --			-
1420	0.0300	0.0021	0.64	42.07	41.43
1425	0.0294	0.0021	0.63	41.43	40.80
1430	0.0289	0.0021	0.63	40.80	40.17
1435	0.0284	0.0021	0.62	40.17	39.55
1440	0.0279	0.0021	0.62	39.55	38.93

Table F.1B-g: Hurontario Street Station Proposed SWMF-1B Inlet Pipe Sizing

UP INV= 201.15 m
DS INV= 200.98 m
L= 25 m
SLOPE= 0.68 %

10-yr uncontrolled from the Site= 0.799 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.750	25.00	0.013	0.68	0.92	87%

Table F.1B-h: Hurontario Street Station Proposed SWMF-1B Outlet Channel Sizing

UP INV=	200.98	m
DS INV=	200.50	m
L=	134.6	m
SLOPE=	0.36	%

100-yr uncontrolled from the Site= 2.888 m^3/s

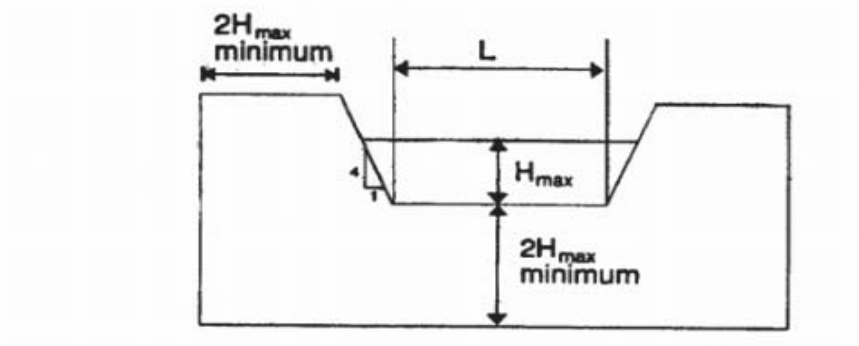
Mannings' Equation			TRAPEZOIDAL CHANNEL	
Flow Depth (m) =	0.300			
Side Slope Ratio (H:V) =	2	/1	Top width	5.4
Bed Width (m)=	4.20		Hyd. Rad, 'R'	
Area (m^2)=	1.440		0.259851	m
Wetted Perimeter (m)=	5.542	m	Friction Slope Sf	
Slope (%) =	0.36		0.0036	m/m
Manning 'n' =	0.035		Velocity	
Channel Capacity, Q =	1.005	m3/sec	0.698	m/s

Table F.1B-i: Hurontario Station Proposed SWMF-1B Spillway

Trapezoidal Weir

Hmax=	0.3 m	2H=	0.6 m (MIN.)
Q=	0.248 m^3/s	or 2H=	1 m
L=	0.81 m		

Trapezoidal (Cipolletti)



$$0.1 < Q < 11\, m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

HURONTARIO STATION SWMBF-1A & 1B
VO OUTPUT FILES 12 HOUR AES

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================================================================================
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename:
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  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\9e8be896-11fe-4a99-a815-4b6f5268739f\Scenario.sum


DATE: 06/18/2018                          TIME: 11:23:55

USER:


COMMENTS: _____________________________________________________________


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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|                  |              ata\Local\Temp\
|                  |              9e8be896-11fe-4a99-a815-4b6f5268739f\f2e0b792
| Ptotal= 42.00 mm |    Comments: 2yr/12hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    7.14 |  6.75    2.94 | 10.00    0.42
                0.50    0.42 |  3.75    7.14 |  7.00    2.94 | 10.25    0.42
                0.75    0.42 |  4.00    7.14 |  7.25    2.94 | 10.50    0.42
                1.00    0.42 |  4.25    7.14 |  7.50    1.68 | 10.75    0.42
                1.25    0.42 |  4.50   19.32 |  7.75    1.68 | 11.00    0.42
                1.50    0.42 |  4.75   19.32 |  8.00    1.68 | 11.25    0.42
                1.75    0.42 |  5.00   19.32 |  8.25    1.68 | 11.50    0.42
                2.00    0.42 |  5.25   19.32 |  8.50    0.84 | 11.75    0.42
                2.25    0.42 |  5.50    5.46 |  8.75    0.84 | 12.00    0.42
                2.50    2.52 |  5.75    5.46 |  9.00    0.84 | 12.25    0.42
                2.75    2.52 |  6.00    5.46 |  9.25    0.84 |
                3.00    2.52 |  6.25    5.46 |  9.50    0.42 |
                3.25    2.52 |  6.50    2.94 |  9.75    0.42 |

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| CALIB            |
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| STANDHYD (0009) | Area (ha)= 0.63
|ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.57	0.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	64.81	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

Max.Eff.Inten.(mm/hr)=		19.32	90.01	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.80 (ii)	9.97 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.25	0.11	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.02	0.032 (iii)
TIME TO PEAK	(hrs)=	5.00	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	33.36	37.17
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.79	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (0008) |   Area    (ha)=   0.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      75.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        90.01
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       4.17 (ii)   10.34 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.24         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02          0.044 (iii)
     TIME TO PEAK    (hrs)=       5.08         5.25           5.25
     RUNOFF VOLUME    (mm)=      41.00        33.36          37.17
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.79           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (0010) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      29.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        90.01
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.37 (ii)    8.54 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.12
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00          0.007 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      41.00        33.36          37.15
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.79           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0802) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0008):     0.86   0.044     5.25    37.17
       + ID2= 2 (0009):     0.63   0.032     5.25    37.17
         ================================================
         ID = 3 (0802):     1.49   0.076     5.25    37.17
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0802)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0802):	1.49	0.076	5.25	37.17
	+ ID2= 2 (0010):	0.13	0.007	5.25	37.15
	ID = 1 (0802):	1.62	0.083	5.25	37.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0007) ID= 1 DT= 5.0 min	Area (ha)= 0.11 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00			
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.10	0.01	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	27.08	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	over (min)	19.32 5.00	90.01 10.00	
Storage Coeff.	(min)=	2.25 (ii)	8.42 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.30	0.12	
				TOTALS
PEAK FLOW	(cms)=	0.00	0.00	0.006 (iii)
TIME TO PEAK	(hrs)=	4.67	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	33.36	37.15
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.79	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0006) ID= 1 DT= 5.0 min	Area (ha)= 0.17 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00			
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.15	0.02	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	33.67	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	over (min)	19.32 5.00	90.01 10.00	
Storage Coeff.	(min)=	2.57 (ii)	8.74 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.29	0.12	
				TOTALS
PEAK FLOW	(cms)=	0.00	0.00	0.009 (iii)
TIME TO PEAK	(hrs)=	4.75	5.25	5.25
RUNOFF VOLUME	(mm)=	41.00	33.36	37.15
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.79	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0800) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0006):     0.17   0.009     5.25    37.15
        + ID2= 2 (0007):     0.11   0.006     5.25    37.15
          ================================================
          ID = 3 (0800):     0.28   0.014     5.25    37.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        90.01
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.04 (ii)    9.21 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.27         0.12
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.015 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.25           5.25
     RUNOFF VOLUME    (mm)=      41.00        33.36          37.16
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.79           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0700) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0005):     0.30   0.015     5.25    37.16
        + ID2= 2 (0800):     0.28   0.014     5.25    37.15
          ================================================
          ID = 3 (0700):     0.58   0.030     5.25    37.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0700) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0700):     0.58   0.030     5.25    37.16
        + ID2= 2 (0802):     1.62   0.083     5.25    37.17
          ================================================
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```
          ID = 1 (0700):     2.20   0.113     5.25    37.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470      0.0982
                          0.0130     0.0589   |   0.0560      0.1068
                          0.0250     0.0758   |   0.0660      0.1152
                          0.0340     0.0862   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0700)      2.200      0.113      5.25      37.17
     OUTFLOW: ID= 1 (0600)      2.200      0.014      7.33      36.65

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.56
                    TIME SHIFT OF PEAK FLOW         (min)=125.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0606

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--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59          0.07
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       2.00          3.60
     Length            (m)=      66.33         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32         88.98
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       3.13 (ii)     9.33 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.27          0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02          0.02          0.034 (iii)
     TIME TO PEAK    (hrs)=       4.92          5.25           5.25
     RUNOFF VOLUME    (mm)=      41.00         28.19          34.59
     TOTAL RAINFALL   (mm)=      42.00         42.00          42.00
     RUNOFF COEFFICIENT   =       0.98          0.67           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07          0.23
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       2.00          3.60
     Length            (m)=      44.72         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      19.32          9.49
               over (min)         5.00         20.00
     Storage Coeff.  (min)=       2.47 (ii)    17.65 (ii)
     Unit Hyd. Tpeak (min)=       5.00         20.00
```

```
     Unit Hyd. peak  (cms)=       0.29         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00          0.008 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.33           5.25
     RUNOFF VOLUME    (mm)=      41.00         5.08          13.39
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.12           0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0804) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0003):     0.30   0.008     5.25    13.39
        + ID2= 2 (0004):     0.66   0.034     5.25    34.59
          ================================================
          ID = 3 (0804):     0.96   0.042     5.25    27.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0002) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      35.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        88.98
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.15 (ii)    8.35 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.010 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      41.00        28.19          34.59
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.67           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0001) |   Area    (ha)=   2.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.15         0.54
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=     133.92        40.00
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     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        40.46
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       4.77 (ii)   13.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.22         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.06          0.131 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      41.00        19.42          30.21
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.46           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0803) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):     2.69   0.131     5.25    30.21
        + ID2= 2 (0002):     0.19   0.010     5.25    34.59
          ================================================
          ID = 3 (0803):     2.88   0.141     5.25    30.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0701) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0803):     2.88   0.141     5.25    30.50
        + ID2= 2 (0804):     0.96   0.042     5.25    27.97
          ================================================
          ID = 3 (0701):     3.84   0.183     5.25    29.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1980      0.1189
                          0.0550     0.0706   |   0.2730      0.1270
                          0.0990     0.0916   |   0.3620      0.1322
                          0.1190     0.1058   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0701)      3.840      0.183      5.25      29.87
     OUTFLOW: ID= 1 (0601)      3.840      0.053      5.75      29.78

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.11
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0685

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--------------------
| CALIB            |
| STANDHYD  (0012) |   Area    (ha)=   0.74
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.56
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      70.24        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.53
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       3.99 (ii)   18.55 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.24         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.023 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.33           5.25
     RUNOFF VOLUME    (mm)=      41.00        16.72          22.53
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.40           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0011) |   Area    (ha)=   0.68
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.16         0.52
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      67.33        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.53
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       3.89 (ii)   18.45 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.25         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.021 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.33           5.25
     RUNOFF VOLUME    (mm)=      41.00        16.72          22.53
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.40           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0500) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0011):     0.68   0.021     5.25    22.53
        + ID2= 2 (0012):     0.74   0.023     5.25    22.53
          ================================================
          ID = 3 (0500):     1.42   0.044     5.25    22.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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ADD HYD (0500)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0500):	1.42	0.044	5.25	22.53
	+ ID2= 2 (0600):	2.20	0.014	7.33	36.65
	ID = 1 (0500):	3.62	0.054	5.25	31.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0500)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0500):	3.62	0.054	5.25	31.11
	+ ID2= 2 (0601):	3.84	0.053	5.75	29.78
	ID = 3 (0500):	7.46	0.102	5.25	30.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 2 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\9e8be896-11fe-4a99-a815-4b6f5268739f\5b663965
Ptotal= 54.38 mm	Comments: 5yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB STANDHYD (0009)	Area (ha)= 0.63	
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.57	0.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	64.81	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54

0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	119.41	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.43 (ii)	8.94 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.26	0.12	
			TOTALS
PEAK FLOW (cms)=	0.02	0.02	0.043 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	45.38	49.37
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.83	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0008)	Area (ha)= 0.86
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		0.77	0.09
Dep. Storage (mm)=		1.00	4.00
Average Slope (%)=		1.00	3.60
Length (m)=		75.72	40.00
Mannings n =		0.013	0.250

Max.Eff.Inten.(mm/hr)=	25.02	119.41	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.76 (ii)	9.27 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.25	0.12	
			TOTALS
PEAK FLOW (cms)=	0.03	0.03	0.058 (iii)

```
     TIME TO PEAK    (hrs)=       5.08         5.25          5.25
     RUNOFF VOLUME    (mm)=      53.38        45.38         49.38
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.83          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0010) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      29.44        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02       119.41
               over (min)        5.00         10.00
     Storage Coeff.  (min)=       2.13 (ii)    7.65 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00          0.009 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38        45.38          49.34
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.83           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0802) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0008):     0.86   0.058     5.25    49.38
       + ID2= 2 (0009):     0.63   0.043     5.25    49.37
         ================================================
         ID = 3 (0802):     1.49   0.101     5.25    49.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0802) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0802):     1.49   0.101     5.25    49.38
       + ID2= 2 (0010):     0.13   0.009     5.25    49.34
         ================================================
         ID = 1 (0802):     1.62   0.110     5.25    49.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
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| STANDHYD  (0007) |   Area    (ha)=   0.11
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.10         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      27.08        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02       119.41
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.03 (ii)    7.54 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.00         0.00         0.007 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25          5.25
     RUNOFF VOLUME    (mm)=      53.38        45.38         49.34
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.83          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0006) |   Area    (ha)=   0.17
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.15         0.02
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      33.67        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02       119.41
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.31 (ii)    7.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01         0.012 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25          5.25
     RUNOFF VOLUME    (mm)=      53.38        45.38         49.36
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.83          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0800) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0006):     0.17   0.012     5.25    49.36
        + ID2= 2 (0007):     0.11   0.007     5.25    49.34
          ================================================
          ID = 3 (0800):     0.28   0.019     5.25    49.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02       119.41
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       2.74 (ii)    8.26 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.28         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.020 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38        45.38          49.37
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.83           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0700) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0005):     0.30   0.020     5.25    49.37
        + ID2= 2 (0800):     0.28   0.019     5.25    49.35
          ================================================
          ID = 3 (0700):     0.58   0.039     5.25    49.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0700) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0700):     0.58   0.039     5.25    49.36
        + ID2= 2 (0802):     1.62   0.110     5.25    49.37
          ================================================
          ID = 1 (0700):     2.20   0.149     5.25    49.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470     0.0982
                          0.0130     0.0589   |   0.0560     0.1068
                          0.0250     0.0758   |   0.0660     0.1152
                          0.0340     0.0862   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0700)      2.200      0.149      5.25      49.37
     OUTFLOW: ID= 1 (0600)      2.200      0.025      6.50      48.85
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                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.07
                    TIME SHIFT OF PEAK FLOW         (min)= 75.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0763

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59         0.07
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      66.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02       117.53
               over (min)        5.00         10.00
     Storage Coeff.  (min)=       2.82 (ii)    8.37 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.28         0.12
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02          0.044 (iii)
     TIME TO PEAK    (hrs)=       4.92         5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38        39.55          46.46
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.73           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00           K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.23
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        16.02
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.23 (ii)   14.54 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.30         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.014 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38        12.32          22.17
     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.23           0.41

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00           K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0804) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):     0.30   0.014     5.25    22.17
       + ID2= 2 (0004):     0.66   0.044     5.25    46.46
         ================================================
         ID = 3 (0804):     0.96   0.059     5.25    38.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0002) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17          0.02
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       2.00          3.60
     Length            (m)=      35.59         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02        117.53
               over (min)        5.00         10.00
     Storage Coeff.  (min)=       1.94 (ii)     7.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.31          0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01          0.01          0.013 (iii)
     TIME TO PEAK    (hrs)=       4.67          5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38         39.55          46.46
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.98          0.73           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area    (ha)=   2.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.15          0.54
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       2.00          3.60
     Length            (m)=     133.92         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      25.02         54.80
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       4.30 (ii)    11.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.23          0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09          0.08          0.174 (iii)
     TIME TO PEAK    (hrs)=       5.17          5.25           5.25
     RUNOFF VOLUME    (mm)=      53.38         30.21          41.79
     TOTAL RAINFALL   (mm)=      54.38         54.38          54.38
     RUNOFF COEFFICIENT   =       0.98          0.56           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0803)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	2.69	0.174	5.25	41.79
	+ ID2= 2 (0002):	0.19	0.013	5.25	46.46
	ID = 3 (0803):	2.88	0.187	5.25	42.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0701)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0803):	2.88	0.187	5.25	42.10
	+ ID2= 2 (0804):	0.96	0.059	5.25	38.87
	ID = 3 (0701):	3.84	0.246	5.25	41.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0601)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.1980	0.1189
			0.0550	0.0706	0.2730	0.1270
			0.0990	0.0916	0.3620	0.1322
			0.1190	0.1058	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0701)	3.840	0.246	5.25	41.29
OUTFLOW: ID= 1 (0601)	3.840	0.097	5.50	41.21

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.24
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0905

CALIB	STANDHYD (0012)	ID= 1 DT= 5.0 min	Area (ha)= 0.74	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.18	0.56	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	70.24	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	over (min)	25.02 5.00	15.82 20.00	
Storage Coeff.	(min)=	3.60 (ii)	15.97 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	20.00	
Unit Hyd. peak	(cms)=	0.26	0.07	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.02	0.033 (iii)
TIME TO PEAK	(hrs)=	5.00	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	25.70	32.33
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.47	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0011)	Area (ha)= 0.68
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.16	0.52	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	67.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		25.02	15.82	
over (min)		5.00	20.00	
Storage Coeff. (min)=		3.51 (ii)	15.88 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.26	0.07	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.02	0.031 (iii)
TIME TO PEAK	(hrs)=	5.00	5.33	5.25
RUNOFF VOLUME	(mm)=	53.38	25.70	32.33
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.47	0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0500)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0011):	0.68	0.031	5.25	32.33
+	ID2= 2 (0012):	0.74	0.033	5.25	32.33
	ID = 3 (0500):	1.42	0.064	5.25	32.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0500)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0500):	1.42	0.064	5.25	32.33
+	ID2= 2 (0600):	2.20	0.025	6.50	48.85
	ID = 1 (0500):	3.62	0.080	5.25	42.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0500)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0500):	3.62	0.080	5.25	42.37
+	ID2= 2 (0601):	3.84	0.097	5.50	41.21

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          ================================================
          ID = 3 (0500):     7.46   0.165     5.25    41.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   3 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              9e8be896-11fe-4a99-a815-4b6f5268739f\dd623900
| Ptotal= 62.71 mm |    Comments: 10yr/12hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50   10.66 |  6.75    4.39 | 10.00    0.63
                0.50    0.63 |  3.75   10.66 |  7.00    4.39 | 10.25    0.63
                0.75    0.63 |  4.00   10.66 |  7.25    4.39 | 10.50    0.63
                1.00    0.63 |  4.25   10.66 |  7.50    2.51 | 10.75    0.63
                1.25    0.63 |  4.50   28.84 |  7.75    2.51 | 11.00    0.63
                1.50    0.63 |  4.75   28.84 |  8.00    2.51 | 11.25    0.63
                1.75    0.63 |  5.00   28.84 |  8.25    2.51 | 11.50    0.63
                2.00    0.63 |  5.25   28.84 |  8.50    1.25 | 11.75    0.63
                2.25    0.63 |  5.50    8.15 |  8.75    1.25 | 12.00    0.63
                2.50    3.76 |  5.75    8.15 |  9.00    1.25 | 12.25    0.63
                2.75    3.76 |  6.00    8.15 |  9.25    1.25 |
                3.00    3.76 |  6.25    8.15 |  9.50    0.63 |
                3.25    3.76 |  6.50    4.39 |  9.75    0.63 |

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--------------------
| CALIB            |
| STANDHYD  (0009) |   Area    (ha)=   0.63
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.57         0.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      64.81        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    3.76 | 6.250    8.15 |  9.33    0.63
               0.167    0.00 | 3.250    3.76 | 6.333    4.39 |  9.42    0.63
               0.250    0.00 | 3.333   10.66 | 6.417    4.39 |  9.50    0.63
               0.333    0.63 | 3.417   10.66 | 6.500    4.39 |  9.58    0.63
               0.417    0.63 | 3.500   10.66 | 6.583    4.39 |  9.67    0.63
               0.500    0.63 | 3.583   10.66 | 6.667    4.39 |  9.75    0.63
               0.583    0.63 | 3.667   10.66 | 6.750    4.39 |  9.83    0.63
               0.667    0.63 | 3.750   10.66 | 6.833    4.39 |  9.92    0.63
               0.750    0.63 | 3.833   10.66 | 6.917    4.39 | 10.00    0.63
               0.833    0.63 | 3.917   10.66 | 7.000    4.39 | 10.08    0.63
               0.917    0.63 | 4.000   10.66 | 7.083    4.39 | 10.17    0.63
               1.000    0.63 | 4.083   10.66 | 7.167    4.39 | 10.25    0.63
               1.083    0.63 | 4.167   10.66 | 7.250    4.39 | 10.33    0.63
               1.167    0.63 | 4.250   10.66 | 7.333    2.51 | 10.42    0.63
               1.250    0.63 | 4.333   28.84 | 7.417    2.51 | 10.50    0.63
               1.333    0.63 | 4.417   28.84 | 7.500    2.51 | 10.58    0.63
               1.417    0.63 | 4.500   28.84 | 7.583    2.51 | 10.67    0.63
               1.500    0.63 | 4.583   28.84 | 7.667    2.51 | 10.75    0.63
               1.583    0.63 | 4.667   28.84 | 7.750    2.51 | 10.83    0.63
               1.667    0.63 | 4.750   28.84 | 7.833    2.51 | 10.92    0.63
               1.750    0.63 | 4.833   28.84 | 7.917    2.51 | 11.00    0.63
               1.833    0.63 | 4.917   28.84 | 8.000    2.51 | 11.08    0.63
```

1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

Max.Eff.Inten.(mm/hr)=	28.84	139.00	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.24 (ii)	8.42 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.27	0.12	
			TOTALS
PEAK FLOW (cms)=	0.03	0.02	0.049 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	53.54	57.62
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.85	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0008)	Area (ha)= 0.86
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.09
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	75.72	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	139.00	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.56 (ii)	8.74 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.26	0.12	
			TOTALS
PEAK FLOW (cms)=	0.03	0.03	0.067 (iii)
TIME TO PEAK (hrs)=	5.00	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	53.54	57.62
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.85	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0010)	Area (ha)= 0.13
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12          0.01
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      29.44         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84        139.00
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       2.02 (ii)     7.20 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.31          0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01          0.00          0.010 (iii)
     TIME TO PEAK    (hrs)=       4.67          5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71         53.54          57.58
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.85           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0802) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0008):     0.86   0.067     5.25    57.62
        + ID2= 2 (0009):     0.63   0.049     5.25    57.62
          ================================================
          ID = 3 (0802):     1.49   0.117     5.25    57.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0802) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0802):     1.49   0.117     5.25    57.62
        + ID2= 2 (0010):     0.13   0.010     5.25    57.58
          ================================================
          ID = 1 (0802):     1.62   0.127     5.25    57.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0007) |   Area    (ha)=   0.11
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.10          0.01
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      27.08         40.00
     Mannings n            =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84        139.00
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       1.92 (ii)     7.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.31          0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.00          0.00          0.009 (iii)
     TIME TO PEAK    (hrs)=       4.67          5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71         53.54          57.58
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     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.85           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0006) |   Area    (ha)=   0.17
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.15         0.02
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      33.67        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84       139.00
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.19 (ii)    7.37 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01       0.013 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25        5.25
     RUNOFF VOLUME    (mm)=      61.71        53.54       57.60
     TOTAL RAINFALL   (mm)=      62.71        62.71       62.71
     RUNOFF COEFFICIENT   =       0.98         0.85        0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0800) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0006):     0.17   0.013     5.25    57.60
       + ID2= 2 (0007):     0.11   0.009     5.25    57.58
         ================================================
         ID = 3 (0800):     0.28   0.022     5.25    57.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84       139.00
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.59 (ii)    7.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.13
```

```
                                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.024 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        53.54          57.61
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.85           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0700) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0005):     0.30   0.024     5.25    57.61
        + ID2= 2 (0800):     0.28   0.022     5.25    57.60
          ================================================
          ID = 3 (0700):     0.58   0.046     5.25    57.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0700) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0700):     0.58   0.046     5.25    57.61
        + ID2= 2 (0802):     1.62   0.127     5.25    57.62
          ================================================
          ID = 1 (0700):     2.20   0.172     5.25    57.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470      0.0982
                          0.0130     0.0589   |   0.0560      0.1068
                          0.0250     0.0758   |   0.0660      0.1152
                          0.0340     0.0862   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0700)      2.200      0.172      5.25      57.61
     OUTFLOW: ID= 1 (0600)      2.200      0.034      6.42      57.09

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.95
                    TIME SHIFT OF PEAK FLOW         (min)= 70.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0866

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--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59         0.07
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      66.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84       136.64
```

```
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.67 (ii)    7.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03          0.051 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        47.29          54.50
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.75           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.23
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.20
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.11 (ii)   13.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.31         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.018 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        17.31          27.97
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.28           0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0804) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0003):     0.30   0.018     5.25    27.97
       + ID2= 2 (0004):     0.66   0.051     5.25    54.50
         ================================================
         ID = 3 (0804):     0.96   0.069     5.25    46.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0002) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17         0.02
```

```
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      35.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84       136.64
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.84 (ii)    7.06 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.015 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        47.29          54.50
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.75           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area    (ha)=   2.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.15         0.54
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=     133.92        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        64.39
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.07 (ii)   11.12 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.24         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.10          0.203 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        37.50          49.60
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.60           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0803) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):     2.69   0.203     5.25    49.60
        + ID2= 2 (0002):     0.19   0.015     5.25    54.50
          ================================================
          ID = 3 (0803):     2.88   0.218     5.25    49.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0701) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0803):     2.88   0.218     5.25    49.93
       + ID2= 2 (0804):     0.96   0.069     5.25    46.21
         ================================================
         ID = 3 (0701):     3.84   0.287     5.25    49.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1980      0.1189
                          0.0550     0.0706   |   0.2730      0.1270
                          0.0990     0.0916   |   0.3620      0.1322
                          0.1190     0.1058   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0701)      3.840     0.287      5.25       49.00
     OUTFLOW: ID= 1 (0601)      3.840     0.118      5.50       48.91

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 40.97
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1049

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--------------------
| CALIB            |
| STANDHYD  (0012) |   Area    (ha)=   0.74
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18          0.56
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      70.24         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      28.84         19.54
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       3.40 (ii)    14.77 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.26          0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01          0.03          0.042 (iii)
     TIME TO PEAK    (hrs)=       4.92          5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71         32.19          39.26
     TOTAL RAINFALL   (mm)=      62.71         62.71          62.71
     RUNOFF COEFFICIENT   =       0.98          0.51           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0011) |   Area    (ha)=   0.68
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.16          0.52
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      67.33         40.00
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     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        19.54
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       3.31 (ii)   14.68 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.26         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.03          0.038 (iii)
     TIME TO PEAK    (hrs)=       4.92         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        32.19          39.26
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.51           0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0500) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0011):     0.68   0.038     5.25    39.26
        + ID2= 2 (0012):     0.74   0.042     5.25    39.26
          ================================================
          ID = 3 (0500):     1.42   0.080     5.25    39.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0500) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0500):     1.42   0.080     5.25    39.26
        + ID2= 2 (0600):     2.20   0.034     6.42    57.09
          ================================================
          ID = 1 (0500):     3.62   0.104     5.25    50.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0500) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0500):     3.62   0.104     5.25    50.10
        + ID2= 2 (0601):     3.84   0.118     5.50    48.91
          ================================================
          ID = 3 (0500):     7.46   0.213     5.25    49.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   4 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              9e8be896-11fe-4a99-a815-4b6f5268739f\22bc0b6e
| Ptotal= 73.10 mm |    Comments: 25yr/12hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
```

0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB STANDHYD (0009) ID= 1 DT= 5.0 min	Area (ha)= 0.63
	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.57	0.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	64.81	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

Max.Eff.Inten.(mm/hr)=		33.63	NaN
	over (min)	5.00	10.00
Storage Coeff. (min)=		3.05 (ii)	7.85 (ii)

```
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.27         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03          0.058 (iii)
     TIME TO PEAK    (hrs)=       4.92         5.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        63.77          67.93
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0008) |   Area    (ha)=   0.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      75.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.34 (ii)    8.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.04          0.079 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        63.77          67.93
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0010) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      29.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.90 (ii)    6.70 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.012 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        63.77          67.91
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.87           0.93
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0802)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0008):	0.86	0.079	5.25	67.93
	+ ID2= 2 (0009):	0.63	0.058	5.25	67.93
	ID = 3 (0802):	1.49	0.137	5.25	67.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0802)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0802):	1.49	0.137	5.25	67.93
	+ ID2= 2 (0010):	0.13	0.012	5.25	67.91
	ID = 1 (0802):	1.62	0.149	5.25	67.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0007)	Area (ha)= 0.11			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00		
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.10	0.01	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	27.08	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.63	NaN	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.80 (ii)	6.61 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.32	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.00	0.010 (iii)
TIME TO PEAK	(hrs)=	4.67	5.25	5.25
RUNOFF VOLUME	(mm)=	72.10	63.77	67.89
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.87	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (0006)	Area (ha)= 0.17			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00		
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.15	0.02	

```
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      33.67        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63      NaN
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.06 (ii)    6.86 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.016 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        63.77          67.91
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0800) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0006):     0.17   0.016     5.25    67.91
        + ID2= 2 (0007):     0.11   0.010     5.25    67.89
          ================================================
          ID = 3 (0800):     0.28   0.026     5.25    67.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63       163.46
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.44 (ii)    7.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.028 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        63.77          67.92
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0700) |
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|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0005):     0.30   0.028     5.25    67.92
        + ID2= 2 (0800):     0.28   0.026     5.25    67.90
          ================================================
          ID = 3 (0700):     0.58   0.053     5.25    67.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0700) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0700):     0.58   0.053     5.25    67.91
        + ID2= 2 (0802):     1.62   0.149     5.25    67.93
          ================================================
          ID = 1 (0700):     2.20   0.202     5.25    67.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470      0.0982
                          0.0130     0.0589   |   0.0560      0.1068
                          0.0250     0.0758   |   0.0660      0.1152
                          0.0340     0.0862   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0700)      2.200      0.202      5.25      67.92
     OUTFLOW: ID= 1 (0600)      2.200      0.047      6.33      67.40

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.42
                    TIME SHIFT OF PEAK FLOW         (min)= 65.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0986

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--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59          0.07
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       2.00          3.60
     Length            (m)=      66.33         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63       NaN
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       2.51 (ii)    7.31 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.29          0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03          0.03        0.060 (iii)
     TIME TO PEAK    (hrs)=       4.83          5.25         5.25
     RUNOFF VOLUME    (mm)=      72.10         57.06        64.58
     TOTAL RAINFALL   (mm)=      73.10         73.10        73.10
     RUNOFF COEFFICIENT   =       0.99          0.78         0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.23
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        25.37
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       1.98 (ii)   12.22 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.31         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.02          0.022 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        24.52          35.94
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.34           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0804) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0003):     0.30   0.022     5.25    35.94
        + ID2= 2 (0004):     0.66   0.060     5.25    64.58
          ================================================
          ID = 3 (0804):     0.96   0.083     5.25    55.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0002) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      35.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63          NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.73 (ii)    6.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.017 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        57.06          64.58
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.78           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0001) |   Area    (ha)=   2.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.15         0.54
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=     133.92        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        76.41
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.82 (ii)   10.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.25         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.13         0.11          0.239 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        46.58          59.34
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.64           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0803) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):     2.69   0.239     5.25    59.34
       + ID2= 2 (0002):     0.19   0.017     5.25    64.58
         ================================================
         ID = 3 (0803):     2.88   0.257     5.25    59.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0701) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0803):     2.88   0.257     5.25    59.69
       + ID2= 2 (0804):     0.96   0.083     5.25    55.63
         ================================================
         ID = 3 (0701):     3.84   0.339     5.25    58.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.1980      0.1189
                         0.0550     0.0706    |   0.2730      0.1270
```

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                          0.0990     0.0916   |   0.3620      0.1322
                          0.1190     0.1058   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0701)      3.840      0.339      5.25      58.67
     OUTFLOW: ID= 1 (0601)      3.840      0.195      5.42      58.59

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 57.60
                    TIME SHIFT OF PEAK FLOW         (min)= 10.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1187

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--------------------
| CALIB            |
| STANDHYD  (0012) |   Area    (ha)=   0.74
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.56
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      70.24        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.33
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       3.20 (ii)   13.61 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.27         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.03       0.052 (iii)
     TIME TO PEAK    (hrs)=       4.92         5.25        5.25
     RUNOFF VOLUME    (mm)=      72.10        40.64       48.18
     TOTAL RAINFALL   (mm)=      73.10        73.10       73.10
     RUNOFF COEFFICIENT   =       0.99         0.56        0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0011) |   Area    (ha)=   0.68
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.16         0.52
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      67.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.33
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       3.12 (ii)   13.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.27         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.03       0.047 (iii)
     TIME TO PEAK    (hrs)=       4.92         5.25        5.25
     RUNOFF VOLUME    (mm)=      72.10        40.64       48.18
     TOTAL RAINFALL   (mm)=      73.10        73.10       73.10
     RUNOFF COEFFICIENT   =       0.99         0.56        0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0500)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0011):	0.68	0.047	5.25	48.18
	+ ID2= 2 (0012):	0.74	0.052	5.25	48.18
	ID = 3 (0500):	1.42	0.099	5.25	48.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0500)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0500):	1.42	0.099	5.25	48.18
	+ ID2= 2 (0600):	2.20	0.047	6.33	67.40
	ID = 1 (0500):	3.62	0.134	5.25	59.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0500)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0500):	3.62	0.134	5.25	59.86
	+ ID2= 2 (0601):	3.84	0.195	5.42	58.59
	ID = 3 (0500):	7.46	0.312	5.33	59.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 5 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\9e8be896-11fe-4a99-a815-4b6f5268739f\64d90d58
Ptotal= 80.82 mm	Comments: 50yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	13.74	6.75	5.66	10.00	0.81
0.50	0.81	3.75	13.74	7.00	5.66	10.25	0.81
0.75	0.81	4.00	13.74	7.25	5.66	10.50	0.81
1.00	0.81	4.25	13.74	7.50	3.23	10.75	0.81
1.25	0.81	4.50	37.17	7.75	3.23	11.00	0.81
1.50	0.81	4.75	37.17	8.00	3.23	11.25	0.81
1.75	0.81	5.00	37.17	8.25	3.23	11.50	0.81
2.00	0.81	5.25	37.17	8.50	1.62	11.75	0.81
2.25	0.81	5.50	10.50	8.75	1.62	12.00	0.81
2.50	4.85	5.75	10.50	9.00	1.62	12.25	0.81
2.75	4.85	6.00	10.50	9.25	1.62		
3.00	4.85	6.25	10.50	9.50	0.81		
3.25	4.85	6.50	5.66	9.75	0.81		

CALIB STANDHYD (0009)	Area (ha)= 0.63

|ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.57	0.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	64.81	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	NaN		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.93 (ii)	7.54 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.28	0.13		
			TOTALS	
PEAK FLOW (cms)=	0.03	0.03	0.064 (iii)	
TIME TO PEAK (hrs)=	4.92	5.25	5.25	
RUNOFF VOLUME (mm)=	79.82	71.39	75.60	
TOTAL RAINFALL (mm)=	80.82	80.82	80.82	
RUNOFF COEFFICIENT =	0.99	0.88	0.94	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB             |
| STANDHYD  (0008) |   Area    (ha)=   0.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      75.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.21 (ii)    7.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.27         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.04          0.088 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        71.39          75.60
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.88           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0010) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      29.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.82 (ii)    6.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.013 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        71.39          75.58
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.88           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0802) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0008):     0.86   0.088     5.25    75.60
        + ID2= 2 (0009):     0.63   0.064     5.25    75.60
          ================================================
          ID = 3 (0802):     1.49   0.152     5.25    75.60
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0802)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0802):	1.49	0.152	5.25	75.60
	+ ID2= 2 (0010):	0.13	0.013	5.25	75.58
	ID = 1 (0802):	1.62	0.165	5.25	75.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0007)	Area (ha)= 0.11			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00		
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.10	0.01	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	27.08	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	NaN	
over (min)		5.00	10.00	
Storage Coeff.	(min)=	1.73 (ii)	6.35 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.32	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.01	0.011 (iii)
TIME TO PEAK	(hrs)=	4.67	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	71.39	75.58
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.88	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0006)	Area (ha)= 0.17			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00		
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.15	0.02	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	33.67	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	NaN	
over (min)		5.00	10.00	
Storage Coeff.	(min)=	1.98 (ii)	6.59 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.31	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.01	0.017 (iii)
TIME TO PEAK	(hrs)=	4.67	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	71.39	75.58
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.88	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0800) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0006):     0.17   0.017     5.25    75.58
        + ID2= 2 (0007):     0.11   0.011     5.25    75.58
          ================================================
          ID = 3 (0800):     0.28   0.029     5.25    75.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17       181.48
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.34 (ii)    6.96 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02          0.031 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        71.39          75.59
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.88           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0700) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0005):     0.30   0.031     5.25    75.59
        + ID2= 2 (0800):     0.28   0.029     5.25    75.58
          ================================================
          ID = 3 (0700):     0.58   0.059     5.25    75.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0700) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0700):     0.58   0.059     5.25    75.59
        + ID2= 2 (0802):     1.62   0.165     5.25    75.60
          ================================================
          ID = 1 (0700):     2.20   0.224     5.25    75.59
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0600)						
IN= 2---> OUT= 1						
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000		0.0470	0.0982	
	0.0130	0.0589		0.0560	0.1068	
	0.0250	0.0758		0.0660	0.1152	
	0.0340	0.0862		0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0700)	2.200	0.224	5.25	75.59
OUTFLOW: ID= 1 (0600)	2.200	0.056	6.25	75.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 25.17
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.1072

CALIB		
STANDHYD (0004)	Area (ha)= 0.66	
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.59	0.07	
Dep. Storage	(mm)=	1.00	1.50	
Average Slope	(%)=	2.00	3.60	
Length	(m)=	66.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	NaN	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.41 (ii)	7.03 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.30	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.03	0.03	0.067 (iii)
TIME TO PEAK	(hrs)=	4.83	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	64.45	72.13
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.80	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
Fo (mm/hr)= 50.00 K (1/hr)= 2.00
Fc (mm/hr)= 7.50 Cum.Inf. (mm)= 0.00
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (0003)	Area (ha)= 0.30	
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.07	0.23
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	3.60
Length	(m)=	44.72	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		37.17	29.13
over (min)		5.00	15.00
Storage Coeff. (min)=		1.90 (ii)	11.59 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.32	0.09

				TOTALS
PEAK FLOW (cms)=	0.01	0.02		0.025 (iii)
TIME TO PEAK (hrs)=	4.67	5.25		5.25
RUNOFF VOLUME (mm)=	79.82	30.02		41.97
TOTAL RAINFALL (mm)=	80.82	80.82		80.82
RUNOFF COEFFICIENT =	0.99	0.37		0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
Fo (mm/hr)= 50.00 K (1/hr)= 2.00
Fc (mm/hr)= 7.50 Cum.Inf. (mm)= 0.00
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0804)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0003):	0.30	0.025	5.25	41.97
+	ID2= 2 (0004):	0.66	0.067	5.25	72.13
	ID = 3 (0804):	0.96	0.092	5.25	62.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0002)	Area (ha)= 0.19			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00		

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.17	0.02	
Dep. Storage	(mm)=	1.00	1.50	
Average Slope	(%)=	2.00	3.60	
Length	(m)=	35.59	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		37.17	NaN	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.66 (ii)	6.28 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.32	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.01	0.019 (iii)
TIME TO PEAK	(hrs)=	4.67	5.25	5.25
RUNOFF VOLUME	(mm)=	79.82	64.45	72.13
TOTAL RAINFALL	(mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT	=	0.99	0.80	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
Fo (mm/hr)= 50.00 K (1/hr)= 2.00
Fc (mm/hr)= 7.50 Cum.Inf. (mm)= 0.00
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB				
STANDHYD (0001)	Area (ha)= 2.69			
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00	Dir. Conn.(%)= 50.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.15	0.54
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	3.60
Length	(m)=	133.92	40.00
Mannings n	=	0.013	0.250

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     Max.Eff.Inten.(mm/hr)=      37.17        85.29
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.67 (ii)    9.98 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.25         0.11
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.13          0.266 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        53.49          66.66
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.66           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0803) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):     2.69   0.266     5.25    66.66
        + ID2= 2 (0002):     0.19   0.019     5.25    72.13
          ================================================
          ID = 3 (0803):     2.88   0.285     5.25    67.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0701) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0803):     2.88   0.285     5.25    67.02
        + ID2= 2 (0804):     0.96   0.092     5.25    62.70
          ================================================
          ID = 3 (0701):     3.84   0.377     5.25    65.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1980      0.1189
                          0.0550     0.0706   |   0.2730      0.1270
                          0.0990     0.0916   |   0.3620      0.1322
                          0.1190     0.1058   |   0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0701)     3.840      0.377      5.25      65.94
     OUTFLOW: ID= 1 (0601)     3.840      0.271      5.33      65.86

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 71.76
                    TIME SHIFT OF PEAK FLOW         (min)=  5.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1271

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--------------------
| CALIB            |
| STANDHYD  (0012) |   Area    (ha)=   0.74
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
```

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     Surface Area     (ha)=       0.18         0.56
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      70.24        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.22
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.07 (ii)   12.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.27         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.04         0.059 (iii)
     TIME TO PEAK    (hrs)=       4.92         5.25          5.25
     RUNOFF VOLUME    (mm)=      79.82        47.13         54.97
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.58          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0011) |   Area    (ha)=   0.68
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.16         0.52
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      67.33        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.22
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.99 (ii)   12.81 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.28         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.04         0.054 (iii)
     TIME TO PEAK    (hrs)=       4.92         5.25          5.25
     RUNOFF VOLUME    (mm)=      79.82        47.13         54.97
     TOTAL RAINFALL   (mm)=      80.82        80.82         80.82
     RUNOFF COEFFICIENT   =       0.99         0.58          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0500) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0011):     0.68   0.054     5.25    54.97
        + ID2= 2 (0012):     0.74   0.059     5.25    54.97
          ================================================
          ID = 3 (0500):     1.42   0.113     5.25    54.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD (0500) |
| 3 + 2 = 1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0500):	1.42	0.113	5.25	54.97
+ ID2= 2 (0600):	2.20	0.056	6.25	75.07
ID = 1 (0500):	3.62	0.159	5.25	67.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0500) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0500):	3.62	0.159	5.25	67.19
+ ID2= 2 (0601):	3.84	0.271	5.33	65.86
ID = 3 (0500):	7.46	0.416	5.25	66.50

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 6 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\9e8be896-11fe-4a99-a815-4b6f5268739f\e0e50587
Ptotal= 88.54 mm	Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

CALIB STANDHYD (0009)	Area (ha)= 0.63
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.57	0.06
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	64.81	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89

0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

Max.Eff.Inten.(mm/hr)=	40.71	NaN		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.82 (ii)	7.27 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.28	0.14		
			TOTALS	
PEAK FLOW (cms)=	0.04	0.03	0.070 (iii)	
TIME TO PEAK (hrs)=	4.92	5.25	5.25	
RUNOFF VOLUME (mm)=	87.54	79.02	83.27	
TOTAL RAINFALL (mm)=	88.54	88.54	88.54	
RUNOFF COEFFICIENT =	0.99	0.89	0.94	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0008)	Area (ha)= 0.86
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		0.77	0.09
Dep. Storage (mm)=		1.00	4.00
Average Slope (%)=		1.00	3.60
Length (m)=		75.72	40.00
Mannings n =		0.013	0.250

Max.Eff.Inten.(mm/hr)=	40.71	NaN		
over (min)	5.00	10.00		
Storage Coeff. (min)=	3.10 (ii)	7.55 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.27	0.13		
			TOTALS	
PEAK FLOW (cms)=	0.05	0.05	0.096 (iii)	
TIME TO PEAK (hrs)=	5.00	5.25	5.25	

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     RUNOFF VOLUME    (mm)=      87.54        79.02          83.28
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.89           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0010) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      29.44        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.76 (ii)    6.21 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.015 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      87.54        79.02          83.26
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.89           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0802) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0008):     0.86   0.096     5.25    83.28
       + ID2= 2 (0009):     0.63   0.070     5.25    83.27
         ================================================
         ID = 3 (0802):     1.49   0.167     5.25    83.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0802) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0802):     1.49   0.167     5.25    83.28
       + ID2= 2 (0010):     0.13   0.015     5.25    83.26
         ================================================
         ID = 1 (0802):     1.62   0.181     5.25    83.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0007) |   Area    (ha)=   0.11
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|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.10         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      27.08        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.67 (ii)    6.12 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.012 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      87.54        79.02          83.26
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.89           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0006) |   Area    (ha)=   0.17
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.15         0.02
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      33.67        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.90 (ii)    6.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.019 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      87.54        79.02          83.26
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.89           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0800) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0006):     0.17   0.019     5.25    83.26
        + ID2= 2 (0007):     0.11   0.012     5.25    83.26
          ================================================
          ID = 3 (0800):     0.28   0.031     5.25    83.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71       199.46
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.26 (ii)    6.71 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02         0.034 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        79.02         83.27
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.89          0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0700) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0005):     0.30   0.034     5.25    83.27
       + ID2= 2 (0800):     0.28   0.031     5.25    83.26
         ================================================
         ID = 3 (0700):     0.58   0.065     5.25    83.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0700) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0700):     0.58   0.065     5.25    83.26
       + ID2= 2 (0802):     1.62   0.181     5.25    83.28
         ================================================
         ID = 1 (0700):     2.20   0.246     5.25    83.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470     0.0982
                          0.0130     0.0589   |   0.0560     0.1068
                          0.0250     0.0758   |   0.0660     0.1152
                          0.0340     0.0862   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0700)      2.200      0.246      5.25      83.27
     OUTFLOW: ID= 1 (0600)      2.200      0.066      6.25      82.75
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                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.96
                    TIME SHIFT OF PEAK FLOW         (min)= 60.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1155

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--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59         0.07
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      66.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71      NaN
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.32 (ii)    6.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.04          0.073 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.25           5.25
     RUNOFF VOLUME    (mm)=      87.54        71.87          79.70
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.81           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.23
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.77
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       1.83 (ii)   11.08 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.32         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.02          0.029 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      87.54        35.77          48.19
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.40           0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0804) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0003):     0.30   0.029     5.25    48.19
        + ID2= 2 (0004):     0.66   0.073     5.25    79.70
          ================================================
          ID = 3 (0804):     0.96   0.102     5.25    69.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0002) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      35.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.60 (ii)    6.05 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.021 (iii)
     TIME TO PEAK    (hrs)=       4.67         5.25           5.25
     RUNOFF VOLUME    (mm)=      87.54        71.87          79.70
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.81           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area    (ha)=   2.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.15         0.54
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=     133.92        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        94.17
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.54 (ii)    9.60 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.11
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.15         0.14          0.293 (iii)
     TIME TO PEAK    (hrs)=       5.08         5.25           5.25
     RUNOFF VOLUME    (mm)=      87.54        60.47          74.01
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.68           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0803)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	2.69	0.293	5.25	74.01
	+ ID2= 2 (0002):	0.19	0.021	5.25	79.70
	ID = 3 (0803):	2.88	0.314	5.25	74.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0701)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0803):	2.88	0.314	5.25	74.38
	+ ID2= 2 (0804):	0.96	0.102	5.25	69.86
	ID = 3 (0701):	3.84	0.415	5.25	73.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0601)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.1980	0.1189
			0.0550	0.0706	0.2730	0.1270
			0.0990	0.0916	0.3620	0.1322
			0.1190	0.1058	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0701)	3.840	0.415	5.25	73.25
OUTFLOW: ID= 1 (0601)	3.840	0.350	5.25	73.17

PEAK FLOW REDUCTION [Qout/Qin](%)= 84.30
TIME SHIFT OF PEAK FLOW (min)= 0.00
MAXIMUM STORAGE USED (ha.m.)= 0.1325

CALIB	STANDHYD (0012)	ID= 1 DT= 5.0 min	Area (ha)= 0.74	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.18	0.56	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	70.24	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		40.71	31.86	
over (min)		5.00	15.00	
Storage Coeff.	(min)=	2.96 (ii)	12.31 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	15.00	
Unit Hyd. peak	(cms)=	0.28	0.09	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.05	0.066 (iii)
TIME TO PEAK	(hrs)=	4.92	5.25	5.25
RUNOFF VOLUME	(mm)=	87.54	53.77	61.86
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.61	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0011) |   Area    (ha)=   0.68
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.16         0.52
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      67.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        31.86
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.89 (ii)   12.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.28         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.04          0.061 (iii)
     TIME TO PEAK    (hrs)=       4.92         5.25           5.25
     RUNOFF VOLUME    (mm)=      87.54        53.77          61.86
     TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
     RUNOFF COEFFICIENT   =       0.99         0.61           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0500) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0011):     0.68   0.061     5.25    61.86
       + ID2= 2 (0012):     0.74   0.066     5.25    61.86
         ================================================
         ID = 3 (0500):     1.42   0.127     5.25    61.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0500) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0500):     1.42   0.127     5.25    61.86
       + ID2= 2 (0600):     2.20   0.066     6.25    82.75
         ================================================
         ID = 1 (0500):     3.62   0.183     5.25    74.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0500) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0500):     3.62   0.183     5.25    74.56
       + ID2= 2 (0601):     3.84   0.350     5.25    73.17
         ================================================
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```
          ID = 3 (0500):     7.46   0.533     5.25    73.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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HURONTARIO STATION SWMBF-1A & 1B
VO OUTPUT FILES 4 HOUR CHICAGO

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\3abdb81f-293a-4312-a55b-ffb4e5c1c841\Scenario.out

  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\3abdb81f-293a-4312-a55b-ffb4e5c1c841\Scenario.sum


DATE: 06/18/2018                          TIME: 11:25:06

USER:


COMMENTS: _____________________________________________________________


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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 453.462
| Ptotal= 38.09 mm |                          B=   1.500
--------------------                          C=   0.704
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
                       5.         131.10               121.41
                      10.          81.50                81.25
                      15.          61.70                63.01
                      30.          38.40                39.97
                      60.          24.00                24.96
                     120.          15.00                15.45
                     360.           7.10                 7.17
                     720.           4.50                 4.41
                    1440.           2.80                 2.71


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                                      Page 1
```

0.17	3.20	1.17	16.80	2.17	6.49	3.17	3.71
0.33	3.59	1.33	81.25	2.33	5.70	3.33	3.48
0.50	4.11	1.50	21.07	2.50	5.11	3.50	3.29
0.67	4.87	1.67	12.55	2.67	4.64	3.67	3.12
0.83	6.09	1.83	9.35	2.83	4.27	3.83	2.97
1.00	8.47	2.00	7.61	3.00	3.96	4.00	2.84

CALIB			
STANDHYD (0014)	Area (ha)= 0.68		
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.16	0.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	67.33	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.20	1.083	16.80	2.083	6.49	3.08	3.71
0.167	3.20	1.167	16.80	2.167	6.49	3.17	3.71
0.250	3.59	1.250	81.25	2.250	5.70	3.25	3.48
0.333	3.59	1.333	81.25	2.333	5.70	3.33	3.48
0.417	4.11	1.417	21.07	2.417	5.11	3.42	3.29
0.500	4.11	1.500	21.07	2.500	5.11	3.50	3.29
0.583	4.87	1.583	12.55	2.583	4.64	3.58	3.12
0.667	4.87	1.667	12.55	2.667	4.64	3.67	3.12
0.750	6.09	1.750	9.35	2.750	4.27	3.75	2.97
0.833	6.09	1.833	9.35	2.833	4.27	3.83	2.97
0.917	8.47	1.917	7.61	2.917	3.96	3.92	2.84
1.000	8.47	2.000	7.61	3.000	3.96	4.00	2.84

Max.Eff.Inten.(mm/hr)=		81.25	20.59	
over (min)		5.00	15.00	
Storage Coeff. (min)=		2.19 (ii)	13.32 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.31	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.04	0.02	0.046 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	37.09	14.09	19.60
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09
RUNOFF COEFFICIENT	=	0.97	0.37	0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0015)	Area (ha)= 0.74		
ID= 1 DT= 5.0 min	Total Imp(%)= 24.00	Dir. Conn.(%)= 24.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.18	0.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	70.24	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		81.25	20.59
over (min)		5.00	15.00

```
     Storage Coeff.  (min)=       2.25 (ii)   13.38 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.30         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.02          0.050 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      37.09        14.09          19.60
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.37           0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0016) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      29.44        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25      NaN
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.33 (ii)    4.71 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.22
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.026 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      37.09        29.61          33.33
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.78           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0019) |   Area    (ha)=   0.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      75.72        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25      NaN
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.35 (ii)    5.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.06          0.152 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      37.09        29.61          33.35
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.78           0.88
```

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0036) |   Area    (ha)=   0.63
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.57         0.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      64.81        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25      NaN
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.14 (ii)    5.52 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.04          0.112 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      37.09        29.61          33.35
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.78           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0018) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0016):     0.13   0.026     1.33    33.33
       + ID2= 2 (0019):     0.86   0.152     1.33    33.35
         ================================================
         ID = 3 (0018):     0.99   0.178     1.33    33.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0018) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0018):     0.99   0.178     1.33    33.35
       + ID2= 2 (0036):     0.63   0.112     1.33    33.35
         ================================================
         ID = 1 (0018):     1.62   0.290     1.33    33.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0021) |   Area    (ha)=   0.17
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=       0.15         0.02
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      33.67        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25      NaN
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.44 (ii)    4.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.22
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01          0.034 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      37.09        29.61          33.33
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.78           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0022) |   Area    (ha)=   0.11
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.10         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      27.08        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25      NaN
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.27 (ii)    4.64 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.22
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.022 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      37.09        29.61          33.33
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.78           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0024) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0021):     0.17   0.034     1.33    33.33
        + ID2= 2 (0022):     0.11   0.022     1.33    33.33
          ================================================
          ID = 3 (0024):     0.28   0.055     1.33    33.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
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| STANDHYD (0005) | Area (ha)= 0.30
|ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.27	0.03	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	44.72	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		81.25	331.16	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.71 (ii)	5.09 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.32	0.16	
				TOTALS
PEAK FLOW	(cms)=	0.03	0.02	0.054 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	37.09	29.61	33.35
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09
RUNOFF COEFFICIENT	=	0.97	0.78	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0025)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0005):	0.30	0.054	1.33	33.35
+ ID2= 2 (0018):	1.62	0.290	1.33	33.35
ID = 3 (0025):	1.92	0.344	1.33	33.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0025)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0025):	1.92	0.344	1.33	33.35
+ ID2= 2 (0024):	0.28	0.055	1.33	33.33
ID = 1 (0025):	2.20	0.399	1.33	33.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0035)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0560	0.0641
0.0090	0.0458	0.0810	0.0721
0.0150	0.0502	0.1030	0.0784
0.0410	0.0585	0.1240	0.0839

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0025)	2.200	0.399	1.33	33.35
OUTFLOW: ID= 1 (0035)	2.200	0.027	2.75	32.76

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.69
TIME SHIFT OF PEAK FLOW (min)= 85.00
MAXIMUM STORAGE USED (ha.m.)= 0.0539

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--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0027) |   Area    (ha)=   2.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  50.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.15         0.54
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=     133.92        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.69 (ii)    7.14 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.30         0.18          0.466 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      37.09        19.07          28.08
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.50           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0028) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      35.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.21 (ii)    4.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.23
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02          0.040 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      37.09        28.03          32.55
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.74           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0026) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
          ID1= 1 (0027):     2.69   0.466     1.33    28.08
        + ID2= 2 (0028):     0.19   0.040     1.33    32.55
          ================================================
          ID = 3 (0026):     2.88   0.506     1.33    28.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0029) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.23
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25        39.64
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.39 (ii)    9.96 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.11
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01          0.027 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      37.09         6.61          13.92
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.17           0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0032) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59         0.07
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      66.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25          NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.76 (ii)    5.14 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.16
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.05          0.129 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      37.09        28.03          32.56
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.74           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (0030) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0029):     0.30   0.027     1.33    13.92
        + ID2= 2 (0032):     0.66   0.129     1.33    32.56
          ================================================
          ID = 3 (0030):     0.96   0.156     1.33    26.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| ADD HYD   (0031) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0026):     2.88   0.506     1.33    28.38
        + ID2= 2 (0030):     0.96   0.156     1.33    26.74
          ================================================
          ID = 3 (0031):     3.84   0.662     1.33    27.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------
| RESERVOIR (0034) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0790      0.1198
                          0.0100     0.0514   |   0.1380      0.1357
                          0.0510     0.0767   |   0.2080      0.1472
                          0.0690     0.1023   |   0.2760      0.1584

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)      3.840      0.662      1.33      27.97
     OUTFLOW: ID= 1 (0034)      3.840      0.051      2.17      27.63

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.70
                    TIME SHIFT OF PEAK FLOW         (min)= 50.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0767
```

```
--------------------
| ADD HYD   (0033) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0014):     0.68   0.046     1.33    19.60
        + ID2= 2 (0015):     0.74   0.050     1.33    19.60
          ================================================
          ID = 3 (0033):     1.42   0.095     1.33    19.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (0033) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0033):     1.42   0.095     1.33    19.60
        + ID2= 2 (0034):     3.84   0.051     2.17    27.63
          ================================================
          ID = 1 (0033):     5.26   0.102     1.33    25.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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```

| ADD HYD (0033) |
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0033):	5.26	0.102	1.33	25.46
+ ID2= 2 (0035):	2.20	0.027	2.75	32.76
ID = 3 (0033):	7.46	0.107	1.33	27.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 2 **
****

| CHICAGO STORM |
| Ptotal= 48.94 mm |

IDF curve parameters: A= 592.209
B= 1.501
C= 0.707
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	170.20	157.65
10.	105.60	105.33
15.	79.90	81.60
30.	49.70	51.66
60.	30.90	32.19
120.	19.20	19.89
360.	9.10	9.20
720.	5.70	5.65
1440.	3.60	3.46

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.08	1.17	21.57	2.17	8.28	3.17	4.72
0.33	4.57	1.33	105.33	2.33	7.27	3.33	4.43
0.50	5.24	1.50	27.08	2.50	6.51	3.50	4.19
0.67	6.21	1.67	16.08	2.67	5.92	3.67	3.97
0.83	7.77	1.83	11.97	2.83	5.44	3.83	3.78
1.00	10.83	2.00	9.72	3.00	5.05	4.00	3.61

| CALIB |
| STANDHYD (0014) |
| ID= 1 DT= 5.0 min |

Area (ha)= 0.68
Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.16	0.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	67.33	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.08	1.083	21.57	2.083	8.28	3.08	4.72
0.167	4.08	1.167	21.57	2.167	8.28	3.17	4.72
0.250	4.57	1.250	105.33	2.250	7.27	3.25	4.43
0.333	4.57	1.333	105.33	2.333	7.27	3.33	4.43
0.417	5.24	1.417	27.08	2.417	6.51	3.42	4.19
0.500	5.24	1.500	27.08	2.500	6.51	3.50	4.19

```
                0.583    6.21 | 1.583   16.08 | 2.583    5.92 |  3.58    3.97
                0.667    6.21 | 1.667   16.08 | 2.667    5.92 |  3.67    3.97
                0.750    7.77 | 1.750   11.97 | 2.750    5.44 |  3.75    3.78
                0.833    7.77 | 1.833   11.97 | 2.833    5.44 |  3.83    3.78
                0.917   10.83 | 1.917    9.72 | 2.917    5.05 |  3.92    3.61
                1.000   10.83 | 2.000    9.72 | 3.000    5.05 |  4.00    3.61

     Max.Eff.Inten.(mm/hr)=     105.33        42.39
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       1.97 (ii)   10.31 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.31         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.04          0.066 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      47.94        21.64          27.94
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.44           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0015) |   Area    (ha)=   0.74
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.56
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      70.24        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33        42.39
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.02 (ii)   10.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.31         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.04          0.071 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      47.94        21.64          27.95
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.44           0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0016) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      29.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33         NaN
               over (min)        5.00         5.00
```

```
     Storage Coeff.  (min)=       1.20 (ii)    4.25 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02         0.035 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33          1.33
     RUNOFF VOLUME    (mm)=      47.94        40.08         43.99
     TOTAL RAINFALL   (mm)=      48.94        48.94         48.94
     RUNOFF COEFFICIENT   =       0.98         0.82          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0019) |   Area    (ha)=   0.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      75.72        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33      NaN
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.12 (ii)    5.16 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.12         0.08         0.206 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=      47.94        40.08         44.01
     TOTAL RAINFALL   (mm)=      48.94        48.94         48.94
     RUNOFF COEFFICIENT   =       0.98         0.82          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0036) |   Area    (ha)=   0.63
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.57         0.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      64.81        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33      NaN
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.93 (ii)    4.97 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.31         0.22
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.07         0.164 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33          1.33
     RUNOFF VOLUME    (mm)=      47.94        40.08         44.01
     TOTAL RAINFALL   (mm)=      48.94        48.94         48.94
     RUNOFF COEFFICIENT   =       0.98         0.82          0.90
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0018)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0016):	0.13	0.035	1.33	43.99
	+ ID2= 2 (0019):	0.86	0.206	1.33	44.01
	ID = 3 (0018):	0.99	0.240	1.33	44.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0018)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0018):	0.99	0.240	1.33	44.00
	+ ID2= 2 (0036):	0.63	0.164	1.33	44.01
	ID = 1 (0018):	1.62	0.404	1.33	44.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0021)	Area (ha)= 0.17
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.15	0.02	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	33.67	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	over (min)	105.33	NaN	
	over (min)	5.00	5.00	
Storage Coeff.	(min)=	1.30 (ii)	4.35 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	5.00	
Unit Hyd. peak	(cms)=	0.33	0.23	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.02	0.045 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	47.94	40.08	43.99
TOTAL RAINFALL	(mm)=	48.94	48.94	48.94
RUNOFF COEFFICIENT	=	0.98	0.82	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0022)	Area (ha)= 0.11
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

IMPERVIOUS PERVIOUS (i)

```
     Surface Area     (ha)=       0.10         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      27.08        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33      NaN
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.14 (ii)    4.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01          0.029 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      47.94        40.08          43.99
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.82           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0024) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0021):     0.17   0.045     1.33    43.99
       + ID2= 2 (0022):     0.11   0.029     1.33    43.99
         ================================================
         ID = 3 (0024):     0.28   0.074     1.33    43.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33       455.18
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.54 (ii)    4.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.23
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.04          0.079 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      47.94        40.08          44.00
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.82           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0025) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0005):     0.30   0.079     1.33    44.00
        + ID2= 2 (0018):     1.62   0.404     1.33    44.00
          ================================================
          ID = 3 (0025):     1.92   0.483     1.33    44.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0025) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0025):     1.92   0.483     1.33    44.00
        + ID2= 2 (0024):     0.28   0.074     1.33    43.99
          ================================================
          ID = 1 (0025):     2.20   0.557     1.33    44.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0035) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0560      0.0641
                          0.0090     0.0458   |   0.0810      0.0721
                          0.0150     0.0502   |   0.1030      0.0784
                          0.0410     0.0585   |   0.1240      0.0839

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0025)      2.200      0.557      1.33      44.00
     OUTFLOW: ID= 1 (0035)      2.200      0.053      2.08      43.42

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.51
                    TIME SHIFT OF PEAK FLOW         (min)= 45.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0630

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--------------------
| CALIB            |
| STANDHYD  (0027) |   Area    (ha)=   2.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.15         0.54
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=     133.92        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.42 (ii)    6.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.39         0.25          0.634 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      47.94        29.49          38.71
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.60           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0028)	Area (ha)=	0.19			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	50.00	
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.17	0.02		
Dep. Storage	(mm)=	1.00	1.50		
Average Slope	(%)=	2.00	3.60		
Length	(m)=	35.59	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		105.33	NaN		
over (min)		5.00	5.00		
Storage Coeff.	(min)=	1.09 (ii)	4.14 (ii)		
Unit Hyd. Tpeak	(min)=	5.00	5.00		
Unit Hyd. peak	(cms)=	0.34	0.24		
				TOTALS	
PEAK FLOW	(cms)=	0.03	0.03	0.053 (iii)	
TIME TO PEAK	(hrs)=	1.33	1.33	1.33	
RUNOFF VOLUME	(mm)=	47.94	38.70	43.31	
TOTAL RAINFALL	(mm)=	48.94	48.94	48.94	
RUNOFF COEFFICIENT	=	0.98	0.79	0.88	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
Fo (mm/hr)= 50.00 K (1/hr)= 2.00
Fc (mm/hr)= 7.50 Cum.Inf. (mm)= 0.00
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0026)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0027):		2.69	0.634	1.33	38.71
+ ID2= 2 (0028):		0.19	0.053	1.33	43.31
ID = 3 (0026):		2.88	0.686	1.33	39.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0029)	Area (ha)=	0.30			
ID= 1 DT= 5.0 min	Total Imp(%)=	24.00	Dir. Conn.(%)=	24.00	
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.07	0.23		
Dep. Storage	(mm)=	1.00	1.50		
Average Slope	(%)=	2.00	3.60		
Length	(m)=	44.72	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		105.33	66.65		
over (min)		5.00	10.00		
Storage Coeff.	(min)=	1.25 (ii)	8.21 (ii)		
Unit Hyd. Tpeak	(min)=	5.00	10.00		
Unit Hyd. peak	(cms)=	0.33	0.13		
				TOTALS	
PEAK FLOW	(cms)=	0.02	0.03	0.043 (iii)	
TIME TO PEAK	(hrs)=	1.33	1.42	1.33	
RUNOFF VOLUME	(mm)=	47.94	11.72	20.41	
TOTAL RAINFALL	(mm)=	48.94	48.94	48.94	
RUNOFF COEFFICIENT	=	0.98	0.24	0.42	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0032) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59         0.07
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      66.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.59 (ii)    4.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.22
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.09          0.182 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      47.94        38.70          43.32
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.79           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0030) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0029):    0.30   0.043     1.33    20.41
        + ID2= 2 (0032):    0.66   0.182     1.33    43.32
          ================================================
          ID = 3 (0030):    0.96   0.225     1.33    36.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0031) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0026):    2.88   0.686     1.33    39.02
        + ID2= 2 (0030):    0.96   0.225     1.33    36.16
          ================================================
          ID = 3 (0031):    3.84   0.911     1.33    38.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0034) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0790      0.1198
```

```
                          0.0100     0.0514   |   0.1380      0.1357
                          0.0510     0.0767   |   0.2080      0.1472
                          0.0690     0.1023   |   0.2760      0.1584

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)      3.840      0.911      1.33       38.30
     OUTFLOW: ID= 1 (0034)      3.840      0.069      2.17       37.96

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.55
                  TIME SHIFT OF PEAK FLOW         (min)= 50.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1021

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--------------------
| ADD HYD   (0033) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0014):     0.68   0.066     1.33    27.94
        + ID2= 2 (0015):     0.74   0.071     1.33    27.95
          ================================================
          ID = 3 (0033):     1.42   0.137     1.33    27.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0033) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0033):     1.42   0.137     1.33    27.94
        + ID2= 2 (0034):     3.84   0.069     2.17    37.96
          ================================================
          ID = 1 (0033):     5.26   0.157     1.50    35.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0033) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0033):     5.26   0.157     1.50    35.26
        + ID2= 2 (0035):     2.20   0.053     2.08    43.42
          ================================================
          ID = 3 (0033):     7.46   0.183     1.50    37.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   3 **
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| CHICAGO STORM    |    IDF curve parameters: A= 683.826
| Ptotal= 55.89 mm |                          B=   1.501
--------------------                          C=   0.709
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
                       5.         195.80               181.36
                      10.         121.40               121.03
                      15.          91.80                93.70
                      30.          57.00                59.24
```

60.	35.40	36.87
120.	22.00	22.75
360.	10.40	10.50
720.	6.50	6.43
1440.	4.10	3.94

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.63	1.17	24.61	2.17	9.42	3.17	5.36
0.33	5.19	1.33	121.03	2.33	8.26	3.33	5.03
0.50	5.95	1.50	30.93	2.50	7.40	3.50	4.75
0.67	7.06	1.67	18.33	2.67	6.73	3.67	4.51
0.83	8.83	1.83	13.63	2.83	6.18	3.83	4.29
1.00	12.33	2.00	11.06	3.00	5.73	4.00	4.10

CALIB STANDHYD (0014) ID= 1 DT= 5.0 min	Area (ha)= 0.68 Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.16	0.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	67.33	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.63	1.083	24.61	2.083	9.42	3.08	5.36
0.167	4.63	1.167	24.61	2.167	9.42	3.17	5.36
0.250	5.19	1.250	121.03	2.250	8.26	3.25	5.03
0.333	5.19	1.333	121.03	2.333	8.26	3.33	5.03
0.417	5.95	1.417	30.93	2.417	7.40	3.42	4.75
0.500	5.95	1.500	30.93	2.500	7.40	3.50	4.75
0.583	7.06	1.583	18.33	2.583	6.73	3.58	4.51
0.667	7.06	1.667	18.33	2.667	6.73	3.67	4.51
0.750	8.83	1.750	13.63	2.750	6.18	3.75	4.29
0.833	8.83	1.833	13.63	2.833	6.18	3.83	4.29
0.917	12.33	1.917	11.06	2.917	5.73	3.92	4.10
1.000	12.33	2.000	11.06	3.000	5.73	4.00	4.10

Max.Eff.Inten.(mm/hr)=		121.03	54.23	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.87 (ii)	9.42 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.32	0.12	
				TOTALS
PEAK FLOW	(cms)=	0.05	0.05	0.094 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	54.89	26.86	33.57
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89
RUNOFF COEFFICIENT	=	0.98	0.48	0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0015) ID= 1 DT= 5.0 min	Area (ha)= 0.74 Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18          0.56
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      70.24         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03         54.23
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       1.91 (ii)     9.47 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.31          0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06          0.05          0.103 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.42           1.33
     RUNOFF VOLUME    (mm)=      54.89         26.86          33.58
     TOTAL RAINFALL   (mm)=      55.89         55.89          55.89
     RUNOFF COEFFICIENT   =       0.98          0.48           0.60

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0016) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12          0.01
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      29.44         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03          NaN
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.14 (ii)     4.02 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.34          0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02          0.02          0.040 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      54.89         46.86          50.86
     TOTAL RAINFALL   (mm)=      55.89         55.89          55.89
     RUNOFF COEFFICIENT   =       0.98          0.84           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0019) |   Area    (ha)=   0.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77          0.09
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      75.72         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03          NaN
               over (min)         5.00          5.00
```

```
     Storage Coeff.  (min)=       2.00 (ii)    4.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.31         0.22
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.12          0.260 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      54.89        46.86          50.87
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.98         0.84           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0036) |   Area    (ha)=   0.63
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.57         0.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      64.81        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     121.03      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.82 (ii)    4.70 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.32         0.22
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.09          0.192 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      54.89        46.86          50.87
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.98         0.84           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0018) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0016):     0.13   0.040     1.33    50.86
       + ID2= 2 (0019):     0.86   0.260     1.33    50.87
         ================================================
         ID = 3 (0018):     0.99   0.300     1.33    50.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0018) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0018):     0.99   0.300     1.33    50.87
       + ID2= 2 (0036):     0.63   0.192     1.33    50.87
         ================================================
         ID = 1 (0018):     1.62   0.492     1.33    50.87
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
STANDHYD (0021)	Area (ha)=	0.17			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	50.00	
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.15	0.02		
Dep. Storage	(mm)=	1.00	4.00		
Average Slope	(%)=	1.00	3.60		
Length	(m)=	33.67	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		121.03	NaN		
over (min)		5.00	5.00		
Storage Coeff.	(min)=	1.23 (ii)	4.11 (ii)		
Unit Hyd. Tpeak	(min)=	5.00	5.00		
Unit Hyd. peak	(cms)=	0.33	0.24		
				TOTALS	
PEAK FLOW	(cms)=	0.03	0.02	0.053 (iii)	
TIME TO PEAK	(hrs)=	1.33	1.33	1.33	
RUNOFF VOLUME	(mm)=	54.89	46.86	50.86	
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89	
RUNOFF COEFFICIENT	=	0.98	0.84	0.91	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0022)	Area (ha)=	0.11			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	50.00	
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.10	0.01		
Dep. Storage	(mm)=	1.00	4.00		
Average Slope	(%)=	1.00	3.60		
Length	(m)=	27.08	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		121.03	NaN		
over (min)		5.00	5.00		
Storage Coeff.	(min)=	1.08 (ii)	3.96 (ii)		
Unit Hyd. Tpeak	(min)=	5.00	5.00		
Unit Hyd. peak	(cms)=	0.34	0.24		
				TOTALS	
PEAK FLOW	(cms)=	0.02	0.02	0.034 (iii)	
TIME TO PEAK	(hrs)=	1.33	1.33	1.33	
RUNOFF VOLUME	(mm)=	54.89	46.86	50.86	
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89	
RUNOFF COEFFICIENT	=	0.98	0.84	0.91	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0024)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0021):		0.17	0.053	1.33	50.86

```
        + ID2= 2 (0022):     0.11   0.034     1.33    50.86
          ================================================
          ID = 3 (0024):     0.28   0.087     1.33    50.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     121.03       536.23
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.46 (ii)    4.34 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.23
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.04          0.092 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      54.89        46.86          50.87
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.98         0.84           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0025) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0005):     0.30   0.092     1.33    50.87
        + ID2= 2 (0018):     1.62   0.492     1.33    50.87
          ================================================
          ID = 3 (0025):     1.92   0.584     1.33    50.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0025) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0025):     1.92   0.584     1.33    50.87
        + ID2= 2 (0024):     0.28   0.087     1.33    50.86
          ================================================
          ID = 1 (0025):     2.20   0.671     1.33    50.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------
--------------------
| RESERVOIR (0035) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0560      0.0641
                         0.0090     0.0458    |   0.0810      0.0721
                         0.0150     0.0502    |   0.1030      0.0784
                         0.0410     0.0585    |   0.1240      0.0839
```

```
                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0025)      2.200     0.671      1.33      50.87
     OUTFLOW: ID= 1 (0035)      2.200     0.073      1.92      50.28

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.89
                   TIME SHIFT OF PEAK FLOW         (min)= 35.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0696

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0027) |   Area    (ha)=   2.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.15          0.54
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       2.00          3.60
     Length            (m)=     133.92         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03       NaN
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       2.29 (ii)     6.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.30          0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.45          0.30          0.744 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.42           1.33
     RUNOFF VOLUME    (mm)=      54.89         36.26          45.58
     TOTAL RAINFALL   (mm)=      55.89         55.89          55.89
     RUNOFF COEFFICIENT   =       0.98          0.65           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0028) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17          0.02
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       2.00          3.60
     Length            (m)=      35.59         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03       NaN
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.03 (ii)     3.91 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.34          0.25
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03          0.03          0.061 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      54.89         45.58          50.22
     TOTAL RAINFALL   (mm)=      55.89         55.89          55.89
     RUNOFF COEFFICIENT   =       0.98          0.82           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0026)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0027):	2.69	0.744	1.33	45.58
	+ ID2= 2 (0028):	0.19	0.061	1.33	50.22
	ID = 3 (0026):	2.88	0.805	1.33	45.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0029) | Area (ha)= 0.30
ID= 1 DT= 5.0 min | Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.07	0.23	
Dep. Storage	(mm)=	1.00	1.50	
Average Slope	(%)=	2.00	3.60	
Length	(m)=	44.72	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		121.03	84.17	
over (min)		5.00	10.00	
Storage Coeff.	(min)=	1.19 (ii)	7.53 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.33	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.03	0.054 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	54.89	15.56	25.00
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89
RUNOFF COEFFICIENT	=	0.98	0.28	0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
Fo (mm/hr)= 50.00 K (1/hr)= 2.00
Fc (mm/hr)= 7.50 Cum.Inf. (mm)= 0.00
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0032) | Area (ha)= 0.66
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.59	0.07	
Dep. Storage	(mm)=	1.00	1.50	
Average Slope	(%)=	2.00	3.60	
Length	(m)=	66.33	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		121.03	NaN	
over (min)		5.00	5.00	
Storage Coeff.	(min)=	1.50 (ii)	4.38 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	5.00	
Unit Hyd. peak	(cms)=	0.33	0.23	
				TOTALS
PEAK FLOW	(cms)=	0.11	0.10	0.210 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	54.89	45.58	50.23
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89
RUNOFF COEFFICIENT	=	0.98	0.82	0.90

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0030) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0029):     0.30   0.054     1.33    25.00
        + ID2= 2 (0032):    0.66   0.210     1.33    50.23
          ================================================
          ID = 3 (0030):    0.96   0.264     1.33    42.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0031) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0026):     2.88   0.805     1.33    45.88
        + ID2= 2 (0030):    0.96   0.264     1.33    42.35
          ================================================
          ID = 3 (0031):    3.84   1.070     1.33    45.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0034) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0790      0.1198
                          0.0100     0.0514   |   0.1380      0.1357
                          0.0510     0.0767   |   0.2080      0.1472
                          0.0690     0.1023   |   0.2760      0.1584

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)      3.840      1.070      1.33      45.00
     OUTFLOW: ID= 1 (0034)      3.840      0.079      2.17      44.66

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.36
                    TIME SHIFT OF PEAK FLOW         (min)= 50.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1194

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0033) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):     0.68   0.094     1.33    33.57
        + ID2= 2 (0015):    0.74   0.103     1.33    33.58
          ================================================
          ID = 3 (0033):    1.42   0.197     1.33    33.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0033) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0033):     1.42   0.197     1.33    33.58
```

```
        + ID2= 2 (0034):     3.84   0.079     2.17    44.66
          ================================================
          ID = 1 (0033):     5.26   0.224     1.33    41.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0033) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0033):     5.26   0.224     1.33    41.67
        + ID2= 2 (0035):     2.20   0.073     1.92    50.28
          ================================================
          ID = 3 (0033):     7.46   0.234     1.50    44.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   4 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 804.454
| Ptotal= 64.68 mm |                          B=   1.501
--------------------                          C=   0.712
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

                     The CORRELATION coefficient is = 0.9996

                      TIME       INPUT INT.           TAB. INT.
                     (min)        (mm/hr)              (mm/hr)
                        5.         228.80               212.16
                       10.         141.60               141.34
                       15.         107.10               109.30
                       30.          66.40                68.98
                       60.          41.20                42.84
                      120.          25.60                26.38
                      360.          12.10                12.14
                      720.           7.50                 7.42
                     1440.           4.70                 4.53


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    5.30 |  1.17   28.45 |  2.17   10.83 |  3.17    6.14
                  0.33    5.95 |  1.33  141.34 |  2.33    9.50 |  3.33    5.77
                  0.50    6.83 |  1.50   35.79 |  2.50    8.50 |  3.50    5.45
                  0.67    8.10 |  1.67   21.14 |  2.67    7.72 |  3.67    5.17
                  0.83   10.16 |  1.83   15.70 |  2.83    7.09 |  3.83    4.92
                  1.00   14.20 |  2.00   12.73 |  3.00    6.58 |  4.00    4.70


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0014) |   Area    (ha)=   0.68
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.16          0.52
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      67.33         40.00
     Mannings n             =     0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.30	1.083	28.45	2.083	10.83	3.08	6.14
0.167	5.30	1.167	28.45	2.167	10.83	3.17	6.14
0.250	5.95	1.250	141.34	2.250	9.50	3.25	5.77
0.333	5.95	1.333	141.34	2.333	9.50	3.33	5.77
0.417	6.83	1.417	35.79	2.417	8.50	3.42	5.45
0.500	6.83	1.500	35.79	2.500	8.50	3.50	5.45
0.583	8.10	1.583	21.14	2.583	7.72	3.58	5.17
0.667	8.10	1.667	21.14	2.667	7.72	3.67	5.17
0.750	10.16	1.750	15.70	2.750	7.09	3.75	4.92
0.833	10.16	1.833	15.70	2.833	7.09	3.83	4.92
0.917	14.20	1.917	12.73	2.917	6.58	3.92	4.70
1.000	14.20	2.000	12.73	3.000	6.58	4.00	4.70

Max.Eff.Inten.(mm/hr)=	141.34	70.45	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.75 (ii)	8.56 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.12	
			TOTALS
PEAK FLOW (cms)=	0.06	0.07	0.119 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	63.68	33.76	40.93
TOTAL RAINFALL (mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT =	0.98	0.52	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0015)
ID= 1 DT= 5.0 min

Area (ha)= 0.74
Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.18	0.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	70.24	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	141.34	70.45	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.80 (ii)	8.61 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.12	
			TOTALS
PEAK FLOW (cms)=	0.07	0.07	0.129 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	63.68	33.76	40.93
TOTAL RAINFALL (mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT =	0.98	0.52	0.63

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0016)
ID= 1 DT= 5.0 min

Area (ha)= 0.13
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12          0.01
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      29.44         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     141.34       NaN
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.07 (ii)     3.77 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.34          0.25
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03          0.02          0.048 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68         55.48          59.56
     TOTAL RAINFALL   (mm)=      64.68         64.68          64.68
     RUNOFF COEFFICIENT   =       0.98          0.86           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0019) |   Area    (ha)=   0.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77          0.09
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      75.72         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     141.34       NaN
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.88 (ii)     4.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.32          0.23
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.17          0.14          0.309 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68         55.48          59.57
     TOTAL RAINFALL   (mm)=      64.68         64.68          64.68
     RUNOFF COEFFICIENT   =       0.98          0.86           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0036) |   Area    (ha)=   0.63
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.57          0.06
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      64.81         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     141.34       NaN
               over (min)         5.00          5.00
```

```
     Storage Coeff.  (min)=       1.71 (ii)    4.42 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.32         0.23
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.12         0.10          0.228 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68        55.48          59.57
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.86           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0018) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0016):     0.13   0.048     1.33    59.56
       + ID2= 2 (0019):     0.86   0.309     1.33    59.57
         ================================================
         ID = 3 (0018):     0.99   0.357     1.33    59.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0018) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0018):     0.99   0.357     1.33    59.57
       + ID2= 2 (0036):     0.63   0.228     1.33    59.57
         ================================================
         ID = 1 (0018):     1.62   0.584     1.33    59.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0021) |   Area    (ha)=   0.17
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.15         0.02
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      33.67        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34      NaN
               over (min)          5.00         5.00
     Storage Coeff.  (min)=       1.16 (ii)    3.86 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.25
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03          0.062 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68        55.48          59.56
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.86           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

```
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0022) |   Area    (ha)=   0.11
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.10         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      27.08        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34      NaN
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.02 (ii)    3.72 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.25
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02          0.040 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68        55.48          59.56
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.86           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0024) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0021):     0.17   0.062     1.33    59.56
        + ID2= 2 (0022):     0.11   0.040     1.33    59.56
          ================================================
          ID = 3 (0024):     0.28   0.103     1.33    59.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34       640.86
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.37 (ii)    4.08 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.05          0.109 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68        55.48          59.57
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.86           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0025)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0005):	0.30	0.109	1.33	59.57
	+ ID2= 2 (0018):	1.62	0.584	1.33	59.57
	ID = 3 (0025):	1.92	0.694	1.33	59.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0025)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0025):	1.92	0.694	1.33	59.57
	+ ID2= 2 (0024):	0.28	0.103	1.33	59.56
	ID = 1 (0025):	2.20	0.797	1.33	59.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0035)					
IN= 2---> OUT= 1					
DT= 5.0 min		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	0.0560	0.0641
		0.0090	0.0458	0.0810	0.0721
		0.0150	0.0502	0.1030	0.0784
		0.0410	0.0585	0.1240	0.0839

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0025)	2.200	0.797	1.33	59.57
OUTFLOW: ID= 1 (0035)	2.200	0.102	1.75	58.99

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.86
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0782

CALIB	
STANDHYD (0027)	Area (ha)= 2.69
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	2.15	0.54	
Dep. Storage	(mm)=	1.00	1.50	
Average Slope	(%)=	2.00	3.60	
Length	(m)=	133.92	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		141.34	NaN	
over (min)		5.00	10.00	
Storage Coeff.	(min)=	2.15 (ii)	5.72 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.31	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.52	0.36	0.887 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	63.68	44.84	54.26
TOTAL RAINFALL	(mm)=	64.68	64.68	64.68

```
     RUNOFF COEFFICIENT   =       0.98         0.69          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0028) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      35.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34      NaN
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       0.97 (ii)    3.68 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.25
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.03          0.072 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68        54.29          58.97
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.84           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0026) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0027):     2.69   0.887     1.33    54.26
        + ID2= 2 (0028):     0.19   0.072     1.33    58.97
          ================================================
          ID = 3 (0026):     2.88   0.959     1.33    54.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0029) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.23
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34       106.69
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.11 (ii)    6.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
```

```
     Unit Hyd. peak  (cms)=       0.34         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.04          0.069 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      63.68        21.38          31.53
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.33           0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0032) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59         0.07
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      66.33        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34      NaN
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.41 (ii)    4.12 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.13         0.12          0.248 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68        54.29          58.98
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.84           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0030) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0029):     0.30   0.069     1.33    31.53
       + ID2= 2 (0032):     0.66   0.248     1.33    58.98
         ================================================
         ID = 3 (0030):     0.96   0.316     1.33    50.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0031) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0026):     2.88   0.959     1.33    54.57
       + ID2= 2 (0030):     0.96   0.316     1.33    50.40
         ================================================
         ID = 3 (0031):     3.84   1.275     1.33    53.53
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0034)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0790	0.1198
0.0100	0.0514	0.1380	0.1357
0.0510	0.0767	0.2080	0.1472
0.0690	0.1023	0.2760	0.1584

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0031)	3.840	1.275	1.33	53.53
OUTFLOW: ID= 1 (0034)	3.840	0.136	1.92	53.19

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.65
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.1352

ADD HYD (0033)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0014):	0.68	0.119	1.33	40.93
+ ID2= 2 (0015):	0.74	0.129	1.33	40.93
ID = 3 (0033):	1.42	0.248	1.33	40.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0033)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0033):	1.42	0.248	1.33	40.93
+ ID2= 2 (0034):	3.84	0.136	1.92	53.19
ID = 1 (0033):	5.26	0.296	1.33	49.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0033)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0033):	5.26	0.296	1.33	49.88
+ ID2= 2 (0035):	2.20	0.102	1.75	58.99
ID = 3 (0033):	7.46	0.316	1.42	52.56

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 5 **
****

CHICAGO STORM
Ptotal= 71.55 mm

IDF curve parameters: A= 889.943
B= 1.500
C= 0.712
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	253.20	234.73
10.	156.70	156.37
15.	118.40	120.92
30.	73.40	76.31
60.	45.50	47.39
120.	28.20	29.18
360.	13.30	13.43
720.	8.30	8.21
1440.	5.20	5.02

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.87	1.17	31.47	2.17	11.98	3.17	6.80
0.33	6.58	1.33	156.37	2.33	10.51	3.33	6.39
0.50	7.55	1.50	39.59	2.50	9.40	3.50	6.03
0.67	8.96	1.67	23.39	2.67	8.54	3.67	5.72
0.83	11.23	1.83	17.36	2.83	7.85	3.83	5.44
1.00	15.71	2.00	14.09	3.00	7.28	4.00	5.20

CALIB STANDHYD (0014) ID= 1 DT= 5.0 min	Area (ha)= 0.68 Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.16	0.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	67.33	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.87	1.083	31.47	2.083	11.98	3.08	6.80
0.167	5.87	1.167	31.47	2.167	11.98	3.17	6.80
0.250	6.58	1.250	156.37	2.250	10.51	3.25	6.39
0.333	6.58	1.333	156.37	2.333	10.51	3.33	6.39
0.417	7.55	1.417	39.59	2.417	9.40	3.42	6.03
0.500	7.55	1.500	39.59	2.500	9.40	3.50	6.03
0.583	8.96	1.583	23.39	2.583	8.54	3.58	5.72
0.667	8.96	1.667	23.39	2.667	8.54	3.67	5.72
0.750	11.23	1.750	17.36	2.750	7.85	3.75	5.44
0.833	11.23	1.833	17.36	2.833	7.85	3.83	5.44
0.917	15.71	1.917	14.09	2.917	7.28	3.92	5.20
1.000	15.71	2.000	14.09	3.000	7.28	4.00	5.20

Max.Eff.Inten.(mm/hr)=		156.37	83.32	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.69 (ii)	8.05 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.32	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.07	0.08	0.139 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	70.55	39.36	46.84
TOTAL RAINFALL	(mm)=	71.55	71.55	71.55
RUNOFF COEFFICIENT	=	0.99	0.55	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

```
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0015) |   Area    (ha)=   0.74
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.56
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      70.24        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37        83.32
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.73 (ii)    8.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.09          0.151 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      70.55        39.36          46.84
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.55           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0016) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      29.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37         NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.03 (ii)    3.62 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.25
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03          0.053 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      70.55        62.24          66.38
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0019) |   Area    (ha)=   0.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      75.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.81 (ii)    4.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.32         0.23
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.19         0.16          0.346 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      70.55        62.24          66.39
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0036) |   Area    (ha)=   0.63
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.57         0.06
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      64.81        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.65 (ii)    4.25 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.32         0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.12          0.254 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      70.55        62.24          66.39
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0018) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0016):     0.13   0.053     1.33    66.38
       + ID2= 2 (0019):     0.86   0.346     1.33    66.39
         ================================================
         ID = 3 (0018):     0.99   0.399     1.33    66.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0018) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0018):     0.99   0.399     1.33    66.39
       + ID2= 2 (0036):     0.63   0.254     1.33    66.39
         ================================================
         ID = 1 (0018):     1.62   0.653     1.33    66.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0021) |   Area    (ha)=   0.17
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.15          0.02
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      33.67         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     156.37       NaN
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.11 (ii)     3.71 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.34          0.25
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04          0.03          0.070 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      70.55         62.24          66.38
     TOTAL RAINFALL   (mm)=      71.55         71.55          71.55
     RUNOFF COEFFICIENT   =       0.99          0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0022) |   Area    (ha)=   0.11
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.10          0.01
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      27.08         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     156.37       NaN
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       0.98 (ii)     3.57 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.34          0.26
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02          0.02          0.045 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      70.55         62.24          66.38
     TOTAL RAINFALL   (mm)=      71.55         71.55          71.55
     RUNOFF COEFFICIENT   =       0.99          0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0024)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0021):	0.17	0.070	1.33	66.38
	+ ID2= 2 (0022):	0.11	0.045	1.33	66.38
	ID = 3 (0024):	0.28	0.115	1.33	66.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0005)	Area (ha)= 0.30			
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00		
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.27	0.03	
Dep. Storage	(mm)=	1.00	4.00	
Average Slope	(%)=	1.00	3.60	
Length	(m)=	44.72	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		156.37	718.75	
over (min)		5.00	5.00	
Storage Coeff. (min)=		1.32 (ii)	3.92 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.33	0.24	
				TOTALS
PEAK FLOW	(cms)=	0.07	0.06	0.122 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	70.55	62.24	66.39
TOTAL RAINFALL	(mm)=	71.55	71.55	71.55
RUNOFF COEFFICIENT	=	0.99	0.87	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0025)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0005):	0.30	0.122	1.33	66.39
	+ ID2= 2 (0018):	1.62	0.653	1.33	66.39
	ID = 3 (0025):	1.92	0.775	1.33	66.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0025)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0025):	1.92	0.775	1.33	66.39
	+ ID2= 2 (0024):	0.28	0.115	1.33	66.38
	ID = 1 (0025):	2.20	0.890	1.33	66.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0035) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0560      0.0641
                          0.0090     0.0458   |   0.0810      0.0721
                          0.0150     0.0502   |   0.1030      0.0784
                          0.0410     0.0585   |   0.1240      0.0839

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0025)      2.200      0.890      1.33      66.39
     OUTFLOW: ID= 1 (0035)      2.200      0.127      1.75      65.80

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.32
                    TIME SHIFT OF PEAK FLOW         (min)= 25.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0850

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--------------------
| CALIB            |
| STANDHYD  (0027) |   Area    (ha)=   2.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.15         0.54
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=     133.92        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37      NaN
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.07 (ii)    5.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.16
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.58         0.41       0.993 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33        1.33
     RUNOFF VOLUME    (mm)=      70.55        51.54       61.05
     TOTAL RAINFALL   (mm)=      71.55        71.55       71.55
     RUNOFF COEFFICIENT   =       0.99         0.72        0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0028) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      35.59        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       0.93 (ii)    3.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.26
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.04       0.080 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33        1.33
     RUNOFF VOLUME    (mm)=      70.55        61.12       65.83
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     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.85           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0026) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0027):     2.69   0.993     1.33    61.05
       + ID2= 2 (0028):     0.19   0.080     1.33    65.83
         ================================================
         ID = 3 (0026):     2.88   1.073     1.33    61.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0029) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07         0.23
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37       124.51
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.07 (ii)    6.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.34         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.05          0.080 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      70.55        26.71          37.23
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.37           0.52

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0032) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59         0.07
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      66.33        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37          NaN
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.36 (ii)    3.96 (ii)
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```
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.13          0.275 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      70.55        61.12          65.83
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.85           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0030) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0029):     0.30   0.080     1.33    37.23
       + ID2= 2 (0032):     0.66   0.275     1.33    65.83
         ================================================
         ID = 3 (0030):     0.96   0.355     1.33    56.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0031) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0026):     2.88   1.073     1.33    61.36
       + ID2= 2 (0030):     0.96   0.355     1.33    56.90
         ================================================
         ID = 3 (0031):     3.84   1.428     1.33    60.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0034) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0790      0.1198
                          0.0100     0.0514   |   0.1380      0.1357
                          0.0510     0.0767   |   0.2080      0.1472
                          0.0690     0.1023   |   0.2760      0.1584

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)      3.840      1.428      1.33      60.24
     OUTFLOW: ID= 1 (0034)      3.840      0.197      1.75      59.91

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.78
                   TIME SHIFT OF PEAK FLOW         (min)= 25.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1454

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--------------------
| ADD HYD   (0033) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):     0.68   0.139     1.33    46.84
       + ID2= 2 (0015):     0.74   0.151     1.33    46.84
         ================================================
         ID = 3 (0033):     1.42   0.289     1.33    46.84
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0033)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0033):	1.42	0.289	1.33	46.84
	+ ID2= 2 (0034):	3.84	0.197	1.75	59.91
	ID = 1 (0033):	5.26	0.346	1.33	56.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0033)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0033):	5.26	0.346	1.33	56.38
	+ ID2= 2 (0035):	2.20	0.127	1.75	65.80
	ID = 3 (0033):	7.46	0.418	1.67	59.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 6 **
****

CHICAGO STORM	Ptotal= 77.58 mm

IDF curve parameters: A= 980.886
B= 1.508
C= 0.715
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	277.00	257.04
10.	171.40	171.00
15.	129.50	132.12
30.	80.20	83.22
60.	49.70	51.59
120.	30.80	31.70
360.	14.50	14.54
720.	9.00	8.87
1440.	5.60	5.41

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.30	1.17	34.10	2.17	12.91	3.17	7.30
0.33	7.07	1.33	171.00	2.33	11.31	3.33	6.86
0.50	8.12	1.50	42.95	2.50	10.12	3.50	6.47
0.67	9.64	1.67	25.29	2.67	9.19	3.67	6.14
0.83	12.10	1.83	18.74	2.83	8.44	3.83	5.84
1.00	16.95	2.00	15.19	3.00	7.82	4.00	5.58

CALIB STANDHYD (0014)	ID= 1 DT= 5.0 min

Area (ha)= 0.68
Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

IMPERVIOUS PERVIOUS (i)

Surface Area	(ha)=	0.16	0.52
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	67.33	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.30	1.083	34.10	2.083	12.91	3.08	7.30
0.167	6.30	1.167	34.10	2.167	12.91	3.17	7.30
0.250	7.07	1.250	171.00	2.250	11.31	3.25	6.86
0.333	7.07	1.333	171.00	2.333	11.31	3.33	6.86
0.417	8.12	1.417	42.95	2.417	10.12	3.42	6.47
0.500	8.12	1.500	42.95	2.500	10.12	3.50	6.47
0.583	9.64	1.583	25.29	2.583	9.19	3.58	6.14
0.667	9.64	1.667	25.29	2.667	9.19	3.67	6.14
0.750	12.10	1.750	18.74	2.750	8.44	3.75	5.84
0.833	12.10	1.833	18.74	2.833	8.44	3.83	5.84
0.917	16.95	1.917	15.19	2.917	7.82	3.92	5.58
1.000	16.95	2.000	15.19	3.000	7.82	4.00	5.58

Max.Eff.Inten.(mm/hr)=		171.00	95.83
over (min)		5.00	10.00
Storage Coeff. (min)=		1.63 (ii)	7.64 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.32	0.13
			TOTALS
PEAK FLOW	(cms)=	0.08	0.10 0.158 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42 1.33
RUNOFF VOLUME	(mm)=	76.58	44.39 52.11
TOTAL RAINFALL	(mm)=	77.58	77.58 77.58
RUNOFF COEFFICIENT	=	0.99	0.57 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0015) ID= 1 DT= 5.0 min	Area (ha)= 0.74 Total Imp(%)= 24.00 Dir. Conn.(%)= 24.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.18	0.56
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.60
Length	(m)=	70.24	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		171.00	95.83
over (min)		5.00	10.00
Storage Coeff. (min)=		1.67 (ii)	7.69 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.32	0.13
			TOTALS
PEAK FLOW	(cms)=	0.08	0.10 0.172 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42 1.33
RUNOFF VOLUME	(mm)=	76.58	44.39 52.11
TOTAL RAINFALL	(mm)=	77.58	77.58 77.58
RUNOFF COEFFICIENT	=	0.99	0.57 0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

```
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0016) |   Area    (ha)=   0.13
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      29.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       0.99 (ii)    3.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.26
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03          0.059 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      76.58        68.18          72.36
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.99         0.88           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0019) |   Area    (ha)=   0.86
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.09
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      75.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.74 (ii)    4.25 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.32         0.23
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.18          0.381 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      76.58        68.18          72.38
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.99         0.88           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0036) |   Area    (ha)=   0.63
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
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                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.57          0.06
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      64.81         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     171.00       NaN
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.59 (ii)     4.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.33          0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.15          0.13          0.280 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      76.58         68.18          72.38
     TOTAL RAINFALL   (mm)=      77.58         77.58          77.58
     RUNOFF COEFFICIENT   =       0.99          0.88           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0018) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0016):     0.13   0.059     1.33    72.36
       + ID2= 2 (0019):     0.86   0.381     1.33    72.38
         ================================================
         ID = 3 (0018):     0.99   0.439     1.33    72.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0018) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0018):     0.99   0.439     1.33    72.37
       + ID2= 2 (0036):     0.63   0.280     1.33    72.38
         ================================================
         ID = 1 (0018):     1.62   0.720     1.33    72.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0021) |   Area    (ha)=   0.17
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.15          0.02
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.60
     Length            (m)=      33.67         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     171.00       NaN
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.07 (ii)     3.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.34          0.26
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04          0.04          0.077 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      76.58         68.18          72.36
```

```
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.99         0.88           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0022) |   Area    (ha)=   0.11
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.10         0.01
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      27.08        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       0.94 (ii)    3.45 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.26
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.02       0.050 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33        1.33
     RUNOFF VOLUME    (mm)=      76.58        68.18       72.36
     TOTAL RAINFALL   (mm)=      77.58        77.58       77.58
     RUNOFF COEFFICIENT   =       0.99         0.88        0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0024) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0021):     0.17   0.077     1.33    72.36
       + ID2= 2 (0022):     0.11   0.050     1.33    72.36
         ================================================
         ID = 3 (0024):     0.28   0.126     1.33    72.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.27         0.03
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00       793.70
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.27 (ii)    3.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.25
```

				TOTALS
PEAK FLOW (cms)=	0.07	0.06	0.134 (iii)
TIME TO PEAK (hrs)=	1.33	1.33	1.33
RUNOFF VOLUME (mm)=	76.58	68.18	72.37
TOTAL RAINFALL (mm)=	77.58	77.58	77.58
RUNOFF COEFFICIENT =	0.99	0.88	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0025)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0005):	0.30	0.134	1.33	72.37
	+ ID2= 2 (0018):	1.62	0.720	1.33	72.37
	ID = 3 (0025):	1.92	0.854	1.33	72.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0025)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0025):	1.92	0.854	1.33	72.37
	+ ID2= 2 (0024):	0.28	0.126	1.33	72.36
	ID = 1 (0025):	2.20	0.980	1.33	72.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0035)		OUTFLOW	STORAGE		OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)		(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000		0.0560	0.0641
		0.0090	0.0458		0.0810	0.0721
		0.0150	0.0502		0.1030	0.0784
		0.0410	0.0585		0.1240	0.0839

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0025)	2.200	0.980	1.33	72.37
OUTFLOW: ID= 1 (0035)	2.200	0.151	1.67	71.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.41
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.0911

CALIB	
STANDHYD (0027)	Area (ha)= 2.69
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.15	0.54
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	2.00	3.60
Length	(m)=	133.92	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)= 171.00 NaN

```
                over (min)        5.00         10.00
     Storage Coeff.  (min)=       1.99 (ii)     5.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.31          0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.64          0.46          1.096 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      76.58         57.47          67.02
     TOTAL RAINFALL   (mm)=      77.58         77.58          77.58
     RUNOFF COEFFICIENT   =       0.99          0.74           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0028) |   Area    (ha)=   0.19
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.17          0.02
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       2.00          3.60
     Length            (m)=      35.59         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     171.00       NaN
                over (min)        5.00          5.00
     Storage Coeff.  (min)=       0.90 (ii)     3.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.34          0.26
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05          0.04          0.088 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      76.58         67.11          71.83
     TOTAL RAINFALL   (mm)=      77.58         77.58          77.58
     RUNOFF COEFFICIENT   =       0.99          0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0026) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0027):     2.69   1.096     1.33    67.02
       + ID2= 2 (0028):     0.19   0.088     1.33    71.83
         ================================================
         ID = 3 (0026):     2.88   1.183     1.33    67.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0029) |   Area    (ha)=   0.30
|ID= 1 DT= 5.0 min |   Total Imp(%)=  24.00   Dir. Conn.(%)=  24.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.07          0.23
```

```
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      44.72        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00       143.01
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.03 (ii)    6.16 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.34         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.06          0.092 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      76.58        31.91          42.63
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.99         0.41           0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0032) |   Area    (ha)=   0.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.59         0.07
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       2.00         3.60
     Length            (m)=      66.33        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00      NaN
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.31 (ii)    3.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.25
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.16         0.15          0.302 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      76.58        67.11          71.84
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.99         0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) HORTONS EQUATION SELECTED FOR PERVIOUS LOSSES:
            Fo   (mm/hr)= 50.00          K  (1/hr)=  2.00
            Fc   (mm/hr)=  7.50     Cum.Inf.   (mm)=  0.00
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0030) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0029):     0.30   0.092     1.33    42.63
        + ID2= 2 (0032):     0.66   0.302     1.33    71.84
          ================================================
          ID = 3 (0030):     0.96   0.395     1.33    62.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD   (0031) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0026):     2.88   1.183     1.33    67.34
       + ID2= 2 (0030):     0.96   0.395     1.33    62.71
         ================================================
         ID = 3 (0031):     3.84   1.578     1.33    66.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0034) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0790      0.1198
                         0.0100     0.0514    |   0.1380      0.1357
                         0.0510     0.0767    |   0.2080      0.1472
                         0.0690     0.1023    |   0.2760      0.1584

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0031)      3.840      1.578      1.33      66.18
     OUTFLOW: ID= 1 (0034)      3.840      0.251      1.75      65.84

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.93
                   TIME SHIFT OF PEAK FLOW         (min)= 25.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1549

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0033) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0014):     0.68   0.158     1.33    52.11
       + ID2= 2 (0015):     0.74   0.172     1.33    52.11
         ================================================
         ID = 3 (0033):     1.42   0.330     1.33    52.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0033) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0033):     1.42   0.330     1.33    52.11
       + ID2= 2 (0034):     3.84   0.251     1.75    65.84
         ================================================
         ID = 1 (0033):     5.26   0.392     1.33    62.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0033) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0033):     5.26   0.392     1.33    62.13
       + ID2= 2 (0035):     2.20   0.151     1.67    71.79
         ================================================
         ID = 3 (0033):     7.46   0.525     1.58    64.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

 FINISH
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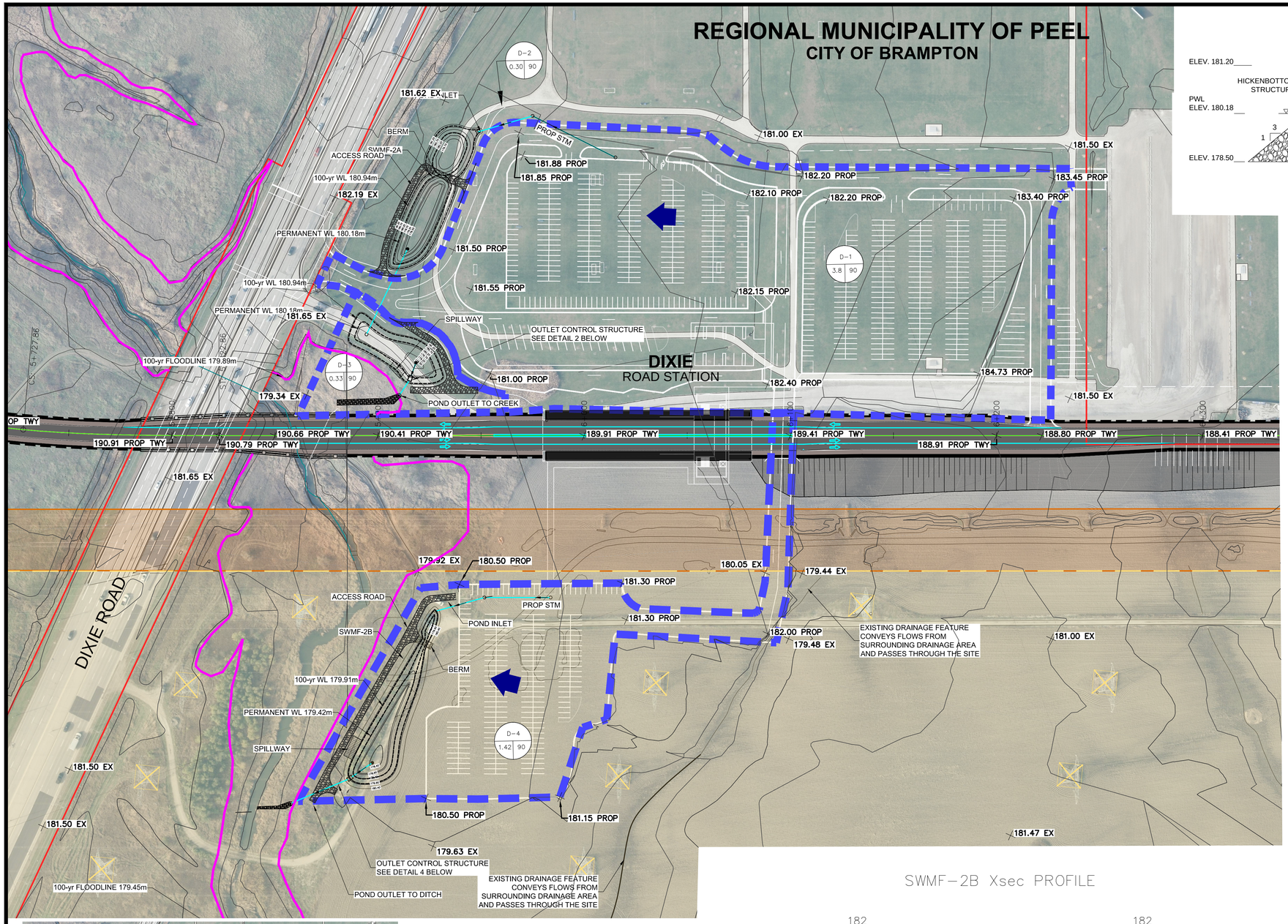
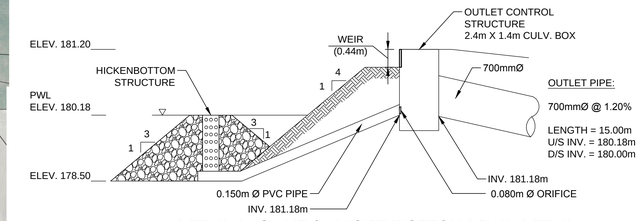
====================
```

DIXIE STATION

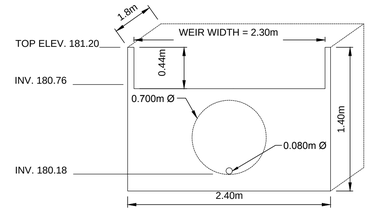
REGIONAL MUNICIPALITY OF PEEL
CITY OF BRAMPTON



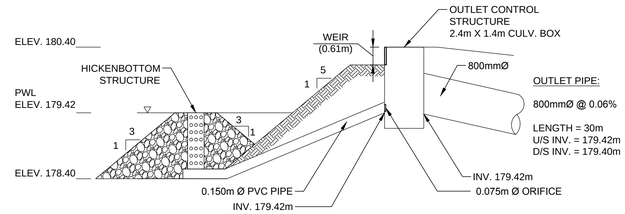


DETAIL 1 - SWMF-2A HICKENBOTTOM DRAIN DETAIL
N.T.S.

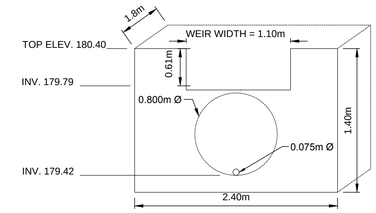
METRIC



DETAIL 2 - SWMF-2A OUTLET CONTROL STRUCTURE
N.T.S.

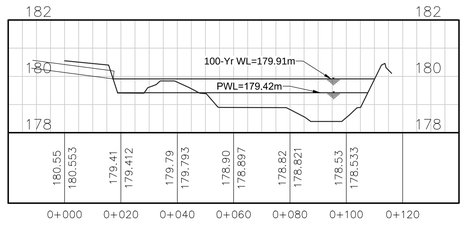


DETAIL 3 - SWMF-2B HICKENBOTTOM DRAIN DETAIL
N.T.S.

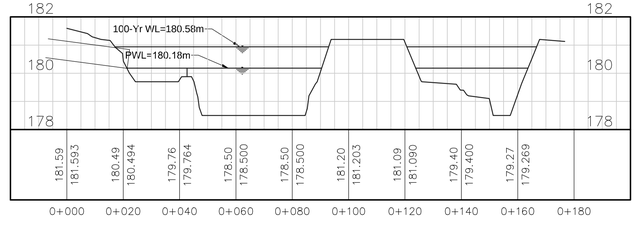


DETAIL 4 - SWMF-2B OUTLET CONTROL STRUCTURE
N.T.S.

SWMF-2B Xsec PROFILE



SWMF-2A Xsec PROFILE



Ontario PARSONS IBI GROUP

SCALE
1:1000

LEGEND
FILL SECTION, CUT SECTION, RETAINING WALL, STRUCTURE SECTION, STATION PLATFORM, UNDERPASS SECTION, TRANSITWAY
407 TWY BOUNDARY IN DRAINAGE ANALYSIS
PROPERTY LINE
FLOW DIRECTION
OVF
AREA ID (98-1)
AREA (ha) (0.44) % IMPERVIOUS (90)

407 TRANSITWAY
WEST OF HURONTARIO ROAD TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
DIXIE ROAD STATION

DRAWING SET
STATION DRAINAGE AREA MAP

PLATE
F-2

DATE
JULY. 2018

DRAWING NAME: \\CCCAN2\F501\Projects\Division\TT\Drainage\602896 - 407_Transitway Huronontario\CAD\Design\Stations\Dixie Rd\602896-Dixie SWMF.dwg
MODIFIED: Jun 19, 2018 - 9:36pm
CREATED:

DIXIE WEST STATION

Dixie Road Station Proposed SWMF-2A (West Station) Hydrologic Analysis - Existing Condition

Input parameters

Proposed Dixie Station is located within Subcatchment 210 & 443 - Etobicoke Watershed
For modeling purposes, input parameters of Area 210 are used in VO2 (Standhyd)

CN= 83
Ia= 4
Drainage area Total (ha)= 4.43

Table F.2A-a-1: Dixie Road Station SWMF-2A (West Station) Hydrologic Analysis - Existing Condition

Return Period	VO2 ID 201	
	EX Qp-12hr AES (m^3/s)	EX Qp-Chicago 4hr (m^3/s)
2-yr	0.082	0.143
5-yr	0.117	0.189
10-yr	0.142	0.219
25-yr	0.175	0.258
50-yr	0.201	0.288
100-yr	0.227	0.317

Table F.2A-a-2:Dixie Road Station SWMF-2A (West Station) Hydrologic Analysis - Unit Flow Rates

Return Period	Unit Flow Rates
	$Q_{allowable}$ (m^3/s)
2-yr	0.144
5-yr	0.196
10-yr	0.231
25-yr	0.277
50-yr	0.311
100-yr	0.346

Note: Dixie Road Station lies in Basin #4 - Etobicoke West Branch

Etobicoke Watershed Quanitity Control Strategy - Unit Flow Rates

Basin #	Basin Name	Unit Flow Rates ($m^3/s/ha$)					
		2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
4	Etobicoke West Branch	0.03241	0.04412	0.05220	0.06250	0.07021	0.07799
5	Tributary 3	0.03883	0.05189	0.06077	0.07203	0.08039	0.08882
7	Spring Creek	0.03168	0.04318	0.05114	0.06135	0.06903	0.07679

Dixie Road Station SWMF-2A (West Station) Hydrologic Analysis - Post-Development Condition

Table F.2A-b: Dixie Road Station SWMF-2A (West Station) Hydrologic Analysis Post-Development Condition (12 hr AES)

12hr AES Return Period	**Allowable Release Rates** Etobicoke Unit Flow Rates	**Post-Development Condition (Uncontrolled)** VO2 ID 202 (A = 4.43 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-1 POST-DEVELOPMENT CONDITION** VO2 ID 203 (A = 4.43 ha)		**Decrease from Allowable to Post-Dev Controlled**
	$Q_{allowable}$ (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Provided** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	0.144	0.172	19.74%	1020	0.065	-120.99%
5-yr	0.196	0.228	16.60%	1094	0.124	-57.70%
10-yr	0.231	0.265	14.54%	1132	0.161	-43.70%
25-yr	0.277	0.313	12.99%	1191	0.223	-24.22%
50-yr	0.311	0.347	11.51%	1234	0.273	-13.98%
100-yr	0.346	0.382	10.51%	1273	0.319	-8.36%

Table F.2A-c: Dixie Road Station SWMF-2A (West Station) Hydrologic Analysis Post-Development Condition (4 hr Chicago)

4hr Chicago Return Period	**Allowable Release Rates** Etobicoke Unit Flow Rates	**Post-Development Condition (Uncontrolled)** VO2 ID 204 (A = 4.43 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-1 POST-DEVELOPMENT CONDITION** VO2 ID 205 (A = 4.43 ha)		**Decrease from Allowable to Post-Dev Controlled**
	$Q_{allowable}$ (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Provided** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	0.144	0.341	137.39%	1018	0.063	-128.01%
5-yr	0.196	0.444	127.06%	1091	0.122	-60.28%
10-yr	0.231	0.512	121.30%	1132	0.161	-43.70%
25-yr	0.277	0.598	115.88%	1179	0.210	-31.91%
50-yr	0.311	0.664	113.38%	1213	0.248	-25.47%
100-yr	0.346	0.726	110.03%	1241	0.281	-23.01%

Table F.2A-d: Dixie Road Station Proposed SWMF-2A (West Station) - Design Parameters

Pond Catchment Area 4.43 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Level 1	250	m^3/ha	Interpolated from Table 3.2 (MOECC)	*930.74*	
Extended	40	m^3/ha	(or 25mm rainfall event whichever greater)	177.284	m^3
25 mm Event From OTTHYMO	20.457	mm		*906.67*	m^3
% imperviousness	90	%			
Permanent Volume Required				*930.74*	m^3

Quantity Control Required

Total Volume required up to and including the 100 yr storm		**1,241.00**	m^3
Total Pond Volume Required	(Permanent and Extended)	**2,171.74**	m^3

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	8	Minimum Forebay length	m
r	2	Length to width ratio	-
Qp	0.01	Peak flow rate from the pond during design quality storm	m^3/s
Vs	0.0003	settling velocity	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Minimum Width 1 m

Dist	5	Minimum Dispersion Length	
Q	0.51	Inlet Flow Rate	(10 year Storm)
d	1.7	Depth of the Permanent Pool	
Vf	0.5	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

Width = Dist/8 Width 0.61 m

Design Quality Storm MOECC Eq 4.9

$$i_{25} = 43C + 5.9$$

A	4.4321	Area	
C	90	Runoff Coefficient	
i	44.6	Intensity	mm/hr
Qp	0.50	Flow Rational Method	

Flow Velocity Check

Qd	0.51	Inlet Flow Rate	m^3/s	
A	6.11	Crossectional Area	m^2	
Vfb	0.084	Flow Velocity	m/s	
	Yes	< 0.15		

Forebay Dimensions

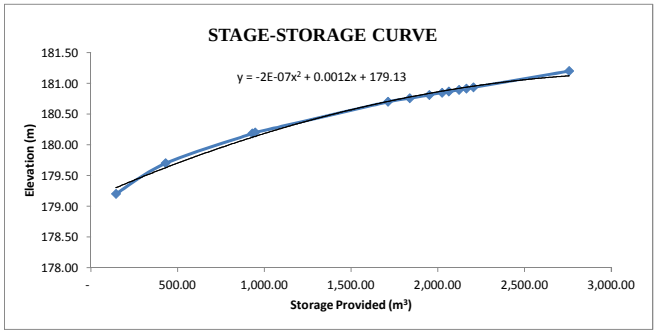
4:1	Average Side Slope	%
40.00	Top Length	m
14.10	Bottom Length	m
10.41	Average Top Width	m
3.16	Bottom Width	m
0.90	Average Depth of the Pool	m
207.44	Approximate Volume of the Pool	m^3
930.74	Total Permanent Pool Volume	m^3
0.22	Forebay/Total Volume Ratio	
383.00	Forebay Area	m^2
1274.43	Total Permanent Pool Area	
0.30	Forebay/Total Area Ratio	
3.99	Average L/W Ratio Check	

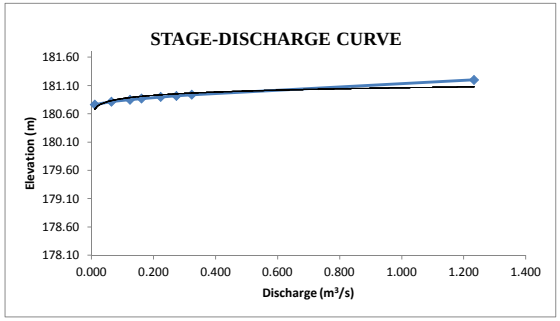
Forebay Cleanout Frequency

Ac	4.4321	Contributing Area	(ha)
Ds	0.6	Maximum Sediment Depth	(m)
Vsf	182	Maximum Sediment Volume	(m3)
a	90%	Impervious Level	%
da	4.1	Annual Sediment Loading	(m^3/ha/yr) (Table 6.3 MOECC Manual)
Fs	10.0	Forebay Cleanout Frequency	(years)
	75%	Target Maintenance TSS Removal Efficiency	

Table F.2A-e: Dixie Road Station - Proposed SWMF-2A (West Station) - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Cell 2	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/ Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	Discharge Orifice 1 180.18 0.080	Discharge Weir 180.76 2.300	Discharge Total	Description
178.50		170.03	10.04	180.07										
179.20		295.92	74.29	370.21	275.1	192.60	144.42							
179.70	101.26	439.91	235.36	776.53	573.4	286.69	431.11							
180.18				1,274.43			***930.74***	-						**Permanent Water Level**
180.20	248.78	599.07	436.67	1,284.52	1030.5	515.26	946.37							
180.70	343.75	771.97	663.21	1,778.92	1531.7	765.86	1,712.23	781.49						
180.76							1,837.42	906.67	0.52	0.0907	0.010	0.000	0.010	*25-mm*
180.81							1,949.74	1,019.00	0.63	0.1019	0.011	0.053	0.064	*2-yr*
180.85							2,023.74	1,093.00	0.66	0.1093	0.011	0.112	0.124	*5-yr*
180.87							2,062.74	1,132.00	0.68	0.1132	0.012	0.149	0.161	*10-yr*
180.90							2,121.74	1,191.00	0.71	0.1191	0.012	0.212	0.224	*25-yr*
180.92							2,164.74	1,234.00	0.73	0.1234	0.012	0.261	0.273	*50-yr*
180.94							2,204.74	1,274.00	0.75	0.1274	0.012	0.311	0.323	*100-yr*
181.20	523.58	959.00	912.62	2,395.21	2087.1	1,043.53	2,755.76	1,825.02	1.02	0.1825	0.014	1.219	1.233	





Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q	Varies	Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Weir Discharge

If $L > 2 * H_{max}$

$$Q = 1.837 * (L - 0.06 * H_{max}) * H_{max}^{1.5}$$

If $L < 2 * H_{max}$

$$Q = 1.837 * L * H_{max}^{1.5}$$

Q	Varies	Discharge	(m^3/s)
L	2.300	Weir Length	(m)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	m

Table F.2A-f: Dixie Road Station - Proposed SWMF-2A (West Station)
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	907	m^3
Orifice	0.08000	m	Initial Head:	0.52	m
Area	0.00503	m^2	Detention:	48.00	hrs
				2,880.00	min

F A L L I N G H E A D E Q U A T I O N

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.5152	0.0101	3.02	906.67	903.65
5	0.5134	0.0101	3.02	903.65	900.64
10	0.5117	0.0100	3.01	900.64	897.63
15	0.5100	0.0100	3.01	897.63	894.62
20	0.5083	0.0100	3.00	894.62	891.62
25	0.5066	0.0100	3.00	891.62	888.63
30	0.5049	0.0100	2.99	888.63	885.64
35	0.5032	0.0100	2.99	885.64	882.65
40	0.5015	0.0099	2.98	882.65	879.67
45	0.4998	0.0099	2.98	879.67	876.70
50	0.4981	0.0099	2.97	876.70	873.73
55	0.4964	0.0099	2.96	873.73	870.76
60	0.4948	0.0099	2.96	870.76	867.80
65	0.4931	0.0098	2.95	867.80	864.85
70	0.4914	0.0098	2.95	864.85	861.90
75	0.4897	0.0098	2.94	861.90	858.95
80	0.4881	0.0098	2.94	858.95	856.01
85	0.4864	0.0098	2.93	856.01	853.08
90	0.4847	0.0098	2.93	853.08	850.15
95	0.4830	0.0097	2.92	850.15	847.22
100	0.4814	0.0097	2.92	847.22	844.31
105	0.4797	0.0097	2.91	844.31	841.39
		-- B R E A K --			-
2860	0.0008	0.0004	0.12	7.47	7.35
2865	0.0007	0.0004	0.11	7.35	7.24
2870	0.0006	0.0004	0.11	7.24	7.14
2875	0.0006	0.0003	0.10	7.14	7.04
2880	0.0005		-	7.04	7.04

Table F.2A-g: Dixie Rd Station Proposed SWMF-2A (West Station) Inlet Pipe Sizing

UP INV= 180.50 m
DS INV= 180.18 m
L= 22 m
SLOPE= 1.45 %

10-yr uncontrolled from the Site= 0.512 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.600	22.00	0.013	1.45	0.74	69%

Table F.2A-h: Dixie Rd Station Proposed SWMF-2A (West Station) Outlet Pipe Sizing

UP INV= 180.18 m
DS INV= 180.00 m
L= 15 m
SLOPE= 1.20 %

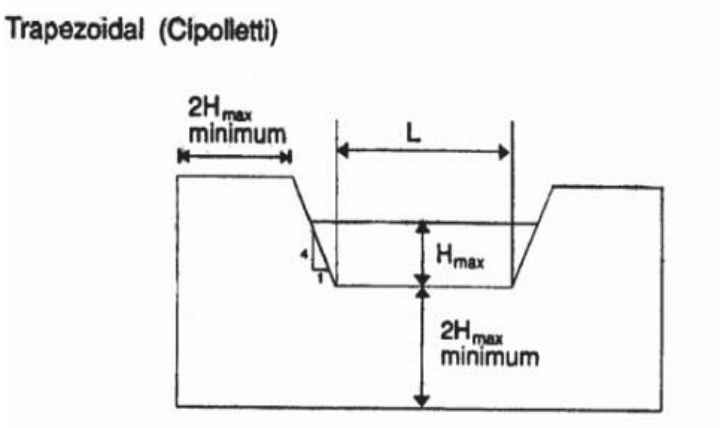
100-yr uncontrolled from the Site= 0.726 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.700	15.00	0.013	1.20	1.02	71%

Table F.2A-i: Dixie Rd Station Proposed SWMF-2A Spillway

Trapezoidal Weir

Hmax=	0.3	m	2H=	0.6 m (MIN.)
Q=	0.382	m^3/s	or 2H=	1 m
L=	1.25	m		



$$0.1 < Q < 11\,m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

```
================================================================================
=======================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                 Serial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                  *****  D E T A I L E D   O U T P U T *****


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  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\4da3dac7-3cca-4381-9c84-b9fe1376f083\Scenario.s
um


DATE: 06/19/2018                          TIME: 01:44:43

USER:


COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


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|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              4da3dac7-3cca-4381-9c84-b9fe1376f083\d327aae5
| Ptotal= 42.00 mm |    Comments: 2yr/12hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    7.14 |  6.75    2.94 | 10.00    0.42
                0.50    0.42 |  3.75    7.14 |  7.00    2.94 | 10.25    0.42
                0.75    0.42 |  4.00    7.14 |  7.25    2.94 | 10.50    0.42
                1.00    0.42 |  4.25    7.14 |  7.50    1.68 | 10.75    0.42
                1.25    0.42 |  4.50   19.32 |  7.75    1.68 | 11.00    0.42
```

1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

CALIB
STANDHYD (0202)
ID= 1 DT= 5.0 min

Area (ha)= 4.43
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42

2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	89.27	
over (min)	5.00	20.00	
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=	10.00	55.00	
Unit Hyd. peak (cms)=	0.12	0.02	
			TOTALS
PEAK FLOW (cms)=	0.12	0.07	0.172 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	41.00	32.89	36.94
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.78	0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	4.430	0.172	5.25	36.94
OUTFLOW: ID= 1 (0203)	4.430	0.065	6.75	36.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.55
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.1020

****
** SIMULATION NUMBER: 2 **
****

READ STORM
Ptotal= 54.38 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\4da3dac7-3cca-4381-9c84-b9fe1376f083\3b0e7019
Comments: 5yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54

1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB
STANDHYD (0202)
ID= 1 DT= 5.0 min

Area (ha)= 4.43
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54

3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	118.72		
over (min)	5.00	15.00		
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)		
Unit Hyd. Tpeak (min)=	10.00	55.00		
Unit Hyd. peak (cms)=	0.12	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.15	0.09	0.228 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	53.38	44.87	49.12	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.83	0.90	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	4.430	0.228	5.25	49.12
OUTFLOW: ID= 1 (0203)	4.430	0.124	6.17	48.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.62
TIME SHIFT OF PEAK FLOW (min)= 55.00
MAXIMUM STORAGE USED (ha.m.)= 0.1094

****
** SIMULATION NUMBER: 3 **
****

READ STORM
Ptotal= 62.71 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\4da3dac7-3cca-4381-9c84-b9fe1376f083\ba267365
Comments: 10yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63

2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

CALIB STANDHYD (0202) ID= 1 DT= 5.0 min	Area (ha)= 4.43 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63

3.083	3.76	6.167	8.15	9.250	1.25

Max.Eff.Inten.(mm/hr)=	28.84	138.35		
over (min)	5.00	15.00		
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)		
Unit Hyd. Tpeak (min)=	10.00	55.00		
Unit Hyd. peak (cms)=	0.12	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.18	0.11	0.265 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	61.71	53.00	57.35	
TOTAL RAINFALL (mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT =	0.98	0.85	0.91	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	4.430	0.265	5.25	57.35
OUTFLOW: ID= 1 (0203)	4.430	0.161	5.83	56.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 60.77
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.1132

****
** SIMULATION NUMBER: 4 **
****

READ STORM
Ptotal= 73.10 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\4da3dac7-3cca-4381-9c84-b9fe1376f083\1c3daf7c
Comments: 25yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73

2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB
STANDHYD (0202)
ID= 1 DT= 5.0 min

Area (ha)= 4.43
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	162.86	
over (min)	5.00	15.00	
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=	10.00	55.00	
Unit Hyd. peak (cms)=	0.12	0.02	
			TOTALS
PEAK FLOW (cms)=	0.21	0.13	0.313 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	72.10	63.20	67.64
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.86	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	4.430	0.313	5.25	67.64
OUTFLOW: ID= 1 (0203)	4.430	0.223	5.50	67.13

PEAK FLOW REDUCTION [Qout/Qin](%)= 71.43
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1191

****
** SIMULATION NUMBER: 5 **
****

READ STORM
Ptotal= 80.82 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\4da3dac7-3cca-4381-9c84-b9fe1376f083\0398ecfb
Comments: 50yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	13.74	6.75	5.66	10.00	0.81
0.50	0.81	3.75	13.74	7.00	5.66	10.25	0.81
0.75	0.81	4.00	13.74	7.25	5.66	10.50	0.81
1.00	0.81	4.25	13.74	7.50	3.23	10.75	0.81
1.25	0.81	4.50	37.17	7.75	3.23	11.00	0.81
1.50	0.81	4.75	37.17	8.00	3.23	11.25	0.81
1.75	0.81	5.00	37.17	8.25	3.23	11.50	0.81
2.00	0.81	5.25	37.17	8.50	1.62	11.75	0.81
2.25	0.81	5.50	10.50	8.75	1.62	12.00	0.81

2.50	4.85	5.75	10.50	9.00	1.62	12.25	0.81
2.75	4.85	6.00	10.50	9.25	1.62		
3.00	4.85	6.25	10.50	9.50	0.81		
3.25	4.85	6.50	5.66	9.75	0.81		

CALIB STANDHYD (0202) ID= 1 DT= 5.0 min	Area (ha)= 4.43 Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	180.91	
over (min)	5.00	15.00	
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=	10.00	55.00	
Unit Hyd. peak (cms)=	0.12	0.02	
			TOTALS
PEAK FLOW (cms)=	0.23	0.14	0.347 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	70.81	75.31
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.88	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	4.430	0.347	5.25	75.31
OUTFLOW: ID= 1 (0203)	4.430	0.273	5.42	74.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 78.51
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1234

****
** SIMULATION NUMBER: 6 **
****

READ STORM
Ptotal= 88.54 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\4da3dac7-3cca-4381-9c84-b9fe1376f083\2446e30d
Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89

2.75	5.31	6.00	11.51	9.25	1.77
3.00	5.31	6.25	11.51	9.50	0.89
3.25	5.31	6.50	6.20	9.75	0.89

CALIB STANDHYD (0202) ID= 1 DT= 5.0 min	Area (ha)= 4.43 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

Max.Eff.Inten.(mm/hr)= 40.71 198.92

over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.25	0.16	0.382 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	78.44	82.98
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.89	0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	4.430	0.382	5.25	82.98
OUTFLOW: ID= 1 (0203)	4.430	0.319	5.42	82.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 83.53
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1273

FINISH

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                 Serial


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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\10f2b279-2d76-41ae-b24a-1062f9406f5a\Scenario.o
ut
  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\10f2b279-2d76-41ae-b24a-1062f9406f5a\Scenario.s
um


DATE: 06/19/2018                          TIME: 01:45:52

USER:


COMMENTS: _____________________________________________________________


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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


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| CHICAGO STORM    |    IDF curve parameters: A= 453.462
| Ptotal= 38.09 mm |                          B=   1.500
--------------------                          C=   0.704
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
```

5.	131.10	121.41
10.	81.50	81.25
15.	61.70	63.01
30.	38.40	39.97
60.	24.00	24.96
120.	15.00	15.45
360.	7.10	7.17
720.	4.50	4.41
1440.	2.80	2.71

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.20	1.17	16.80	2.17	6.49	3.17	3.71
0.33	3.59	1.33	81.25	2.33	5.70	3.33	3.48
0.50	4.11	1.50	21.07	2.50	5.11	3.50	3.29
0.67	4.87	1.67	12.55	2.67	4.64	3.67	3.12
0.83	6.09	1.83	9.35	2.83	4.27	3.83	2.97
1.00	8.47	2.00	7.61	3.00	3.96	4.00	2.84

CALIB STANDHYD (0204) ID= 1 DT= 5.0 min	Area (ha)= 4.43 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.20	1.083	16.80	2.083	6.49	3.08	3.71
0.167	3.20	1.167	16.80	2.167	6.49	3.17	3.71
0.250	3.59	1.250	81.25	2.250	5.70	3.25	3.48
0.333	3.59	1.333	81.25	2.333	5.70	3.33	3.48
0.417	4.11	1.417	21.07	2.417	5.11	3.42	3.29
0.500	4.11	1.500	21.07	2.500	5.11	3.50	3.29
0.583	4.87	1.583	12.55	2.583	4.64	3.58	3.12
0.667	4.87	1.667	12.55	2.667	4.64	3.67	3.12
0.750	6.09	1.750	9.35	2.750	4.27	3.75	2.97
0.833	6.09	1.833	9.35	2.833	4.27	3.83	2.97
0.917	8.47	1.917	7.61	2.917	3.96	3.92	2.84
1.000	8.47	2.000	7.61	3.000	3.96	4.00	2.84

Max.Eff.Inten.(mm/hr)=		81.25	325.00	
over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.32	0.08	0.341 (iii)
TIME TO PEAK	(hrs)=	1.42	2.17	1.42
RUNOFF VOLUME	(mm)=	37.09	29.16	33.12
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09

RUNOFF COEFFICIENT = 0.97 0.77 0.87

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	4.430	0.341	1.42	33.12
OUTFLOW: ID= 1 (0205)	4.430	0.063	3.50	32.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.59
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.1018

****
** SIMULATION NUMBER: 2 **
****

CHICAGO STORM
Ptotal= 48.94 mm

IDF curve parameters: A= 592.209
B= 1.501
C= 0.707
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	170.20	157.65
10.	105.60	105.33
15.	79.90	81.60
30.	49.70	51.66
60.	30.90	32.19
120.	19.20	19.89
360.	9.10	9.20
720.	5.70	5.65
1440.	3.60	3.46

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.08	1.17	21.57	2.17	8.28	3.17	4.72
0.33	4.57	1.33	105.33	2.33	7.27	3.33	4.43

0.50	5.24	1.50	27.08	2.50	6.51	3.50	4.19
0.67	6.21	1.67	16.08	2.67	5.92	3.67	3.97
0.83	7.77	1.83	11.97	2.83	5.44	3.83	3.78
1.00	10.83	2.00	9.72	3.00	5.05	4.00	3.61

CALIB STANDHYD (0204) ID= 1 DT= 5.0 min	Area (ha)= 4.43 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.08	1.083	21.57	2.083	8.28	3.08	4.72
0.167	4.08	1.167	21.57	2.167	8.28	3.17	4.72
0.250	4.57	1.250	105.33	2.250	7.27	3.25	4.43
0.333	4.57	1.333	105.33	2.333	7.27	3.33	4.43
0.417	5.24	1.417	27.08	2.417	6.51	3.42	4.19
0.500	5.24	1.500	27.08	2.500	6.51	3.50	4.19
0.583	6.21	1.583	16.08	2.583	5.92	3.58	3.97
0.667	6.21	1.667	16.08	2.667	5.92	3.67	3.97
0.750	7.77	1.750	11.97	2.750	5.44	3.75	3.78
0.833	7.77	1.833	11.97	2.833	5.44	3.83	3.78
0.917	10.83	1.917	9.72	2.917	5.05	3.92	3.61
1.000	10.83	2.000	9.72	3.000	5.05	4.00	3.61

Max.Eff.Inten.(mm/hr)=		105.33	448.64	
over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.42	0.11	0.444 (iii)
TIME TO PEAK	(hrs)=	1.42	2.17	1.42
RUNOFF VOLUME	(mm)=	47.94	39.58	43.76
TOTAL RAINFALL	(mm)=	48.94	48.94	48.94
RUNOFF COEFFICIENT	=	0.98	0.81	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	4.430	0.444	1.42	43.76
OUTFLOW: ID= 1 (0205)	4.430	0.122	2.75	43.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.45
TIME SHIFT OF PEAK FLOW (min)= 80.00
MAXIMUM STORAGE USED (ha.m.)= 0.1091

****
** SIMULATION NUMBER: 3 **
****

CHICAGO STORM
Ptotal= 55.89 mm

IDF curve parameters: A= 683.826
B= 1.501
C= 0.709
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	195.80	181.36
10.	121.40	121.03
15.	91.80	93.70
30.	57.00	59.24
60.	35.40	36.87
120.	22.00	22.75
360.	10.40	10.50
720.	6.50	6.43
1440.	4.10	3.94

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.63	1.17	24.61	2.17	9.42	3.17	5.36
0.33	5.19	1.33	121.03	2.33	8.26	3.33	5.03
0.50	5.95	1.50	30.93	2.50	7.40	3.50	4.75
0.67	7.06	1.67	18.33	2.67	6.73	3.67	4.51
0.83	8.83	1.83	13.63	2.83	6.18	3.83	4.29
1.00	12.33	2.00	11.06	3.00	5.73	4.00	4.10

CALIB STANDHYD (0204)
ID= 1 DT= 5.0 min

Area (ha)= 4.43
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00

Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.63	1.083	24.61	2.083	9.42	3.08	5.36
0.167	4.63	1.167	24.61	2.167	9.42	3.17	5.36
0.250	5.19	1.250	121.03	2.250	8.26	3.25	5.03
0.333	5.19	1.333	121.03	2.333	8.26	3.33	5.03
0.417	5.95	1.417	30.93	2.417	7.40	3.42	4.75
0.500	5.95	1.500	30.93	2.500	7.40	3.50	4.75
0.583	7.06	1.583	18.33	2.583	6.73	3.58	4.51
0.667	7.06	1.667	18.33	2.667	6.73	3.67	4.51
0.750	8.83	1.750	13.63	2.750	6.18	3.75	4.29
0.833	8.83	1.833	13.63	2.833	6.18	3.83	4.29
0.917	12.33	1.917	11.06	2.917	5.73	3.92	4.10
1.000	12.33	2.000	11.06	3.000	5.73	4.00	4.10

Max.Eff.Inten.(mm/hr)=		121.03	529.58	
over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.48	0.13	0.512 (iii)
TIME TO PEAK	(hrs)=	1.42	2.17	1.42
RUNOFF VOLUME	(mm)=	54.89	46.34	50.61
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89
RUNOFF COEFFICIENT	=	0.98	0.83	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	4.430	0.512	1.42	50.61
OUTFLOW: ID= 1 (0205)	4.430	0.161	2.58	50.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.43
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.1132

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  ****************************
  ** SIMULATION NUMBER:   4 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 804.454
| Ptotal= 64.68 mm |                          B=   1.501
--------------------                          C=   0.712
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                      The CORRELATION coefficient is = 0.9996

                       TIME       INPUT INT.           TAB. INT.
                      (min)        (mm/hr)              (mm/hr)
                         5.         228.80               212.16
                        10.         141.60               141.34
                        15.         107.10               109.30
                        30.          66.40                68.98
                        60.          41.20                42.84
                       120.          25.60                26.38
                       360.          12.10                12.14
                       720.           7.50                 7.42
                      1440.           4.70                 4.53


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    5.30 |  1.17   28.45 |  2.17   10.83 |  3.17    6.14
                  0.33    5.95 |  1.33  141.34 |  2.33    9.50 |  3.33    5.77
                  0.50    6.83 |  1.50   35.79 |  2.50    8.50 |  3.50    5.45
                  0.67    8.10 |  1.67   21.14 |  2.67    7.72 |  3.67    5.17
                  0.83   10.16 |  1.83   15.70 |  2.83    7.09 |  3.83    4.92
                  1.00   14.20 |  2.00   12.73 |  3.00    6.58 |  4.00    4.70


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0204) |   Area    (ha)=   4.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.99         0.44
     Dep. Storage     (mm)=       1.00         4.00
     Average Slope     (%)=       1.00         3.70
     Length            (m)=     171.85        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                   TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                    hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.083    5.30 | 1.083   28.45 | 2.083   10.83 |  3.08    6.14
                  0.167    5.30 | 1.167   28.45 | 2.167   10.83 |  3.17    6.14
                  0.250    5.95 | 1.250  141.34 | 2.250    9.50 |  3.25    5.77
                  0.333    5.95 | 1.333  141.34 | 2.333    9.50 |  3.33    5.77
                  0.417    6.83 | 1.417   35.79 | 2.417    8.50 |  3.42    5.45
```

0.500	6.83	1.500	35.79	2.500	8.50	3.50	5.45
0.583	8.10	1.583	21.14	2.583	7.72	3.58	5.17
0.667	8.10	1.667	21.14	2.667	7.72	3.67	5.17
0.750	10.16	1.750	15.70	2.750	7.09	3.75	4.92
0.833	10.16	1.833	15.70	2.833	7.09	3.83	4.92
0.917	14.20	1.917	12.73	2.917	6.58	3.92	4.70
1.000	14.20	2.000	12.73	3.000	6.58	4.00	4.70

Max.Eff.Inten.(mm/hr)=	141.34	634.16	
over (min)	5.00	15.00	
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=	10.00	55.00	
Unit Hyd. peak (cms)=	0.12	0.02	
			TOTALS
PEAK FLOW (cms)=	0.56	0.16	0.598 (iii)
TIME TO PEAK (hrs)=	1.42	2.17	1.42
RUNOFF VOLUME (mm)=	63.68	54.93	59.30
TOTAL RAINFALL (mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT =	0.98	0.85	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1610	0.1132
	0.0100	0.0906	0.2230	0.1191
	0.0640	0.1019	0.2730	0.1234
	0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	4.430	0.598	1.42	59.30
OUTFLOW: ID= 1 (0205)	4.430	0.210	2.33	58.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.07
TIME SHIFT OF PEAK FLOW (min)= 55.00
MAXIMUM STORAGE USED (ha.m.)= 0.1179

****
** SIMULATION NUMBER: 5 **
****

CHICAGO STORM	IDF curve parameters: A= 889.943
Ptotal= 71.55 mm	B= 1.500
	C= 0.712

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	253.20	234.73
10.	156.70	156.37
15.	118.40	120.92
30.	73.40	76.31
60.	45.50	47.39
120.	28.20	29.18
360.	13.30	13.43
720.	8.30	8.21
1440.	5.20	5.02

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.87	1.17	31.47	2.17	11.98	3.17	6.80
0.33	6.58	1.33	156.37	2.33	10.51	3.33	6.39
0.50	7.55	1.50	39.59	2.50	9.40	3.50	6.03
0.67	8.96	1.67	23.39	2.67	8.54	3.67	5.72
0.83	11.23	1.83	17.36	2.83	7.85	3.83	5.44
1.00	15.71	2.00	14.09	3.00	7.28	4.00	5.20

CALIB STANDHYD (0204) ID= 1 DT= 5.0 min	Area (ha)= 4.43 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.87	1.083	31.47	2.083	11.98	3.08	6.80
0.167	5.87	1.167	31.47	2.167	11.98	3.17	6.80
0.250	6.58	1.250	156.37	2.250	10.51	3.25	6.39
0.333	6.58	1.333	156.37	2.333	10.51	3.33	6.39
0.417	7.55	1.417	39.59	2.417	9.40	3.42	6.03
0.500	7.55	1.500	39.59	2.500	9.40	3.50	6.03
0.583	8.96	1.583	23.39	2.583	8.54	3.58	5.72
0.667	8.96	1.667	23.39	2.667	8.54	3.67	5.72
0.750	11.23	1.750	17.36	2.750	7.85	3.75	5.44
0.833	11.23	1.833	17.36	2.833	7.85	3.83	5.44
0.917	15.71	1.917	14.09	2.917	7.28	3.92	5.20
1.000	15.71	2.000	14.09	3.000	7.28	4.00	5.20

Max.Eff.Inten.(mm/hr)=		156.37	712.12	
over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.62	0.18	0.664 (iii)

TIME TO PEAK (hrs)=	1.42	2.17	1.42
RUNOFF VOLUME (mm)=	70.55	61.68	66.11
TOTAL RAINFALL (mm)=	71.55	71.55	71.55
RUNOFF COEFFICIENT =	0.99	0.86	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1610	0.1132
0.0100	0.0906	0.2230	0.1191
0.0640	0.1019	0.2730	0.1234
0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	4.430	0.664	1.42	66.11
OUTFLOW: ID= 1 (0205)	4.430	0.248	2.25	65.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.33
TIME SHIFT OF PEAK FLOW (min)= 50.00
MAXIMUM STORAGE USED (ha.m.)= 0.1213

****
** SIMULATION NUMBER: 6 **
****

CHICAGO STORM
Ptotal= 77.58 mm

IDF curve parameters: A= 980.886
B= 1.508
C= 0.715
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	277.00	257.04
10.	171.40	171.00
15.	129.50	132.12
30.	80.20	83.22
60.	49.70	51.59
120.	30.80	31.70
360.	14.50	14.54
720.	9.00	8.87
1440.	5.60	5.41

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.17	6.30	1.17	34.10	2.17	12.91	3.17	7.30
0.33	7.07	1.33	171.00	2.33	11.31	3.33	6.86
0.50	8.12	1.50	42.95	2.50	10.12	3.50	6.47
0.67	9.64	1.67	25.29	2.67	9.19	3.67	6.14
0.83	12.10	1.83	18.74	2.83	8.44	3.83	5.84
1.00	16.95	2.00	15.19	3.00	7.82	4.00	5.58

CALIB STANDHYD (0204) ID= 1 DT= 5.0 min	Area (ha)= 4.43 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.99	0.44
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	171.85	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.30	1.083	34.10	2.083	12.91	3.08	7.30
0.167	6.30	1.167	34.10	2.167	12.91	3.17	7.30
0.250	7.07	1.250	171.00	2.250	11.31	3.25	6.86
0.333	7.07	1.333	171.00	2.333	11.31	3.33	6.86
0.417	8.12	1.417	42.95	2.417	10.12	3.42	6.47
0.500	8.12	1.500	42.95	2.500	10.12	3.50	6.47
0.583	9.64	1.583	25.29	2.583	9.19	3.58	6.14
0.667	9.64	1.667	25.29	2.667	9.19	3.67	6.14
0.750	12.10	1.750	18.74	2.750	8.44	3.75	5.84
0.833	12.10	1.833	18.74	2.833	8.44	3.83	5.84
0.917	16.95	1.917	15.19	2.917	7.82	3.92	5.58
1.000	16.95	2.000	15.19	3.000	7.82	4.00	5.58

Max.Eff.Inten.	(mm/hr)=	171.00	787.09	
over	(min)	5.00	15.00	
Storage Coeff.	(min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	55.00	
Unit Hyd. peak	(cms)=	0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.67	0.19	0.726 (iii)
TIME TO PEAK	(hrs)=	1.42	2.17	1.42
RUNOFF VOLUME	(mm)=	76.58	67.61	72.09
TOTAL RAINFALL	(mm)=	77.58	77.58	77.58
RUNOFF COEFFICIENT	=	0.99	0.87	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)

IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1610	0.1132
	0.0100	0.0906	0.2230	0.1191
	0.0640	0.1019	0.2730	0.1234
	0.1240	0.1093	0.3230	0.1274

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	4.430	0.726	1.42	72.09
OUTFLOW: ID= 1 (0205)	4.430	0.281	2.25	71.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 38.65
TIME SHIFT OF PEAK FLOW (min)= 50.00
MAXIMUM STORAGE USED (ha.m.)= 0.1241

FINISH

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DIXIE EAST STATION

Dixie Road Station Proposed SWMF-2B (East Station) Hydrologic Analysis - Existing Condition

Input parameters

Proposed Dixie Station is located within Subcatchments 210 & 443 - Etobicoke Watershed
For modeling purposes, input parameters of Area 210 are used in VO2 (Standhyd)

CN= 83
Ia= 4
Drainage area Total (ha)= 1.42

Table F.2B-a-1: Dixie Road Station SWMF-2B (East Station) Hydrologic Analysis - Existing Condition

Return Period	VO2 ID 201	
	EX Qp-12hr AES (m^3/s)	EX Qp-Chicago 4hr (m^3/s)
2-yr	0.026	0.046
5-yr	0.038	0.060
10-yr	0.046	0.070
25-yr	0.056	0.083
50-yr	0.064	0.092
100-yr	0.073	0.102

Table F.2B-a-2: Dixie Road Station SWMF-2B (East Station) Hydrologic Analysis - Unit Flow Rates

Return Period	Unit Flow Rates
	$Q_{allowable}$ (m^3/s)
2-yr	0.046
5-yr	0.063
10-yr	0.074
25-yr	0.089
50-yr	0.100
100-yr	0.111

Note: Dixie Road Station lies in Basin #4 - Etobicoke West Branch

Etobicoke Watershed Quanitity Control Strategy - Unit Flow Rates

Basin #	Basin Name	Unit Flow Rates ($m^3/s/ha$)					
		2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
4	Etobicoke West Branch	0.03241	0.04412	0.05220	0.06250	0.07021	0.07799
5	Tributary 3	0.03883	0.05189	0.06077	0.07203	0.08039	0.08882
7	Spring Creek	0.03168	0.04318	0.05114	0.06135	0.06903	0.07679

Dixie Road Station SWMF-2B (East Station) Hydrologic Analysis - Post-Development Condition

Table F.2B-b: Dixie Road Station (East Station) Proposed SWMF-2B Hydrologic Analysis Post-Development Condition (12 hr AES)

12hr AES Return Period	**Allowable Release Rates** Etobicoke Unit Flow Rates	**Post-Development Condition (Uncontrolled)** VO2 ID 202 (A = 1.42 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-3 POST-DEVELOPMENT CONDITION** VO2 ID 203 (A = 1.42 ha)		**Decrease from Allowable to Post-Dev Controlled**
	$Q_{allowable}$ (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Provided** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	0.046	0.055	19.51%	316	0.020	-130.11%
5-yr	0.063	0.073	16.52%	340	0.040	-56.63%
10-yr	0.074	0.085	14.67%	352	0.052	-42.55%
25-yr	0.089	0.100	12.68%	370	0.073	-21.58%
50-yr	0.100	0.111	11.34%	383	0.089	-12.02%
100-yr	0.111	0.123	11.07%	397	0.100	-10.75%

Table F.2B-c: Dixie Road Station (East Station) Proposed SWMF-2B Hydrologic Analysis Post-Development Condition (4 hr Chicago)

4hr Chicago Return Period	**Allowable Release Rates** Etobicoke Unit Flow Rates	**Post-Development Condition (Uncontrolled)** VO2 ID 204 (A = 1.42 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-3 POST-DEVELOPMENT CONDITION** VO2 ID 205 (A = 1.42 ha)		**Decrease from Allowable to Post-Dev Controlled**
	$Q_{allowable}$ (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Provided** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	0.046	0.109	136.84%	316	0.020	-130.11%
5-yr	0.063	0.142	126.65%	340	0.040	-56.63%
10-yr	0.074	0.164	121.25%	353	0.053	-39.86%
25-yr	0.089	0.192	116.34%	367	0.069	-28.62%
50-yr	0.100	0.213	113.64%	377	0.081	-23.08%
100-yr	0.111	0.233	110.39%	385	0.091	-21.70%

Table F.2B-d: Dixie Road Station Proposed SWMF-2B (East Station) - Design Parameters

Pond Catchment Area 1.42 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Level 1	250	m^3/ha	Interpolated from Table 3.2 (MOECC)		
Extended	40	m^3/ha	(or 25mm rainfall event whichever greater)	*298.20*	m^3
25 mm Event From OTTHYMO	20.455	mm		*290.46*	m^3
% imperviousness	90	%			
Permanent Volume Required				*298.20*	m^3

Quantity Control Required

Total Volume required up to and including the 100 yr storm **385.00** m^3

Total Pond Volume Required (Permanent and Extended) **683.20** m^3

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	7	Minimum Forebay length	m
r	2	Length to width ratio	-
Qp	0.01	Peak flow rate from the pond during design quality storm	m^3/s
Vs	0.0003	settling velocity	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Minimum Width 1 m

Dist	9	Minimum Dispersion Length	
Q	0.16	Inlet Flow Rate	(10 year Storm)
d	1.0	Depth of the Permanent Pool	
Vf	0.15	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

Width = Dist/8 Width 1.1 m

Design Quality Storm MOECC Eq 4.9

$$i_{25} = 43C + 5.9$$

A	1.42	Area	
C	90	Runoff Coefficient	
i	44.6	Intensity	mm/hr
Qp	0.16	Flow Rational Method	

Flow Velocity Check

Qd	0.16	Inlet Flow Rate	m^3/s
A	3.13	Crossectional Area	m^2
Vfb	0.052	Flow Velocity	m/s
	Yes	< 0.15	

Forebay Dimensions

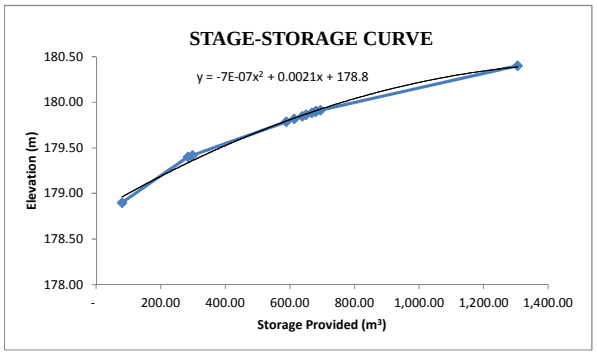
5:1	Average Side Slope	%
22.00	Top Length	m
10.00	Bottom Length	m
11.00	Average Top Width	m
1.50	Bottom Width	m
0.50	Average Depth of the Pool	m
64.25	Approximate Volume of the Pool	m^3
298.20	Total Permanent Pool Volume	m^3
0.22	Forebay/Total Volume Ratio	
216.74	Forebay Area	m^2
581.15	Total Permanent Pool Area	
0.37	Forebay/Total Area Ratio	
2.56	Average L/W Ratio Check	

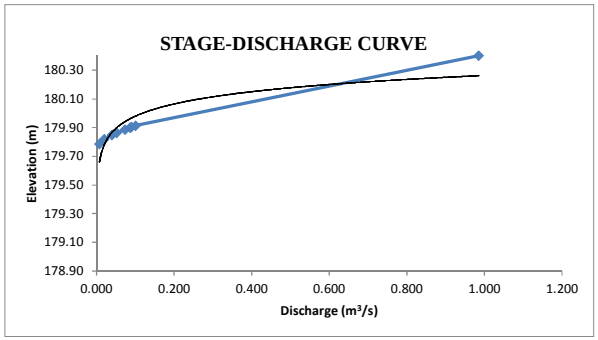
Forebay Cleanout Frequency

Ac	1.42	Contributing Area	(ha)
Ds	0.6	Maximum Sediment Depth	(m)
Vsf	58	Maximum Sediment Volume	(m3)
a	90%	Impervious Level	%
da	4.1	Annual Sediment Loading	(m^3/ha/yr) (Table 6.3 MOECC Manual)
Fs	10.0	Forebay Cleanout Frequency	(years)
	75%	Target Maintenance TSS Removal Efficiency	

Table F.2B-e: Dixie Road Station - Proposed SWMF-2B (East Station) - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/ Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	Discharge Orifice 1 179.42 0.075	Discharge Weir 179.79 1.100	Discharge Total	Description
178.40		65.39	65.39										
178.90		250.08	250.08	157.7	78.87	80.62							
179.40	14.59	565.76	565.76	407.9	203.96	284.58							
179.42			581.15			***298.20***	-						**Permanent Water Level**
179.79						588.66	290.46	0.37	0.0290	0.007	0.00	0.007	*25-mm*
179.82						614.20	316.00	0.40	0.0316	0.008	0.01	0.020	*2-yr*
179.85						638.20	340.00	0.43	0.0340	0.008	0.03	0.040	*5-yr*
179.86						650.20	352.00	0.45	0.0352	0.008	0.04	0.052	*10-yr*
179.89						668.20	370.00	0.47	0.0370	0.008	0.06	0.073	*25-yr*
179.90	54.60	956.73	1,011.34	788.5	394.27	678.85	380.65	0.48	0.0381	0.009	0.08	0.087	
179.90						682.20	384.00	0.49	0.0384	0.009	0.08	0.090	*50-yr*
179.91						695.20	397.00	0.50	0.0397	0.009	0.09	0.101	*100-yr*
180.40	110.52	1383.65	1,494.17	1252.8	626.38	1,305.23	1,007.03	0.98	0.1007	0.012	0.97	0.985	





Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q	Varies	Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Weir Discharge

If $L > 2 * H_{max}$

$$Q = 1.837 * (L - 0.06 * H_{max}) * H_{max}^{1.5}$$

If $L < 2 * H_{max}$

$$Q = 1.837 * L * H_{max}^{1.5}$$

Q	Varies	Discharge	(m^3/s)
L	1.100	Weir Length	(m)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	m

Table F.2B-f: Dixie Road Station - Proposed SWMF 2B (East Station)
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	290	m^3
Orifice	0.07500	m	Initial Head:	0.37	m
Area	0.00442	m^2	Detention:	48.00	hrs
				2,880.00	min

FALLING HEAD EQUATION

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.3684	0.0075	2.24	290.46	288.22
5	0.3655	0.0075	2.24	288.22	285.98
10	0.3627	0.0074	2.23	285.98	283.75
15	0.3598	0.0074	2.22	283.75	281.53
20	0.3570	0.0074	2.21	281.53	279.32
25	0.3542	0.0073	2.20	279.32	277.12
30	0.3514	0.0073	2.19	277.12	274.93
35	0.3487	0.0073	2.18	274.93	272.75
40	0.3459	0.0073	2.18	272.75	270.57
45	0.3431	0.0072	2.17	270.57	268.41
50	0.3404	0.0072	2.16	268.41	266.25
55	0.3376	0.0072	2.15	266.25	264.10
60	0.3349	0.0071	2.14	264.10	261.96
65	0.3322	0.0071	2.13	261.96	259.83
70	0.3295	0.0071	2.12	259.83	257.70
75	0.3268	0.0070	2.11	257.70	255.59
80	0.3241	0.0070	2.11	255.59	253.48
85	0.3215	0.0070	2.10	253.48	251.39
90	0.3188	0.0070	2.09	251.39	249.30
95	0.3161	0.0069	2.08	249.30	247.22
100	0.3135	0.0069	2.07	247.22	245.15
105	0.3109	0.0069	2.06	245.15	243.09
1125	0.0059	0.0009	0.28	4.66	4.37
1130	0.0055	0.0009	0.28	4.37	4.10
1135	0.0052	0.0009	0.27	4.10	3.83
1140	0.0049	0.0009	0.26	3.83	3.57
1145	0.0045	0.0008	0.25	3.57	3.32
1150	0.0042	0.0008	0.24	3.32	3.08
1155	0.0039	0.0008	0.23	3.08	2.85
		-- B R E A K --			-
1160	0.0036	0.0007	0.22	2.85	2.63
1165	0.0033	0.0007	0.21	2.63	2.42
1170	0.0031	0.0007	0.20	2.42	2.21
1175	0.0028	0.0007	0.20	2.21	2.02
1180	0.0026	0.0006	0.19	2.02	1.83
1185	0.0023	0.0006	0.18	1.83	1.65
1190	0.0021	0.0006	0.17	1.65	1.48
1195	0.0019	0.0005	0.16	1.48	1.32
1200	0.0017	0.0005	0.15	1.32	1.17
1205	0.0015	0.0005	0.14	1.17	1.03
1210	0.0013	0.0004	0.13	1.03	0.89
1215	0.0011	0.0004	0.12	0.89	0.77
1220	0.0010	0.0004	0.12	0.77	0.65

Table F.2B-g: Dixie Rd Station Proposed SWMF-2B (East Station) Inlet Pipe Sizing

UP INV= 179.70 m
DS INV= 179.42 m
L= 20 m
SLOPE= 1.40 %

10-yr uncontrolled from the Site= 0.164 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.400	20.00	0.013	1.40	0.25	66%

Table F.2B-h: Dixie Rd Station Proposed SWMF-2B (East Station) Outlet Pipe Sizing

UP INV= 179.42 m
DS INV= 179.40 m
L= 30 m
SLOPE= 0.06 %

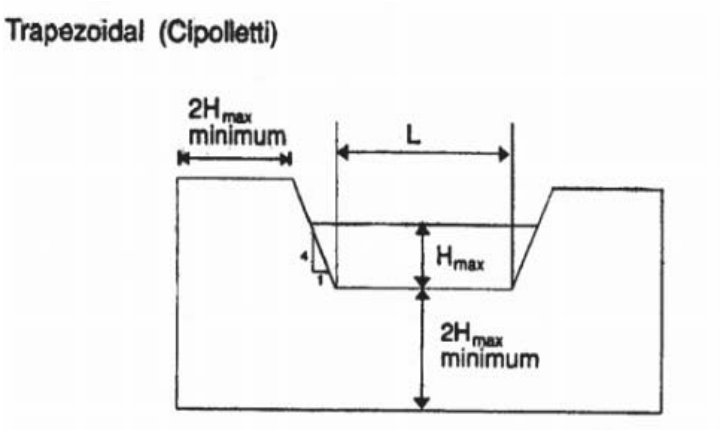
100-yr uncontrolled from the Site= 0.233 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.800	30.00	0.013	0.06	0.32	73%

Table F.2B-i: Dixie Rd Station Proposed SWMF-2B Spillway

Trapezoidal Weir

Hmax=	0.3	m	2H=	0.6 m (MIN.)
Q=	0.123	m^3/s	or 2H=	1 m
L=	0.40	m		



$$0.1 < Q < 11\,m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

```
================================================================================
========================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial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                  *****  D E T A I L E D   O U T P U T *****


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ut
  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\9d9632b8-ecaa-49fb-972b-09f89cacb1cd\Scenario.s
um


DATE: 06/19/2018                            TIME: 04:30:46

USER:


COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
-----------------------
  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


--------------------
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|                  |              ata\Local\Temp\
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--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    7.14 |  6.75    2.94 | 10.00    0.42
                0.50    0.42 |  3.75    7.14 |  7.00    2.94 | 10.25    0.42
                0.75    0.42 |  4.00    7.14 |  7.25    2.94 | 10.50    0.42
                1.00    0.42 |  4.25    7.14 |  7.50    1.68 | 10.75    0.42
                1.25    0.42 |  4.50   19.32 |  7.75    1.68 | 11.00    0.42
```

1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

CALIB
STANDHYD (0202)
ID= 1 DT= 5.0 min

Area (ha)= 1.42
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42

2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	89.27		
over (min)	5.00	20.00		
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)		
Unit Hyd. Tpeak (min)=	10.00	55.00		
Unit Hyd. peak (cms)=	0.12	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.04	0.02	0.055 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	41.00	32.89	36.92	
TOTAL RAINFALL (mm)=	42.00	42.00	42.00	
RUNOFF COEFFICIENT =	0.98	0.78	0.88	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	1.420	0.055	5.25	36.92
OUTFLOW: ID= 1 (0203)	1.420	0.020	6.75	36.19

PEAK FLOW REDUCTION [Qout/Qin](%)= 36.64
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.0316

****
** SIMULATION NUMBER: 2 **
****

READ STORM
Ptotal= 54.38 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\9d9632b8-ecaa-49fb-972b-09f89cacb1cd\3b0e7019
Comments: 5yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54

1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB
STANDHYD (0202)
ID= 1 DT= 5.0 min

Area (ha)= 1.42
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54

3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	118.72		
over (min)	5.00	15.00		
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)		
Unit Hyd. Tpeak (min)=	10.00	55.00		
Unit Hyd. peak (cms)=	0.12	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.05	0.03	0.073 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	53.38	44.87	49.10	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.83	0.90	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	1.420	0.073	5.25	49.10
OUTFLOW: ID= 1 (0203)	1.420	0.040	6.17	48.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.78
TIME SHIFT OF PEAK FLOW (min)= 55.00
MAXIMUM STORAGE USED (ha.m.)= 0.0340

****
** SIMULATION NUMBER: 3 **
****

READ STORM
Ptotal= 62.71 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\9d9632b8-ecaa-49fb-972b-09f89cacb1cd\ba267365
Comments: 10yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63

2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

CALIB STANDHYD (0202) ID= 1 DT= 5.0 min	Area (ha)= 1.42 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63

3.083	3.76	6.167	8.15	9.250	1.25

Max.Eff.Inten.(mm/hr)=	28.84	138.35		
over (min)	5.00	15.00		
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)		
Unit Hyd. Tpeak (min)=	10.00	55.00		
Unit Hyd. peak (cms)=	0.12	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.06	0.03	0.085 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	61.71	53.00	57.34	
TOTAL RAINFALL (mm)=	62.71	62.71	62.71	
RUNOFF COEFFICIENT =	0.98	0.85	0.91	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	1.420	0.085	5.25	57.34
OUTFLOW: ID= 1 (0203)	1.420	0.052	5.83	56.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 61.18
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0352

****
** SIMULATION NUMBER: 4 **
****

READ STORM
Ptotal= 73.10 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\9d9632b8-ecaa-49fb-972b-09f89cacb1cd\1c3daf7c
Comments: 25yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73

2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB
STANDHYD (0202)
ID= 1 DT= 5.0 min

Area (ha)= 1.42
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	162.86		
over (min)	5.00	15.00		
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)		
Unit Hyd. Tpeak (min)=	10.00	55.00		
Unit Hyd. peak (cms)=	0.12	0.02		
			TOTALS	
PEAK FLOW (cms)=	0.07	0.04	0.100 (iii)	
TIME TO PEAK (hrs)=	5.25	5.75	5.25	
RUNOFF VOLUME (mm)=	72.10	63.20	67.63	
TOTAL RAINFALL (mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT =	0.99	0.86	0.93	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	1.420	0.100	5.25	67.63
OUTFLOW: ID= 1 (0203)	1.420	0.073	5.50	66.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 73.01
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0370

****
** SIMULATION NUMBER: 5 **
****

READ STORM
Ptotal= 80.82 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\9d9632b8-ecaa-49fb-972b-09f89cacb1cd\0398ecfb
Comments: 50yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	13.74	6.75	5.66	10.00	0.81
0.50	0.81	3.75	13.74	7.00	5.66	10.25	0.81
0.75	0.81	4.00	13.74	7.25	5.66	10.50	0.81
1.00	0.81	4.25	13.74	7.50	3.23	10.75	0.81
1.25	0.81	4.50	37.17	7.75	3.23	11.00	0.81
1.50	0.81	4.75	37.17	8.00	3.23	11.25	0.81
1.75	0.81	5.00	37.17	8.25	3.23	11.50	0.81
2.00	0.81	5.25	37.17	8.50	1.62	11.75	0.81
2.25	0.81	5.50	10.50	8.75	1.62	12.00	0.81

2.50	4.85	5.75	10.50	9.00	1.62	12.25	0.81
2.75	4.85	6.00	10.50	9.25	1.62		
3.00	4.85	6.25	10.50	9.50	0.81		
3.25	4.85	6.50	5.66	9.75	0.81		

CALIB
STANDHYD (0202)
ID= 1 DT= 5.0 min

Area (ha)= 1.42
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	180.91	
over (min)	5.00	15.00	
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=	10.00	55.00	
Unit Hyd. peak (cms)=	0.12	0.02	
			TOTALS
PEAK FLOW (cms)=	0.07	0.05	0.111 (iii)
TIME TO PEAK (hrs)=	5.25	5.75	5.25
RUNOFF VOLUME (mm)=	79.82	70.81	75.29
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.88	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	1.420	0.111	5.25	75.29
OUTFLOW: ID= 1 (0203)	1.420	0.089	5.42	74.56

PEAK FLOW REDUCTION [Qout/Qin](%)= 79.98
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0383

****
** SIMULATION NUMBER: 6 **
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READ STORM
Ptotal= 88.54 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\9d9632b8-ecaa-49fb-972b-09f89cacb1cd\2446e30d
Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89

2.75	5.31	6.00	11.51	9.25	1.77
3.00	5.31	6.25	11.51	9.50	0.89
3.25	5.31	6.50	6.20	9.75	0.89

CALIB STANDHYD (0202) ID= 1 DT= 5.0 min	Area (ha)= 1.42 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

Max.Eff.Inten.(mm/hr)= 40.71 198.92

over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.08	0.05	0.123 (iii)
TIME TO PEAK	(hrs)=	5.25	5.75	5.25
RUNOFF VOLUME	(mm)=	87.54	78.44	82.97
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.99	0.89	0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0203)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0202)	1.420	0.123	5.25	82.97
OUTFLOW: ID= 1 (0203)	1.420	0.100	5.42	82.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 82.01
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0397

FINISH

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                 Serial


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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\603779cb-34c9-4bbb-9b09-76ca9975b4cc\Scenario.o
ut
  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\603779cb-34c9-4bbb-9b09-76ca9975b4cc\Scenario.s
um


DATE: 06/19/2018                          TIME: 04:29:15

USER:


COMMENTS: _____________________________________________________________


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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************


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| CHICAGO STORM    |    IDF curve parameters: A= 453.462
| Ptotal= 38.09 mm |                          B=   1.500
--------------------                          C=   0.704
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
```

5.	131.10	121.41
10.	81.50	81.25
15.	61.70	63.01
30.	38.40	39.97
60.	24.00	24.96
120.	15.00	15.45
360.	7.10	7.17
720.	4.50	4.41
1440.	2.80	2.71

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.20	1.17	16.80	2.17	6.49	3.17	3.71
0.33	3.59	1.33	81.25	2.33	5.70	3.33	3.48
0.50	4.11	1.50	21.07	2.50	5.11	3.50	3.29
0.67	4.87	1.67	12.55	2.67	4.64	3.67	3.12
0.83	6.09	1.83	9.35	2.83	4.27	3.83	2.97
1.00	8.47	2.00	7.61	3.00	3.96	4.00	2.84

CALIB STANDHYD (0204) ID= 1 DT= 5.0 min	Area (ha)= 1.42 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.20	1.083	16.80	2.083	6.49	3.08	3.71
0.167	3.20	1.167	16.80	2.167	6.49	3.17	3.71
0.250	3.59	1.250	81.25	2.250	5.70	3.25	3.48
0.333	3.59	1.333	81.25	2.333	5.70	3.33	3.48
0.417	4.11	1.417	21.07	2.417	5.11	3.42	3.29
0.500	4.11	1.500	21.07	2.500	5.11	3.50	3.29
0.583	4.87	1.583	12.55	2.583	4.64	3.58	3.12
0.667	4.87	1.667	12.55	2.667	4.64	3.67	3.12
0.750	6.09	1.750	9.35	2.750	4.27	3.75	2.97
0.833	6.09	1.833	9.35	2.833	4.27	3.83	2.97
0.917	8.47	1.917	7.61	2.917	3.96	3.92	2.84
1.000	8.47	2.000	7.61	3.000	3.96	4.00	2.84

Max.Eff.Inten.(mm/hr)=		81.25	325.00	
over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.10	0.03	0.109 (iii)
TIME TO PEAK	(hrs)=	1.42	2.17	1.42
RUNOFF VOLUME	(mm)=	37.09	29.16	33.11
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09

RUNOFF COEFFICIENT = 0.97 0.77 0.87

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	1.420	0.109	1.42	33.11
OUTFLOW: ID= 1 (0205)	1.420	0.020	3.50	32.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.49
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.0316

****
** SIMULATION NUMBER: 2 **
****

CHICAGO STORM
Ptotal= 48.94 mm

IDF curve parameters: A= 592.209
B= 1.501
C= 0.707
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	170.20	157.65
10.	105.60	105.33
15.	79.90	81.60
30.	49.70	51.66
60.	30.90	32.19
120.	19.20	19.89
360.	9.10	9.20
720.	5.70	5.65
1440.	3.60	3.46

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.08	1.17	21.57	2.17	8.28	3.17	4.72
0.33	4.57	1.33	105.33	2.33	7.27	3.33	4.43

0.50	5.24	1.50	27.08	2.50	6.51	3.50	4.19
0.67	6.21	1.67	16.08	2.67	5.92	3.67	3.97
0.83	7.77	1.83	11.97	2.83	5.44	3.83	3.78
1.00	10.83	2.00	9.72	3.00	5.05	4.00	3.61

CALIB STANDHYD (0204) ID= 1 DT= 5.0 min	Area (ha)= 1.42 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.08	1.083	21.57	2.083	8.28	3.08	4.72
0.167	4.08	1.167	21.57	2.167	8.28	3.17	4.72
0.250	4.57	1.250	105.33	2.250	7.27	3.25	4.43
0.333	4.57	1.333	105.33	2.333	7.27	3.33	4.43
0.417	5.24	1.417	27.08	2.417	6.51	3.42	4.19
0.500	5.24	1.500	27.08	2.500	6.51	3.50	4.19
0.583	6.21	1.583	16.08	2.583	5.92	3.58	3.97
0.667	6.21	1.667	16.08	2.667	5.92	3.67	3.97
0.750	7.77	1.750	11.97	2.750	5.44	3.75	3.78
0.833	7.77	1.833	11.97	2.833	5.44	3.83	3.78
0.917	10.83	1.917	9.72	2.917	5.05	3.92	3.61
1.000	10.83	2.000	9.72	3.000	5.05	4.00	3.61

Max.Eff.Inten.(mm/hr)=		105.33	448.64	
over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.13	0.04	0.142 (iii)
TIME TO PEAK	(hrs)=	1.42	2.17	1.42
RUNOFF VOLUME	(mm)=	47.94	39.58	43.74
TOTAL RAINFALL	(mm)=	48.94	48.94	48.94
RUNOFF COEFFICIENT	=	0.98	0.81	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

0.0000	0.0000		0.0520	0.0352
0.0070	0.0290		0.0730	0.0370
0.0200	0.0316		0.0900	0.0384
0.0400	0.0340		0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	1.420	0.142	1.42	43.74
OUTFLOW: ID= 1 (0205)	1.420	0.040	2.75	43.01

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.81
TIME SHIFT OF PEAK FLOW (min)= 80.00
MAXIMUM STORAGE USED (ha.m.)= 0.0340

****
** SIMULATION NUMBER: 3 **
****

CHICAGO STORM
Ptotal= 55.89 mm

IDF curve parameters: A= 683.826
B= 1.501
C= 0.709
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	195.80	181.36
10.	121.40	121.03
15.	91.80	93.70
30.	57.00	59.24
60.	35.40	36.87
120.	22.00	22.75
360.	10.40	10.50
720.	6.50	6.43
1440.	4.10	3.94

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.63	1.17	24.61	2.17	9.42	3.17	5.36
0.33	5.19	1.33	121.03	2.33	8.26	3.33	5.03
0.50	5.95	1.50	30.93	2.50	7.40	3.50	4.75
0.67	7.06	1.67	18.33	2.67	6.73	3.67	4.51
0.83	8.83	1.83	13.63	2.83	6.18	3.83	4.29
1.00	12.33	2.00	11.06	3.00	5.73	4.00	4.10

CALIB STANDHYD (0204)
ID= 1 DT= 5.0 min

Area (ha)= 1.42
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00

Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.63	1.083	24.61	2.083	9.42	3.08	5.36
0.167	4.63	1.167	24.61	2.167	9.42	3.17	5.36
0.250	5.19	1.250	121.03	2.250	8.26	3.25	5.03
0.333	5.19	1.333	121.03	2.333	8.26	3.33	5.03
0.417	5.95	1.417	30.93	2.417	7.40	3.42	4.75
0.500	5.95	1.500	30.93	2.500	7.40	3.50	4.75
0.583	7.06	1.583	18.33	2.583	6.73	3.58	4.51
0.667	7.06	1.667	18.33	2.667	6.73	3.67	4.51
0.750	8.83	1.750	13.63	2.750	6.18	3.75	4.29
0.833	8.83	1.833	13.63	2.833	6.18	3.83	4.29
0.917	12.33	1.917	11.06	2.917	5.73	3.92	4.10
1.000	12.33	2.000	11.06	3.000	5.73	4.00	4.10

Max.Eff.Inten.(mm/hr)=		121.03	529.58	
over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.15	0.04	0.164 (iii)
TIME TO PEAK	(hrs)=	1.42	2.17	1.42
RUNOFF VOLUME	(mm)=	54.89	46.34	50.60
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89
RUNOFF COEFFICIENT	=	0.98	0.83	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	1.420	0.164	1.42	50.60
OUTFLOW: ID= 1 (0205)	1.420	0.053	2.50	49.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.06
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0353

```
  ****************************
  ** SIMULATION NUMBER:   4 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 804.454
| Ptotal= 64.68 mm |                          B=   1.501
--------------------                          C=   0.712
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                      The CORRELATION coefficient is = 0.9996

                       TIME       INPUT INT.           TAB. INT.
                      (min)        (mm/hr)              (mm/hr)
                         5.         228.80               212.16
                        10.         141.60               141.34
                        15.         107.10               109.30
                        30.          66.40                68.98
                        60.          41.20                42.84
                       120.          25.60                26.38
                       360.          12.10                12.14
                       720.           7.50                 7.42
                      1440.           4.70                 4.53


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    5.30 |  1.17   28.45 |  2.17   10.83 |  3.17    6.14
                  0.33    5.95 |  1.33  141.34 |  2.33    9.50 |  3.33    5.77
                  0.50    6.83 |  1.50   35.79 |  2.50    8.50 |  3.50    5.45
                  0.67    8.10 |  1.67   21.14 |  2.67    7.72 |  3.67    5.17
                  0.83   10.16 |  1.83   15.70 |  2.83    7.09 |  3.83    4.92
                  1.00   14.20 |  2.00   12.73 |  3.00    6.58 |  4.00    4.70

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0204) |   Area    (ha)=   1.42
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.28          0.14
     Dep. Storage     (mm)=       1.00          4.00
     Average Slope     (%)=       1.00          3.70
     Length            (m)=      97.30         40.00
     Mannings n             =     0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                   TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                    hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.083    5.30 | 1.083   28.45 | 2.083   10.83 |  3.08    6.14
                  0.167    5.30 | 1.167   28.45 | 2.167   10.83 |  3.17    6.14
                  0.250    5.95 | 1.250  141.34 | 2.250    9.50 |  3.25    5.77
                  0.333    5.95 | 1.333  141.34 | 2.333    9.50 |  3.33    5.77
                  0.417    6.83 | 1.417   35.79 | 2.417    8.50 |  3.42    5.45
```

0.500	6.83	1.500	35.79	2.500	8.50	3.50	5.45
0.583	8.10	1.583	21.14	2.583	7.72	3.58	5.17
0.667	8.10	1.667	21.14	2.667	7.72	3.67	5.17
0.750	10.16	1.750	15.70	2.750	7.09	3.75	4.92
0.833	10.16	1.833	15.70	2.833	7.09	3.83	4.92
0.917	14.20	1.917	12.73	2.917	6.58	3.92	4.70
1.000	14.20	2.000	12.73	3.000	6.58	4.00	4.70

Max.Eff.Inten.(mm/hr)=	141.34	634.16	
over (min)	5.00	15.00	
Storage Coeff. (min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=	10.00	55.00	
Unit Hyd. peak (cms)=	0.12	0.02	
			TOTALS
PEAK FLOW (cms)=	0.18	0.05	0.192 (iii)
TIME TO PEAK (hrs)=	1.42	2.17	1.42
RUNOFF VOLUME (mm)=	63.68	54.93	59.29
TOTAL RAINFALL (mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT =	0.98	0.85	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	1.420	0.192	1.42	59.29
OUTFLOW: ID= 1 (0205)	1.420	0.069	2.33	58.55

PEAK FLOW REDUCTION [Qout/Qin](%)= 35.93
TIME SHIFT OF PEAK FLOW (min)= 55.00
MAXIMUM STORAGE USED (ha.m.)= 0.0367

****
** SIMULATION NUMBER: 5 **
****

CHICAGO STORM
Ptotal= 71.55 mm

IDF curve parameters: A= 889.943
B= 1.500
C= 0.712
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	253.20	234.73
10.	156.70	156.37
15.	118.40	120.92
30.	73.40	76.31
60.	45.50	47.39
120.	28.20	29.18
360.	13.30	13.43
720.	8.30	8.21
1440.	5.20	5.02

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.87	1.17	31.47	2.17	11.98	3.17	6.80
0.33	6.58	1.33	156.37	2.33	10.51	3.33	6.39
0.50	7.55	1.50	39.59	2.50	9.40	3.50	6.03
0.67	8.96	1.67	23.39	2.67	8.54	3.67	5.72
0.83	11.23	1.83	17.36	2.83	7.85	3.83	5.44
1.00	15.71	2.00	14.09	3.00	7.28	4.00	5.20

CALIB STANDHYD (0204) ID= 1 DT= 5.0 min	Area (ha)= 1.42 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.87	1.083	31.47	2.083	11.98	3.08	6.80
0.167	5.87	1.167	31.47	2.167	11.98	3.17	6.80
0.250	6.58	1.250	156.37	2.250	10.51	3.25	6.39
0.333	6.58	1.333	156.37	2.333	10.51	3.33	6.39
0.417	7.55	1.417	39.59	2.417	9.40	3.42	6.03
0.500	7.55	1.500	39.59	2.500	9.40	3.50	6.03
0.583	8.96	1.583	23.39	2.583	8.54	3.58	5.72
0.667	8.96	1.667	23.39	2.667	8.54	3.67	5.72
0.750	11.23	1.750	17.36	2.750	7.85	3.75	5.44
0.833	11.23	1.833	17.36	2.833	7.85	3.83	5.44
0.917	15.71	1.917	14.09	2.917	7.28	3.92	5.20
1.000	15.71	2.000	14.09	3.000	7.28	4.00	5.20

Max.Eff.Inten.(mm/hr)=		156.37	712.12	
over (min)		5.00	15.00	
Storage Coeff. (min)=		9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak (min)=		10.00	55.00	
Unit Hyd. peak (cms)=		0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.20	0.06	0.213 (iii)

TIME TO PEAK	(hrs)=	1.42	2.17	1.42
RUNOFF VOLUME	(mm)=	70.55	61.68	66.10
TOTAL RAINFALL	(mm)=	71.55	71.55	71.55
RUNOFF COEFFICIENT	=	0.99	0.86	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0520	0.0352
0.0070	0.0290	0.0730	0.0370
0.0200	0.0316	0.0900	0.0384
0.0400	0.0340	0.1010	0.0397

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	1.420	0.213	1.42	66.10
OUTFLOW: ID= 1 (0205)	1.420	0.081	2.25	65.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 38.02
TIME SHIFT OF PEAK FLOW (min)= 50.00
MAXIMUM STORAGE USED (ha.m.)= 0.0377

****
** SIMULATION NUMBER: 6 **
****

CHICAGO STORM
Ptotal= 77.58 mm

IDF curve parameters: A= 980.886
B= 1.508
C= 0.715
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	277.00	257.04
10.	171.40	171.00
15.	129.50	132.12
30.	80.20	83.22
60.	49.70	51.59
120.	30.80	31.70
360.	14.50	14.54
720.	9.00	8.87
1440.	5.60	5.41

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.17	6.30	1.17	34.10	2.17	12.91	3.17	7.30
0.33	7.07	1.33	171.00	2.33	11.31	3.33	6.86
0.50	8.12	1.50	42.95	2.50	10.12	3.50	6.47
0.67	9.64	1.67	25.29	2.67	9.19	3.67	6.14
0.83	12.10	1.83	18.74	2.83	8.44	3.83	5.84
1.00	16.95	2.00	15.19	3.00	7.82	4.00	5.58

CALIB STANDHYD (0204) ID= 1 DT= 5.0 min	Area (ha)= 1.42 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.28	0.14
Dep. Storage	(mm)=	1.00	4.00
Average Slope	(%)=	1.00	3.70
Length	(m)=	97.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.30	1.083	34.10	2.083	12.91	3.08	7.30
0.167	6.30	1.167	34.10	2.167	12.91	3.17	7.30
0.250	7.07	1.250	171.00	2.250	11.31	3.25	6.86
0.333	7.07	1.333	171.00	2.333	11.31	3.33	6.86
0.417	8.12	1.417	42.95	2.417	10.12	3.42	6.47
0.500	8.12	1.500	42.95	2.500	10.12	3.50	6.47
0.583	9.64	1.583	25.29	2.583	9.19	3.58	6.14
0.667	9.64	1.667	25.29	2.667	9.19	3.67	6.14
0.750	12.10	1.750	18.74	2.750	8.44	3.75	5.84
0.833	12.10	1.833	18.74	2.833	8.44	3.83	5.84
0.917	16.95	1.917	15.19	2.917	7.82	3.92	5.58
1.000	16.95	2.000	15.19	3.000	7.82	4.00	5.58

Max.Eff.Inten.	(mm/hr)=	171.00	787.09	
	over (min)	5.00	15.00	
Storage Coeff.	(min)=	9.00 (ii)	53.40 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	55.00	
Unit Hyd. peak	(cms)=	0.12	0.02	
				TOTALS
PEAK FLOW	(cms)=	0.22	0.06	0.233 (iii)
TIME TO PEAK	(hrs)=	1.42	2.17	1.42
RUNOFF VOLUME	(mm)=	76.58	67.61	72.08
TOTAL RAINFALL	(mm)=	77.58	77.58	77.58
RUNOFF COEFFICIENT	=	0.99	0.87	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 83.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0205)

IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0520	0.0352	
	0.0070	0.0290	0.0730	0.0370	
	0.0200	0.0316	0.0900	0.0384	
	0.0400	0.0340	0.1010	0.0397	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0204)	1.420	0.233	1.42	72.08
OUTFLOW: ID= 1 (0205)	1.420	0.091	2.17	71.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.01
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.0385

FINISH

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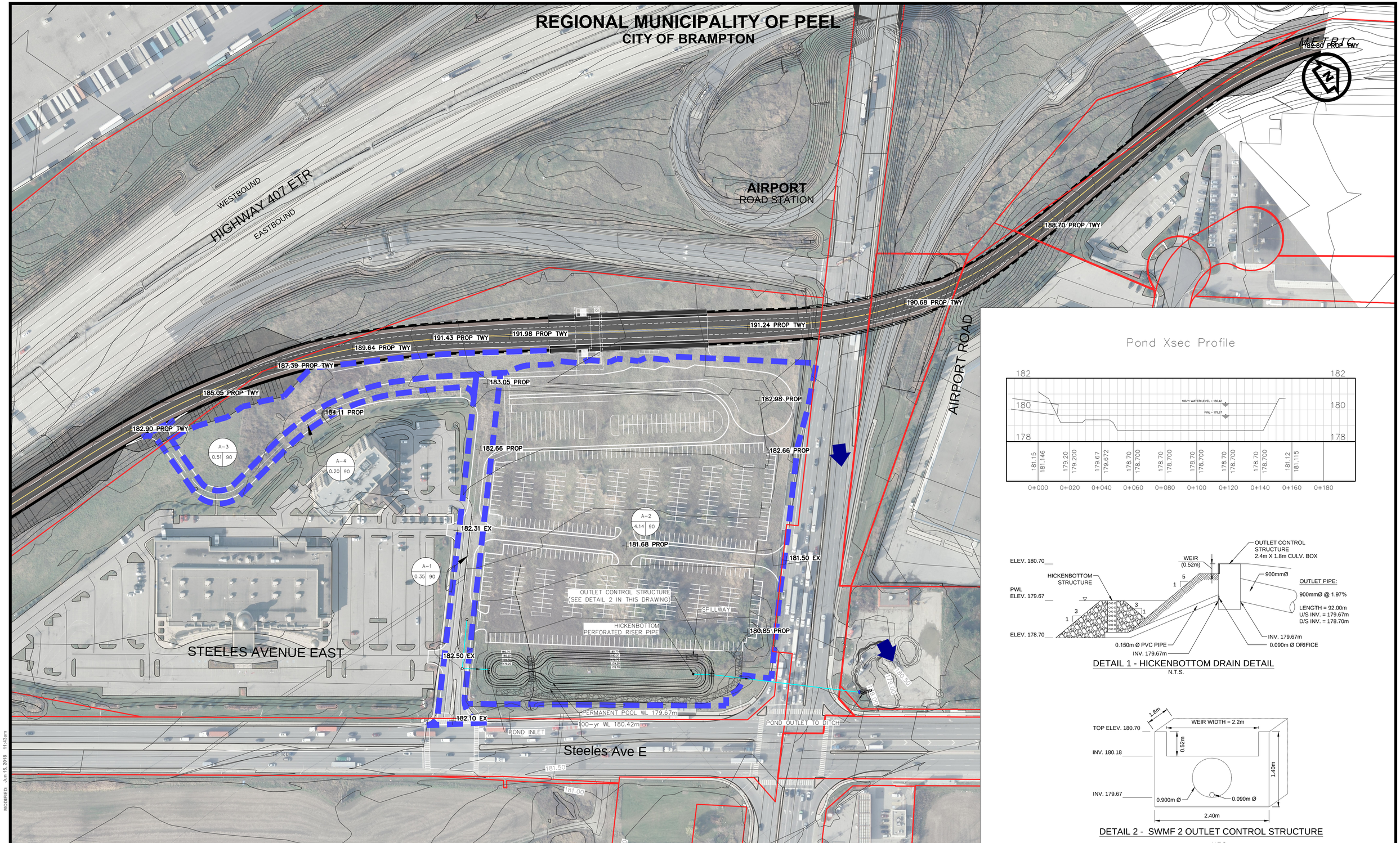
AIRPORT ROAD STATION



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CREATED:
MODIFIED: Jun 15, 2018 11:43am

Ontario PARSONS IBI GROUP

SCALE
1:1000

LEGEND
FILL SECTION
CUT SECTION
RETAINING WALL
STATION PLATFORM
TRANSITWAY
STRUCTURE SECTION
UNDERPASS SECTION

407 TWY BOUNDARY IN DRAINAGE ANALYSIS
PROPERTY LINE
FLOW DIRECTION
OVF
AREA ID
98-1
AREA (ha) 0.44 90 % IMPERVIOUS

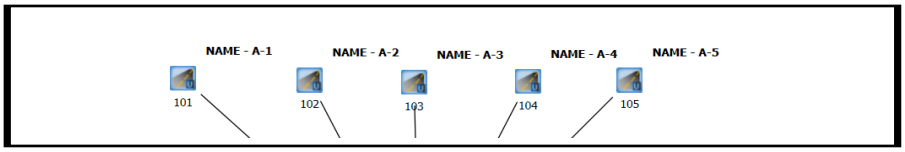
407 TRANSITWAY
WEST OF HURONTARIO ROAD TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
AIRPORT ROAD STATION

DRAWING SET
STATION DRAINAGE AREA MAP

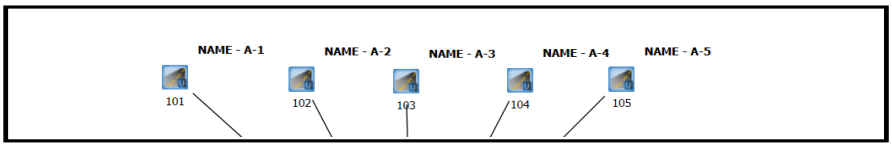
PLATE
F-3

DATE
JULY. 2018

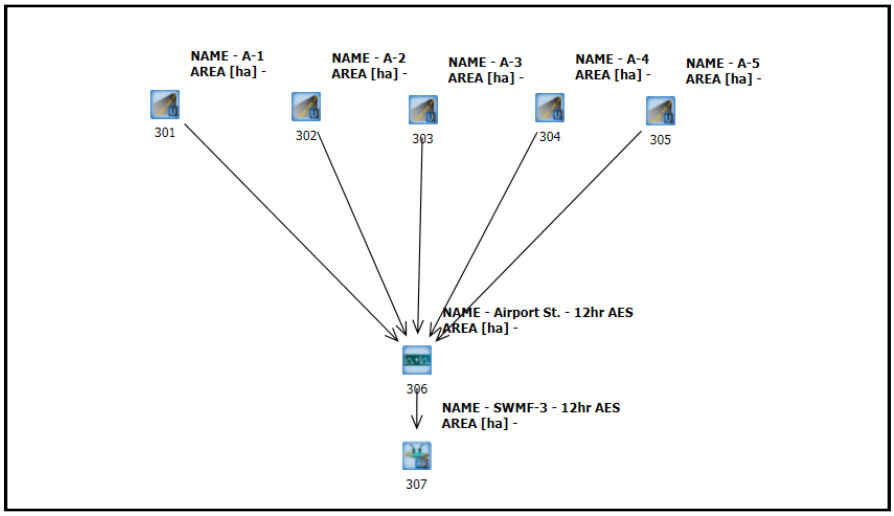
Visual OTTHYMO Modelling Schematic – Airport Road Station SWMF-3



Existing Condition



Proposed (Uncontrolled) Condition



Proposed (Controlled) Condition

Airport Road Station Proposed SWMF-3 Hydrologic Analysis - Existing Condition

Input parameters

Proposed Airport Station is located within Subcatchment 117 - Mimico Watershed
For modeling purposes, input parameters of Area 117 are used in VO2 (Standhyd)

CN= 86
Ia= 6
Drainage area Total (ha)= 5.2

Table F.3-a: Airport Road Station SWMF-3 Hydrologic Analysis - Existing Condition

Return Period	VO2 ID 301	VO2 ID 302
	EX Qp-12hr AES (m^3/s)	EX Qp-Chicago 4hr (m^3/s)
2-yr	0.206	0.398
5-yr	0.283	0.536
10-yr	0.336	0.628
25-yr	0.403	0.748
50-yr	0.453	0.841
100-yr	0.504	0.929

Airport Road Station SWMF-3 Hydrologic Analysis - Post-Development Condition

Table F.3-b: Airport Road Proposed SWMF-3 Station Hydrologic Analysis Post-Development Condition (12 hr AES)

12hr AES Return Period	**Allowable Release Rates** Existing Conditions Flow Rates	**Post-Development Condition (Uncontrolled)** VO2 ID 303 (A = 5.20 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-4 POST-DEVELOPMENT CONDITION** VO2 ID 304 (A = 5.20 ha)		**Decrease from Allowable to Post-Dev Controlled**
	$Q_{allowable}$ (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Required** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	0.206	0.262	27.18%	1284	0.079	-160.76%
5-yr	0.283	0.343	21.20%	1464	0.187	-51.34%
10-yr	0.336	0.398	18.45%	1571	0.267	-25.84%
25-yr	0.403	0.466	15.63%	1684	0.360	-11.94%
50-yr	0.453	0.517	14.13%	1757	0.422	-7.35%
100-yr	0.504	0.568	12.70%	1821	0.485	-3.92%

Table F.3-c: Airport Road Station Proposed SWMF-3 Hydrologic Analysis Post-Development Condition (4 hr Chicago)

4hr Chicago Return Period	**Allowable Release Rates** Existing Conditions Flow Rates	**Post-Development Condition (Uncontrolled)** VO2 ID 305 (A = 5.20 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-4 POST-DEVELOPMENT CONDITION** VO2 ID 306 (A = 5.20 ha)		**Decrease from Allowable to Post-Dev Controlled**
	$Q_{allowable}$ (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Required** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	0.398	0.618	55.28%	1274	0.075	-430.67%
5-yr	0.536	0.805	50.19%	1438	0.171	-213.45%
10-yr	0.628	0.927	47.61%	1542	0.246	-155.28%
25-yr	0.748	1.084	44.92%	1671	0.350	-113.71%
50-yr	0.841	1.202	42.93%	1765	0.435	-93.33%
100-yr	0.929	1.315	41.55%	1852	0.514	-80.74%

Table F.3-d: Airport Road Station Proposed SWMF-3 - Design Parameters

Pond Catchment Area 5.20 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Level 1	258	m^3/ha	Interpolated from Table 3.2 (MOECC)		
Extended	40	m^3/ha	(or 25mm rainfall event whichever greater)	*1,135.33*	m^3
25 mm Event From OTTHYMO	21.292	mm		*1,107.18*	m^3
% imperviousness	90	%			
Permanent Volume Required				*1,135.33*	m^3

Quantity Control Required

Total Volume required up to and including the 100 yr storm **1,821.00** m^3

Total Pond Volume Required (Permanent and Extended) **2,956.33** m^3

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	9	Minimum Forebay length		m
r	2	Length to width ratio	(MOECC Table 4.6)	-
Qp	0.012	Peak flow rate from the pond during design quality storm		m^3/s
Vs	0.0003	settling velocity	(MOECC Recommended value)	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Dist	15	Minimum Dispersion Length	
Q	0.93	Inlet Flow Rate	(10 yr Storm - 4hr Chicago - Uncontrolled)
d	0.97	Depth of the Permanent Pool in the Forebay	
Vf	0.5	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

$$Width = \frac{Dist}{8}$$

Bottom Width 1.92 m

Design Quality Storm MOECC Eq 4.8 & 4.9

$$Q = \frac{CiA}{360} \qquad i_{25} = 43C + 5.9$$

	5.20	Area		ha
C	90	Runoff Coefficient		-
i	44.6	Intensity	(MOECC Eq. 4.9)	mm/hr
Qp	0.58	Flow	(MOECC Eq. 4.8 - Rational Method)	m^3/s

Forebay Average Velocity Check

Qd	0.93	Inlet Flow Rate	m^3/s	
A	7.24	Crossectional Area	m^2	
Vfb	0.128	Flow Velocity	m/s	
	Yes	< 0.15		

Forebay Dimensions

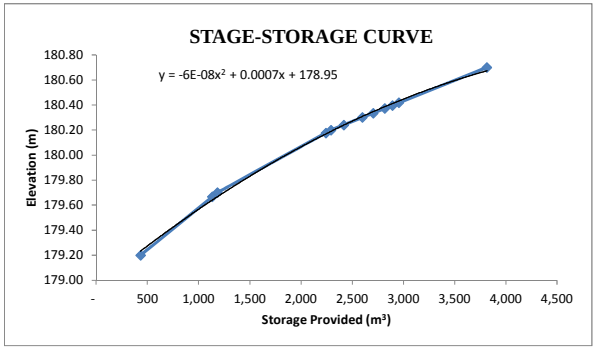
5:1	Average Side Slope	%
18.6	Top of Pool Length	m
8.6	Bottom Length	m
12.5	Average Top of Pool Width	m
2.5	Bottom Width	m
0.97	Average Depth of the Pool	m
122.56	Approximate Volume of the Pool	m^3
1135.33	Total Permanent Pool Volume	m^3
0.11	Forebay/Total Volume Ratio	
592.39	Forebay Area	m^2
202.18	Total Permanent Pool Area	
2.93	Forebay/Total Area Ratio	
1.82	Average L/W Ratio Check	

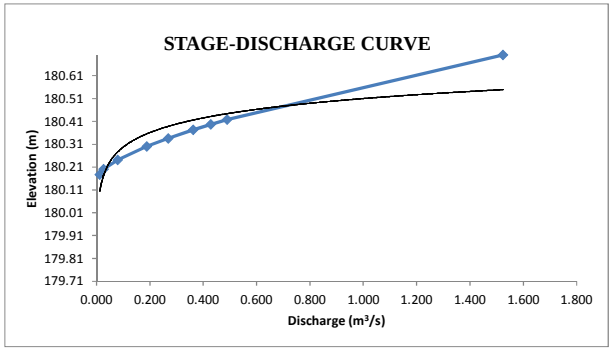
Forebay Cleanout Frequency

Ac	5.2	Contributing Area	(ha)	
Ds	0.97	Maximum Sediment Depth	(m)	
Vsf	122.56	Maximum Sediment Volume	(m^3)	
a	90%	Impervious Level	%	
da	3.8	Annual Sediment Loading	(m^3/ha/yr)	(Table 6.3 MOECC Manual)
Fs	6.2	Forebay Cleanout Frequency	(years)	
	75%	Target Maintenance TSS Removal Efficiency		

Table F.3-e: Airport Road Station - Proposed SWMF-3 - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/ Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	Discharge Orifice 179.67 0.089	Discharge Weir 180.18 2.200	Discharge Total	Description
178.70		567	567										
179.20	92	1,078	1,170	869	434	434							
179.67						***1,135***						0.000	**Permanent Water Level**
179.70	202	1,628	1,830	1,500	750	1,184							
180.18						2,243	1,107	0.51	0.1107	0.012	0.000	0.012	*25-mm*
180.20	373	2,234	2,607	2,218	1,109	2,293	1,158	0.53	0.1158	0.013	0.014	0.027	
180.24						2,419	1,284	0.57	0.1284	0.013	0.066	0.079	*2-yr*
180.30						2,599	1,464	0.63	0.1464	0.014	0.175	0.188	*5-yr*
180.34						2,706	1,571	0.67	0.1571	0.014	0.254	0.268	*10-yr*
180.37						2,819	1,684	0.71	0.1684	0.015	0.348	0.363	*25-yr*
180.40						2,892	1,757	0.73	0.1757	0.015	0.414	0.428	*50-yr*
180.42						2,956	1,821	0.75	0.1821	0.015	0.474	0.489	*100-yr*
180.70	592	2,890	3,482	3,044	1,522	3,816	2,680	1.03	0.2680	0.018	1.507	1.524	





Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q	Varies	Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Weir Discharge

If $L > 2 * H_{max}$ $\quad Q = 1.837 * (L - 0.06 * H_{max}) * H_{max}^{1.5}$

If $L < 2 * H_{max}$ $\quad Q = 1.837 * L * H_{max}^{1.5}$

Q	Varies	Discharge	(m^3/s)
L	2.200	Weir Length	(m)
H	Varies	Hydraulic Head	m

Table F.3-f: Airport Road Station - Proposed SWMF-3
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	1,107	m^3
Orifice	0.089	m	Initial Head:	0.51	m
Area	0.00622	m^2	Detention:	48.00	hrs
				2,880.00	min

FALLING HEAD EQUATION

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.5096	0.0124	3.72	1,107.18	1,103.47
5	0.5079	0.0124	3.71	1,103.47	1,099.75
10	0.5062	0.0124	3.71	1,099.75	1,096.05
15	0.5045	0.0123	3.70	1,096.05	1,092.35
20	0.5028	0.0123	3.69	1,092.35	1,088.66
25	0.5011	0.0123	3.69	1,088.66	1,084.97
30	0.4994	0.0123	3.68	1,084.97	1,081.29
35	0.4977	0.0122	3.67	1,081.29	1,077.61
40	0.4960	0.0122	3.67	1,077.61	1,073.95
45	0.4943	0.0122	3.66	1,073.95	1,070.28
50	0.4927	0.0122	3.66	1,070.28	1,066.63
55	0.4910	0.0122	3.65	1,066.63	1,062.98
60	0.4893	0.0121	3.64	1,062.98	1,059.34
65	0.4876	0.0121	3.64	1,059.34	1,055.70
70	0.4859	0.0121	3.63	1,055.70	1,052.07
75	0.4843	0.0121	3.62	1,052.07	1,048.44
80	0.4826	0.0121	3.62	1,048.44	1,044.83
85	0.4809	0.0120	3.61	1,044.83	1,041.21
90	0.4793	0.0120	3.61	1,041.21	1,037.61
95	0.4776	0.0120	3.60	1,037.61	1,034.01
100	0.4760	0.0120	3.59	1,034.01	1,030.42
105	0.4743	0.0120	3.59	1,030.42	1,026.83
		-- B R E A K --			-
2860	0.0005	0.0004	0.11	8.68	8.57
2865	0.0004	0.0004	0.11	8.57	8.46
2870	0.0004	0.0003	0.10	8.46	8.36
2875	0.0003	0.0003	0.09	8.36	8.27
2880	0.0003		-	8.27	8.27

Table F.3-g: Airport Rd Station Proposed SWMF-3 Inlet Pipe Sizing

UP INV= 179.90 m
DS INV= 179.67 m
L= 16 m
SLOPE= 1.44 %

10-yr uncontrolled from the Site= 0.927 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.750	16.00	0.013	1.44	1.33	69%

Table F.3-h: Airport Rd Station Proposed SWMF-3 Outlet Pipe Sizing

UP INV= 179.67 m
DS INV= 178.70 m
L= 92 m
SLOPE= 1.05 %

100-yr uncontrolled from the Site= 1.315 m^3/s

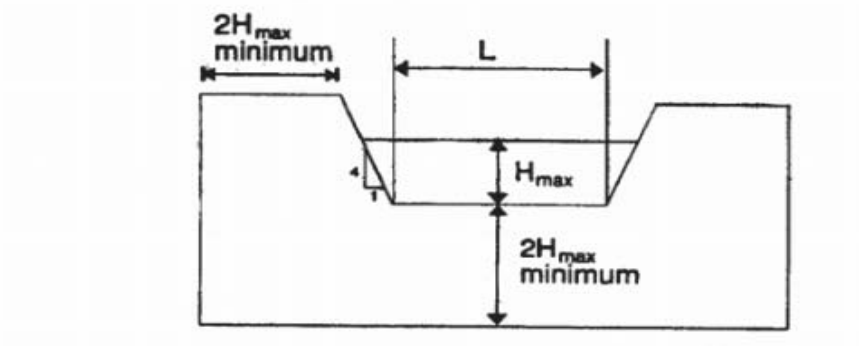
Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (m^3/s)	
Conc.	0.900	92.00	0.013	1.05	1.86	71%

Table F.3-i: Airport Station Proposed SWMF-3 Spillway

Trapezoidal Weir

Hmax=	0.3 m	2H=	0.6 m (MIN.)
Q=	0.568 m^3/s	or 2H=	1 m
L=	1.86 m		

Trapezoidal (Cipolletti)



$$0.1 < Q < 11\, m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename:
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  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\18c5eabc-babe-48f7-b36e-3a46318cee3a\Scenario.sum


DATE: 06/13/2018                          TIME: 03:56:14

USER:


COMMENTS: _____________________________________________________________


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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              18c5eabc-babe-48f7-b36e-3a46318cee3a\d327aae5
| Ptotal= 42.00 mm |    Comments: 2yr/12hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    7.14 |  6.75    2.94 | 10.00    0.42
                0.50    0.42 |  3.75    7.14 |  7.00    2.94 | 10.25    0.42
                0.75    0.42 |  4.00    7.14 |  7.25    2.94 | 10.50    0.42
                1.00    0.42 |  4.25    7.14 |  7.50    1.68 | 10.75    0.42
                1.25    0.42 |  4.50   19.32 |  7.75    1.68 | 11.00    0.42
                1.50    0.42 |  4.75   19.32 |  8.00    1.68 | 11.25    0.42
                1.75    0.42 |  5.00   19.32 |  8.25    1.68 | 11.50    0.42
                2.00    0.42 |  5.25   19.32 |  8.50    0.84 | 11.75    0.42
                2.25    0.42 |  5.50    5.46 |  8.75    0.84 | 12.00    0.42
                2.50    2.52 |  5.75    5.46 |  9.00    0.84 | 12.25    0.42
                2.75    2.52 |  6.00    5.46 |  9.25    0.84 |
                3.00    2.52 |  6.25    5.46 |  9.50    0.42 |
                3.25    2.52 |  6.50    2.94 |  9.75    0.42 |

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| CALIB            |
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| STANDHYD (0301) | Area (ha)= 0.35
|ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.04
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	48.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

Max.Eff.Inten.(mm/hr)=		19.32	10.45	
over (min)		5.00	35.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.00	0.018 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	40.00	16.76	37.66
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.95	0.40	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (0302) |   Area    (ha)=   4.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.73         0.41
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     166.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.45
               over (min)        5.00        35.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.01          0.209 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.33           5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76          37.67
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.40           0.90


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (0308) |   Area    (ha)=   0.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      36.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.45
               over (min)        5.00        35.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.010 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.33           5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76          37.63
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.40           0.90


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0307) |   Area    (ha)=   0.51
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.05
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      58.31        40.00
     Mannings n           =      0.013        0.250
```

```
     Max.Eff.Inten.(mm/hr)=      19.32        10.45
               over (min)         5.00        35.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.00          0.026 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.33           5.25
     RUNOFF VOLUME    (mm)=      40.00        16.76          37.66
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.95         0.40           0.90


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0301):     0.35   0.018     5.25    37.66
       + ID2= 2 (0302):     4.14   0.209     5.25    37.67
         ================================================
         ID = 3 (0303):     4.49   0.227     5.25    37.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0303) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0303):     4.49   0.227     5.25    37.67
       + ID2= 2 (0307):     0.51   0.026     5.25    37.66
         ================================================
         ID = 1 (0303):     5.00   0.252     5.25    37.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0303):     5.00   0.252     5.25    37.67
       + ID2= 2 (0308):     0.20   0.010     5.25    37.63
         ================================================
         ID = 3 (0303):     5.20   0.262     5.25    37.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0304) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2680      0.1571
                          0.0120     0.1107   |   0.3630      0.1684
                          0.0790     0.1284   |   0.4280      0.1757
                          0.1880     0.1464   |   0.4890      0.1821

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0303)      5.200      0.262      5.25      37.67
     OUTFLOW: ID= 1 (0304)      5.200      0.079      6.17      37.22

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.10
```

TIME SHIFT OF PEAK FLOW (min)= 55.00
MAXIMUM STORAGE USED (ha.m.)= 0.1284

CHICAGO STORM
Ptotal= 38.09 mm

IDF curve parameters: A= 453.462
B= 1.500
C= 0.704
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	131.10	121.41
10.	81.50	81.25
15.	61.70	63.01
30.	38.40	39.97
60.	24.00	24.96
120.	15.00	15.45
360.	7.10	7.17
720.	4.50	4.41
1440.	2.80	2.71

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.20	1.17	16.80	2.17	6.49	3.17	3.71
0.33	3.59	1.33	81.25	2.33	5.70	3.33	3.48
0.50	4.11	1.50	21.07	2.50	5.11	3.50	3.29
0.67	4.87	1.67	12.55	2.67	4.64	3.67	3.12
0.83	6.09	1.83	9.35	2.83	4.27	3.83	2.97
1.00	8.47	2.00	7.61	3.00	3.96	4.00	2.84

CALIB
STANDHYD (0404)
ID= 1 DT= 5.0 min

Area (ha)= 0.51
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.46	0.05
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	58.31	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.20	1.083	16.80	2.083	6.49	3.08	3.71
0.167	3.20	1.167	16.80	2.167	6.49	3.17	3.71
0.250	3.59	1.250	81.25	2.250	5.70	3.25	3.48
0.333	3.59	1.333	81.25	2.333	5.70	3.33	3.48
0.417	4.11	1.417	21.07	2.417	5.11	3.42	3.29
0.500	4.11	1.500	21.07	2.500	5.11	3.50	3.29
0.583	4.87	1.583	12.55	2.583	4.64	3.58	3.12
0.667	4.87	1.667	12.55	2.667	4.64	3.67	3.12
0.750	6.09	1.750	9.35	2.750	4.27	3.75	2.97
0.833	6.09	1.833	9.35	2.833	4.27	3.83	2.97
0.917	8.47	1.917	7.61	2.917	3.96	3.92	2.84
1.000	8.47	2.000	7.61	3.000	3.96	4.00	2.84

Max.Eff.Inten.(mm/hr)=		81.25	24.59
over (min)		5.00	20.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		10.00	20.00

```
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.00          0.061 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      36.09        14.03          33.87
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.95         0.37           0.89


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0405) |   Area    (ha)=   0.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      36.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25        24.59
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.00          0.024 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      36.09        14.03          33.85
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.95         0.37           0.89


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0402) |   Area    (ha)=   4.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.73         0.41
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     166.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25        24.59
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.49         0.01          0.492 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      36.09        14.03          33.89
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.95         0.37           0.89


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0401) ID= 1 DT= 5.0 min	Area (ha)= 0.35 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.31	0.04	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	48.30	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		81.25	24.59	
over (min)		5.00	20.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.04	0.00	0.042 (iii)
TIME TO PEAK	(hrs)=	1.42	1.58	1.42
RUNOFF VOLUME	(mm)=	36.09	14.03	33.87
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09
RUNOFF COEFFICIENT	=	0.95	0.37	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0305) 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0401):		0.35	0.042	1.42	33.87
+ ID2= 2 (0402):		4.14	0.492	1.42	33.89
ID = 3 (0305):		4.49	0.534	1.42	33.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0305) 3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0305):		4.49	0.534	1.42	33.88
+ ID2= 2 (0404):		0.51	0.061	1.42	33.87
ID = 1 (0305):		5.00	0.595	1.42	33.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0305) 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0305):		5.00	0.595	1.42	33.88
+ ID2= 2 (0405):		0.20	0.024	1.42	33.85
ID = 3 (0305):		5.20	0.618	1.42	33.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (0306) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2680	0.1571
0.0120	0.1107	0.3630	0.1684
0.0790	0.1284	0.4280	0.1757
0.1880	0.1464	0.4890	0.1821

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0305)	5.200	0.618	1.42	33.88
OUTFLOW: ID= 1 (0306)	5.200	0.075	2.67	33.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.18
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.1274

****
** SIMULATION NUMBER: 2 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\18c5eabc-babe-48f7-b36e-3a46318cee3a\3b0e7019
Ptotal= 54.38 mm	Comments: 5yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB STANDHYD (0301) ID= 1 DT= 5.0 min	Area (ha)= 0.35 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.04
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	48.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54

0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	16.21	
over (min)	5.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.023 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	52.38	26.09	49.73
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.96	0.48	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0302) | Area (ha)= 4.14
ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		3.73	0.41
Dep. Storage (mm)=		2.00	6.00
Average Slope (%)=		1.00	1.00
Length (m)=		166.13	40.00
Mannings n =		0.013	0.250

Max.Eff.Inten.(mm/hr)=	25.02	16.21	
over (min)	5.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	0.26	0.02	0.273 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	52.38	26.09	49.75
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.96	0.48	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0308)	Area (ha)= 0.20
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.18	0.02	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	36.51	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		25.02	16.21	
over (min)		5.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.00	0.013 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	49.71
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0307)	Area (ha)= 0.51
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.46	0.05	
Dep. Storage	(mm)=	2.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	58.31	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		25.02	16.21	
over (min)		5.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.03	0.00	0.034 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	52.38	26.09	49.73
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.96	0.48	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0303)

```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0301):     0.35   0.023     5.25    49.73
        + ID2= 2 (0302):     4.14   0.273     5.25    49.75
          ================================================
          ID = 3 (0303):     4.49   0.296     5.25    49.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0303) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0303):     4.49   0.296     5.25    49.75
        + ID2= 2 (0307):     0.51   0.034     5.25    49.73
          ================================================
          ID = 1 (0303):     5.00   0.330     5.25    49.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0303):     5.00   0.330     5.25    49.75
        + ID2= 2 (0308):     0.20   0.013     5.25    49.71
          ================================================
          ID = 3 (0303):     5.20   0.343     5.25    49.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0304) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2680      0.1571
                          0.0120     0.1107   |   0.3630      0.1684
                          0.0790     0.1284   |   0.4280      0.1757
                          0.1880     0.1464   |   0.4890      0.1821

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0303)      5.200      0.343      5.25      49.74
     OUTFLOW: ID= 1 (0304)      5.200      0.187      5.50      49.29

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 54.53
                    TIME SHIFT OF PEAK FLOW         (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1464

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 592.209
| Ptotal= 48.94 mm |                          B=   1.501
--------------------                          C=   0.707
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                     The CORRELATION coefficient is = 0.9996

                      TIME       INPUT INT.           TAB. INT.
                     (min)        (mm/hr)              (mm/hr)
                        5.         170.20               157.65
                       10.         105.60               105.33
                       15.          79.90                81.60
                       30.          49.70                51.66
                       60.          30.90                32.19
```

120.	19.20	19.89
360.	9.10	9.20
720.	5.70	5.65
1440.	3.60	3.46

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.08	1.17	21.57	2.17	8.28	3.17	4.72
0.33	4.57	1.33	105.33	2.33	7.27	3.33	4.43
0.50	5.24	1.50	27.08	2.50	6.51	3.50	4.19
0.67	6.21	1.67	16.08	2.67	5.92	3.67	3.97
0.83	7.77	1.83	11.97	2.83	5.44	3.83	3.78
1.00	10.83	2.00	9.72	3.00	5.05	4.00	3.61

CALIB STANDHYD (0404) ID= 1 DT= 5.0 min	Area (ha)= 0.51 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.46	0.05
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	58.31	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.08	1.083	21.57	2.083	8.28	3.08	4.72
0.167	4.08	1.167	21.57	2.167	8.28	3.17	4.72
0.250	4.57	1.250	105.33	2.250	7.27	3.25	4.43
0.333	4.57	1.333	105.33	2.333	7.27	3.33	4.43
0.417	5.24	1.417	27.08	2.417	6.51	3.42	4.19
0.500	5.24	1.500	27.08	2.500	6.51	3.50	4.19
0.583	6.21	1.583	16.08	2.583	5.92	3.58	3.97
0.667	6.21	1.667	16.08	2.667	5.92	3.67	3.97
0.750	7.77	1.750	11.97	2.750	5.44	3.75	3.78
0.833	7.77	1.833	11.97	2.833	5.44	3.83	3.78
0.917	10.83	1.917	9.72	2.917	5.05	3.92	3.61
1.000	10.83	2.000	9.72	3.000	5.05	4.00	3.61

Max.Eff.Inten.(mm/hr)=		105.33	42.30	
over (min)		5.00	20.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.08	0.00	0.079 (iii)
TIME TO PEAK	(hrs)=	1.42	1.58	1.42
RUNOFF VOLUME	(mm)=	46.94	21.87	44.41
TOTAL RAINFALL	(mm)=	48.94	48.94	48.94
RUNOFF COEFFICIENT	=	0.96	0.45	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0405) ID= 1 DT= 5.0 min	Area (ha)= 0.20 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.18	0.02

```
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      36.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33        42.30
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.00          0.031 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      46.94        21.87          44.39
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.96         0.45           0.91


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0402) |   Area    (ha)=   4.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.73         0.41
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     166.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33        42.30
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.63         0.02          0.641 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      46.94        21.87          44.43
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.96         0.45           0.91


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0401) |   Area    (ha)=   0.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.04
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      48.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33        42.30
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
```

PEAK FLOW (cms)=	0.05	0.00	0.054 (iii)
TIME TO PEAK (hrs)=	1.42	1.58	1.42
RUNOFF VOLUME (mm)=	46.94	21.87	44.41
TOTAL RAINFALL (mm)=	48.94	48.94	48.94
RUNOFF COEFFICIENT =	0.96	0.45	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0305)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0401):	0.35	0.054	1.42	44.41
+ ID2= 2 (0402):	4.14	0.641	1.42	44.43
ID = 3 (0305):	4.49	0.695	1.42	44.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0305)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0305):	4.49	0.695	1.42	44.43
+ ID2= 2 (0404):	0.51	0.079	1.42	44.41
ID = 1 (0305):	5.00	0.774	1.42	44.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0305)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0305):	5.00	0.774	1.42	44.43
+ ID2= 2 (0405):	0.20	0.031	1.42	44.39
ID = 3 (0305):	5.20	0.805	1.42	44.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0306)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2680	0.1571
0.0120	0.1107	0.3630	0.1684
0.0790	0.1284	0.4280	0.1757
0.1880	0.1464	0.4890	0.1821

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0305)	5.200	0.805	1.42	44.43
OUTFLOW: ID= 1 (0306)	5.200	0.171	2.17	43.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.28
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.1438

****
** SIMULATION NUMBER: 3 **

****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\18c5eabc-babe-48f7-b36e-3a46318cee3a\ba267365
Ptotal= 62.71 mm	Comments: 10yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63
2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

CALIB STANDHYD (0301)	Area (ha)= 0.35
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.04
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	48.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63

2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

Max.Eff.Inten.(mm/hr)=	28.84	20.05	
over (min)	5.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.027 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	60.71	32.80	57.90
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.97	0.52	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0302)	Area (ha)=	4.14	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		3.73	0.41
Dep. Storage (mm)=		2.00	6.00
Average Slope (%)=		1.00	1.00
Length (m)=		166.13	40.00
Mannings n =		0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	20.05	
over (min)	5.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	0.30	0.02	0.317 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	60.71	32.80	57.92
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.97	0.52	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0308)	Area (ha)=	0.20	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		0.18	0.02
Dep. Storage (mm)=		2.00	6.00
Average Slope (%)=		1.00	1.00
Length (m)=		36.51	40.00
Mannings n =		0.013	0.250

Max.Eff.Inten.(mm/hr)=	28.84	20.05	
over (min)	5.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	

```
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.015 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.33           5.25
     RUNOFF VOLUME    (mm)=      60.71        32.80          57.87
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.97         0.52           0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0307) |   Area    (ha)=   0.51
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.05
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      58.31        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.05
               over (min)        5.00        30.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.00          0.039 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.33           5.25
     RUNOFF VOLUME    (mm)=      60.71        32.80          57.90
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.97         0.52           0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0301):     0.35   0.027     5.25    57.90
       + ID2= 2 (0302):     4.14   0.317     5.25    57.92
         ================================================
         ID = 3 (0303):     4.49   0.343     5.25    57.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0303) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0303):     4.49   0.343     5.25    57.91
       + ID2= 2 (0307):     0.51   0.039     5.25    57.90
         ================================================
         ID = 1 (0303):     5.00   0.382     5.25    57.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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ADD HYD (0303)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0303):	5.00	0.382	5.25	57.91
	+ ID2= 2 (0308):	0.20	0.015	5.25	57.87
	ID = 3 (0303):	5.20	0.398	5.25	57.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0304)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.2680	0.1571	
	0.0120	0.1107	0.3630	0.1684	
	0.0790	0.1284	0.4280	0.1757	
	0.1880	0.1464	0.4890	0.1821	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0303)	5.200	0.398	5.25	57.91
OUTFLOW: ID= 1 (0304)	5.200	0.267	5.42	57.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 67.04
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1571

CHICAGO STORM	IDF curve parameters: A= 683.826
Ptotal= 55.89 mm	B= 1.501
	C= 0.709

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	195.80	181.36
10.	121.40	121.03
15.	91.80	93.70
30.	57.00	59.24
60.	35.40	36.87
120.	22.00	22.75
360.	10.40	10.50
720.	6.50	6.43
1440.	4.10	3.94

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.63	1.17	24.61	2.17	9.42	3.17	5.36
0.33	5.19	1.33	121.03	2.33	8.26	3.33	5.03
0.50	5.95	1.50	30.93	2.50	7.40	3.50	4.75
0.67	7.06	1.67	18.33	2.67	6.73	3.67	4.51
0.83	8.83	1.83	13.63	2.83	6.18	3.83	4.29
1.00	12.33	2.00	11.06	3.00	5.73	4.00	4.10

CALIB	
STANDHYD (0404)	Area (ha)= 0.51
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

IMPERVIOUS PERVIOUS (i)

Surface Area	(ha)=	0.46	0.05
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	58.31	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.63	1.083	24.61	2.083	9.42	3.08	5.36
0.167	4.63	1.167	24.61	2.167	9.42	3.17	5.36
0.250	5.19	1.250	121.03	2.250	8.26	3.25	5.03
0.333	5.19	1.333	121.03	2.333	8.26	3.33	5.03
0.417	5.95	1.417	30.93	2.417	7.40	3.42	4.75
0.500	5.95	1.500	30.93	2.500	7.40	3.50	4.75
0.583	7.06	1.583	18.33	2.583	6.73	3.58	4.51
0.667	7.06	1.667	18.33	2.667	6.73	3.67	4.51
0.750	8.83	1.750	13.63	2.750	6.18	3.75	4.29
0.833	8.83	1.833	13.63	2.833	6.18	3.83	4.29
0.917	12.33	1.917	11.06	2.917	5.73	3.92	4.10
1.000	12.33	2.000	11.06	3.000	5.73	4.00	4.10

Max.Eff.Inten.(mm/hr)=	121.03	54.97		
over (min)	5.00	20.00		
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)		
Unit Hyd. Tpeak (min)=	10.00	20.00		
Unit Hyd. peak (cms)=	0.10	0.06		
			TOTALS	
PEAK FLOW (cms)=	0.09	0.00	0.091 (iii)	
TIME TO PEAK (hrs)=	1.42	1.58	1.42	
RUNOFF VOLUME (mm)=	53.89	27.28	51.22	
TOTAL RAINFALL (mm)=	55.89	55.89	55.89	
RUNOFF COEFFICIENT =	0.96	0.49	0.92	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0405)	Area (ha)= 0.20
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.18	0.02		
Dep. Storage	(mm)=	2.00	6.00		
Average Slope	(%)=	1.00	1.00		
Length	(m)=	36.51	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		121.03	54.97		
over (min)		5.00	20.00		
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)		
Unit Hyd. Tpeak (min)=		10.00	20.00		
Unit Hyd. peak (cms)=		0.10	0.06		
				TOTALS	
PEAK FLOW	(cms)=	0.03	0.00	0.036 (iii)	
TIME TO PEAK	(hrs)=	1.42	1.58	1.42	
RUNOFF VOLUME	(mm)=	53.89	27.28	51.19	
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89	
RUNOFF COEFFICIENT	=	0.96	0.49	0.92	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (0402) |   Area    (ha)=   4.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.73         0.41
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     166.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     121.03        54.97
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.72         0.03          0.738 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      53.89        27.28          51.23
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.96         0.49           0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0401) |   Area    (ha)=   0.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.04
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      48.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     121.03        54.97
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.00          0.062 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      53.89        27.28          51.21
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.96         0.49           0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0305) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0401):      0.35   0.062     1.42    51.21
       + ID2= 2 (0402):      4.14   0.738     1.42    51.23
         ================================================
         ID = 3 (0305):      4.49   0.800     1.42    51.23
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NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0305)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0305):	4.49	0.800	1.42	51.23
	+ ID2= 2 (0404):	0.51	0.091	1.42	51.22
	ID = 1 (0305):	5.00	0.891	1.42	51.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0305)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0305):	5.00	0.891	1.42	51.23
	+ ID2= 2 (0405):	0.20	0.036	1.42	51.19
	ID = 3 (0305):	5.20	0.927	1.42	51.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0306)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2680	0.1571
0.0120	0.1107	0.3630	0.1684
0.0790	0.1284	0.4280	0.1757
0.1880	0.1464	0.4890	0.1821

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0305)	5.200	0.927	1.42	51.23
OUTFLOW: ID= 1 (0306)	5.200	0.246	2.00	50.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.55
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.1542

****
** SIMULATION NUMBER: 4 **
****

READ STORM | Ptotal= 73.10 mm
Filename: C:\Users\p001279d\AppData\Local\Temp\18c5eabc-babe-48f7-b36e-3a46318cee3a\1c3daf7c
Comments: 25yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		

3.25	4.39	6.50	5.12	9.75	0.73		

CALIB			
STANDHYD (0301)	Area (ha)=	0.35	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.04
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	48.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

				TOTALS
Max.Eff.Inten.(mm/hr)=		33.63	24.97	
over (min)		5.00	30.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.10	0.06	
PEAK FLOW	(cms)=	0.03	0.00	0.031 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	71.10	41.52	68.12
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.97	0.57	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0302)	Area (ha)= 4.14				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	3.73	0.41		
Dep. Storage	(mm)=	2.00	6.00		
Average Slope	(%)=	1.00	1.00		
Length	(m)=	166.13	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		33.63	24.97		
over (min)		5.00	30.00		
Storage Coeff.	(min)=	12.00 (ii)	18.00 (ii)		
Unit Hyd. Tpeak	(min)=	10.00	20.00		
Unit Hyd. peak	(cms)=	0.10	0.06		
				TOTALS	
PEAK FLOW	(cms)=	0.35	0.02	0.371 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.33	5.25	
RUNOFF VOLUME	(mm)=	71.10	41.52	68.14	
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT	=	0.97	0.57	0.93	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0308)	Area (ha)= 0.20				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.18	0.02		
Dep. Storage	(mm)=	2.00	6.00		
Average Slope	(%)=	1.00	1.00		
Length	(m)=	36.51	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		33.63	24.97		
over (min)		5.00	30.00		
Storage Coeff.	(min)=	12.00 (ii)	18.00 (ii)		
Unit Hyd. Tpeak	(min)=	10.00	20.00		
Unit Hyd. peak	(cms)=	0.10	0.06		
				TOTALS	
PEAK FLOW	(cms)=	0.02	0.00	0.018 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.33	5.25	
RUNOFF VOLUME	(mm)=	71.10	41.52	68.11	
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT	=	0.97	0.57	0.93	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0307)	Area (ha)= 0.51				
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00			
		IMPERVIOUS	PERVIOUS (i)		

Surface Area	(ha)=	0.46	0.05		
Dep. Storage	(mm)=	2.00	6.00		
Average Slope	(%)=	1.00	1.00		
Length	(m)=	58.31	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)	=	33.63	24.97		
over (min)		5.00	30.00		
Storage Coeff.	(min)=	12.00 (ii)	18.00 (ii)		
Unit Hyd. Tpeak	(min)=	10.00	20.00		
Unit Hyd. peak	(cms)=	0.10	0.06		
				TOTALS	
PEAK FLOW	(cms)=	0.04	0.00	0.046 (iii)	
TIME TO PEAK	(hrs)=	5.25	5.33	5.25	
RUNOFF VOLUME	(mm)=	71.10	41.52	68.13	
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10	
RUNOFF COEFFICIENT	=	0.97	0.57	0.93	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0303)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0301):	0.35	0.031	5.25	68.12	
+ ID2= 2 (0302):	4.14	0.371	5.25	68.14	
ID = 3 (0303):	4.49	0.402	5.25	68.14	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0303)					
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 3 (0303):	4.49	0.402	5.25	68.14	
+ ID2= 2 (0307):	0.51	0.046	5.25	68.13	
ID = 1 (0303):	5.00	0.448	5.25	68.14	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0303)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0303):	5.00	0.448	5.25	68.14	
+ ID2= 2 (0308):	0.20	0.018	5.25	68.11	
ID = 3 (0303):	5.20	0.466	5.25	68.14	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0304)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.2680	0.1571
	0.0120	0.1107	0.3630	0.1684
	0.0790	0.1284	0.4280	0.1757
	0.1880	0.1464	0.4890	0.1821

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0303)	5.200	0.466	5.25	68.14
OUTFLOW: ID= 1 (0304)	5.200	0.360	5.42	67.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 77.15
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1684

CHICAGO STORM Ptotal= 64.68 mm

IDF curve parameters: A= 804.454
B= 1.501
C= 0.712
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	228.80	212.16
10.	141.60	141.34
15.	107.10	109.30
30.	66.40	68.98
60.	41.20	42.84
120.	25.60	26.38
360.	12.10	12.14
720.	7.50	7.42
1440.	4.70	4.53

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.30	1.17	28.45	2.17	10.83	3.17	6.14
0.33	5.95	1.33	141.34	2.33	9.50	3.33	5.77
0.50	6.83	1.50	35.79	2.50	8.50	3.50	5.45
0.67	8.10	1.67	21.14	2.67	7.72	3.67	5.17
0.83	10.16	1.83	15.70	2.83	7.09	3.83	4.92
1.00	14.20	2.00	12.73	3.00	6.58	4.00	4.70

CALIB STANDHYD (0404) ID= 1 DT= 5.0 min

Area (ha)= 0.51
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.46	0.05
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	58.31	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.30	1.083	28.45	2.083	10.83	3.08	6.14
0.167	5.30	1.167	28.45	2.167	10.83	3.17	6.14
0.250	5.95	1.250	141.34	2.250	9.50	3.25	5.77
0.333	5.95	1.333	141.34	2.333	9.50	3.33	5.77
0.417	6.83	1.417	35.79	2.417	8.50	3.42	5.45
0.500	6.83	1.500	35.79	2.500	8.50	3.50	5.45
0.583	8.10	1.583	21.14	2.583	7.72	3.58	5.17
0.667	8.10	1.667	21.14	2.667	7.72	3.67	5.17
0.750	10.16	1.750	15.70	2.750	7.09	3.75	4.92
0.833	10.16	1.833	15.70	2.833	7.09	3.83	4.92
0.917	14.20	1.917	12.73	2.917	6.58	3.92	4.70

```
              1.000   14.20 | 2.000   12.73 | 3.000    6.58 |  4.00    4.70

     Max.Eff.Inten.(mm/hr)=     141.34        72.23
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.00          0.106 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      62.68        34.42          59.84
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.97         0.53           0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0405) |   Area    (ha)=   0.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      36.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34        72.23
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.00          0.042 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      62.68        34.42          59.82
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.97         0.53           0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0402) |   Area    (ha)=   4.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.73         0.41
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     166.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34        72.23
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.84         0.04          0.863 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      62.68        34.42          59.85
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     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.97         0.53           0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0401) |   Area    (ha)=   0.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.04
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      48.30        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34        72.23
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.00          0.073 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      62.68        34.42          59.83
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.97         0.53           0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0305) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0401):     0.35   0.073     1.42    59.83
        + ID2= 2 (0402):     4.14   0.863     1.42    59.85
          ================================================
          ID = 3 (0305):     4.49   0.936     1.42    59.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0305) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0305):     4.49   0.936     1.42    59.85
        + ID2= 2 (0404):     0.51   0.106     1.42    59.84
          ================================================
          ID = 1 (0305):     5.00   1.043     1.42    59.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0305) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0305):     5.00   1.043     1.42    59.85
```

```
        + ID2= 2 (0405):     0.20   0.042     1.42    59.82
          ================================================
          ID = 3 (0305):     5.20   1.084     1.42    59.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0306) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2680      0.1571
                         0.0120     0.1107   |   0.3630      0.1684
                         0.0790     0.1284   |   0.4280      0.1757
                         0.1880     0.1464   |   0.4890      0.1821

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0305)      5.200      1.084      1.42      59.85
     OUTFLOW: ID= 1 (0306)      5.200      0.350      1.92      59.40

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.26
                   TIME SHIFT OF PEAK FLOW         (min)= 30.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1671

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  ***************************
  ** SIMULATION NUMBER:   5 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              18c5eabc-babe-48f7-b36e-3a46318cee3a\0398ecfb
| Ptotal= 80.82 mm |    Comments: 50yr/12hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50   13.74 |  6.75    5.66 | 10.00    0.81
                0.50    0.81 |  3.75   13.74 |  7.00    5.66 | 10.25    0.81
                0.75    0.81 |  4.00   13.74 |  7.25    5.66 | 10.50    0.81
                1.00    0.81 |  4.25   13.74 |  7.50    3.23 | 10.75    0.81
                1.25    0.81 |  4.50   37.17 |  7.75    3.23 | 11.00    0.81
                1.50    0.81 |  4.75   37.17 |  8.00    3.23 | 11.25    0.81
                1.75    0.81 |  5.00   37.17 |  8.25    3.23 | 11.50    0.81
                2.00    0.81 |  5.25   37.17 |  8.50    1.62 | 11.75    0.81
                2.25    0.81 |  5.50   10.50 |  8.75    1.62 | 12.00    0.81
                2.50    4.85 |  5.75   10.50 |  9.00    1.62 | 12.25    0.81
                2.75    4.85 |  6.00   10.50 |  9.25    1.62 |
                3.00    4.85 |  6.25   10.50 |  9.50    0.81 |
                3.25    4.85 |  6.50    5.66 |  9.75    0.81 |

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--------------------
| CALIB            |
| STANDHYD  (0301) |   Area    (ha)=   0.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.04
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      48.30        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    4.85 | 6.250   10.50 |  9.33    0.81
```

0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	28.96	
over (min)	5.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.035 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	78.82	48.19	75.73
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.98	0.60	0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0302) ID= 1 DT= 5.0 min	Area (ha)= 4.14 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.73	0.41
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	166.13	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	37.17	28.96	
over (min)	5.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS

PEAK FLOW (cms)=	0.38	0.03	0.411 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	78.82	48.19	75.75
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.98	0.60	0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0308)	Area (ha)= 0.20		
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.18	0.02	
Dep. Storage (mm)=	2.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	36.51	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	28.96	
over (min)	5.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	0.02	0.00	0.020 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	78.82	48.19	75.72
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.98	0.60	0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0307)	Area (ha)= 0.51		
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 90.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.46	0.05	
Dep. Storage (mm)=	2.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	58.31	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	37.17	28.96	
over (min)	5.00	30.00	
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.10	0.06	
			TOTALS
PEAK FLOW (cms)=	0.05	0.00	0.051 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	78.82	48.19	75.74
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.98	0.60	0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0303)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0301):	0.35	0.035	5.25	75.73
	+ ID2= 2 (0302):	4.14	0.411	5.25	75.75
	ID = 3 (0303):	4.49	0.446	5.25	75.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0303)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0303):	4.49	0.446	5.25	75.75
	+ ID2= 2 (0307):	0.51	0.051	5.25	75.74
	ID = 1 (0303):	5.00	0.497	5.25	75.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0303)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0303):	5.00	0.497	5.25	75.75
	+ ID2= 2 (0308):	0.20	0.020	5.25	75.72
	ID = 3 (0303):	5.20	0.517	5.25	75.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0304)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.2680	0.1571
			0.0120	0.1107	0.3630	0.1684
			0.0790	0.1284	0.4280	0.1757
			0.1880	0.1464	0.4890	0.1821

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0303)	5.200	0.517	5.25	75.75
OUTFLOW: ID= 1 (0304)	5.200	0.422	5.33	75.30

PEAK FLOW REDUCTION [Qout/Qin](%)= 81.62
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.1757

CHICAGO STORM	Ptotal= 71.55 mm

IDF curve parameters: A= 889.943
B= 1.500
C= 0.712
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME INPUT INT. TAB. INT.

(min)	(mm/hr)	(mm/hr)
5.	253.20	234.73
10.	156.70	156.37
15.	118.40	120.92
30.	73.40	76.31
60.	45.50	47.39
120.	28.20	29.18
360.	13.30	13.43
720.	8.30	8.21
1440.	5.20	5.02

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.87	1.17	31.47	2.17	11.98	3.17	6.80
0.33	6.58	1.33	156.37	2.33	10.51	3.33	6.39
0.50	7.55	1.50	39.59	2.50	9.40	3.50	6.03
0.67	8.96	1.67	23.39	2.67	8.54	3.67	5.72
0.83	11.23	1.83	17.36	2.83	7.85	3.83	5.44
1.00	15.71	2.00	14.09	3.00	7.28	4.00	5.20

CALIB STANDHYD (0404) | ID= 1 DT= 5.0 min	Area (ha)= 0.51 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.46	0.05
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	58.31	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.87	1.083	31.47	2.083	11.98	3.08	6.80
0.167	5.87	1.167	31.47	2.167	11.98	3.17	6.80
0.250	6.58	1.250	156.37	2.250	10.51	3.25	6.39
0.333	6.58	1.333	156.37	2.333	10.51	3.33	6.39
0.417	7.55	1.417	39.59	2.417	9.40	3.42	6.03
0.500	7.55	1.500	39.59	2.500	9.40	3.50	6.03
0.583	8.96	1.583	23.39	2.583	8.54	3.58	5.72
0.667	8.96	1.667	23.39	2.667	8.54	3.67	5.72
0.750	11.23	1.750	17.36	2.750	7.85	3.75	5.44
0.833	11.23	1.833	17.36	2.833	7.85	3.83	5.44
0.917	15.71	1.917	14.09	2.917	7.28	3.92	5.20
1.000	15.71	2.000	14.09	3.000	7.28	4.00	5.20

Max.Eff.Inten.(mm/hr)=		156.37	85.87	
over (min)		5.00	20.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.11	0.01	0.118 (iii)
TIME TO PEAK	(hrs)=	1.42	1.58	1.42
RUNOFF VOLUME	(mm)=	69.55	40.20	66.60
TOTAL RAINFALL	(mm)=	71.55	71.55	71.55
RUNOFF COEFFICIENT	=	0.97	0.56	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB             |
| STANDHYD  (0405) |   Area    (ha)=   0.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      36.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37        85.87
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.00          0.046 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      69.55        40.20          66.58
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.97         0.56           0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0402) |   Area    (ha)=   4.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.73         0.41
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     166.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37        85.87
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.93         0.04          0.957 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      69.55        40.20          66.62
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.97         0.56           0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0401) |   Area    (ha)=   0.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.04
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      48.30        40.00
     Mannings n           =      0.013        0.250
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     Max.Eff.Inten.(mm/hr)=     156.37        85.87
               over (min)         5.00        20.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.00          0.081 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58           1.42
     RUNOFF VOLUME    (mm)=      69.55        40.20          66.59
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.97         0.56           0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0305) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0401):     0.35   0.081     1.42    66.59
       + ID2= 2 (0402):     4.14   0.957     1.42    66.62
         ================================================
         ID = 3 (0305):     4.49   1.038     1.42    66.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0305) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0305):     4.49   1.038     1.42    66.61
       + ID2= 2 (0404):     0.51   0.118     1.42    66.60
         ================================================
         ID = 1 (0305):     5.00   1.156     1.42    66.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0305) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0305):     5.00   1.156     1.42    66.61
       + ID2= 2 (0405):     0.20   0.046     1.42    66.58
         ================================================
         ID = 3 (0305):     5.20   1.202     1.42    66.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0306) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2680      0.1571
                          0.0120     0.1107   |   0.3630      0.1684
                          0.0790     0.1284   |   0.4280      0.1757
                          0.1880     0.1464   |   0.4890      0.1821

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0305)      5.200      1.202      1.42      66.61
     OUTFLOW: ID= 1 (0306)      5.200      0.435      1.83      66.16

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.15
```

TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.1765

****
** SIMULATION NUMBER: 6 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\18c5eabc-babe-48f7-b36e-3a46318cee3a\2446e30d
Ptotal= 88.54 mm	Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

CALIB STANDHYD (0301) ID= 1 DT= 5.0 min	Area (ha)= 0.35 Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.04
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	48.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89

```
                2.083    0.89 | 5.167   40.71 | 8.250    3.54 | 11.33    0.89
                2.167    0.89 | 5.250   40.71 | 8.333    1.77 | 11.42    0.89
                2.250    0.89 | 5.333   11.51 | 8.417    1.77 | 11.50    0.89
                2.333    5.31 | 5.417   11.51 | 8.500    1.77 | 11.58    0.89
                2.417    5.31 | 5.500   11.51 | 8.583    1.77 | 11.67    0.89
                2.500    5.31 | 5.583   11.51 | 8.667    1.77 | 11.75    0.89
                2.583    5.31 | 5.667   11.51 | 8.750    1.77 | 11.83    0.89
                2.667    5.31 | 5.750   11.51 | 8.833    1.77 | 11.92    0.89
                2.750    5.31 | 5.833   11.51 | 8.917    1.77 | 12.00    0.89
                2.833    5.31 | 5.917   11.51 | 9.000    1.77 | 12.08    0.89
                2.917    5.31 | 6.000   11.51 | 9.083    1.77 | 12.17    0.89
                3.000    5.31 | 6.083   11.51 | 9.167    1.77 | 12.25    0.89
                3.083    5.31 | 6.167   11.51 | 9.250    1.77 |

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        5.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     10.00        20.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.04         0.00         0.038 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     86.54        54.99         83.36
     TOTAL RAINFALL   (mm)=     88.54        88.54         88.54
     RUNOFF COEFFICIENT   =      0.98         0.62          0.94


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0302) |   Area    (ha)=   4.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.73         0.41
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     166.13        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        5.00        30.00
     Storage Coeff.  (min)=     12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=     10.00        20.00
     Unit Hyd. peak  (cms)=      0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.42         0.03         0.452 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     86.54        54.99         83.38
     TOTAL RAINFALL   (mm)=     88.54        88.54         88.54
     RUNOFF COEFFICIENT   =      0.98         0.62          0.94


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0308) |   Area    (ha)=   0.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
```

Length (m)=	36.51	40.00		
Mannings n =	0.013	0.250		
Max.Eff.Inten.(mm/hr)=	40.71	32.66		
over (min)	5.00	30.00		
Storage Coeff. (min)=	12.00 (ii)	18.00 (ii)		
Unit Hyd. Tpeak (min)=	10.00	20.00		
Unit Hyd. peak (cms)=	0.10	0.06		
			TOTALS	
PEAK FLOW (cms)=	0.02	0.00	0.022 (iii)	
TIME TO PEAK (hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME (mm)=	86.54	54.99	83.34	
TOTAL RAINFALL (mm)=	88.54	88.54	88.54	
RUNOFF COEFFICIENT =	0.98	0.62	0.94	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0307)
ID= 1 DT= 5.0 min

Area (ha)= 0.51
Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		0.46	0.05
Dep. Storage (mm)=		2.00	6.00
Average Slope (%)=		1.00	1.00
Length (m)=		58.31	40.00
Mannings n =		0.013	0.250
Max.Eff.Inten.(mm/hr)=		40.71	32.66
over (min)		5.00	30.00
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)
Unit Hyd. Tpeak (min)=		10.00	20.00
Unit Hyd. peak (cms)=		0.10	0.06

			TOTALS	
PEAK FLOW (cms)=	0.05	0.00	0.056 (iii)	
TIME TO PEAK (hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME (mm)=	86.54	54.99	83.37	
TOTAL RAINFALL (mm)=	88.54	88.54	88.54	
RUNOFF COEFFICIENT =	0.98	0.62	0.94	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0303)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0301):	0.35	0.038	5.25	83.36
+ ID2= 2 (0302):	4.14	0.452	5.25	83.38
ID = 3 (0303):	4.49	0.490	5.25	83.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0303)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0303):	4.49	0.490	5.25	83.38
+ ID2= 2 (0307):	0.51	0.056	5.25	83.37

ID = 1 (0303):	5.00	0.546	5.25	83.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0303)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0303):	5.00	0.546	5.25	83.38
+ ID2= 2 (0308):	0.20	0.022	5.25	83.34
ID = 3 (0303):	5.20	0.568	5.25	83.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0304)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2680	0.1571
0.0120	0.1107	0.3630	0.1684
0.0790	0.1284	0.4280	0.1757
0.1880	0.1464	0.4890	0.1821

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0303)	5.200	0.568	5.25	83.38
OUTFLOW: ID= 1 (0304)	5.200	0.485	5.33	82.93

PEAK FLOW REDUCTION [Qout/Qin](%)= 85.43
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.1821

CHICAGO STORM
Ptotal= 77.58 mm

IDF curve parameters: A= 980.886
B= 1.508
C= 0.715
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	277.00	257.04
10.	171.40	171.00
15.	129.50	132.12
30.	80.20	83.22
60.	49.70	51.59
120.	30.80	31.70
360.	14.50	14.54
720.	9.00	8.87
1440.	5.60	5.41

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.30	1.17	34.10	2.17	12.91	3.17	7.30
0.33	7.07	1.33	171.00	2.33	11.31	3.33	6.86
0.50	8.12	1.50	42.95	2.50	10.12	3.50	6.47
0.67	9.64	1.67	25.29	2.67	9.19	3.67	6.14
0.83	12.10	1.83	18.74	2.83	8.44	3.83	5.84
1.00	16.95	2.00	15.19	3.00	7.82	4.00	5.58

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--------------------
| CALIB            |
| STANDHYD  (0404) |   Area    (ha)=   0.51
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.05
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      58.31        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.30 | 1.083   34.10 | 2.083   12.91 |  3.08    7.30
               0.167    6.30 | 1.167   34.10 | 2.167   12.91 |  3.17    7.30
               0.250    7.07 | 1.250  171.00 | 2.250   11.31 |  3.25    6.86
               0.333    7.07 | 1.333  171.00 | 2.333   11.31 |  3.33    6.86
               0.417    8.12 | 1.417   42.95 | 2.417   10.12 |  3.42    6.47
               0.500    8.12 | 1.500   42.95 | 2.500   10.12 |  3.50    6.47
               0.583    9.64 | 1.583   25.29 | 2.583    9.19 |  3.58    6.14
               0.667    9.64 | 1.667   25.29 | 2.667    9.19 |  3.67    6.14
               0.750   12.10 | 1.750   18.74 | 2.750    8.44 |  3.75    5.84
               0.833   12.10 | 1.833   18.74 | 2.833    8.44 |  3.83    5.84
               0.917   16.95 | 1.917   15.19 | 2.917    7.82 |  3.92    5.58
               1.000   16.95 | 2.000   15.19 | 3.000    7.82 |  4.00    5.58

     Max.Eff.Inten.(mm/hr)=     171.00        99.04
                 over (min)       5.00        15.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.13         0.01      0.129 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58       1.42
     RUNOFF VOLUME    (mm)=      75.58        45.37      72.54
     TOTAL RAINFALL   (mm)=      77.58        77.58      77.58
     RUNOFF COEFFICIENT   =       0.97         0.58       0.94


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0405) |   Area    (ha)=   0.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      36.51        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00        99.04
                 over (min)       5.00        15.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.00      0.051 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58       1.42
     RUNOFF VOLUME    (mm)=      75.58        45.37      72.51
     TOTAL RAINFALL   (mm)=      77.58        77.58      77.58
     RUNOFF COEFFICIENT   =       0.97         0.58       0.93
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0402) |   Area    (ha)=   4.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.73         0.41
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     166.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00        99.04
               over (min)         5.00        15.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.02         0.05      1.047 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58       1.42
     RUNOFF VOLUME    (mm)=      75.58        45.37      72.55
     TOTAL RAINFALL   (mm)=      77.58        77.58      77.58
     RUNOFF COEFFICIENT   =       0.97         0.58       0.94


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0401) |   Area    (ha)=   0.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.04
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      48.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00        99.04
               over (min)         5.00        15.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.00      0.089 (iii)
     TIME TO PEAK    (hrs)=       1.42         1.58       1.42
     RUNOFF VOLUME    (mm)=      75.58        45.37      72.53
     TOTAL RAINFALL   (mm)=      77.58        77.58      77.58
     RUNOFF COEFFICIENT   =       0.97         0.58       0.94


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0305) |
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|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0401):     0.35   0.089     1.42    72.53
       + ID2= 2 (0402):     4.14   1.047     1.42    72.55
         ================================================
         ID = 3 (0305):     4.49   1.136     1.42    72.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0305) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0305):     4.49   1.136     1.42    72.55
       + ID2= 2 (0404):     0.51   0.129     1.42    72.54
         ================================================
         ID = 1 (0305):     5.00   1.265     1.42    72.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0305) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0305):     5.00   1.265     1.42    72.55
       + ID2= 2 (0405):     0.20   0.051     1.42    72.51
         ================================================
         ID = 3 (0305):     5.20   1.315     1.42    72.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0306) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2680      0.1571
                          0.0120     0.1107   |   0.3630      0.1684
                          0.0790     0.1284   |   0.4280      0.1757
                          0.1880     0.1464   |   0.4890      0.1821
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0305)      5.200      1.315      1.42      72.55
     OUTFLOW: ID= 1 (0306)      5.200      0.514      1.83      72.10

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.10
                   TIME SHIFT OF PEAK FLOW         (min)= 25.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1852

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  ***************************
  ** SIMULATION NUMBER:   7 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              18c5eabc-babe-48f7-b36e-3a46318cee3a\74485cb2
| Ptotal= 25.00 mm |    Comments: 25 mm, 4 hr. chicago dist'n. - water qua
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.40 |  1.17   33.60 |  2.17    3.45 |  3.17    1.65
                0.33    1.95 |  1.33   38.10 |  2.33    3.00 |  3.33    1.80
                0.50    2.40 |  1.50   13.80 |  2.50    2.70 |  3.50    1.50
                0.67    2.85 |  1.67    7.35 |  2.67    2.25 |  3.67    1.50
                0.83    4.65 |  1.83    5.55 |  2.83    2.25 |  3.83    0.75
```

1.00	9.60	2.00	4.35	3.00	1.95	4.00	0.60

CALIB			
STANDHYD (0301)	Area (ha)=	0.35	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.31	0.04
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	48.30	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Max.Eff.Inten.(mm/hr)=		38.10	6.05	
over (min)		5.00	40.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.03	0.00	0.025 (iii)
TIME TO PEAK	(hrs)=	1.33	1.58	1.33
RUNOFF VOLUME	(mm)=	23.00	5.98	21.27
TOTAL RAINFALL	(mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT	=	0.92	0.24	0.85

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0302)	Area (ha)=	4.14	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 90.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.73	0.41
Dep. Storage	(mm)=	2.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	166.13	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		38.10	6.05	
over (min)		5.00	40.00	
Storage Coeff. (min)=		12.00 (ii)	18.00 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.10	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.30	0.01	0.300 (iii)
TIME TO PEAK	(hrs)=	1.33	1.58	1.33

```
     RUNOFF VOLUME    (mm)=      23.00         5.98          21.30
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.92         0.24           0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0308) |   Area    (ha)=   0.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      36.51        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)        5.00        40.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00        0.015 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58         1.33
     RUNOFF VOLUME    (mm)=      23.00         5.98          21.26
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.92         0.24           0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0307) |   Area    (ha)=   0.51
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.05
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      58.31        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)        5.00        40.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.00        0.037 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58         1.33
     RUNOFF VOLUME    (mm)=      23.00         5.98          21.28
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.92         0.24           0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0301):     0.35   0.025     1.33    21.27
        + ID2= 2 (0302):     4.14   0.300     1.33    21.30
          ================================================
          ID = 3 (0303):     4.49   0.326     1.33    21.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (0303) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0303):     4.49   0.326     1.33    21.29
        + ID2= 2 (0307):     0.51   0.037     1.33    21.28
          ================================================
          ID = 1 (0303):     5.00   0.363     1.33    21.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (0303) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0303):     5.00   0.363     1.33    21.29
        + ID2= 2 (0308):     0.20   0.015     1.33    21.26
          ================================================
          ID = 3 (0303):     5.20   0.377     1.33    21.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (0304) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2680      0.1571
                         0.0120     0.1107    |   0.3630      0.1684
                         0.0790     0.1284    |   0.4280      0.1757
                         0.1880     0.1464    |   0.4890      0.1821

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0303)     5.200      0.377      1.33      21.29
     OUTFLOW: ID= 1 (0304)     5.200      0.011      4.08      20.84

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.89
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1005
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              18c5eabc-babe-48f7-b36e-3a46318cee3a\74485cb2
| Ptotal= 25.00 mm |    Comments: 25 mm, 4 hr. chicago dist'n. - water qua
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.40 |  1.17   33.60 |  2.17    3.45 |  3.17    1.65
                0.33    1.95 |  1.33   38.10 |  2.33    3.00 |  3.33    1.80
                0.50    2.40 |  1.50   13.80 |  2.50    2.70 |  3.50    1.50
                0.67    2.85 |  1.67    7.35 |  2.67    2.25 |  3.67    1.50
                0.83    4.65 |  1.83    5.55 |  2.83    2.25 |  3.83    0.75
                1.00    9.60 |  2.00    4.35 |  3.00    1.95 |  4.00    0.60
```

```
--------------------
| CALIB            |
| STANDHYD  (0404) |   Area    (ha)=   0.51
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.05
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      58.31        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.40 | 1.083   33.60 | 2.083    3.45 |  3.08    1.65
              0.167    2.40 | 1.167   33.60 | 2.167    3.45 |  3.17    1.65
              0.250    1.95 | 1.250   38.10 | 2.250    3.00 |  3.25    1.80
              0.333    1.95 | 1.333   38.10 | 2.333    3.00 |  3.33    1.80
              0.417    2.40 | 1.417   13.80 | 2.417    2.70 |  3.42    1.50
              0.500    2.40 | 1.500   13.80 | 2.500    2.70 |  3.50    1.50
              0.583    2.85 | 1.583    7.35 | 2.583    2.25 |  3.58    1.50
              0.667    2.85 | 1.667    7.35 | 2.667    2.25 |  3.67    1.50
              0.750    4.65 | 1.750    5.55 | 2.750    2.25 |  3.75    0.75
              0.833    4.65 | 1.833    5.55 | 2.833    2.25 |  3.83    0.75
              0.917    9.60 | 1.917    4.35 | 2.917    1.95 |  3.92    0.60
              1.000    9.60 | 2.000    4.35 | 3.000    1.95 |  4.00    0.60

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)        5.00        40.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.00        0.037 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58         1.33
     RUNOFF VOLUME    (mm)=      23.00         5.98        21.28
     TOTAL RAINFALL   (mm)=      25.00        25.00        25.00
     RUNOFF COEFFICIENT   =       0.92         0.24         0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0405) |   Area    (ha)=   0.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.18         0.02
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      36.51        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)        5.00        40.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00        0.015 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58         1.33
     RUNOFF VOLUME    (mm)=      23.00         5.98        21.26
```

```
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.92         0.24           0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0402) |   Area    (ha)=   4.14
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.73         0.41
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     166.13        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)        5.00        40.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.30         0.01          0.300 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      23.00         5.98          21.30
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.92         0.24           0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0401) |   Area    (ha)=   0.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  90.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.04
     Dep. Storage     (mm)=       2.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      48.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)        5.00        40.00
     Storage Coeff.  (min)=      12.00 (ii)   18.00 (ii)
     Unit Hyd. Tpeak (min)=      10.00        20.00
     Unit Hyd. peak  (cms)=       0.10         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.00          0.025 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      23.00         5.98          21.27
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.92         0.24           0.85


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD   (0305) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0401):     0.35   0.025     1.33    21.27
        + ID2= 2 (0402):     4.14   0.300     1.33    21.30
          ================================================
          ID = 3 (0305):     4.49   0.326     1.33    21.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0305) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0305):     4.49   0.326     1.33    21.29
        + ID2= 2 (0404):     0.51   0.037     1.33    21.28
          ================================================
          ID = 1 (0305):     5.00   0.363     1.33    21.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0305) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0305):     5.00   0.363     1.33    21.29
        + ID2= 2 (0405):     0.20   0.015     1.33    21.26
          ================================================
          ID = 3 (0305):     5.20   0.377     1.33    21.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0306) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2680      0.1571
                         0.0120     0.1107    |   0.3630      0.1684
                         0.0790     0.1284    |   0.4280      0.1757
                         0.1880     0.1464    |   0.4890      0.1821

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0305)      5.200      0.377      1.33      21.29
     OUTFLOW: ID= 1 (0306)      5.200      0.011      4.08      20.84

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.89
                    TIME SHIFT OF PEAK FLOW         (min)=165.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1005

--------------------------------------------------------------------------------

 FINISH
================================================================================
=====================
```

GOREWAY STATION

REGIONAL MUNICIPALITY OF PEEL
CITY OF BRAMPTON

METRIC

WESTBOUND HIGHWAY 407 ETR EASTBOUND

RAMP N-E

GOREWAY
DRIVE STATION

G-4 | 1.20 | 53
G-2 | 0.37 | 60
G-6 | 0.27 | 53
G-1 | 4.98 | 90
G-3 | 0.80 | 60
G-5 | 0.22 | 59

170.92 PROP
167.97 PROP TWY
169.37 PROP TWY
175.98 EX
176.25 PROP
175.47 EX
177.14 PROP
175.73 PROP
176.32 PROP
176.20 EX
176.01 EX
174.82 EX
175.00 EX
174.14 EX
176.24 PROP

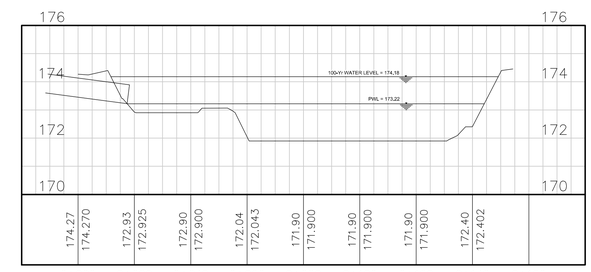
POND INLET
PERMANENT WL 173.22m
100-yr WL 174.18m
SPILLWAY
OUTLET TO DITCH
OUTLET CONTROL STRUCTURE (SEE DETAIL 2 BELOW)

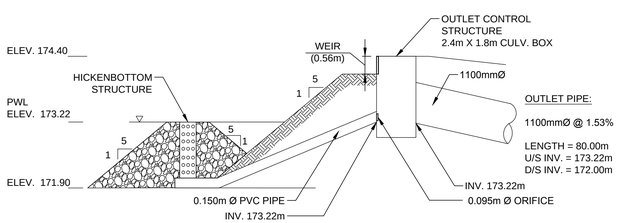
171.90
172.40
172.90
173.40
173.90
174.40

GOREWAY DRIVE

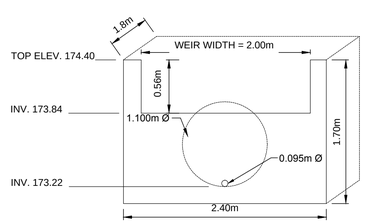
STEELES AVENUE EAST

Pond Xsec PROFILE





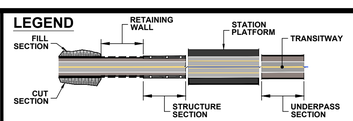
DETAIL 1 - SWMF-4 HICKENBOTTOM DRAIN DETAIL
N.T.S.



DETAIL 2 - SWMF 4 OUTLET CONTROL STRUCTURE
N.T.S.

SCALE
1:1000

LEGEND



407 TWY BOUNDARY IN DRAINAGE ANALYSIS
PROPERTY LINE
FLOW DIRECTION
OVF
AREA ID
AREA (ha) 98-1 | 0.44 | 90 % IMPERVIOUS

407 TRANSITWAY
WEST OF HURONTARIO ROAD TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
GOREWAY DRIVE STATION

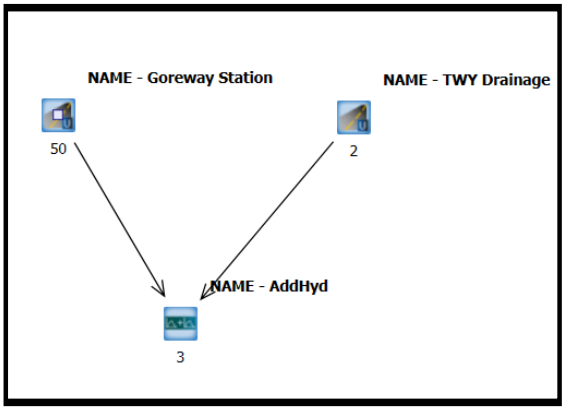
DRAWING SET
STATION DRAINAGE AREA MAP

PLATE
F-4

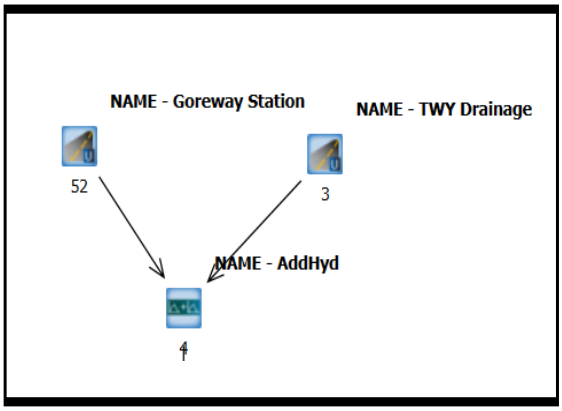
DATE
JULY. 2018

DRAWING NAME: \\XCCAN52FS01\Projects\Division\TTI\Drainage\602896 - 407_Transitway Hurontario\CAD\Design\Stations\Goreway\Goreway Station.dwg
MODIFIED: Jun 15, 2018 7:06pm
CREATED:

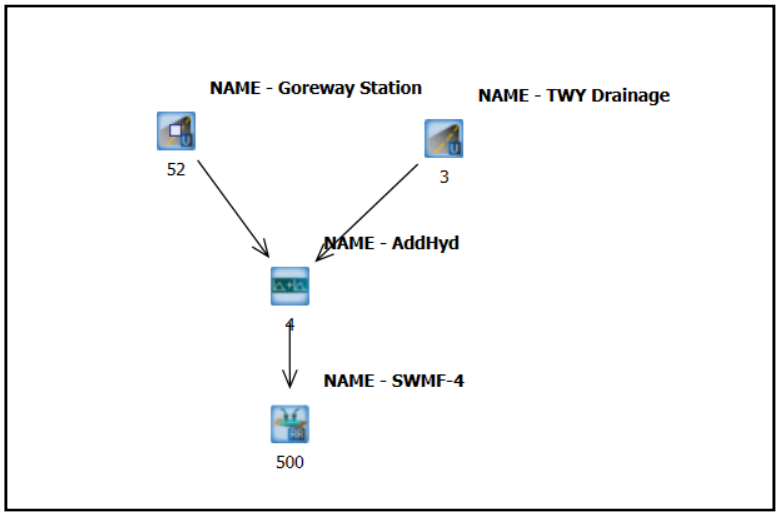
Visual OTTHYMO Modelling Schematic – Goreway Station SWMF-4



Existing Condition



Proposed (Uncontrolled) Condition



Proposed (Controlled) Condition

Goreway Station SWMF-4 Hydrologic Analysis - Existing Condition

Input parameters

Proposed Goreway Station is located within Subcatchment 122 - Mimico Watershed
For modeling purposes, input parameters of Area 122 are used in VO2 (Standhyd)

CN= 86
Ia= 6
Drainage area Total (ha)= 7.84

Table F.4-a: Goreway Station SWMF-4 Hydrologic Analysis - Existing Condition

Return Period	VO2 ID 401	VO2 ID 404
	EX Qp-12hr AES (m^3/s)	EX Qp-Chicago 4hr (m^3/s)
2-yr	0.290	0.874
5-yr	0.405	1.190
10-yr	0.490	1.398
25-yr	0.594	1.735
50-yr	0.671	1.959
100-yr	0.757	2.177

Goreway Station Hydrologic Analysis - Post-Development Condition

Table F.4-b: Goreway Station Proposed SWMF-4 Hydrologic Analysis Post-Development Condition (12 hr AES)

12hr AES Return Period	**Allowable Release Rates** ID 401 (A = 6.34 ha)	**Post-Development Condition (Uncontrolled)** VO2 ID 402 (A = 7.84ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-5 POST-DEVELOPMENT CONDITION** VO2 ID 403 (A = 7.84 ha)		**Decrease from Allowable to Post-Dev Controlled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Used** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	0.290	0.363	25.17%	1749	0.115	-152.17%
5-yr	0.405	0.489	20.74%	1998	0.264	-53.41%
10-yr	0.490	0.574	17.14%	2160	0.382	-28.27%
25-yr	0.594	0.681	14.65%	2339	0.528	-12.50%
50-yr	0.671	0.759	13.11%	2453	0.624	-7.53%
100-yr	0.757	0.837	10.57%	2554	0.715	-5.87%

Table F.4-c: Goreway Station Proposed SWMF-4 Hydrologic Analysis Post-Development Condition (4 hr Chicago)

4hr Chicago Return Period	**Allowable Release Rates** ID 404 (A = 6.34 ha)	**Post-Development Condition (Uncontrolled)** VO2 ID 405 (A = 7.84 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-5 POST-DEVELOPMENT CONDITION** VO2 ID 406 (A = 7.84 ha)		**Decrease from Allowable to Post-Dev Controlled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Used** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	0.874	1.163	33.07%	1730	0.108	-709.26%
5-yr	1.190	1.577	32.52%	1965	0.245	-385.71%
10-yr	1.398	1.862	33.19%	2129	0.360	-288.33%
25-yr	1.735	2.229	28.47%	2347	0.535	-224.30%
50-yr	1.959	2.504	27.82%	2508	0.682	-187.24%
100-yr	2.177	2.783	27.84%	2655	0.824	-164.20%

Table F.4-d: Goreway Station Proposed SWMF-4 - Design Parameters

Pond Catchment Area 7.84 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Level 1	237	m^3/ha	Interpolated from Table 3.2 (MOECC)	*1,544.48*	m^3
Extended	40	m^3/ha	(or 25mm rainfall event whichever greater)	313.6	m^3
25 mm Event From OTTHYMO	19.074	mm		*1,495.40*	m^3
% imperviousness	77	%			
Permanent Volume Required				*1,544.48*	m^3

Quantity Control Required

Total Volume required up to and including the 100 yr storm **2,554.00** m^3

Total Pond Volume Required (Permanent and Extended) **4,098.48** m^3

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	10	Minimum Forebay length	m
r	2	Length to width ratio	-
Qp	0.02	Peak flow rate from the pond during design quality storm	m^3/s
Vs	0.0003	settling velocity	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Minimum Width 3 m

Dist	23	Minimum Dispersion Length	
Q	1.86	Inlet Flow Rate	(10 year Storm)
d	1.32	Depth of the Permanent Pool	
Vf	0.5	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

Width = Dist/8 Width 2.83 m

Design Quality Storm MOECC Eq 4.9

$$i_{25} = 43C + 5.9$$

A	7.84	Area	
C	77	Runoff Coefficient	
i	39.01	Intensity	mm/hr
Qp	0.66	Flow Rational Method	

Flow Velocity Check

Qd	1.86	Inlet Flow Rate	m^3/s
A	13.00	Crossectional Area	m^2
Vfb	0.143	Flow Velocity	m/s
	Yes	< 0.15	

Forebay Dimensions

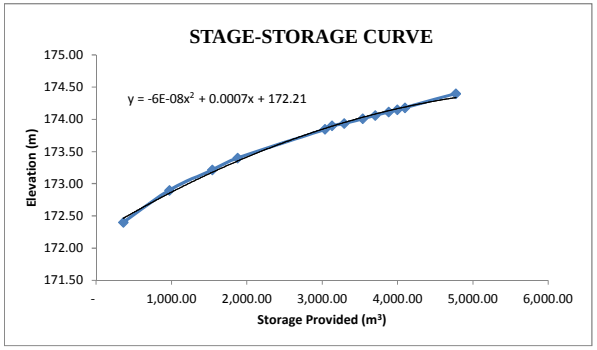
5:1	Average Side Slope	%
36.00	Top Length	m
25.00	Bottom Length	m
18.00	Average Top Width	m
8.00	Bottom Width	m
1.00	Average Depth of the Pool	m
424.00	Approximate Volume of the Pool	m^3
1544.48	Total Permanent Pool Volume	m^3
0.27	Forebay/Total Volume Ratio	
536.39	Forebay Area	m^2
1897.87	Total Permanent Pool Area	
0.28	Forebay/Total Area Ratio	
2.35	Average L/W Ratio Check	

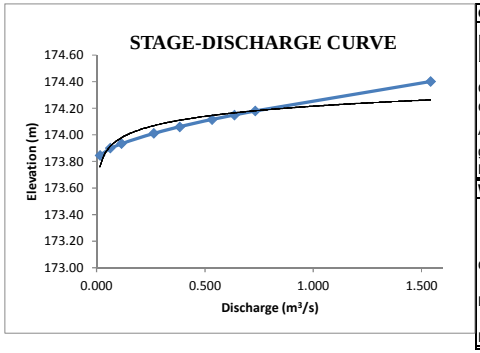
Forebay Cleanout Frequency

Ac	7.84	Contributing Area	(ha)
Ds	0.6	Maximum Sediment Depth	(m)
Vsf	320	Maximum Sediment Volume	(m3)
a	90%	Impervious Level	%
da	4.1	Annual Sediment Loading	(m^3/ha/yr) (Table 6.3 MOECC Manual)
Fs	10.0	Forebay Cleanout Frequency	(years)
	75%	Target Maintenance TSS Removal Efficiency	

Table F.4-e: Goreway Station - Proposed SWMF-4 - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/ Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	Discharge Orifice 1 173.22 0.095	Discharge Weir 173.84 2.000	Total	Description
171.90		499.42	499.42										
172.40		949.07	949.07	724.2	362.12	362.12							
172.90	53.85	1440.11	1,493.95	1221.5	610.76	972.88							
173.22			1,897.87			***1,544.48***	-						**Permanent Water Level**
173.40	162.71	1972.35	2,135.06	1814.5	907.25	1,880.13	373.01						
173.84						3,039.88	1,495.40	0.63	0.1495	0.016	0.000	0.016	*25-mm*
173.90	328.52	2545.80	2,874.31	2504.7	1,252.34	3,132.48	1,634.43	0.68		0.016	0.048	0.064	
173.93						3,292.48	1,748.00	0.72	0.1748	0.017	0.099	0.115	*2-yr*
174.01						3,541.48	1,997.00	0.80	0.1997	0.018	0.247	0.265	*5-yr*
174.06						3,704.48	2,160.00	0.84	0.2160	0.018	0.366	0.385	*10-yr*
174.11						3,883.48	2,339.00	0.90	0.2339	0.019	0.514	0.533	*25-yr*
174.15						3,997.48	2,453.00	0.93	0.2453	0.019	0.617	0.636	*50-yr*
174.18						4,098.48	2,554.00	0.96	0.2554	0.019	0.712	0.732	*100-yr*
174.40	536.39	3160.45	3,696.83	3285.6	1,642.79	4,775.26	3,277.22	1.18	0.3277	0.022	1.520	1.541	





Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q	Varies	Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Weir Discharge

If $L > 2 * H_{max}$ $Q = 1.837 * (L - 0.06 * H_{max}) * H_{max}^{1.5}$

If $L < 2 * H_{max}$ $Q = 1.837 * L * H_{max}^{1.5}$

Q	Varies	Discharge	(m^3/s)
L	2.000	Weir Length	(m)
H	Varies	Hydraulic Head	m

Table F.4-f: Goreway Station- Proposed SWMF 4
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	1,495	m^3
Orifice	0.09500	m	Initial Head:	0.63	m
Area	0.00709	m^2	Detention:	48.00	hrs
				2,880.00	min

F A L L I N G H E A D E Q U A T I O N

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.6299	0.0157	4.71	1,495.40	1,490.69
5	0.6279	0.0157	4.70	1,490.69	1,485.99
10	0.6259	0.0156	4.69	1,485.99	1,481.30
15	0.6239	0.0156	4.69	1,481.30	1,476.61
20	0.6220	0.0156	4.68	1,476.61	1,471.93
25	0.6200	0.0156	4.67	1,471.93	1,467.26
30	0.6180	0.0155	4.66	1,467.26	1,462.59
35	0.6161	0.0155	4.66	1,462.59	1,457.93
40	0.6141	0.0155	4.65	1,457.93	1,453.28
45	0.6121	0.0155	4.64	1,453.28	1,448.64
50	0.6102	0.0155	4.64	1,448.64	1,444.01
55	0.6082	0.0154	4.63	1,444.01	1,439.38
60	0.6063	0.0154	4.62	1,439.38	1,434.76
65	0.6043	0.0154	4.61	1,434.76	1,430.14
70	0.6024	0.0154	4.61	1,430.14	1,425.54
75	0.6004	0.0153	4.60	1,425.54	1,420.94
80	0.5985	0.0153	4.59	1,420.94	1,416.35
85	0.5966	0.0153	4.58	1,416.35	1,411.77
90	0.5946	0.0153	4.58	1,411.77	1,407.19
95	0.5927	0.0152	4.57	1,407.19	1,402.62
100	0.5908	0.0152	4.56	1,402.62	1,398.06
105	0.5889	0.0152	4.55	1,398.06	1,393.51
		-- B R E A K --			-
2860	0.0055	0.0015	0.44	19.40	18.96
2865	0.0053	0.0014	0.43	18.96	18.52
2870	0.0052	0.0014	0.43	18.52	18.10
2875	0.0050	0.0014	0.42	18.10	17.68
2880	0.0048		-	17.68	17.68

Table F.4-g: Goreway Station Proposed SWMF-4 Intlet Pipe Sizing

UP INV= 173.50 m
DS INV= 173.22 m
L= 18 m
SLOPE= 1.56 %

100-yr uncontrolled from the Site= 1.862 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.950	18.00	0.013	1.56	2.61	71%

Table F.4-h: Goreway Station Proposed SWMF-4 Outlet Pipe Sizing

UP INV= 173.22 m
DS INV= 172.00 m
L= 80 m
SLOPE= 1.53 %

100-yr uncontrolled from the Site= 2.783 m^3/s

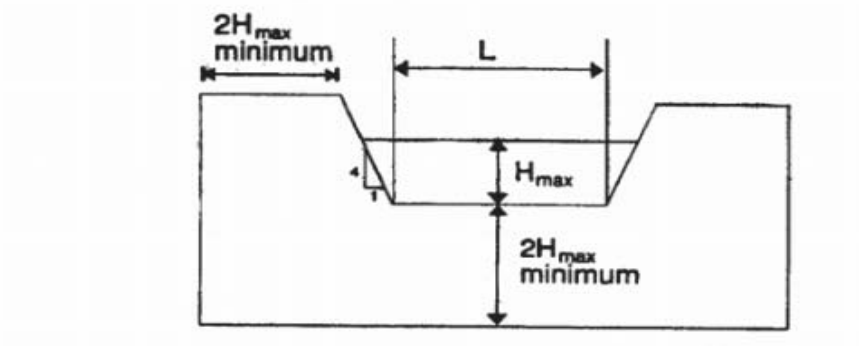
Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	1.100	80.00	0.013	1.53	3.82	73%

Table F.4-i: Goreway Station Proposed SWMF-4 Spillway

Trapezoidal Weir

Hmax=	0.3 m	2H=	0.6 m (MIN.)
Q=	0.837 m^3/s	or 2H=	1 m
L=	2.74 m		

Trapezoidal (Cipolletti)



$$0.1 < Q < 11\, m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename:
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  Summary filename:
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DATE: 06/15/2018                          TIME: 05:52:10

USER:


COMMENTS: _____________________________________________________________


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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              61607d55-3218-43a1-8e0a-835a3dbbcd34\0b81d904
| Ptotal= 42.00 mm |    Comments: 2yr/12hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    7.14 |  6.75    2.94 | 10.00    0.42
                0.50    0.42 |  3.75    7.14 |  7.00    2.94 | 10.25    0.42
                0.75    0.42 |  4.00    7.14 |  7.25    2.94 | 10.50    0.42
                1.00    0.42 |  4.25    7.14 |  7.50    1.68 | 10.75    0.42
                1.25    0.42 |  4.50   19.32 |  7.75    1.68 | 11.00    0.42
                1.50    0.42 |  4.75   19.32 |  8.00    1.68 | 11.25    0.42
                1.75    0.42 |  5.00   19.32 |  8.25    1.68 | 11.50    0.42
                2.00    0.42 |  5.25   19.32 |  8.50    0.84 | 11.75    0.42
                2.25    0.42 |  5.50    5.46 |  8.75    0.84 | 12.00    0.42
                2.50    2.52 |  5.75    5.46 |  9.00    0.84 | 12.25    0.42
                2.75    2.52 |  6.00    5.46 |  9.25    0.84 |
                3.00    2.52 |  6.25    5.46 |  9.50    0.42 |
                3.25    2.52 |  6.50    2.94 |  9.75    0.42 |

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| CALIB            |
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| STANDHYD (0001) | Area (ha)= 4.98
|ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.48	0.50
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	182.21	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	91.28		
over (min)	5.00	20.00		
Storage Coeff. (min)=	7.07 (ii)	16.08 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.17	0.06		
			TOTALS	
PEAK FLOW (cms)=	0.13	0.12	0.252 (iii)	
TIME TO PEAK (hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME (mm)=	41.00	33.92	37.46	
TOTAL RAINFALL (mm)=	42.00	42.00	42.00	
RUNOFF COEFFICIENT =	0.98	0.81	0.89	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0002)	Area (ha)= 0.37				
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.22	0.15	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	49.67	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	10.45	
over (min)		5.00	25.00	
Storage Coeff.	(min)=	3.24 (ii)	24.69 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	25.00	
Unit Hyd. peak	(cms)=	0.27	0.05	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.00	0.015 (iii)
TIME TO PEAK	(hrs)=	4.92	5.42	5.25
RUNOFF VOLUME	(mm)=	41.00	16.76	31.26
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0003)	Area (ha)= 0.80				
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00			

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.48	0.32	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	73.03	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		19.32	10.45	
over (min)		5.00	30.00	
Storage Coeff.	(min)=	4.08 (ii)	25.53 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	30.00	
Unit Hyd. peak	(cms)=	0.24	0.04	
				TOTALS
PEAK FLOW	(cms)=	0.03	0.01	0.032 (iii)
TIME TO PEAK	(hrs)=	5.08	5.50	5.25
RUNOFF VOLUME	(mm)=	41.00	16.76	31.28
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.40	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0004)	Area (ha)= 1.20				
ID= 1 DT= 5.0 min	Total Imp(%)= 53.00	Dir. Conn.(%)= 53.00			

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.64	0.56
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	89.44	40.00

```
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.45
               over (min)         5.00        30.00
     Storage Coeff.  (min)=       4.61 (ii)   26.06 (ii)
     Unit Hyd. Tpeak (min)=       5.00        30.00
     Unit Hyd. peak  (cms)=       0.22         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.01          0.045 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.50           5.25
     RUNOFF VOLUME    (mm)=      41.00        16.76          29.59
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.40           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.10
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      38.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.45
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       2.77 (ii)   24.22 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.28         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.008 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.42           5.25
     RUNOFF VOLUME    (mm)=      41.00        16.76          29.54
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.40           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0006) |   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.14         0.13
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      19.32        10.45
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       2.95 (ii)   24.40 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.28         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.010 (iii)
```

```
     TIME TO PEAK    (hrs)=       4.83         5.42          5.25
     RUNOFF VOLUME    (mm)=      41.00        16.76         29.55
     TOTAL RAINFALL   (mm)=      42.00        42.00         42.00
     RUNOFF COEFFICIENT   =       0.98         0.40          0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):     4.98   0.252     5.25    37.46
       + ID2= 2 (0002):     0.37   0.015     5.25    31.26
         ================================================
         ID = 3 (0402):     5.35   0.267     5.25    37.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0402):     5.35   0.267     5.25    37.03
       + ID2= 2 (0003):     0.80   0.032     5.25    31.28
         ================================================
         ID = 1 (0402):     6.15   0.299     5.25    36.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):     6.15   0.299     5.25    36.28
       + ID2= 2 (0004):     1.20   0.045     5.25    29.59
         ================================================
         ID = 3 (0402):     7.35   0.344     5.25    35.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0402):     7.35   0.344     5.25    35.19
       + ID2= 2 (0005):     0.22   0.008     5.25    29.54
         ================================================
         ID = 1 (0402):     7.57   0.353     5.25    35.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):     7.57   0.353     5.25    35.03
       + ID2= 2 (0006):     0.27   0.010     5.25    29.55
         ================================================
         ID = 3 (0402):     7.84   0.363     5.25    34.84
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0403)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3850	0.2160
0.0160	0.1495	0.5330	0.2339
0.1150	0.1748	0.6360	0.2453
0.2650	0.1997	0.7320	0.2554

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0402)	7.840	0.363	5.25	34.84
OUTFLOW: ID= 1 (0403)	7.840	0.115	6.25	34.54

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.82
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.1749

****
** SIMULATION NUMBER: 2 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\61607d55-3218-43a1-8e0a-835a3dbbcd34\39d14c1c
Ptotal= 54.38 mm	Comments: 5yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB STANDHYD (0001) ID= 1 DT= 5.0 min	Area (ha)= 4.98 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.48	0.50
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	182.21	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54

0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	120.59		
over (min)	5.00	15.00		
Storage Coeff. (min)=	6.37 (ii)	14.44 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.18	0.08		
			TOTALS	
PEAK FLOW (cms)=	0.17	0.16	0.334 (iii)	
TIME TO PEAK (hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME (mm)=	53.38	46.02	49.70	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.85	0.91	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0002)	Area (ha)= 0.37		
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.22	0.15	
Dep. Storage (mm)=	1.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	49.67	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	25.02	16.21	
over (min)	5.00	25.00	
Storage Coeff. (min)=	2.92 (ii)	20.92 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.28	0.05	
		TOTALS	
PEAK FLOW (cms)=	0.02	0.01	0.021 (iii)
TIME TO PEAK (hrs)=	4.92	5.33	5.25
RUNOFF VOLUME (mm)=	53.38	26.09	42.43

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     TOTAL RAINFALL   (mm)=      54.38        54.38          54.38
     RUNOFF COEFFICIENT   =       0.98         0.48           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.32
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      73.03        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        16.21
               over (min)        5.00        25.00
     Storage Coeff.  (min)=       3.68 (ii)   21.68 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.25         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.01         0.044 (iii)
     TIME TO PEAK    (hrs)=       5.08         5.33          5.25
     RUNOFF VOLUME    (mm)=      53.38        26.09         42.45
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.48          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.56
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      89.44        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      25.02        16.21
               over (min)        5.00        25.00
     Storage Coeff.  (min)=       4.16 (ii)   22.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.24         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.02         0.064 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.42          5.25
     RUNOFF VOLUME    (mm)=      53.38        26.09         40.54
     TOTAL RAINFALL   (mm)=      54.38        54.38         54.38
     RUNOFF COEFFICIENT   =       0.98         0.48          0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0005)	Area (ha)= 0.22				
ID= 1 DT= 5.0 min	Total Imp(%)= 53.00		Dir. Conn.(%)= 53.00		
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.12	0.10		
Dep. Storage	(mm)=	1.00	6.00		
Average Slope	(%)=	1.00	1.00		
Length	(m)=	38.30	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		25.02	16.21		
over (min)		5.00	25.00		
Storage Coeff.	(min)=	2.50 (ii)	20.49 (ii)		
Unit Hyd. Tpeak	(min)=	5.00	25.00		
Unit Hyd. peak	(cms)=	0.29	0.05		
				TOTALS	
PEAK FLOW	(cms)=	0.01	0.00	0.012 (iii)	
TIME TO PEAK	(hrs)=	4.75	5.33	5.25	
RUNOFF VOLUME	(mm)=	53.38	26.09	40.50	
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT	=	0.98	0.48	0.74	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0006)	Area (ha)= 0.27				
ID= 1 DT= 5.0 min	Total Imp(%)= 53.00		Dir. Conn.(%)= 53.00		
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.14	0.13		
Dep. Storage	(mm)=	1.00	6.00		
Average Slope	(%)=	1.00	1.00		
Length	(m)=	42.43	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		25.02	16.21		
over (min)		5.00	25.00		
Storage Coeff.	(min)=	2.66 (ii)	20.65 (ii)		
Unit Hyd. Tpeak	(min)=	5.00	25.00		
Unit Hyd. peak	(cms)=	0.29	0.05		
				TOTALS	
PEAK FLOW	(cms)=	0.01	0.00	0.014 (iii)	
TIME TO PEAK	(hrs)=	4.83	5.33	5.25	
RUNOFF VOLUME	(mm)=	53.38	26.09	40.51	
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT	=	0.98	0.48	0.74	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0402)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0001):		4.98	0.334	5.25	49.70

```
        + ID2= 2 (0002):     0.37   0.021     5.25    42.43
          ================================================
          ID = 3 (0402):     5.35   0.355     5.25    49.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0402):     5.35   0.355     5.25    49.20
        + ID2= 2 (0003):     0.80   0.044     5.25    42.45
          ================================================
          ID = 1 (0402):     6.15   0.399     5.25    48.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0402):     6.15   0.399     5.25    48.32
        + ID2= 2 (0004):     1.20   0.064     5.25    40.54
          ================================================
          ID = 3 (0402):     7.35   0.463     5.25    47.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0402):     7.35   0.463     5.25    47.05
        + ID2= 2 (0005):     0.22   0.012     5.25    40.50
          ================================================
          ID = 1 (0402):     7.57   0.475     5.25    46.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0402):     7.57   0.475     5.25    46.86
        + ID2= 2 (0006):     0.27   0.014     5.25    40.51
          ================================================
          ID = 3 (0402):     7.84   0.489     5.25    46.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0403) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3850      0.2160
                          0.0160     0.1495   |   0.5330      0.2339
                          0.1150     0.1748   |   0.6360      0.2453
                          0.2650     0.1997   |   0.7320      0.2554

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0402)      7.840      0.489      5.25      46.64
     OUTFLOW: ID= 1 (0403)      7.840      0.264      5.50      46.34

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 53.95
```

TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1998

****
** SIMULATION NUMBER: 3 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\61607d55-3218-43a1-8e0a-835a3dbbcd34\efff6bcf
Ptotal= 62.71 mm	Comments: 10yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63
2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

CALIB	
STANDHYD (0001)	Area (ha)= 4.98
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.48	0.50
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	182.21	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63

```
                2.083    0.63 | 5.167   28.84 | 8.250    2.51 | 11.33    0.63
                2.167    0.63 | 5.250   28.84 | 8.333    1.25 | 11.42    0.63
                2.250    0.63 | 5.333    8.15 | 8.417    1.25 | 11.50    0.63
                2.333    3.76 | 5.417    8.15 | 8.500    1.25 | 11.58    0.63
                2.417    3.76 | 5.500    8.15 | 8.583    1.25 | 11.67    0.63
                2.500    3.76 | 5.583    8.15 | 8.667    1.25 | 11.75    0.63
                2.583    3.76 | 5.667    8.15 | 8.750    1.25 | 11.83    0.63
                2.667    3.76 | 5.750    8.15 | 8.833    1.25 | 11.92    0.63
                2.750    3.76 | 5.833    8.15 | 8.917    1.25 | 12.00    0.63
                2.833    3.76 | 5.917    8.15 | 9.000    1.25 | 12.08    0.63
                2.917    3.76 | 6.000    8.15 | 9.083    1.25 | 12.17    0.63
                3.000    3.76 | 6.083    8.15 | 9.167    1.25 | 12.25    0.63
                3.083    3.76 | 6.167    8.15 | 9.250    1.25 |

     Max.Eff.Inten.(mm/hr)=      28.84       140.11
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      6.02 (ii)   13.61 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.19         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.20         0.19         0.388 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.25          5.25
     RUNOFF VOLUME    (mm)=     61.71        54.22         57.96
     TOTAL RAINFALL   (mm)=     62.71        62.71         62.71
     RUNOFF COEFFICIENT   =      0.98         0.86          0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0002) |   Area    (ha)=   0.37
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22         0.15
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      49.67        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.05
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      2.76 (ii)   19.28 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.28         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.02         0.01         0.025 (iii)
     TIME TO PEAK    (hrs)=      4.83         5.33          5.25
     RUNOFF VOLUME    (mm)=     61.71        32.80         50.11
     TOTAL RAINFALL   (mm)=     62.71        62.71         62.71
     RUNOFF COEFFICIENT   =      0.98         0.52          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.32
     Dep. Storage     (mm)=       1.00         6.00
```

```
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      73.03        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.05
               over (min)        5.00        25.00
     Storage Coeff.  (min)=       3.48 (ii)   20.00 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.26         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.01          0.053 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.33           5.25
     RUNOFF VOLUME    (mm)=      61.71        32.80          50.13
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.52           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.56
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      89.44        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.05
               over (min)        5.00        25.00
     Storage Coeff.  (min)=       3.93 (ii)   20.45 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.24         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.03          0.076 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.33           5.25
     RUNOFF VOLUME    (mm)=      61.71        32.80          48.11
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.52           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.10
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      38.30        40.00
     Mannings n            =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      28.84        20.05
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.36 (ii)   18.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.30         0.06
```

				TOTALS
PEAK FLOW	(cms)=	0.01	0.00	0.014 (iii)
TIME TO PEAK	(hrs)=	4.75	5.33	5.25
RUNOFF VOLUME	(mm)=	61.71	32.80	48.07
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.52	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0006)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.14	0.13	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	42.43	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		28.84	20.05	
over (min)		5.00	20.00	
Storage Coeff.	(min)=	2.51 (ii)	19.04 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	20.00	
Unit Hyd. peak	(cms)=	0.29	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.01	0.01	0.017 (iii)
TIME TO PEAK	(hrs)=	4.83	5.33	5.25
RUNOFF VOLUME	(mm)=	61.71	32.80	48.08
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.52	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0402)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	4.98	0.388	5.25	57.96
+	ID2= 2 (0002):	0.37	0.025	5.25	50.11
	ID = 3 (0402):	5.35	0.413	5.25	57.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0402)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0402):	5.35	0.413	5.25	57.42
+	ID2= 2 (0003):	0.80	0.053	5.25	50.13
	ID = 1 (0402):	6.15	0.466	5.25	56.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0402):     6.15   0.466     5.25    56.47
        + ID2= 2 (0004):     1.20   0.076     5.25    48.11
          ================================================
          ID = 3 (0402):     7.35   0.542     5.25    55.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0402):     7.35   0.542     5.25    55.11
        + ID2= 2 (0005):     0.22   0.014     5.25    48.07
          ================================================
          ID = 1 (0402):     7.57   0.556     5.25    54.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0402):     7.57   0.556     5.25    54.90
        + ID2= 2 (0006):     0.27   0.017     5.25    48.08
          ================================================
          ID = 3 (0402):     7.84   0.574     5.25    54.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0403) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3850     0.2160
                          0.0160     0.1495   |   0.5330     0.2339
                          0.1150     0.1748   |   0.6360     0.2453
                          0.2650     0.1997   |   0.7320     0.2554

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0402)      7.840      0.574      5.25      54.67
     OUTFLOW: ID= 1 (0403)      7.840      0.382      5.33      54.36

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 66.51
                    TIME SHIFT OF PEAK FLOW         (min)=  5.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2160

--------------------------------------------------------------------------------
  ***************************
  ** SIMULATION NUMBER:   4 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              61607d55-3218-43a1-8e0a-835a3dbbcd34\43ad6cb6
| Ptotal= 73.10 mm |    Comments: 25yr/12hr
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.25    0.00 |  3.50   12.43 |  6.75    5.12 | 10.00    0.73
                 0.50    0.73 |  3.75   12.43 |  7.00    5.12 | 10.25    0.73
                 0.75    0.73 |  4.00   12.43 |  7.25    5.12 | 10.50    0.73
```

1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB STANDHYD (0001) ID= 1 DT= 5.0 min	Area (ha)= 4.98 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.48	0.50
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	182.21	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	164.50	
over (min)	5.00	15.00	
Storage Coeff. (min)=	5.66 (ii)	12.78 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.20	0.08	
			TOTALS

```
     PEAK FLOW       (cms)=       0.23         0.22          0.456 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.25           5.25
     RUNOFF VOLUME    (mm)=      72.10        64.48          68.29
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.88           0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0002) |   Area    (ha)=   0.37
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22         0.15
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      49.67        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.97
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.60 (ii)   17.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.29         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01          0.030 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.33           5.25
     RUNOFF VOLUME    (mm)=      72.10        41.52          59.84
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.57           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0003) |   Area    (ha)=   0.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.32
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      73.03        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.97
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.27 (ii)   18.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.27         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.02          0.064 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.33           5.25
     RUNOFF VOLUME    (mm)=      72.10        41.52          59.85
     TOTAL RAINFALL   (mm)=      73.10        73.10          73.10
     RUNOFF COEFFICIENT   =       0.99         0.57           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
```

```
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.56
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      89.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.97
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.69 (ii)   18.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.25         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.03         0.093 (iii)
     TIME TO PEAK    (hrs)=       5.08         5.33          5.25
     RUNOFF VOLUME    (mm)=      72.10        41.52         57.72
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.57          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.10
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      38.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      33.63        24.97
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.22 (ii)   17.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.30         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01         0.017 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.33          5.25
     RUNOFF VOLUME    (mm)=      72.10        41.52         57.67
     TOTAL RAINFALL   (mm)=      73.10        73.10         73.10
     RUNOFF COEFFICIENT   =       0.99         0.57          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0006) |   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
```

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--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.14          0.13
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      42.43         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.63         24.97
               over (min)         5.00         20.00
     Storage Coeff.  (min)=       2.36 (ii)    17.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00         20.00
     Unit Hyd. peak  (cms)=       0.30          0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01          0.01          0.021 (iii)
     TIME TO PEAK    (hrs)=       4.75          5.33          5.25
     RUNOFF VOLUME    (mm)=      72.10         41.52         57.69
     TOTAL RAINFALL   (mm)=      73.10         73.10         73.10
     RUNOFF COEFFICIENT   =       0.99          0.57          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):     4.98   0.456     5.25    68.29
        + ID2= 2 (0002):     0.37   0.030     5.25    59.84
          ================================================
          ID = 3 (0402):     5.35   0.485     5.25    67.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0402):     5.35   0.485     5.25    67.71
        + ID2= 2 (0003):     0.80   0.064     5.25    59.85
          ================================================
          ID = 1 (0402):     6.15   0.549     5.25    66.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0402):     6.15   0.549     5.25    66.68
        + ID2= 2 (0004):     1.20   0.093     5.25    57.72
          ================================================
          ID = 3 (0402):     7.35   0.642     5.25    65.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0402):     7.35   0.642     5.25    65.22
        + ID2= 2 (0005):     0.22   0.017     5.25    57.67
```

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          ================================================
          ID = 1 (0402):     7.57   0.660     5.25    65.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0402):     7.57   0.660     5.25    65.00
        + ID2= 2 (0006):     0.27   0.021     5.25    57.69
          ================================================
          ID = 3 (0402):     7.84   0.681     5.25    64.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0403) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3850      0.2160
                          0.0160     0.1495   |   0.5330      0.2339
                          0.1150     0.1748   |   0.6360      0.2453
                          0.2650     0.1997   |   0.7320      0.2554

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0402)      7.840      0.681      5.25      64.75
     OUTFLOW: ID= 1 (0403)      7.840      0.528      5.33      64.45

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 77.53
                    TIME SHIFT OF PEAK FLOW         (min)=  5.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2339

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  ****************************
  ** SIMULATION NUMBER:   5 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              61607d55-3218-43a1-8e0a-835a3dbbcd34\0162e789
| Ptotal= 80.82 mm |    Comments: 50yr/12hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50   13.74 |  6.75    5.66 | 10.00    0.81
                0.50    0.81 |  3.75   13.74 |  7.00    5.66 | 10.25    0.81
                0.75    0.81 |  4.00   13.74 |  7.25    5.66 | 10.50    0.81
                1.00    0.81 |  4.25   13.74 |  7.50    3.23 | 10.75    0.81
                1.25    0.81 |  4.50   37.17 |  7.75    3.23 | 11.00    0.81
                1.50    0.81 |  4.75   37.17 |  8.00    3.23 | 11.25    0.81
                1.75    0.81 |  5.00   37.17 |  8.25    3.23 | 11.50    0.81
                2.00    0.81 |  5.25   37.17 |  8.50    1.62 | 11.75    0.81
                2.25    0.81 |  5.50   10.50 |  8.75    1.62 | 12.00    0.81
                2.50    4.85 |  5.75   10.50 |  9.00    1.62 | 12.25    0.81
                2.75    4.85 |  6.00   10.50 |  9.25    1.62 |
                3.00    4.85 |  6.25   10.50 |  9.50    0.81 |
                3.25    4.85 |  6.50    5.66 |  9.75    0.81 |

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--------------------
| CALIB            |
| STANDHYD  (0001) |   Area    (ha)=   4.98
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.48          0.50
```

Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	182.21	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	182.46		
over (min)	5.00	15.00		
Storage Coeff. (min)=	5.44 (ii)	12.27 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.20	0.09		
			TOTALS	
PEAK FLOW (cms)=	0.26	0.25	0.505 (iii)	
TIME TO PEAK (hrs)=	5.25	5.25	5.25	
RUNOFF VOLUME (mm)=	79.82	72.13	75.97	
TOTAL RAINFALL (mm)=	80.82	80.82	80.82	
RUNOFF COEFFICIENT =	0.99	0.89	0.94	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0002)	Area (ha)= 0.37
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

IMPERVIOUS PERVIOUS (i)

```
     Surface Area     (ha)=       0.22         0.15
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      49.67        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       2.49 (ii)   16.76 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.29         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01          0.033 (iii)
     TIME TO PEAK    (hrs)=       4.83         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        48.19          67.14
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.60           0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.32
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      73.03        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       3.14 (ii)   17.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.27         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.02          0.072 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        48.19          67.16
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.60           0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.56
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      89.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       3.55 (ii)   17.81 (ii)
```

```
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.26         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.04          0.105 (iii)
     TIME TO PEAK    (hrs)=       5.08         5.33           5.25
     RUNOFF VOLUME    (mm)=      79.82        48.19          64.94
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.60           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.10
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      38.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       2.13 (ii)   16.40 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.31         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.019 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        48.19          64.91
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.60           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0006) |   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.14         0.13
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      37.17        28.96
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       2.27 (ii)   16.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.30         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01          0.024 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        48.19          64.91
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.60           0.80
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0402)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	4.98	0.505	5.25	75.97
	+ ID2= 2 (0002):	0.37	0.033	5.25	67.14
	ID = 3 (0402):	5.35	0.539	5.25	75.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0402)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0402):	5.35	0.539	5.25	75.36
	+ ID2= 2 (0003):	0.80	0.072	5.25	67.16
	ID = 1 (0402):	6.15	0.611	5.25	74.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0402)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0402):	6.15	0.611	5.25	74.29
	+ ID2= 2 (0004):	1.20	0.105	5.25	64.94
	ID = 3 (0402):	7.35	0.716	5.25	72.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0402)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0402):	7.35	0.716	5.25	72.77
	+ ID2= 2 (0005):	0.22	0.019	5.25	64.91
	ID = 1 (0402):	7.57	0.735	5.25	72.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0402)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0402):	7.57	0.735	5.25	72.54
	+ ID2= 2 (0006):	0.27	0.024	5.25	64.91
	ID = 3 (0402):	7.84	0.759	5.25	72.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR (0403) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3850	0.2160
0.0160	0.1495	0.5330	0.2339
0.1150	0.1748	0.6360	0.2453
0.2650	0.1997	0.7320	0.2554

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0402)	7.840	0.759	5.25	72.28
OUTFLOW: ID= 1 (0403)	7.840	0.624	5.33	71.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 82.26
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.2453

****
** SIMULATION NUMBER: 6 **
****

| READ STORM |
| Ptotal= 88.54 mm |

Filename: C:\Users\p001279d\AppData\Local\Temp\61607d55-3218-43a1-8e0a-835a3dbbcd34\eb7a8416
Comments: 100yr/12hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

| CALIB |
| STANDHYD (0001) |
| ID= 1 DT= 5.0 min |

Area (ha)= 4.98
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.48	0.50
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	182.21	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89

0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

Max.Eff.Inten.(mm/hr)=	40.71	200.40	
over (min)	5.00	15.00	
Storage Coeff. (min)=	5.25 (ii)	11.83 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.21	0.09	
			TOTALS
PEAK FLOW (cms)=	0.28	0.27	0.555 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	79.79	83.66
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.90	0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0002)	Area (ha)= 0.37		
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.22	0.15	
Dep. Storage (mm)=	1.00	6.00	
Average Slope (%)=	1.00	1.00	
Length (m)=	49.67	40.00	
Mannings n =	0.013	0.250	
Max.Eff.Inten.(mm/hr)=	40.71	32.66	
over (min)	5.00	20.00	
Storage Coeff. (min)=	2.41 (ii)	16.00 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.30	0.07	
			TOTALS
PEAK FLOW (cms)=	0.03	0.01	0.037 (iii)
TIME TO PEAK (hrs)=	4.83	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	54.99	74.49
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.62	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.32
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      73.03        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.03 (ii)   16.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.27         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.03         0.080 (iii)
     TIME TO PEAK    (hrs)=       5.00         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        54.99         74.51
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.62          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.56
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      89.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.42 (ii)   17.02 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.26         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.05         0.117 (iii)
     TIME TO PEAK    (hrs)=       5.08         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        54.99         72.23
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.62          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
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| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.10
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      38.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.06 (ii)   15.65 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.31         0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01         0.022 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        54.99         72.20
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.62          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0006) |   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.14         0.13
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      40.71        32.66
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.19 (ii)   15.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.31         0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01         0.026 (iii)
     TIME TO PEAK    (hrs)=       4.75         5.25          5.25
     RUNOFF VOLUME    (mm)=      87.54        54.99         72.21
     TOTAL RAINFALL   (mm)=      88.54        88.54         88.54
     RUNOFF COEFFICIENT   =       0.99         0.62          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):     4.98   0.555     5.25    83.66
        + ID2= 2 (0002):     0.37   0.037     5.25    74.49
          ================================================
          ID = 3 (0402):     5.35   0.592     5.25    83.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0402):     5.35   0.592     5.25    83.03
        + ID2= 2 (0003):     0.80   0.080     5.25    74.51
          ================================================
          ID = 1 (0402):     6.15   0.672     5.25    81.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0402):     6.15   0.672     5.25    81.92
        + ID2= 2 (0004):     1.20   0.117     5.25    72.23
          ================================================
          ID = 3 (0402):     7.35   0.789     5.25    80.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0402):     7.35   0.789     5.25    80.34
        + ID2= 2 (0005):     0.22   0.022     5.25    72.20
          ================================================
          ID = 1 (0402):     7.57   0.811     5.25    80.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0402):     7.57   0.811     5.25    80.10
        + ID2= 2 (0006):     0.27   0.026     5.25    72.21
          ================================================
          ID = 3 (0402):     7.84   0.837     5.25    79.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0403) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3850     0.2160
                          0.0160     0.1495   |   0.5330     0.2339
                          0.1150     0.1748   |   0.6360     0.2453
                          0.2650     0.1997   |   0.7320     0.2554

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0402)      7.840      0.837      5.25      79.83
     OUTFLOW: ID= 1 (0403)      7.840      0.715      5.25      79.53

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 85.35
                    TIME SHIFT OF PEAK FLOW         (min)=  0.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2554

--------------------------------------------------------------------------------
  ***************************
```

** SIMULATION NUMBER: 7 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\61607d55-3218-43a1-8e0a-835a3dbbcd34\7b070414
Ptotal= 25.00 mm	Comments: 25 mm, 4 hr. chicago dist'n. - water qua

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.40	1.17	33.60	2.17	3.45	3.17	1.65
0.33	1.95	1.33	38.10	2.33	3.00	3.33	1.80
0.50	2.40	1.50	13.80	2.50	2.70	3.50	1.50
0.67	2.85	1.67	7.35	2.67	2.25	3.67	1.50
0.83	4.65	1.83	5.55	2.83	2.25	3.83	0.75
1.00	9.60	2.00	4.35	3.00	1.95	4.00	0.60

CALIB STANDHYD (0001) ID= 1 DT= 5.0 min	Area (ha)= 4.98 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.48	0.50
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	182.21	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.40	1.083	33.60	2.083	3.45	3.08	1.65
0.167	2.40	1.167	33.60	2.167	3.45	3.17	1.65
0.250	1.95	1.250	38.10	2.250	3.00	3.25	1.80
0.333	1.95	1.333	38.10	2.333	3.00	3.33	1.80
0.417	2.40	1.417	13.80	2.417	2.70	3.42	1.50
0.500	2.40	1.500	13.80	2.500	2.70	3.50	1.50
0.583	2.85	1.583	7.35	2.583	2.25	3.58	1.50
0.667	2.85	1.667	7.35	2.667	2.25	3.67	1.50
0.750	4.65	1.750	5.55	2.750	2.25	3.75	0.75
0.833	4.65	1.833	5.55	2.833	2.25	3.83	0.75
0.917	9.60	1.917	4.35	2.917	1.95	3.92	0.60
1.000	9.60	2.000	4.35	3.000	1.95	4.00	0.60

Max.Eff.Inten.(mm/hr)=		38.10	156.46	
	over (min)	5.00	15.00	
Storage Coeff. (min)=		5.39 (ii)	12.65 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.21	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.25	0.14	0.374 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	24.00	17.66	20.83
TOTAL RAINFALL	(mm)=	25.00	25.00	25.00
RUNOFF COEFFICIENT	=	0.96	0.71	0.83

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0002)	Area (ha)= 0.37

```
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22         0.15
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      49.67        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)         5.00        30.00
     Storage Coeff.  (min)=       2.47 (ii)   29.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        30.00
     Unit Hyd. peak  (cms)=       0.29         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.00          0.024 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.83           1.33
     RUNOFF VOLUME    (mm)=      24.00         5.98          16.74
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.96         0.24           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48         0.32
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      73.03        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)         5.00        30.00
     Storage Coeff.  (min)=       3.11 (ii)   29.79 (ii)
     Unit Hyd. Tpeak (min)=       5.00        30.00
     Unit Hyd. peak  (cms)=       0.27         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.00          0.051 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.83           1.33
     RUNOFF VOLUME    (mm)=      24.00         5.98          16.77
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.96         0.24           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.56
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      89.44        40.00
     Mannings n           =      0.013        0.250
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```
     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)         5.00        35.00
     Storage Coeff.  (min)=       3.51 (ii)   30.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00        35.00
     Unit Hyd. peak  (cms)=       0.26         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.01          0.068 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.92           1.33
     RUNOFF VOLUME    (mm)=      24.00         5.98          15.52
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.96         0.24           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.10
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      38.30        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)         5.00        30.00
     Storage Coeff.  (min)=       2.11 (ii)   28.79 (ii)
     Unit Hyd. Tpeak (min)=       5.00        30.00
     Unit Hyd. peak  (cms)=       0.31         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.00          0.013 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.83           1.33
     RUNOFF VOLUME    (mm)=      24.00         5.98          15.45
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.96         0.24           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0006) |   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.14         0.13
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      38.10         6.05
               over (min)         5.00        30.00
     Storage Coeff.  (min)=       2.25 (ii)   28.92 (ii)
     Unit Hyd. Tpeak (min)=       5.00        30.00
     Unit Hyd. peak  (cms)=       0.30         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.00          0.015 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.83           1.33
     RUNOFF VOLUME    (mm)=      24.00         5.98          15.46
```

```
     TOTAL RAINFALL   (mm)=      25.00        25.00          25.00
     RUNOFF COEFFICIENT   =       0.96         0.24           0.62

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):     4.98   0.374     1.33    20.83
       + ID2= 2 (0002):     0.37   0.024     1.33    16.74
         ================================================
         ID = 3 (0402):     5.35   0.397     1.33    20.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0402):     5.35   0.397     1.33    20.55
       + ID2= 2 (0003):     0.80   0.051     1.33    16.77
         ================================================
         ID = 1 (0402):     6.15   0.448     1.33    20.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):     6.15   0.448     1.33    20.06
       + ID2= 2 (0004):     1.20   0.068     1.33    15.52
         ================================================
         ID = 3 (0402):     7.35   0.516     1.33    19.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0402):     7.35   0.516     1.33    19.31
       + ID2= 2 (0005):     0.22   0.013     1.33    15.45
         ================================================
         ID = 1 (0402):     7.57   0.529     1.33    19.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0402) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0402):     7.57   0.529     1.33    19.20
       + ID2= 2 (0006):     0.27   0.015     1.33    15.46
         ================================================
         ID = 3 (0402):     7.84   0.544     1.33    19.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0403) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3850      0.2160
                          0.0160     0.1495   |   0.5330      0.2339
                          0.1150     0.1748   |   0.6360      0.2453
                          0.2650     0.1997   |   0.7320      0.2554

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0402)      7.840      0.544      1.33      19.07
     OUTFLOW: ID= 1 (0403)      7.840      0.015      4.00      18.77

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.67
                  TIME SHIFT OF PEAK FLOW         (min)=160.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1356

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 FINISH
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\1b6805c3-ebd4-42df-91b3-960b57945eff\Scenario.out

  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\1b6805c3-ebd4-42df-91b3-960b57945eff\Scenario.sum


DATE: 06/15/2018                          TIME: 05:57:09

USER:


COMMENTS: _____________________________________________________________


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--------------------
  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 453.462
| Ptotal= 38.09 mm |                          B=   1.500
--------------------                          C=   0.704
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
                       5.         131.10               121.41
                      10.          81.50                81.25
                      15.          61.70                63.01
                      30.          38.40                39.97
                      60.          24.00                24.96
                     120.          15.00                15.45
                     360.           7.10                 7.17
                     720.           4.50                 4.41
                    1440.           2.80                 2.71


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                                      Page 1
```

0.17	3.20	1.17	16.80	2.17	6.49	3.17	3.71
0.33	3.59	1.33	81.25	2.33	5.70	3.33	3.48
0.50	4.11	1.50	21.07	2.50	5.11	3.50	3.29
0.67	4.87	1.67	12.55	2.67	4.64	3.67	3.12
0.83	6.09	1.83	9.35	2.83	4.27	3.83	2.97
1.00	8.47	2.00	7.61	3.00	3.96	4.00	2.84

CALIB			
STANDHYD (0003)	Area (ha)= 0.80		
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.20	1.083	16.80	2.083	6.49	3.08	3.71
0.167	3.20	1.167	16.80	2.167	6.49	3.17	3.71
0.250	3.59	1.250	81.25	2.250	5.70	3.25	3.48
0.333	3.59	1.333	81.25	2.333	5.70	3.33	3.48
0.417	4.11	1.417	21.07	2.417	5.11	3.42	3.29
0.500	4.11	1.500	21.07	2.500	5.11	3.50	3.29
0.583	4.87	1.583	12.55	2.583	4.64	3.58	3.12
0.667	4.87	1.667	12.55	2.667	4.64	3.67	3.12
0.750	6.09	1.750	9.35	2.750	4.27	3.75	2.97
0.833	6.09	1.833	9.35	2.833	4.27	3.83	2.97
0.917	8.47	1.917	7.61	2.917	3.96	3.92	2.84
1.000	8.47	2.000	7.61	3.000	3.96	4.00	2.84

Max.Eff.Inten.(mm/hr)=		81.25	17.56	
over (min)		5.00	20.00	
Storage Coeff. (min)=		2.30 (ii)	19.72 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.30	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.11	0.01	0.110 (iii)
TIME TO PEAK	(hrs)=	1.33	1.58	1.33
RUNOFF VOLUME	(mm)=	37.09	14.03	27.85
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09
RUNOFF COEFFICIENT	=	0.97	0.37	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0002)	Area (ha)= 0.37		
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.15
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	49.67	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		81.25	17.56
over (min)		5.00	20.00

```
     Storage Coeff.  (min)=       1.82 (ii)   19.25 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.32         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.00          0.051 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      37.09        14.03          27.84
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.37           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area    (ha)=   4.98
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.48         0.50
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     182.21        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25       340.86
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.98 (ii)    8.94 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.24         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.53         0.30          0.797 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      37.09        30.14          33.62
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.79           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.56
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      89.44        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25        17.56
               over (min)        5.00        25.00
     Storage Coeff.  (min)=       2.60 (ii)   20.02 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.29         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.02          0.144 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.67           1.33
     RUNOFF VOLUME    (mm)=      37.09        14.03          26.24
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.37           0.69
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0005)	Area (ha)=	0.22			
ID= 1 DT= 5.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)=	53.00	
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.12	0.10		
Dep. Storage	(mm)=	1.00	6.00		
Average Slope	(%)=	1.00	1.00		
Length	(m)=	38.30	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		81.25	17.56		
over (min)		5.00	20.00		
Storage Coeff.	(min)=	1.56 (ii)	18.98 (ii)		
Unit Hyd. Tpeak	(min)=	5.00	20.00		
Unit Hyd. peak	(cms)=	0.33	0.06		
				TOTALS	
PEAK FLOW	(cms)=	0.03	0.00	0.027 (iii)	
TIME TO PEAK	(hrs)=	1.33	1.58	1.33	
RUNOFF VOLUME	(mm)=	37.09	14.03	26.20	
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09	
RUNOFF COEFFICIENT	=	0.97	0.37	0.69	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0006)	Area (ha)=	0.27			
ID= 1 DT= 5.0 min	Total Imp(%)=	53.00	Dir. Conn.(%)=	53.00	
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.14	0.13		
Dep. Storage	(mm)=	1.00	6.00		
Average Slope	(%)=	1.00	1.00		
Length	(m)=	42.43	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		81.25	17.56		
over (min)		5.00	20.00		
Storage Coeff.	(min)=	1.66 (ii)	19.08 (ii)		
Unit Hyd. Tpeak	(min)=	5.00	20.00		
Unit Hyd. peak	(cms)=	0.32	0.06		
				TOTALS	
PEAK FLOW	(cms)=	0.03	0.00	0.033 (iii)	
TIME TO PEAK	(hrs)=	1.33	1.58	1.33	
RUNOFF VOLUME	(mm)=	37.09	14.03	26.21	
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09	
RUNOFF COEFFICIENT	=	0.97	0.37	0.69	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):     4.98   0.797     1.33    33.62
        + ID2= 2 (0002):     0.37   0.051     1.33    27.84
          ================================================
          ID = 3 (0405):     5.35   0.848     1.33    33.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (0405) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0405):     5.35   0.848     1.33    33.22
        + ID2= 2 (0003):     0.80   0.110     1.33    27.85
          ================================================
          ID = 1 (0405):     6.15   0.958     1.33    32.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0405):     6.15   0.958     1.33    32.52
        + ID2= 2 (0004):     1.20   0.144     1.33    26.24
          ================================================
          ID = 3 (0405):     7.35   1.102     1.33    31.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (0405) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0405):     7.35   1.102     1.33    31.49
        + ID2= 2 (0005):     0.22   0.027     1.33    26.20
          ================================================
          ID = 1 (0405):     7.57   1.129     1.33    31.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0405):     7.57   1.129     1.33    31.34
        + ID2= 2 (0006):     0.27   0.033     1.33    26.21
          ================================================
          ID = 3 (0405):     7.84   1.163     1.33    31.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR (0406) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.3850      0.2160
                         0.0160     0.1495    |   0.5330      0.2339
                         0.1150     0.1748    |   0.6360      0.2453
                         0.2650     0.1997    |   0.7320      0.2554
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0405)	7.840	1.163	1.33	31.16
OUTFLOW: ID= 1 (0406)	7.840	0.108	2.58	30.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.25
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.1730

****
** SIMULATION NUMBER: 2 **
****

CHICAGO STORM
Ptotal= 48.94 mm

IDF curve parameters: A= 592.209
B= 1.501
C= 0.707
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	170.20	157.65
10.	105.60	105.33
15.	79.90	81.60
30.	49.70	51.66
60.	30.90	32.19
120.	19.20	19.89
360.	9.10	9.20
720.	5.70	5.65
1440.	3.60	3.46

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.08	1.17	21.57	2.17	8.28	3.17	4.72
0.33	4.57	1.33	105.33	2.33	7.27	3.33	4.43
0.50	5.24	1.50	27.08	2.50	6.51	3.50	4.19
0.67	6.21	1.67	16.08	2.67	5.92	3.67	3.97
0.83	7.77	1.83	11.97	2.83	5.44	3.83	3.78
1.00	10.83	2.00	9.72	3.00	5.05	4.00	3.61

CALIB STANDHYD (0003)
ID= 1 DT= 5.0 min

Area (ha)= 0.80
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.08	1.083	21.57	2.083	8.28	3.08	4.72
0.167	4.08	1.167	21.57	2.167	8.28	3.17	4.72
0.250	4.57	1.250	105.33	2.250	7.27	3.25	4.43
0.333	4.57	1.333	105.33	2.333	7.27	3.33	4.43
0.417	5.24	1.417	27.08	2.417	6.51	3.42	4.19
0.500	5.24	1.500	27.08	2.500	6.51	3.50	4.19

```
                0.583    6.21 | 1.583   16.08 | 2.583    5.92 |  3.58    3.97
                0.667    6.21 | 1.667   16.08 | 2.667    5.92 |  3.67    3.97
                0.750    7.77 | 1.750   11.97 | 2.750    5.44 |  3.75    3.78
                0.833    7.77 | 1.833   11.97 | 2.833    5.44 |  3.83    3.78
                0.917   10.83 | 1.917    9.72 | 2.917    5.05 |  3.92    3.61
                1.000   10.83 | 2.000    9.72 | 3.000    5.05 |  4.00    3.61

     Max.Eff.Inten.(mm/hr)=     105.33        33.47
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.07 (ii)   15.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.31         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.02          0.145 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      47.94        21.87          37.50
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.45           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0002) |   Area    (ha)=   0.37
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22         0.15
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      49.67        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33        33.47
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       1.64 (ii)   15.11 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.32         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.01          0.068 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      47.94        21.87          37.49
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.45           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0001) |   Area    (ha)=   4.98
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.48         0.50
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     182.21        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33       465.93
               over (min)        5.00        10.00
```

```
     Storage Coeff.  (min)=       3.59 (ii)    8.06 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.69         0.43          1.088 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      47.94        40.69          44.31
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.83           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.56
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      89.44        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33        33.47
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.34 (ii)   15.80 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.30         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.18         0.03          0.194 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      47.94        21.87          35.68
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.45           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.10
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      38.30        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33        33.47
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       1.41 (ii)   14.87 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.33         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.01          0.037 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      47.94        21.87          35.65
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.45           0.73
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0006)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 53.00 Dir. Conn.(%)= 53.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.14	0.13	
Dep. Storage	(mm)=	1.00	6.00	
Average Slope	(%)=	1.00	1.00	
Length	(m)=	42.43	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		105.33	33.47	
over (min)		5.00	15.00	
Storage Coeff. (min)=		1.50 (ii)	14.96 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.33	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.04	0.01	0.045 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	47.94	21.87	35.66
TOTAL RAINFALL	(mm)=	48.94	48.94	48.94
RUNOFF COEFFICIENT	=	0.98	0.45	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	4.98	1.088	1.33	44.31
	+ ID2= 2 (0002):	0.37	0.068	1.33	37.49
	ID = 3 (0405):	5.35	1.156	1.33	43.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0405):	5.35	1.156	1.33	43.84
	+ ID2= 2 (0003):	0.80	0.145	1.33	37.50
	ID = 1 (0405):	6.15	1.301	1.33	43.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0405):	6.15	1.301	1.33	43.02

```
        + ID2= 2 (0004):     1.20   0.194     1.33    35.68
          ================================================
          ID = 3 (0405):     7.35   1.495     1.33    41.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0405):     7.35   1.495     1.33    41.82
        + ID2= 2 (0005):     0.22   0.037     1.33    35.65
          ================================================
          ID = 1 (0405):     7.57   1.531     1.33    41.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0405):     7.57   1.531     1.33    41.64
        + ID2= 2 (0006):     0.27   0.045     1.33    35.66
          ================================================
          ID = 3 (0405):     7.84   1.577     1.33    41.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0406) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3850      0.2160
                          0.0160     0.1495   |   0.5330      0.2339
                          0.1150     0.1748   |   0.6360      0.2453
                          0.2650     0.1997   |   0.7320      0.2554

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0405)      7.840      1.577      1.33      41.43
     OUTFLOW: ID= 1 (0406)      7.840      0.245      1.92      41.13

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.52
                    TIME SHIFT OF PEAK FLOW         (min)= 35.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1965

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  ****************************
  ** SIMULATION NUMBER:   3 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 683.826
| Ptotal= 55.89 mm |                          B=   1.501
--------------------                          C=   0.709
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                     The CORRELATION coefficient is = 0.9996

                      TIME       INPUT INT.           TAB. INT.
                     (min)        (mm/hr)              (mm/hr)
                        5.         195.80               181.36
                       10.         121.40               121.03
                       15.          91.80                93.70
                       30.          57.00                59.24
```

60.	35.40	36.87
120.	22.00	22.75
360.	10.40	10.50
720.	6.50	6.43
1440.	4.10	3.94

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.63	1.17	24.61	2.17	9.42	3.17	5.36
0.33	5.19	1.33	121.03	2.33	8.26	3.33	5.03
0.50	5.95	1.50	30.93	2.50	7.40	3.50	4.75
0.67	7.06	1.67	18.33	2.67	6.73	3.67	4.51
0.83	8.83	1.83	13.63	2.83	6.18	3.83	4.29
1.00	12.33	2.00	11.06	3.00	5.73	4.00	4.10

CALIB STANDHYD (0003) ID= 1 DT= 5.0 min	Area (ha)= 0.80 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.63	1.083	24.61	2.083	9.42	3.08	5.36
0.167	4.63	1.167	24.61	2.167	9.42	3.17	5.36
0.250	5.19	1.250	121.03	2.250	8.26	3.25	5.03
0.333	5.19	1.333	121.03	2.333	8.26	3.33	5.03
0.417	5.95	1.417	30.93	2.417	7.40	3.42	4.75
0.500	5.95	1.500	30.93	2.500	7.40	3.50	4.75
0.583	7.06	1.583	18.33	2.583	6.73	3.58	4.51
0.667	7.06	1.667	18.33	2.667	6.73	3.67	4.51
0.750	8.83	1.750	13.63	2.750	6.18	3.75	4.29
0.833	8.83	1.833	13.63	2.833	6.18	3.83	4.29
0.917	12.33	1.917	11.06	2.917	5.73	3.92	4.10
1.000	12.33	2.000	11.06	3.000	5.73	4.00	4.10

Max.Eff.Inten.(mm/hr)=		121.03	43.17	
over (min)		5.00	15.00	
Storage Coeff. (min)=		1.96 (ii)	14.12 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.31	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.16	0.02	0.172 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	54.89	27.28	43.84
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89
RUNOFF COEFFICIENT	=	0.98	0.49	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0002) ID= 1 DT= 5.0 min	Area (ha)= 0.37 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22          0.15
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      49.67         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03         43.17
               over (min)         5.00         15.00
     Storage Coeff.  (min)=       1.56 (ii)    13.71 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.33          0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.07          0.01       0.080 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.50        1.33
     RUNOFF VOLUME    (mm)=      54.89         27.28       43.83
     TOTAL RAINFALL   (mm)=      55.89         55.89       55.89
     RUNOFF COEFFICIENT   =       0.98          0.49        0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0001) |   Area    (ha)=   4.98
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.48          0.50
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     182.21         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03        547.31
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       3.39 (ii)     7.62 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.26          0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.80          0.51       1.281 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.42        1.33
     RUNOFF VOLUME    (mm)=      54.89         47.51       51.20
     TOTAL RAINFALL   (mm)=      55.89         55.89       55.89
     RUNOFF COEFFICIENT   =       0.98          0.85        0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64          0.56
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      89.44         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03         43.17
               over (min)         5.00         15.00
```

```
     Storage Coeff.  (min)=       2.21 (ii)   14.37 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.30         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.21         0.04          0.232 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      54.89        27.28          41.91
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.98         0.49           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12         0.10
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      38.30        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     121.03        43.17
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       1.33 (ii)   13.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.33         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.01          0.043 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      54.89        27.28          41.88
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.98         0.49           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0006) |   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.14         0.13
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      42.43        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     121.03        43.17
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       1.42 (ii)   13.57 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.33         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.01          0.053 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      54.89        27.28          41.89
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.98         0.49           0.75
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0001):	4.98	1.281	1.33	51.20
	+ ID2= 2 (0002):	0.37	0.080	1.33	43.83
	ID = 3 (0405):	5.35	1.361	1.33	50.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0405):	5.35	1.361	1.33	50.69
	+ ID2= 2 (0003):	0.80	0.172	1.33	43.84
	ID = 1 (0405):	6.15	1.534	1.33	49.80

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0405):	6.15	1.534	1.33	49.80
	+ ID2= 2 (0004):	1.20	0.232	1.33	41.91
	ID = 3 (0405):	7.35	1.766	1.33	48.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0405):	7.35	1.766	1.33	48.51
	+ ID2= 2 (0005):	0.22	0.043	1.33	41.88
	ID = 1 (0405):	7.57	1.809	1.33	48.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0405):	7.57	1.809	1.33	48.32
	+ ID2= 2 (0006):	0.27	0.053	1.33	41.89
	ID = 3 (0405):	7.84	1.862	1.33	48.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| RESERVOIR (0406) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3850      0.2160
                          0.0160     0.1495   |   0.5330      0.2339
                          0.1150     0.1748   |   0.6360      0.2453
                          0.2650     0.1997   |   0.7320      0.2554

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0405)      7.840      1.862      1.33      48.10
     OUTFLOW: ID= 1 (0406)      7.840      0.360      1.83      47.79

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.35
                    TIME SHIFT OF PEAK FLOW         (min)= 30.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.2129

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  ***************************
  ** SIMULATION NUMBER:   4 **
  ***************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 804.454
| Ptotal= 64.68 mm |                          B=   1.501
--------------------                          C=   0.712
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                       The CORRELATION coefficient is = 0.9996

                        TIME       INPUT INT.           TAB. INT.
                       (min)        (mm/hr)              (mm/hr)
                          5.         228.80               212.16
                         10.         141.60               141.34
                         15.         107.10               109.30
                         30.          66.40                68.98
                         60.          41.20                42.84
                        120.          25.60                26.38
                        360.          12.10                12.14
                        720.           7.50                 7.42
                       1440.           4.70                 4.53


                    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                    0.17    5.30 |  1.17   28.45 |  2.17   10.83 |  3.17    6.14
                    0.33    5.95 |  1.33  141.34 |  2.33    9.50 |  3.33    5.77
                    0.50    6.83 |  1.50   35.79 |  2.50    8.50 |  3.50    5.45
                    0.67    8.10 |  1.67   21.14 |  2.67    7.72 |  3.67    5.17
                    0.83   10.16 |  1.83   15.70 |  2.83    7.09 |  3.83    4.92
                    1.00   14.20 |  2.00   12.73 |  3.00    6.58 |  4.00    4.70


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--------------------
| CALIB            |
| STANDHYD  (0003) |   Area    (ha)=   0.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.48          0.32
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      73.03         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.30	1.083	28.45	2.083	10.83	3.08	6.14
0.167	5.30	1.167	28.45	2.167	10.83	3.17	6.14
0.250	5.95	1.250	141.34	2.250	9.50	3.25	5.77
0.333	5.95	1.333	141.34	2.333	9.50	3.33	5.77
0.417	6.83	1.417	35.79	2.417	8.50	3.42	5.45
0.500	6.83	1.500	35.79	2.500	8.50	3.50	5.45
0.583	8.10	1.583	21.14	2.583	7.72	3.58	5.17
0.667	8.10	1.667	21.14	2.667	7.72	3.67	5.17
0.750	10.16	1.750	15.70	2.750	7.09	3.75	4.92
0.833	10.16	1.833	15.70	2.833	7.09	3.83	4.92
0.917	14.20	1.917	12.73	2.917	6.58	3.92	4.70
1.000	14.20	2.000	12.73	3.000	6.58	4.00	4.70

Max.Eff.Inten.(mm/hr)=	141.34	72.23	
over (min)	5.00	15.00	
Storage Coeff. (min)=	1.84 (ii)	11.74 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.32	0.09	
			TOTALS
PEAK FLOW (cms)=	0.19	0.04	0.206 (iii)
TIME TO PEAK (hrs)=	1.33	1.50	1.33
RUNOFF VOLUME (mm)=	63.68	34.42	51.97
TOTAL RAINFALL (mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT =	0.98	0.53	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0002)
ID= 1 DT= 5.0 min

Area (ha)= 0.37
Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		0.22	0.15
Dep. Storage (mm)=		1.00	6.00
Average Slope (%)=		1.00	1.00
Length (m)=		49.67	40.00
Mannings n =		0.013	0.250

Max.Eff.Inten.(mm/hr)=	141.34	72.23	
over (min)	5.00	15.00	
Storage Coeff. (min)=	1.46 (ii)	11.36 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.33	0.09	
			TOTALS
PEAK FLOW (cms)=	0.09	0.02	0.095 (iii)
TIME TO PEAK (hrs)=	1.33	1.50	1.33
RUNOFF VOLUME (mm)=	63.68	34.42	51.96
TOTAL RAINFALL (mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT =	0.98	0.53	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0001)
ID= 1 DT= 5.0 min

Area (ha)= 4.98
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.48          0.50
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=     182.21         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     141.34        652.15
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       3.19 (ii)     7.16 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.27          0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.94          0.62          1.534 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.42           1.33
     RUNOFF VOLUME    (mm)=      63.68         56.16          59.92
     TOTAL RAINFALL   (mm)=      64.68         64.68          64.68
     RUNOFF COEFFICIENT   =       0.98          0.87           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0004)  |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64          0.56
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      89.44         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     141.34         72.23
               over (min)         5.00         15.00
     Storage Coeff.  (min)=       2.08 (ii)    11.98 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.31          0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.25          0.06          0.279 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.50           1.33
     RUNOFF VOLUME    (mm)=      63.68         34.42          49.92
     TOTAL RAINFALL   (mm)=      64.68         64.68          64.68
     RUNOFF COEFFICIENT   =       0.98          0.53           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0005)  |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12          0.10
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      38.30         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     141.34         72.23
               over (min)         5.00         15.00
```

```
     Storage Coeff.  (min)=       1.25 (ii)   11.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.33         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.01         0.052 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50          1.33
     RUNOFF VOLUME    (mm)=      63.68        34.42         49.89
     TOTAL RAINFALL   (mm)=      64.68        64.68         64.68
     RUNOFF COEFFICIENT   =       0.98         0.53          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0006) |   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.14         0.13
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      42.43        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34        72.23
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       1.33 (ii)   11.23 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.33         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.01         0.063 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50          1.33
     RUNOFF VOLUME    (mm)=      63.68        34.42         49.91
     TOTAL RAINFALL   (mm)=      64.68        64.68         64.68
     RUNOFF COEFFICIENT   =       0.98         0.53          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):     4.98   1.534     1.33    59.92
       + ID2= 2 (0002):     0.37   0.095     1.33    51.96
         ================================================
         ID = 3 (0405):     5.35   1.629     1.33    59.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0405) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0405):     5.35   1.629     1.33    59.37
       + ID2= 2 (0003):     0.80   0.206     1.33    51.97
         ================================================
         ID = 1 (0405):     6.15   1.835     1.33    58.41
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0405):	6.15	1.835	1.33	58.41
	+ ID2= 2 (0004):	1.20	0.279	1.33	49.92
	ID = 3 (0405):	7.35	2.114	1.33	57.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0405):	7.35	2.114	1.33	57.02
	+ ID2= 2 (0005):	0.22	0.052	1.33	49.89
	ID = 1 (0405):	7.57	2.166	1.33	56.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0405)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0405):	7.57	2.166	1.33	56.81
	+ ID2= 2 (0006):	0.27	0.063	1.33	49.91
	ID = 3 (0405):	7.84	2.229	1.33	56.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0406)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.3850	0.2160
0.0160	0.1495	0.5330	0.2339
0.1150	0.1748	0.6360	0.2453
0.2650	0.1997	0.7320	0.2554

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0405)	7.840	2.229	1.33	56.58
OUTFLOW: ID= 1 (0406)	7.840	0.535	1.67	56.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.99
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.2347

****
** SIMULATION NUMBER: 5 **
****

CHICAGO STORM
Ptotal= 71.55 mm

IDF curve parameters: A= 889.943
B= 1.500
C= 0.712
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	253.20	234.73
10.	156.70	156.37
15.	118.40	120.92
30.	73.40	76.31
60.	45.50	47.39
120.	28.20	29.18
360.	13.30	13.43
720.	8.30	8.21
1440.	5.20	5.02

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.87	1.17	31.47	2.17	11.98	3.17	6.80
0.33	6.58	1.33	156.37	2.33	10.51	3.33	6.39
0.50	7.55	1.50	39.59	2.50	9.40	3.50	6.03
0.67	8.96	1.67	23.39	2.67	8.54	3.67	5.72
0.83	11.23	1.83	17.36	2.83	7.85	3.83	5.44
1.00	15.71	2.00	14.09	3.00	7.28	4.00	5.20

CALIB STANDHYD (0003) ID= 1 DT= 5.0 min	Area (ha)= 0.80 Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.87	1.083	31.47	2.083	11.98	3.08	6.80
0.167	5.87	1.167	31.47	2.167	11.98	3.17	6.80
0.250	6.58	1.250	156.37	2.250	10.51	3.25	6.39
0.333	6.58	1.333	156.37	2.333	10.51	3.33	6.39
0.417	7.55	1.417	39.59	2.417	9.40	3.42	6.03
0.500	7.55	1.500	39.59	2.500	9.40	3.50	6.03
0.583	8.96	1.583	23.39	2.583	8.54	3.58	5.72
0.667	8.96	1.667	23.39	2.667	8.54	3.67	5.72
0.750	11.23	1.750	17.36	2.750	7.85	3.75	5.44
0.833	11.23	1.833	17.36	2.833	7.85	3.83	5.44
0.917	15.71	1.917	14.09	2.917	7.28	3.92	5.20
1.000	15.71	2.000	14.09	3.000	7.28	4.00	5.20

Max.Eff.Inten.(mm/hr)=		156.37	85.87	
over (min)		5.00	15.00	
Storage Coeff. (min)=		1.77 (ii)	11.00 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.32	0.09	
				TOTALS
PEAK FLOW	(cms)=	0.21	0.04	0.230 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	70.55	40.20	58.40
TOTAL RAINFALL	(mm)=	71.55	71.55	71.55
RUNOFF COEFFICIENT	=	0.99	0.56	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

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          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0002) |   Area    (ha)=   0.37
|ID= 1 DT= 5.0 min |   Total Imp(%)=  60.00   Dir. Conn.(%)=  60.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.22         0.15
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      49.67        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37        85.87
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       1.40 (ii)   10.64 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.33         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.02          0.107 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      70.55        40.20          58.39
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.56           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area    (ha)=   4.98
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.48         0.50
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     182.21        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37       730.02
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.06 (ii)    6.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.27         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.05         0.70          1.723 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      70.55        62.95          66.75
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.88           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
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```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64          0.56
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      89.44         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     156.37         85.87
               over (min)         5.00         15.00
     Storage Coeff.  (min)=       2.00 (ii)    11.23 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.31          0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.27          0.07          0.314 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.50           1.33
     RUNOFF VOLUME    (mm)=      70.55         40.20          56.28
     TOTAL RAINFALL   (mm)=      71.55         71.55          71.55
     RUNOFF COEFFICIENT   =       0.99          0.56           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.12          0.10
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      38.30         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     156.37         85.87
               over (min)         5.00         15.00
     Storage Coeff.  (min)=       1.20 (ii)    10.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.33          0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05          0.01          0.058 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.50           1.33
     RUNOFF VOLUME    (mm)=      70.55         40.20          56.25
     TOTAL RAINFALL   (mm)=      71.55         71.55          71.55
     RUNOFF COEFFICIENT   =       0.99          0.56           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0006) |   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.14          0.13
     Dep. Storage     (mm)=       1.00          6.00
     Average Slope     (%)=       1.00          1.00
     Length            (m)=      42.43         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     156.37         85.87
               over (min)         5.00         15.00
```

```
     Storage Coeff.  (min)=       1.28 (ii)   10.51 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.33         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.02          0.071 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      70.55        40.20          56.27
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.56           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0001):     4.98   1.723     1.33    66.75
       + ID2= 2 (0002):     0.37   0.107     1.33    58.39
         ================================================
         ID = 3 (0405):     5.35   1.830     1.33    66.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0405):     5.35   1.830     1.33    66.17
       + ID2= 2 (0003):     0.80   0.230     1.33    58.40
         ================================================
         ID = 1 (0405):     6.15   2.061     1.33    65.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0405):     6.15   2.061     1.33    65.16
       + ID2= 2 (0004):     1.20   0.314     1.33    56.28
         ================================================
         ID = 3 (0405):     7.35   2.374     1.33    63.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0405):     7.35   2.374     1.33    63.71
       + ID2= 2 (0005):     0.22   0.058     1.33    56.25
         ================================================
         ID = 1 (0405):     7.57   2.433     1.33    63.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0405):	7.57	2.433	1.33	63.50
+ ID2= 2 (0006):	0.27	0.071	1.33	56.27
ID = 3 (0405):	7.84	2.504	1.33	63.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0406)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.3850	0.2160
	0.0160	0.1495	0.5330	0.2339
	0.1150	0.1748	0.6360	0.2453
	0.2650	0.1997	0.7320	0.2554

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0405)	7.840	2.504	1.33	63.25
OUTFLOW: ID= 1 (0406)	7.840	0.682	1.67	62.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.23
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.2508

****
** SIMULATION NUMBER: 6 **
****

CHICAGO STORM	
Ptotal= 77.58 mm	IDF curve parameters: A= 980.886
	B= 1.508
	C= 0.715

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	277.00	257.04
10.	171.40	171.00
15.	129.50	132.12
30.	80.20	83.22
60.	49.70	51.59
120.	30.80	31.70
360.	14.50	14.54
720.	9.00	8.87
1440.	5.60	5.41

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.30	1.17	34.10	2.17	12.91	3.17	7.30
0.33	7.07	1.33	171.00	2.33	11.31	3.33	6.86
0.50	8.12	1.50	42.95	2.50	10.12	3.50	6.47
0.67	9.64	1.67	25.29	2.67	9.19	3.67	6.14
0.83	12.10	1.83	18.74	2.83	8.44	3.83	5.84
1.00	16.95	2.00	15.19	3.00	7.82	4.00	5.58

CALIB		
STANDHYD (0003)	Area (ha)= 0.80	
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00	Dir. Conn.(%)= 60.00

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	0.48	0.32
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	73.03	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.30	1.083	34.10	2.083	12.91	3.08	7.30
0.167	6.30	1.167	34.10	2.167	12.91	3.17	7.30
0.250	7.07	1.250	171.00	2.250	11.31	3.25	6.86
0.333	7.07	1.333	171.00	2.333	11.31	3.33	6.86
0.417	8.12	1.417	42.95	2.417	10.12	3.42	6.47
0.500	8.12	1.500	42.95	2.500	10.12	3.50	6.47
0.583	9.64	1.583	25.29	2.583	9.19	3.58	6.14
0.667	9.64	1.667	25.29	2.667	9.19	3.67	6.14
0.750	12.10	1.750	18.74	2.750	8.44	3.75	5.84
0.833	12.10	1.833	18.74	2.833	8.44	3.83	5.84
0.917	16.95	1.917	15.19	2.917	7.82	3.92	5.58
1.000	16.95	2.000	15.19	3.000	7.82	4.00	5.58

Max.Eff.Inten.(mm/hr)=		171.00	99.04
over (min)		5.00	15.00
Storage Coeff. (min)=		1.71 (ii)	10.43 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.32	0.09
			TOTALS
PEAK FLOW	(cms)=	0.23	0.05	0.254 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	76.58	45.37	64.09
TOTAL RAINFALL	(mm)=	77.58	77.58	77.58
RUNOFF COEFFICIENT	=	0.99	0.58	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0002)	Area (ha)= 0.37
ID= 1 DT= 5.0 min	Total Imp(%)= 60.00 Dir. Conn.(%)= 60.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.22	0.15
Dep. Storage	(mm)=	1.00	6.00
Average Slope	(%)=	1.00	1.00
Length	(m)=	49.67	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		171.00	99.04
over (min)		5.00	15.00
Storage Coeff. (min)=		1.35 (ii)	10.08 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.33	0.10
			TOTALS
PEAK FLOW	(cms)=	0.11	0.02	0.118 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	76.58	45.37	64.08
TOTAL RAINFALL	(mm)=	77.58	77.58	77.58
RUNOFF COEFFICIENT	=	0.99	0.58	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 86.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

```
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0001) |   Area    (ha)=   4.98
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.48         0.50
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=     182.21        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00       804.97
               over (min)          5.00        10.00
     Storage Coeff.  (min)=       2.95 (ii)    6.64 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.28         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.15         0.78          1.907 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      76.58        68.91          72.74
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.99         0.89           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0004) |   Area    (ha)=   1.20
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.56
     Dep. Storage     (mm)=       1.00         6.00
     Average Slope     (%)=       1.00         1.00
     Length            (m)=      89.44        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00        99.04
               over (min)          5.00        15.00
     Storage Coeff.  (min)=       1.93 (ii)   10.65 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.31         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.30         0.09          0.348 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      76.58        45.37          61.90
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.99         0.58           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0005) |   Area    (ha)=   0.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
```

```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          0.12           0.10
     Dep. Storage     (mm)=          1.00           6.00
     Average Slope     (%)=          1.00           1.00
     Length            (m)=         38.30          40.00
     Mannings n           =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=        171.00          99.04
               over (min)           5.00          10.00
     Storage Coeff.  (min)=          1.16 (ii)      9.88 (ii)
     Unit Hyd. Tpeak (min)=          5.00          10.00
     Unit Hyd. peak  (cms)=          0.34           0.11
                                                          *TOTALS*
     PEAK FLOW       (cms)=          0.06           0.02          0.070 (iii)
     TIME TO PEAK    (hrs)=          1.33           1.42           1.33
     RUNOFF VOLUME    (mm)=         76.58          45.37          61.88
     TOTAL RAINFALL   (mm)=         77.58          77.58          77.58
     RUNOFF COEFFICIENT   =          0.99           0.58           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0006) |   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  53.00   Dir. Conn.(%)=  53.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=          0.14           0.13
     Dep. Storage     (mm)=          1.00           6.00
     Average Slope     (%)=          1.00           1.00
     Length            (m)=         42.43          40.00
     Mannings n           =         0.013          0.250

     Max.Eff.Inten.(mm/hr)=        171.00          99.04
               over (min)           5.00          10.00
     Storage Coeff.  (min)=          1.23 (ii)      9.95 (ii)
     Unit Hyd. Tpeak (min)=          5.00          10.00
     Unit Hyd. peak  (cms)=          0.33           0.11
                                                          *TOTALS*
     PEAK FLOW       (cms)=          0.07           0.02          0.085 (iii)
     TIME TO PEAK    (hrs)=          1.33           1.42           1.33
     RUNOFF VOLUME    (mm)=         76.58          45.37          61.89
     TOTAL RAINFALL   (mm)=         77.58          77.58          77.58
     RUNOFF COEFFICIENT   =          0.99           0.58           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  86.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0001):     4.98   1.907     1.33    72.74
        + ID2= 2 (0002):     0.37   0.118     1.33    64.08
          ================================================
          ID = 3 (0405):     5.35   2.025     1.33    72.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD   (0405) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0405):     5.35   2.025     1.33    72.14
       + ID2= 2 (0003):     0.80   0.254     1.33    64.09
         ================================================
         ID = 1 (0405):     6.15   2.280     1.33    71.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0405):     6.15   2.280     1.33    71.10
       + ID2= 2 (0004):     1.20   0.348     1.33    61.90
         ================================================
         ID = 3 (0405):     7.35   2.628     1.33    69.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0405):     7.35   2.628     1.33    69.59
       + ID2= 2 (0005):     0.22   0.070     1.33    61.88
         ================================================
         ID = 1 (0405):     7.57   2.697     1.33    69.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0405) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0405):     7.57   2.697     1.33    69.37
       + ID2= 2 (0006):     0.27   0.085     1.33    61.89
         ================================================
         ID = 3 (0405):     7.84   2.783     1.33    69.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0406) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.3850      0.2160
                          0.0160     0.1495   |   0.5330      0.2339
                          0.1150     0.1748   |   0.6360      0.2453
                          0.2650     0.1997   |   0.7320      0.2554

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0405)      7.840      2.783      1.33      69.11
     OUTFLOW: ID= 1 (0406)      7.840      0.824      1.58      68.81

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.63
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2655

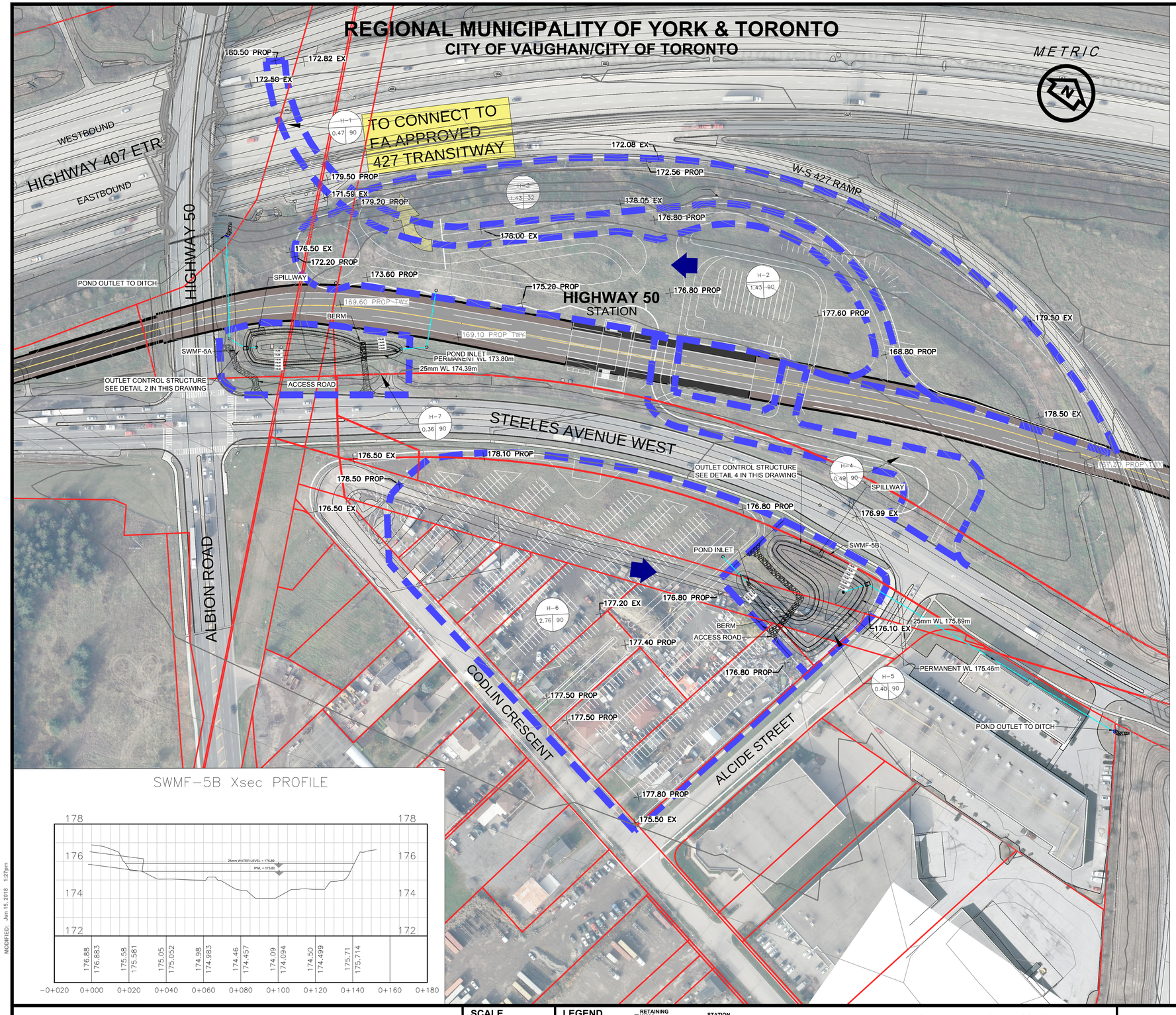
--------------------------------------------------------------------------------

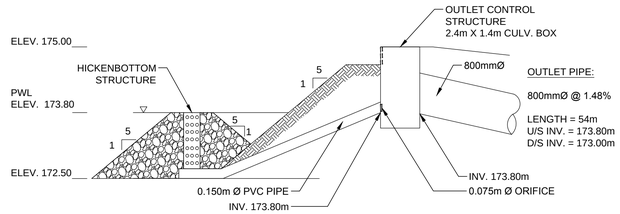
 FINISH
================================================================================
====================
```

HWY 50 STATION

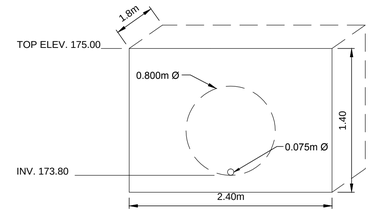
REGIONAL MUNICIPALITY OF YORK & TORONTO
CITY OF VAUGHAN/CITY OF TORONTO

METRIC





DETAIL 1 - SWMF-5A: HICKENBOTTOM DRAIN DETAIL
N.T.S.



DETAIL 2 - SWMF-5A OUTLET CONTROL STRUCTURE
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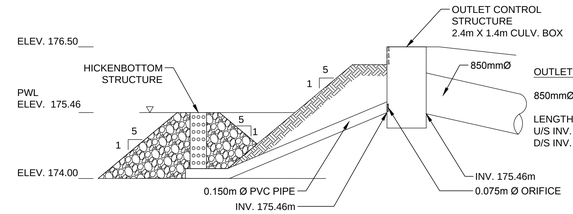

DETAIL 3 - SWMF-5B: HICKENBOTTOM DRAIN DETAIL
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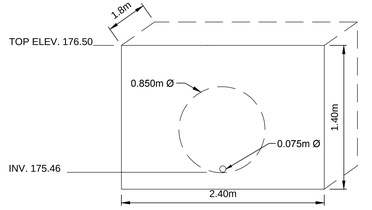
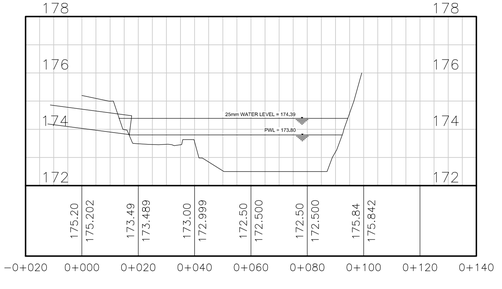


DETAIL 4 - SWMF-5B OUTLET CONTROL STRUCTURE
N.T.S.

SWMF-5B Xsec PROFILE

SWMF-5A Xsec PROFILE



Ontario PARSONS IBI GROUP

SCALE
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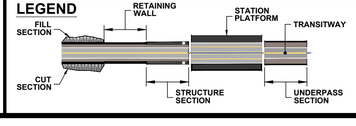
LEGEND



407 TWY BOUNDARY IN DRAINAGE ANALYSIS
PROPERTY LINE
FLOW DIRECTION
OVF
AREA ID
AREA (ha) 98-1 0.44 90 % IMPERVIOUS

407 TRANSITWAY
WEST OF HURONTARIO ROAD TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
HIGHWAY 50 STATION

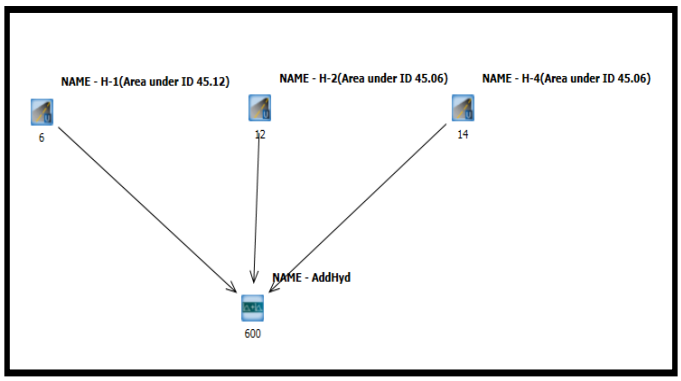
DRAWING SET
STATION DRAINAGE AREA MAP

PLATE
F-5

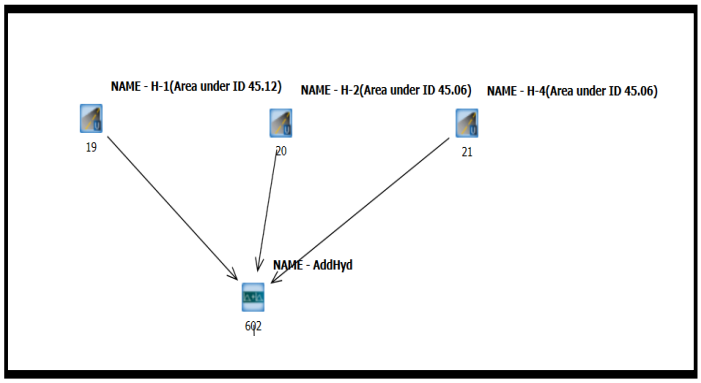
DATE
JULY. 2018

DRAWING NAME: \\XCCAN52FS01\Projects\Division\TTI\Drainage\602896 - 407_Transitway Huorontario\CAD\Design\Stations\HWY 50\Hwy 50 Station.dwg
MODIFIED: Jun 15, 2018 1:27pm
CREATED:

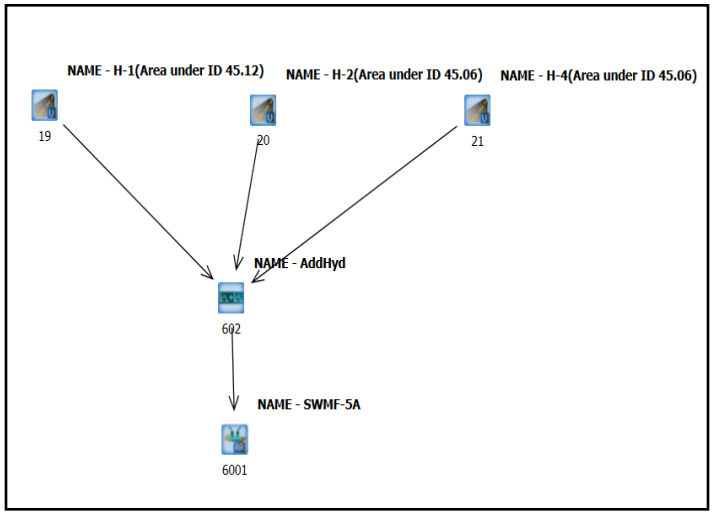
Visual OTTHYMO Modelling Schematic – HWY 50 Station SWMF-5A



Existing Condition



Proposed (Uncontrolled) Condition



Proposed (Controlled) Condition

HWY 50 Station Proposed SWMF-5A Hydrologic Analysis - Existing Condition

Input parameters

Proposed SWMF-5A is for the Bus Loop located within Subcatchment 45.12 and 45.06 - Humber Watershed

For modeling purposes, input parameters of Area 45.12 and 45.06 are used in VO2 (Standhyd)

ID	45.12	45.06
CN=	99	79.17
Ia=	5	5
Drainage area Total (ha)=	3.82	

2.75ha goes to pond. 1.43ha is pervious, and it cannot be made to pond, which is left as uncontrolled area

Table F.5A-a: HWY 50 Station Proposed SWMF-5A Hydrologic Analysis - Existing Condition

Return Period	VO2 ID 601	VO2 ID 602
	EX Qp-6hr AES (m^3/s)	EX Qp-Chicago 4hr (m^3/s)
2-yr 5-yr 10-yr 25-yr 50-yr 100-yr	No Quantity Control Required	No Quantity Control Required

HWY 50 Station Proposed SWMF-5A Hydrologic Analysis - Post-Development Condition

Table F.5A-b: HWY 50 Station Proposed SWMF-5A Hydrologic Analysis Post-Development Condition (12 hr AES)

12hr AES Return Period	**Allowable Release Rates** ID 601 (A = 2.75 ha)	**Post-Development Condition (Uncontrolled)** VO2 ID 603 (A = 2.75 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-6a POST-DEVELOPMENT CONDITION** VO2 ID 604 (A = 2.75 ha)		**Decrease from Allowable to Post-Dev Controlled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Used** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	No Quantity Control Required	0.236		753	0.010	No Quantity Control Required
5-yr		0.320		1043	0.012	
10-yr		0.377		1239	0.013	
25-yr		0.448		1485	0.015	
50-yr		0.501		1670	0.016	
100-yr		0.553		1853	0.017	

Table F.5A-c: HWY 50 Station Proposed SWMF-5A Hydrologic Analysis Post-Development Condition (4 hr Chicago)

4hr Chicago Return Period	**Allowable Release Rates** ID 602 (A = 2.75 ha)	**Post-Development Condition (Uncontrolled)** VO2 ID 605 (A = 2.75 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-6 POST-DEVELOPMENT CONDITION** VO2 ID 606 (A = 2.75 ha)		**Decrease from Allowable to Post-Dev Controlled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Used** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	No Quantity Control Required	0.521		821	0.011	No Quantity Control Required
5-yr		0.726		1096	0.012	
10-yr		0.847		1274	0.014	
25-yr		1.004		1498	0.015	
50-yr		1.120		1675	0.016	
100-yr		1.234		1829	0.017	

Table F.5A-d: HWY 50 Road Station Proposed SWMF-5A - Design Parameters

Pond Catchment Area 2.75 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Level 1	250	m^3/ha	Interpolated from Table 3.2 (MOECC)		
Extended	40	m^3/ha	(or 25mm rainfall event whichever greater)	*577.50*	m^3
25 mm Event From OTTHYMO	20.923	mm		*575.38*	m^3
% imperviousness	90	%			
Permanent Volume Required				*577.50*	m^3

~~**Quantity Control Required**~~

~~Total Volume required up to and including the 100 yr storm~~ ~~1,829.00~~ ~~m^3~~

~~Total Pond Volume Required~~ ~~(Permanent and Extended)~~ ~~2,406.50~~ ~~m^3~~

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	8	Minimum Forebay length	m
r	2	Length to width ratio	-
Qp	0.01	Peak flow rate from the pond during design quality storm	m^3/s
Vs	0.0003	settling velocity	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Minimum Width 1 m

Dist	10	Minimum Dispersion Length	
Q	0.85	Inlet Flow Rate	(10 year Storm)
d	1.3	Depth of the Permanent Pool	
Vf	0.5	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

Width = Dist/8 Width 1.30 m

Design Quality Storm MOECC Eq 4.9

$$i_{25} = 43C + 5.9$$

A	2.75	Area	
C	90	Runoff Coefficient	
i	44.6	Intensity	mm/hr
Qp	0.31	Flow Rational Method	

Flow Velocity Check

Qd	0.85	Inlet Flow Rate	m^3/s	
A	7.43	Crossectional Area	m^2	
Vfb	0.114	Flow Velocity	m/s	
	Yes	< 0.15		

Forebay Dimensions

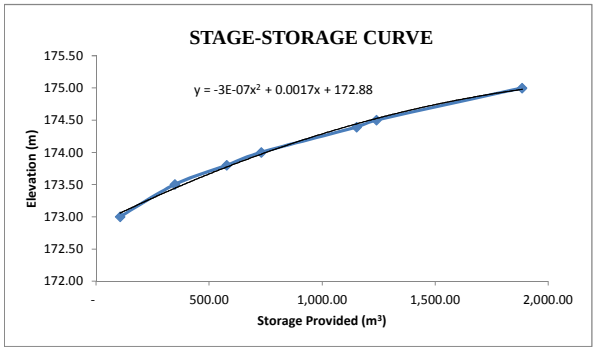
5:1	Average Side Slope	%
26.00	Top Length	m
15.00	Bottom Length	m
10.85	Average Top Width	m
4.00	Bottom Width	m
1.00	Average Depth of the Pool	m
171.10	Approximate Volume of the Pool	m^3
577.50	Total Permanent Pool Volume	m^3
0.30	Forebay/Total Volume Ratio	
150.00	Forebay Area	m^2
808.62	Total Permanent Pool Area	
0.19	Forebay/Total Area Ratio	
2.76	Average L/W Ratio Check	

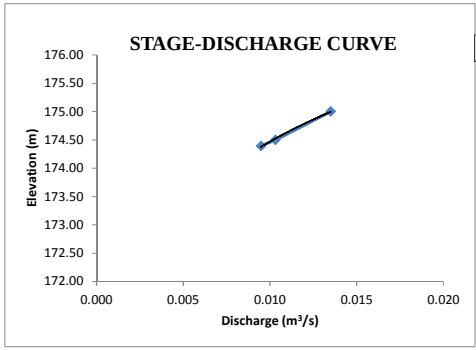
Forebay Cleanout Frequency

Ac	2.75	Contributing Area	(ha)	
Ds	0.6	Maximum Sediment Depth	(m)	
Vsf	113	Maximum Sediment Volume	(m3)	
a	90%	Impervious Level	%	
da	4.1	Annual Sediment Loading	(m^3/ha/yr)	(Table 6.3 MOECC Manual)
Fs	10.0	Forebay Cleanout Frequency	(years)	
	75%	Target Maintenance TSS Removal Efficiency		

Table F.5A-e: HWY 50 Station - Proposed SWMF-5A - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/ Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	Discharge Orifice 1 173.80 0.075	Discharge Total	Description
172.50		96.14	96.14									
173.00		329.27	329.27	212.7	106.35	106.35						
173.50	5.00	634.59	639.59	484.4	242.22	348.57						
173.80			808.62			***577.50***	-					**Permanent Water Level**
174.00	24.00	863.62	887.62	763.6	381.80	730.37	169.79					
174.39						***1,152.88***	575.38	0.59	0.0575	0.009	0.009	*25-mm*
174.50	80.00	1071.00	1,151.00	1019.3	509.66	1,240.03	686.06	0.70	0.0686	0.010	0.010	
175.00	150.00	1280.18	1,430.18	1290.6	645.30	1,885.32	1,331.35	1.20	0.1331	0.014	0.014	





$$Q = C_d A\sqrt{2gH}$$

Varies	Discharge	(m^3/s)
0.63	Discharge Coefficient	-
Varies	Area of Orifice	(m^2)
9.81	Gravitational Constant	(m/s^2)
Varies	Hydraulic Head	(m)

Table 5.A-f: HWY 50 Station- Proposed SWMF-5A
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	575	m^3
Orifice	0.07500	m	Initial Head:	0.59	m
Area	0.00442	m^2	Detention:	48.00	hrs
				2,880.00	min

FALLING HEAD EQUATION

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.5930	0.0095	2.85	575.38	572.53
5	0.5901	0.0095	2.84	572.53	569.69
10	0.5871	0.0094	2.83	569.69	566.86
15	0.5842	0.0094	2.83	566.86	564.03
20	0.5813	0.0094	2.82	564.03	561.21
25	0.5784	0.0094	2.81	561.21	558.40
30	0.5755	0.0094	2.81	558.40	555.59
35	0.5726	0.0093	2.80	555.59	552.80
40	0.5697	0.0093	2.79	552.80	550.00
45	0.5669	0.0093	2.78	550.00	547.22
50	0.5640	0.0093	2.78	547.22	544.44
55	0.5611	0.0092	2.77	544.44	541.67
60	0.5583	0.0092	2.76	541.67	538.91
65	0.5554	0.0092	2.76	538.91	536.15
70	0.5526	0.0092	2.75	536.15	533.40
75	0.5497	0.0091	2.74	533.40	530.66
80	0.5469	0.0091	2.74	530.66	527.92
85	0.5441	0.0091	2.73	527.92	525.20
90	0.5413	0.0091	2.72	525.20	522.48
95	0.5385	0.0090	2.71	522.48	519.76
100	0.5357	0.0090	2.71	519.76	517.05
		-- B R E A K --			-
1920	0.0009	0.0004	0.11	3.34	3.23
1925	0.0008	0.0003	0.10	3.23	3.13
1930	0.0007	0.0003	0.10	3.13	3.03
1935	0.0006	0.0003	0.09	3.03	2.94
1940	0.0005	0.0003	0.08	2.94	2.86
1945	0.0004	0.0002	0.07	2.86	2.79
1950	0.0003	0.0002	0.07	2.79	2.72
1955	0.0003	0.0002	0.06	2.72	2.66
1960	0.0002	0.0002	0.05	2.66	2.61
1965	0.0001	0.0001	0.04	2.61	2.57
1970	0.0001	0.0001	0.04	2.57	2.53
1975	0.0001	0.0001	0.03	2.53	2.50
1980	0.0000	0.0001	0.02	2.50	2.48
1985	0.0000	0.0000	0.01	2.48	2.47

Table F.5A-g: HWY 50 Station Proposed SWMF-5A Intlet Pipe Sizing

UP INV= 174.00 m
DS INV= 173.80 m
L= 13 m
SLOPE= 1.54 %

100-yr uncontrolled from the Site= 0.847 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.700	13.00	0.013	1.54	1.15	74%

Table F.5A-h: HWY 50 Station Proposed SWMF-5A Outlet Pipe Sizing

UP INV= 173.80 m
DS INV= 173.00 m
L= 54 m
SLOPE= 1.48 %

100-yr uncontrolled from the Site= 1.234 m^3/s

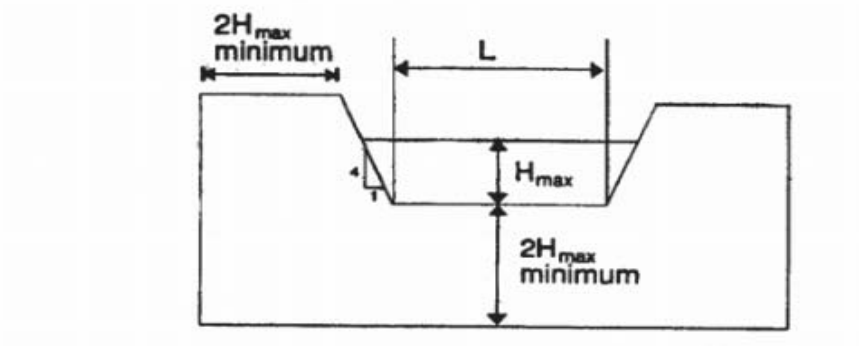
Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.800	54.00	0.013	1.48	1.61	77%

Table F.5A-i: HWY50 Station Proposed SWMF-5A Spillway

Trapezoidal Weir

Hmax=	0.3 m	2H=	0.6 m (MIN.)
Q=	0.553 m^3/s	or 2H=	1 m
L=	1.81 m		

Trapezoidal (Cipolletti)



$$0.1 < Q < 11\, m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

HWY 50 Station SWMF-5B Hydrologic Analysis - Existing Condition

Input parameters

Proposed HWY 50 Station SWMF-5B is located within Subcatchment 45.06 - Humber Watershed
For modeling purposes, input parameters of Area 45.06 are used in VO2 (Standhyd)

CN= 79.17
Ia= 5
Drainage area Total (ha)= 3.16

Table F.5B-a: HWY 50 Station SWMF-5B Hydrologic Analysis - Existing Condition

Return Period	VO2 ID 60 EX Qp-6hr AES (m^3/s)	VO2 ID 61 EX Qp-Chicago 4hr (m^3/s)
2-yr 5-yr 10-yr 25-yr 50-yr 100-yr	No Quantity Control Required	No Quantity Control Required

HWY 50 Station SWMF-5B Hydrologic Analysis - Post-Development Condition

Table F.5B-b: HWY 50 Station Proposed SWMF-5B Hydrologic Analysis Post-Development Condition (6 hr AES)

6hr AES Return Period	**Allowable Release Rates** ID 60 (A = 3.16 ha)	**Post-Development Condition (Uncontrolled)** VO2 ID 62 (A = 3.16 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-6 POST-DEVELOPMENT CONDITION** VO2 ID 600 (A = 3.16 ha)		**Decrease from Allowable to Post-Dev Controlled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Used** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	No Quantity Control Required	0.260		845	0.009	No Quantity Control Required
5-yr		0.358		1181	0.010	
10-yr		0.423		1409	0.011	
25-yr		0.505		1697	0.012	
50-yr		0.566		1913	0.013	
100-yr		0.627		2127	0.014	

Table F.5B-c: HWY 50 Station Proposed SWMF-5B Hydrologic Analysis Post-Development Condition (4 hr Chicago)

4hr Chicago Return Period	**Allowable Release Rates** ID 61 (A = 3.16 ha)	**Post-Development Condition (Uncontrolled)** VO2 ID 63 (A = 3.16 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-6 POST-DEVELOPMENT CONDITION** VO2 ID 601 (A = 3.16 ha)		**Decrease from Allowable to Post-Dev Controlled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Used** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	No Quantity Control Required	0.526		926	0.009	No Quantity Control Required
5-yr		0.719		1245	0.011	
10-yr		0.847		1452	0.011	
25-yr		1.097		1715	0.012	
50-yr		1.231		1922	0.013	
100-yr		1.360		2103	0.014	

Table F.5B-d: HWY 50 Road Station Proposed SWMF-5B - Design Parameters

Pond Catchment Area 3.16 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Level 1	250 m^3/ha	Interpolated from Table 3.2 (MOECC)			
Extended	40 m^3/ha	(or 25mm rainfall event whichever greater)	*663.60*	m^3	
25 mm Event From OTTHYMO	19.706 mm		*622.71*	m^3	
% imperviousness	90 %				
Permanent Volume Required			*663.60*	m^3	

~~Quantity Control Required~~

~~Total Volume required up to and including the 100 yr storm~~ ~~2,103.00~~ ~~m^3~~

~~Total Pond Volume Required~~ ~~(Permanent and Extended)~~ ~~2,766.60~~ ~~m^3~~

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	7	Minimum Forebay length	m
r	2	Length to width ratio	-
Qp	0.01	Peak flow rate from the pond during design quality storm	m^3/s
Vs	0.0003	settling velocity	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Minimum Width 1.163 m

Dist	9	Minimum Dispersion Length	
Q	0.85	Inlet Flow Rate	(10 year Storm)
d	1.5	Depth of the Permanent Pool	
Vf	0.5	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

Width = Dist/8 Width 1.16 m

Design Quality Storm MOECC Eq 4.9

$$i_{25} = 43C + 5.9$$

A	3.16	Area	
C	90	Runoff Coefficient	
i	44.6	Intensity	mm/hr
Qp	0.36	Flow Rational Method	

Flow Velocity Check

Qd	0.85	Inlet Flow Rate	m^3/s	
A	6.16	Crossectional Area	m^2	
Vfb	0.138	Flow Velocity	m/s	
	Yes	< 0.15		

Forebay Dimensions

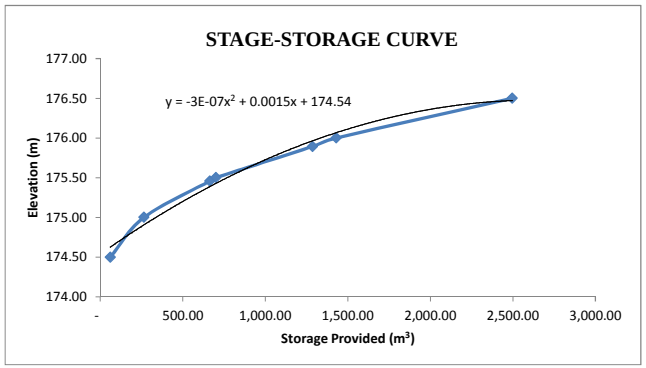
5:1	Average Side Slope	%	
30.00	Top Length	m	
20.00	Bottom Length	m	
14.00	Average Top Width	m	
3.60	Bottom Width	m	
0.70	Average Depth of the Pool	m	
172.20	Approximate Volume of the Pool	m^3	
663.60	Total Permanent Pool Volume	m^3	
0.26	Forebay/Total Volume Ratio		
389.56	Forebay Area	m^2	
1091.46	Total Permanent Pool Area		
0.36	Forebay/Total Area Ratio		
2.84	Average L/W Ratio Check		

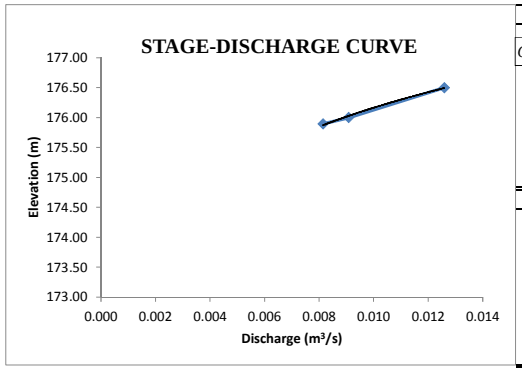
Forebay Cleanout Frequency

Ac	3.16	Contributing Area	(ha)
Ds	0.6	Maximum Sediment Depth	(m)
Vsf	130	Maximum Sediment Volume	(m3)
a	90%	Impervious Level	%
da	4.1	Annual Sediment Loading	(m^3/ha/yr) (Table 6.3 MOECC Manual)
Fs	10.0	Forebay Cleanout Frequency	(years)
	75%	Target Maintenance TSS Removal Efficiency	

Table F.5B-e: HWY 50 Station - Proposed SWMF-5B - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	Discharge Orifice 1 175.46 0.075	Discharge Total	Description
174.00		39.70	39.70									
174.50		205.17	205.17	122.4	61.22	61.22						
175.00		608.68	608.68	406.9	203.46	264.68						
175.46			1,091.46			***663.60***	-					**Permanent Water Level**
175.50	71.81	1064.97	1,136.78	872.7	436.36	701.05	47.80					
175.89						***1,286.31***	622.71	0.44	0.0623	0.008	0.008	*25-mm*
176.00	212.31	1562.96	1,775.27	1456.0	728.01	1,429.06	778.18	0.54	0.0778	0.009	0.009	
176.50	389.56	2102.66	2,492.22	2133.7	1,066.87	2,495.93	1,845.05	1.04	0.1845	0.013	0.013	





$$Q = C_d A\sqrt{2gH}$$

Varies	Discharge	(m^3/s)
0.63	Discharge Coefficient	-
Varies	Area of Orifice	(m^2)
9.81	Gravitational Constant	(m/s^2)
Varies	Hydraulic Head	(m)

Table F.5B-f: HWY 50 Station- Proposed SWMF 5B
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	623	m^3
Orifice	0.07500	m	Initial Head:	0.44	m
Area	0.00442	m^2	Detention:	48.00	hrs
				2,880.00	min

F A L L I N G H E A D E Q U A T I O N

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.4365	0.0081	2.44	622.71	620.27
5	0.4348	0.0081	2.44	620.27	617.83
10	0.4331	0.0081	2.43	617.83	615.39
15	0.4313	0.0081	2.43	615.39	612.96
20	0.4296	0.0081	2.42	612.96	610.54
25	0.4279	0.0081	2.42	610.54	608.12
30	0.4262	0.0080	2.41	608.12	605.71
35	0.4246	0.0080	2.41	605.71	603.30
40	0.4229	0.0080	2.41	603.30	600.89
45	0.4212	0.0080	2.40	600.89	598.49
50	0.4195	0.0080	2.40	598.49	596.10
55	0.4178	0.0080	2.39	596.10	593.70
60	0.4161	0.0080	2.39	593.70	591.32
65	0.4145	0.0079	2.38	591.32	588.94
70	0.4128	0.0079	2.38	588.94	586.56
75	0.4111	0.0079	2.37	586.56	584.19
80	0.4095	0.0079	2.37	584.19	581.82
85	0.4078	0.0079	2.36	581.82	579.46
90	0.4062	0.0079	2.36	579.46	577.10
95	0.4045	0.0078	2.35	577.10	574.75
100	0.4029	0.0078	2.35	574.75	572.40
		-- B R E A K --			-
2460	0.0002	0.0002	0.05	6.03	5.98
2465	0.0002	0.0002	0.05	5.98	5.94
2470	0.0001	0.0001	0.04	5.94	5.90
2475	0.0001	0.0001	0.04	5.90	5.86
2480	0.0001	0.0001	0.03	5.86	5.83
2485	0.0000	0.0001	0.03	5.83	5.81
2490	0.0000	0.0001	0.02	5.81	5.79
2495	0.0000	0.0000	0.01	5.79	5.77
2500	0.0000	0.0000	0.01	5.77	5.76

Table F.5B-g: HWY 50 Station Proposed SWMF-5B Inlet Pipe Sizing

UP INV= 175.80 m
DS INV= 175.46 m
L= 20 m
SLOPE= 1.70 %

100-yr uncontrolled from the Site= 0.847 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.700	20.00	0.013	1.70	1.21	70%

Table F.5B-h: HWY 50 Station Proposed SWMF-5B Outlet Pipe Sizing

UP INV= 175.46 m
DS INV= 173.00 m
L= 150 m
SLOPE= 1.64 %

100-yr uncontrolled from the Site= 1.36 m^3/s

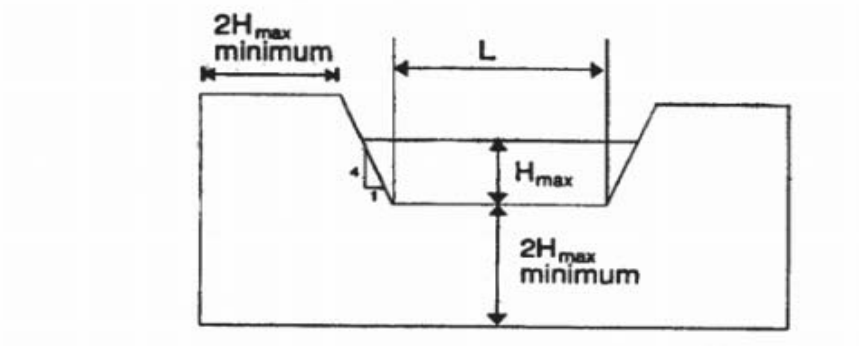
Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.850	150.00	0.013	1.64	1.99	68%

Table F.5B-i: HWY 50 Station Proposed SWMF-5B Spillway

Trapezoidal Weir

Hmax=	0.3 m	2H=	0.6 m (MIN.)
Q=	0.627 m^3/s	or 2H=	1 m
L=	2.06 m		

Trapezoidal (Cipolletti)



$$0.1 < Q < 11\, m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

```
================================================================================
====================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename:
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  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\9182bab4-eb54-427f-8d6d-dd269321b258\Scenario.sum


DATE: 06/15/2018                          TIME: 12:01:29

USER:


COMMENTS: _____________________________________________________________


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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|                  |              ata\Local\Temp\
|                  |              9182bab4-eb54-427f-8d6d-dd269321b258\1cbf7d28
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--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   12.24 |  3.75    5.04 |  5.50    0.72
                0.50    0.72 |  2.25   12.24 |  4.00    2.88 |  5.75    0.72
                0.75    0.72 |  2.50   33.12 |  4.25    2.88 |  6.00    0.72
                1.00    0.72 |  2.75   33.12 |  4.50    1.44 |  6.25    0.72
                1.25    0.72 |  3.00    9.36 |  4.75    1.44 |
                1.50    4.32 |  3.25    9.36 |  5.00    0.72 |
                1.75    4.32 |  3.50    5.04 |  5.25    0.72 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0022) |   Area    (ha)=   0.47
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.05
     Dep. Storage     (mm)=       1.00         5.00
```

Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.(mm/hr)=	33.12	********		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.73 (ii)	6.09 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.15		
			TOTALS	
PEAK FLOW (cms)=	0.02	0.02	0.043 (iii)	
TIME TO PEAK (hrs)=	2.67	2.75	2.75	
RUNOFF VOLUME (mm)=	35.00	34.49	34.74	
TOTAL RAINFALL (mm)=	36.00	36.00	36.00	
RUNOFF COEFFICIENT =	0.97	0.96	0.96	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0023) ID= 1 DT= 5.0 min	Area (ha)= 1.43 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	1.29	0.14	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	3.68	3.68	
Length	(m)=	97.64	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	********	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.65 (ii)	7.45 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.29	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.07	0.05	0.119 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	35.00	25.33	30.16
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.70	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0024)	Area (ha)= 0.49
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.44	0.05	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	3.68	3.68	
Length	(m)=	57.15	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	********	
over (min)		5.00	10.00	
Storage Coeff.	(min)=	1.92 (ii)	6.73 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.31	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.02	0.041 (iii)
TIME TO PEAK	(hrs)=	2.67	2.75	2.75
RUNOFF VOLUME	(mm)=	35.00	25.33	30.15
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.70	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0026)	Area (ha)= 0.36
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.32	0.04	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	5.06	5.06	
Length	(m)=	48.99	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		33.12	********	
over (min)		5.00	10.00	
Storage Coeff.	(min)=	1.59 (ii)	5.96 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.33	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.02	0.033 (iii)
TIME TO PEAK	(hrs)=	2.67	2.75	2.75
RUNOFF VOLUME	(mm)=	35.00	34.49	34.74
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.96	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0603) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0022):     0.47   0.043     2.75    34.74
        + ID2= 2 (0023):     1.43   0.119     2.75    30.16
          ================================================
          ID = 3 (0603):     1.90   0.162     2.75    31.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0603) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0603):     1.90   0.162     2.75    31.29
        + ID2= 2 (0024):     0.49   0.041     2.75    30.15
          ================================================
          ID = 1 (0603):     2.39   0.203     2.75    31.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0603) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0603):     2.39   0.203     2.75    31.06
        + ID2= 2 (0026):     0.36   0.033     2.75    34.74
          ================================================
          ID = 3 (0603):     2.75   0.236     2.75    31.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0604) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0140      0.1331
                          0.0090     0.0575   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0603)      2.750      0.236      2.75      31.54
     OUTFLOW: ID= 1 (0604)      2.750      0.010      4.75      30.95

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.32
                    TIME SHIFT OF PEAK FLOW         (min)=120.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0753

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--------------------
| CALIB            |
| STANDHYD  (0025) |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46          0.97
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       5.06          5.06
     Length            (m)=      97.64         40.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=      33.12         32.78
               over (min)         5.00         15.00
     Storage Coeff.  (min)=       2.41 (ii)    10.75 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.30          0.09
                                                          *TOTALS*
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     PEAK FLOW       (cms)=       0.04         0.08          0.121 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      35.00        28.67          30.66
     TOTAL RAINFALL   (mm)=      36.00        36.00          36.00
     RUNOFF COEFFICIENT   =       0.97         0.80           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   2 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              9182bab4-eb54-427f-8d6d-dd269321b258\68d12d84
| Ptotal= 47.81 mm |    Comments: 5yr/6hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   16.25 |  3.75    6.69 |  5.50    0.96
                0.50    0.96 |  2.25   16.25 |  4.00    3.82 |  5.75    0.96
                0.75    0.96 |  2.50   43.98 |  4.25    3.82 |  6.00    0.96
                1.00    0.96 |  2.75   43.98 |  4.50    1.91 |  6.25    0.96
                1.25    0.96 |  3.00   12.43 |  4.75    1.91 |
                1.50    5.74 |  3.25   12.43 |  5.00    0.96 |
                1.75    5.74 |  3.50    6.69 |  5.25    0.96 |

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--------------------
| CALIB            |
| STANDHYD  (0022) |   Area    (ha)=   0.47
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      55.98        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 1.667    5.74 | 3.250   12.43 |  4.83    0.96
                0.167    0.00 | 1.750    5.74 | 3.333    6.69 |  4.92    0.96
                0.250    0.00 | 1.833   16.25 | 3.417    6.69 |  5.00    0.96
                0.333    0.96 | 1.917   16.25 | 3.500    6.69 |  5.08    0.96
                0.417    0.96 | 2.000   16.25 | 3.583    6.69 |  5.17    0.96
                0.500    0.96 | 2.083   16.25 | 3.667    6.69 |  5.25    0.96
                0.583    0.96 | 2.167   16.25 | 3.750    6.69 |  5.33    0.96
                0.667    0.96 | 2.250   16.25 | 3.833    3.82 |  5.42    0.96
                0.750    0.96 | 2.333   43.98 | 3.917    3.82 |  5.50    0.96
                0.833    0.96 | 2.417   43.98 | 4.000    3.82 |  5.58    0.96
                0.917    0.96 | 2.500   43.98 | 4.083    3.82 |  5.67    0.96
                1.000    0.96 | 2.583   43.98 | 4.167    3.82 |  5.75    0.96
                1.083    0.96 | 2.667   43.98 | 4.250    3.82 |  5.83    0.96
                1.167    0.96 | 2.750   43.98 | 4.333    1.91 |  5.92    0.96
                1.250    0.96 | 2.833   12.43 | 4.417    1.91 |  6.00    0.96
                1.333    5.74 | 2.917   12.43 | 4.500    1.91 |  6.08    0.96
                1.417    5.74 | 3.000   12.43 | 4.583    1.91 |  6.17    0.96
                1.500    5.74 | 3.083   12.43 | 4.667    1.91 |  6.25    0.96
                1.583    5.74 | 3.167   12.43 | 4.750    1.91 |
```

```
     Max.Eff.Inten.(mm/hr)=      43.98     ********
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       1.54 (ii)    5.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.33          0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03          0.03          0.057 (iii)
     TIME TO PEAK    (hrs)=       2.67          2.75           2.75
     RUNOFF VOLUME    (mm)=      46.81         46.30          46.55
     TOTAL RAINFALL   (mm)=      47.81         47.81          47.81
     RUNOFF COEFFICIENT   =       0.98          0.97           0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0023) |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.29          0.14
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       3.68          3.68
     Length            (m)=      97.64         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      43.98     ********
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       2.37 (ii)    6.65 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.30          0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09          0.08          0.163 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      46.81         36.41          41.61
     TOTAL RAINFALL   (mm)=      47.81         47.81          47.81
     RUNOFF COEFFICIENT   =       0.98          0.76           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0024) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44          0.05
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       3.68          3.68
     Length            (m)=      57.15         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=      43.98     ********
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       1.72 (ii)    6.00 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.32          0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03          0.03          0.056 (iii)
     TIME TO PEAK    (hrs)=       2.67          2.75           2.75
```

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     RUNOFF VOLUME    (mm)=      46.81        36.41          41.60
     TOTAL RAINFALL   (mm)=      47.81        47.81          47.81
     RUNOFF COEFFICIENT   =       0.98         0.76           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      43.98     ********
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.42 (ii)    5.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02          0.044 (iii)
     TIME TO PEAK    (hrs)=       2.58         2.75           2.75
     RUNOFF VOLUME    (mm)=      46.81        46.30          46.55
     TOTAL RAINFALL   (mm)=      47.81        47.81          47.81
     RUNOFF COEFFICIENT   =       0.98         0.97           0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0022):     0.47   0.057     2.75    46.55
       + ID2= 2 (0023):     1.43   0.163     2.75    41.61
         ================================================
         ID = 3 (0603):     1.90   0.220     2.75    42.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0603) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0603):     1.90   0.220     2.75    42.83
       + ID2= 2 (0024):     0.49   0.056     2.75    41.60
         ================================================
         ID = 1 (0603):     2.39   0.276     2.75    42.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0603) |
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```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0603):     2.39   0.276     2.75    42.58
       + ID2= 2 (0026):     0.36   0.044     2.75    46.55
         ================================================
         ID = 3 (0603):     2.75   0.320     2.75    43.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0604) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0140      0.1331
                          0.0090     0.0575   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0603)      2.750      0.320      2.75      43.10
     OUTFLOW: ID= 1 (0604)      2.750      0.012      4.83      42.51

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.78
                    TIME SHIFT OF PEAK FLOW         (min)=125.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1043

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0025) |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.97
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      97.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      43.98        43.86
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.15 (ii)    9.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.11
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.11        0.168 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75         2.75
     RUNOFF VOLUME    (mm)=      46.81        40.43        42.44
     TOTAL RAINFALL   (mm)=      47.81        47.81        47.81
     RUNOFF COEFFICIENT   =       0.98         0.85         0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   3 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              9182bab4-eb54-427f-8d6d-dd269321b258\7f60f75d
| Ptotal= 55.69 mm |    Comments: 10yr/6hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   18.94 |  3.75    7.80 |  5.50    1.11
```

0.50	1.11	2.25	18.94	4.00	4.46	5.75	1.11
0.75	1.11	2.50	51.24	4.25	4.46	6.00	1.11
1.00	1.11	2.75	51.24	4.50	2.23	6.25	1.11
1.25	1.11	3.00	14.48	4.75	2.23		
1.50	6.68	3.25	14.48	5.00	1.11		
1.75	6.68	3.50	7.80	5.25	1.11		

CALIB
STANDHYD (0022)
ID= 1 DT= 5.0 min

Area (ha)= 0.47
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.42	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

Max.Eff.Inten.(mm/hr)=	51.24	********		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.45 (ii)	5.12 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.33	0.16		
				TOTALS
PEAK FLOW (cms)=	0.03	0.03		0.067 (iii)
TIME TO PEAK (hrs)=	2.67	2.75		2.75
RUNOFF VOLUME (mm)=	54.69	54.18		54.43
TOTAL RAINFALL (mm)=	55.69	55.69		55.69
RUNOFF COEFFICIENT =	0.98	0.97		0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0023)
ID= 1 DT= 5.0 min

Area (ha)= 1.43
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.29	0.14

```
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      97.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      51.24     ********
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.23 (ii)    6.26 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.09          0.193 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69        43.95          49.32
     TOTAL RAINFALL   (mm)=      55.69        55.69          55.69
     RUNOFF COEFFICIENT   =       0.98         0.79           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0024) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      57.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      51.24     ********
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.61 (ii)    5.65 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03          0.066 (iii)
     TIME TO PEAK    (hrs)=       2.67         2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69        43.95          49.31
     TOTAL RAINFALL   (mm)=      55.69        55.69          55.69
     RUNOFF COEFFICIENT   =       0.98         0.79           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      51.24     ********
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.34 (ii)    5.00 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
```

```
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03          0.051 (iii)
     TIME TO PEAK    (hrs)=       2.58         2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69        54.18          54.43
     TOTAL RAINFALL   (mm)=      55.69        55.69          55.69
     RUNOFF COEFFICIENT   =       0.98         0.97           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0022):     0.47   0.067     2.75    54.43
       + ID2= 2 (0023):     1.43   0.193     2.75    49.32
         ================================================
         ID = 3 (0603):     1.90   0.260     2.75    50.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD   (0603) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0603):     1.90   0.260     2.75    50.58
       + ID2= 2 (0024):     0.49   0.066     2.75    49.31
         ================================================
         ID = 1 (0603):     2.39   0.326     2.75    50.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0603):     2.39   0.326     2.75    50.32
       + ID2= 2 (0026):     0.36   0.051     2.75    54.43
         ================================================
         ID = 3 (0603):     2.75   0.377     2.75    50.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0604) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0140      0.1331
                          0.0090     0.0575   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0603)      2.750      0.377      2.75      50.86
     OUTFLOW: ID= 1 (0604)      2.750      0.013      4.83      50.27

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.55
                    TIME SHIFT OF PEAK FLOW         (min)=125.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1239

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```
| CALIB             |
| STANDHYD  (0025) |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.97
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      97.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      51.24        51.22
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.02 (ii)    9.00 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.12
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.13          0.197 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      54.69        48.29          50.30
     TOTAL RAINFALL   (mm)=      55.69        55.69          55.69
     RUNOFF COEFFICIENT   =       0.98         0.87           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   4 **
  ****************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              9182bab4-eb54-427f-8d6d-dd269321b258\86872f55
| Ptotal= 65.59 mm |    Comments: 25yr/6hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   22.30 |  3.75    9.18 |  5.50    1.31
                0.50    1.31 |  2.25   22.30 |  4.00    5.25 |  5.75    1.31
                0.75    1.31 |  2.50   60.35 |  4.25    5.25 |  6.00    1.31
                1.00    1.31 |  2.75   60.35 |  4.50    2.62 |  6.25    1.31
                1.25    1.31 |  3.00   17.06 |  4.75    2.62 |
                1.50    7.87 |  3.25   17.06 |  5.00    1.31 |
                1.75    7.87 |  3.50    9.18 |  5.25    1.31 |

--------------------------------------------------------------------------------

--------------------
| CALIB             |
| STANDHYD  (0022) |   Area    (ha)=   0.47
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      55.98        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    7.87 | 3.250   17.06 |  4.83    1.31
               0.167    0.00 | 1.750    7.87 | 3.333    9.18 |  4.92    1.31
```

0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)=	60.35	********		
over (min)	5.00	5.00		
Storage Coeff. (min)=	1.36 (ii)	4.79 (ii)		
Unit Hyd. Tpeak (min)=	5.00	5.00		
Unit Hyd. peak (cms)=	0.33	0.22		
			TOTALS	
PEAK FLOW (cms)=	0.04	0.04	0.079 (iii)	
TIME TO PEAK (hrs)=	2.58	2.75	2.75	
RUNOFF VOLUME (mm)=	64.59	64.08	64.33	
TOTAL RAINFALL (mm)=	65.59	65.59	65.59	
RUNOFF COEFFICIENT =	0.98	0.98	0.98	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0023)	Area (ha)=	1.43	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=		1.29	0.14	
Dep. Storage (mm)=		1.00	5.00	
Average Slope (%)=		3.68	3.68	
Length (m)=		97.64	40.00	
Mannings n =		0.013	0.250	
Max.Eff.Inten.(mm/hr)=		60.35	********	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.08 (ii)	5.86 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
			TOTALS	
PEAK FLOW (cms)=		0.12	0.11	0.230 (iii)
TIME TO PEAK (hrs)=		2.75	2.75	2.75
RUNOFF VOLUME (mm)=		64.59	53.52	59.05
TOTAL RAINFALL (mm)=		65.59	65.59	65.59
RUNOFF COEFFICIENT =		0.98	0.82	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0024)	Area (ha)=	0.49	

```
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      57.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      60.35     ********
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.51 (ii)    5.29 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.04          0.079 (iii)
     TIME TO PEAK    (hrs)=       2.67         2.75           2.75
     RUNOFF VOLUME    (mm)=      64.59        53.52          59.05
     TOTAL RAINFALL   (mm)=      65.59        65.59          65.59
     RUNOFF COEFFICIENT   =       0.98         0.82           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      60.35     ********
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.25 (ii)    4.69 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.22
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03          0.060 (iii)
     TIME TO PEAK    (hrs)=       2.58         2.75           2.75
     RUNOFF VOLUME    (mm)=      64.59        64.08          64.33
     TOTAL RAINFALL   (mm)=      65.59        65.59          65.59
     RUNOFF COEFFICIENT   =       0.98         0.98           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0603) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0022):     0.47   0.079     2.75    64.33
        + ID2= 2 (0023):     1.43   0.230     2.75    59.05
          ================================================
          ID = 3 (0603):     1.90   0.309     2.75    60.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD   (0603) |
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (0603):     1.90   0.309     2.75    60.36
        + ID2= 2 (0024):     0.49   0.079     2.75    59.05
          ================================================
          ID = 1 (0603):     2.39   0.388     2.75    60.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0603) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0603):     2.39   0.388     2.75    60.09
        + ID2= 2 (0026):     0.36   0.060     2.75    64.33
          ================================================
          ID = 3 (0603):     2.75   0.448     2.75    60.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR (0604) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0140      0.1331
                          0.0090     0.0575   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0603)      2.750      0.448      2.75      60.64
     OUTFLOW: ID= 1 (0604)      2.750      0.015      4.83      60.05

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.35
                    TIME SHIFT OF PEAK FLOW         (min)=125.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1485

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0025) |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.97
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      97.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      60.35        60.44
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.89 (ii)    8.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.16          0.234 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      64.59        58.17          60.19
     TOTAL RAINFALL   (mm)=      65.59        65.59          65.59
     RUNOFF COEFFICIENT   =       0.98         0.89           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

****
** SIMULATION NUMBER: 5 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\9182bab4-eb54-427f-8d6d-dd269321b258\c55f8fd2
Ptotal= 73.00 mm	Comments: 50yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	24.82	3.75	10.22	5.50	1.46
0.50	1.46	2.25	24.82	4.00	5.84	5.75	1.46
0.75	1.46	2.50	67.16	4.25	5.84	6.00	1.46
1.00	1.46	2.75	67.16	4.50	2.92	6.25	1.46
1.25	1.46	3.00	18.98	4.75	2.92		
1.50	8.76	3.25	18.98	5.00	1.46		
1.75	8.76	3.50	10.22	5.25	1.46		

CALIB STANDHYD (0022) ID= 1 DT= 5.0 min	Area (ha)= 0.47	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.42	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.	(mm/hr)=	67.16	********		
	over (min)	5.00	5.00		
Storage Coeff.	(min)=	1.30 (ii)	4.59 (ii)		
Unit Hyd. Tpeak	(min)=	5.00	5.00		
Unit Hyd. peak	(cms)=	0.33	0.23		
				TOTALS	
PEAK FLOW	(cms)=	0.04	0.04	0.088 (iii)	
TIME TO PEAK	(hrs)=	2.58	2.75	2.75	
RUNOFF VOLUME	(mm)=	72.00	71.49	71.74	
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00	
RUNOFF COEFFICIENT	=	0.99	0.98	0.98	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0023)	Area (ha)=	1.43			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	50.00	
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	1.29	0.14		
Dep. Storage	(mm)=	1.00	5.00		
Average Slope	(%)=	3.68	3.68		
Length	(m)=	97.64	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		67.16	********		
over (min)		5.00	10.00		
Storage Coeff. (min)=		2.00 (ii)	5.62 (ii)		
Unit Hyd. Tpeak (min)=		5.00	10.00		
Unit Hyd. peak (cms)=		0.31	0.15		
				TOTALS	
PEAK FLOW	(cms)=	0.13	0.12	0.258 (iii)	
TIME TO PEAK	(hrs)=	2.75	2.75	2.75	
RUNOFF VOLUME	(mm)=	72.00	60.73	66.36	
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00	
RUNOFF COEFFICIENT	=	0.99	0.83	0.91	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
STANDHYD (0024)	Area (ha)=	0.49			
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)=	50.00	
		IMPERVIOUS	PERVIOUS (i)		
Surface Area	(ha)=	0.44	0.05		
Dep. Storage	(mm)=	1.00	5.00		
Average Slope	(%)=	3.68	3.68		
Length	(m)=	57.15	40.00		
Mannings n	=	0.013	0.250		
Max.Eff.Inten.(mm/hr)=		67.16	********		
over (min)		5.00	10.00		
Storage Coeff. (min)=		1.45 (ii)	5.07 (ii)		
Unit Hyd. Tpeak (min)=		5.00	10.00		
Unit Hyd. peak (cms)=		0.33	0.16		
				TOTALS	
PEAK FLOW	(cms)=	0.05	0.04	0.088 (iii)	
TIME TO PEAK	(hrs)=	2.67	2.75	2.75	
RUNOFF VOLUME	(mm)=	72.00	60.73	66.36	
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00	
RUNOFF COEFFICIENT	=	0.99	0.83	0.91	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      67.16     ********
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.20 (ii)    4.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.23
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.03          0.067 (iii)
     TIME TO PEAK    (hrs)=       2.58         2.75           2.75
     RUNOFF VOLUME    (mm)=      72.00        71.49          71.74
     TOTAL RAINFALL   (mm)=      73.00        73.00          73.00
     RUNOFF COEFFICIENT   =       0.99         0.98           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0022):     0.47   0.088     2.75    71.74
       + ID2= 2 (0023):     1.43   0.258     2.75    66.36
         ================================================
         ID = 3 (0603):     1.90   0.345     2.75    67.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0603) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0603):     1.90   0.345     2.75    67.69
       + ID2= 2 (0024):     0.49   0.088     2.75    66.36
         ================================================
         ID = 1 (0603):     2.39   0.434     2.75    67.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0603) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0603):     2.39   0.434     2.75    67.42
       + ID2= 2 (0026):     0.36   0.067     2.75    71.74
         ================================================
         ID = 3 (0603):     2.75   0.501     2.75    67.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR (0604) |
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```
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0140      0.1331
                          0.0090     0.0575   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0603)      2.750      0.501      2.75      67.98
     OUTFLOW: ID= 1 (0604)      2.750      0.016      4.83      67.40

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.24
                    TIME SHIFT OF PEAK FLOW         (min)=125.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1670

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0025) |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.97
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      97.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      67.16        67.32
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.82 (ii)    8.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.18          0.261 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      72.00        65.57          67.59
     TOTAL RAINFALL   (mm)=      73.00        73.00          73.00
     RUNOFF COEFFICIENT   =       0.99         0.90           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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  **************************
  ** SIMULATION NUMBER:   6 **
  **************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              9182bab4-eb54-427f-8d6d-dd269321b258\eb0e9a8e
| Ptotal= 80.31 mm |    Comments: 100yr/6hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   27.30 |  3.75   11.24 |  5.50    1.61
                0.50    1.61 |  2.25   27.30 |  4.00    6.42 |  5.75    1.61
                0.75    1.61 |  2.50   73.88 |  4.25    6.42 |  6.00    1.61
                1.00    1.61 |  2.75   73.88 |  4.50    3.21 |  6.25    1.61
                1.25    1.61 |  3.00   20.88 |  4.75    3.21 |
                1.50    9.64 |  3.25   20.88 |  5.00    1.61 |
                1.75    9.64 |  3.50   11.24 |  5.25    1.61 |

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--------------------
| CALIB            |
| STANDHYD  (0022) |   Area    (ha)=   0.47
```

|ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.42	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=		73.88	********	
	over (min)	5.00	5.00	
Storage Coeff.	(min)=	1.25 (ii)	4.42 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	5.00	
Unit Hyd. peak	(cms)=	0.33	0.23	
				TOTALS
PEAK FLOW	(cms)=	0.05	0.05	0.096 (iii)
TIME TO PEAK	(hrs)=	2.58	2.75	2.75
RUNOFF VOLUME	(mm)=	79.31	78.80	79.05
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.98	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0023)

Area (ha)= 1.43

|ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.29	0.14
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	3.68	3.68
Length	(m)=	97.64	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		73.88	********	
	over (min)	5.00	10.00	
Storage Coeff.	(min)=	1.92 (ii)	5.41 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.31	0.16	
				TOTALS
PEAK FLOW	(cms)=	0.15	0.14	0.285 (iii)

```
     TIME TO PEAK    (hrs)=       2.75         2.75          2.75
     RUNOFF VOLUME    (mm)=      79.31        67.87         73.59
     TOTAL RAINFALL   (mm)=      80.31        80.31         80.31
     RUNOFF COEFFICIENT   =       0.99         0.85          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0024) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      57.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      73.88     ********
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.39 (ii)    4.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.22
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.05       0.098 (iii)
     TIME TO PEAK    (hrs)=       2.67         2.75        2.75
     RUNOFF VOLUME    (mm)=      79.31        67.87         73.59
     TOTAL RAINFALL   (mm)=      80.31        80.31         80.31
     RUNOFF COEFFICIENT   =       0.99         0.85          0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      73.88     ********
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.16 (ii)    4.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.23
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.04       0.074 (iii)
     TIME TO PEAK    (hrs)=       2.58         2.75        2.75
     RUNOFF VOLUME    (mm)=      79.31        78.80         79.05
     TOTAL RAINFALL   (mm)=      80.31        80.31         80.31
     RUNOFF COEFFICIENT   =       0.99         0.98          0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0603)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0022):	0.47	0.096	2.75	79.05
	+ ID2= 2 (0023):	1.43	0.285	2.75	73.59
	ID = 3 (0603):	1.90	0.381	2.75	74.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0603)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0603):	1.90	0.381	2.75	74.94
	+ ID2= 2 (0024):	0.49	0.098	2.75	73.59
	ID = 1 (0603):	2.39	0.479	2.75	74.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0603)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0603):	2.39	0.479	2.75	74.66
	+ ID2= 2 (0026):	0.36	0.074	2.75	79.05
	ID = 3 (0603):	2.75	0.553	2.75	75.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0604)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.0140	0.1331
			0.0090	0.0575	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0603)	2.750	0.553	2.75	75.24
OUTFLOW: ID= 1 (0604)	2.750	0.017	4.83	74.65

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.15
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.1853

CALIB	STANDHYD (0025)	ID= 1 DT= 5.0 min	Area (ha)= 1.43	Total Imp(%)= 31.90	Dir. Conn.(%)= 31.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.46	0.97
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	97.64	40.00
Mannings n	=	0.013	0.250
Max.Eff.Inten.(mm/hr)=		73.88	74.10

```
            over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.75 (ii)    7.77 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.20          0.288 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      79.31        72.87          74.90
     TOTAL RAINFALL   (mm)=      80.31        80.31          80.31
     RUNOFF COEFFICIENT   =       0.99         0.91           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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 FINISH
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\592db7c4-15f5-40a5-baa9-c6071721784a\Scenario.out

  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\592db7c4-15f5-40a5-baa9-c6071721784a\Scenario.sum


DATE: 06/15/2018                          TIME: 12:02:25

USER:


COMMENTS: _____________________________________________________________


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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 453.462
| Ptotal= 38.09 mm |                          B=   1.500
--------------------                          C=   0.704
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
                       5.         131.10               121.41
                      10.          81.50                81.25
                      15.          61.70                63.01
                      30.          38.40                39.97
                      60.          24.00                24.96
                     120.          15.00                15.45
                     360.           7.10                 7.17
                     720.           4.50                 4.41
                    1440.           2.80                 2.71


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                                      Page 1
```

0.17	3.20	1.17	16.80	2.17	6.49	3.17	3.71
0.33	3.59	1.33	81.25	2.33	5.70	3.33	3.48
0.50	4.11	1.50	21.07	2.50	5.11	3.50	3.29
0.67	4.87	1.67	12.55	2.67	4.64	3.67	3.12
0.83	6.09	1.83	9.35	2.83	4.27	3.83	2.97
1.00	8.47	2.00	7.61	3.00	3.96	4.00	2.84

CALIB			
STANDHYD (0022)	Area (ha)= 0.47		
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.42	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.20	1.083	16.80	2.083	6.49	3.08	3.71
0.167	3.20	1.167	16.80	2.167	6.49	3.17	3.71
0.250	3.59	1.250	81.25	2.250	5.70	3.25	3.48
0.333	3.59	1.333	81.25	2.333	5.70	3.33	3.48
0.417	4.11	1.417	21.07	2.417	5.11	3.42	3.29
0.500	4.11	1.500	21.07	2.500	5.11	3.50	3.29
0.583	4.87	1.583	12.55	2.583	4.64	3.58	3.12
0.667	4.87	1.667	12.55	2.667	4.64	3.67	3.12
0.750	6.09	1.750	9.35	2.750	4.27	3.75	2.97
0.833	6.09	1.833	9.35	2.833	4.27	3.83	2.97
0.917	8.47	1.917	7.61	2.917	3.96	3.92	2.84
1.000	8.47	2.000	7.61	3.000	3.96	4.00	2.84

Max.Eff.Inten.(mm/hr)=		81.25	********	
	over (min)	5.00	5.00	
Storage Coeff. (min)=		1.21 (ii)	4.25 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.33	0.23	
				TOTALS
PEAK FLOW	(cms)=	0.05	0.05	0.102 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	37.09	36.59	36.84
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09
RUNOFF COEFFICIENT	=	0.97	0.96	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0023)	Area (ha)= 1.43		
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00	Dir. Conn.(%)= 50.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.29	0.14
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	3.68	3.68
Length	(m)=	97.64	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		81.25	********
	over (min)	5.00	10.00

```
     Storage Coeff.  (min)=       1.85 (ii)    5.21 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.16         0.09          0.247 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      37.09        27.27          32.18
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.72           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0024) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      57.15        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25     ********
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.34 (ii)    4.70 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.22
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.04          0.093 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      37.09        27.27          32.18
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.72           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n             =    0.013        0.250

     Max.Eff.Inten.(mm/hr)=      81.25     ********
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.11 (ii)    4.16 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.04          0.078 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      37.09        36.59          36.84
     TOTAL RAINFALL   (mm)=      38.09        38.09          38.09
     RUNOFF COEFFICIENT   =       0.97         0.96           0.97
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0022):	0.47	0.102	1.33	36.84
	+ ID2= 2 (0023):	1.43	0.247	1.33	32.18
	ID = 3 (0605):	1.90	0.349	1.33	33.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0605):	1.90	0.349	1.33	33.33
	+ ID2= 2 (0024):	0.49	0.093	1.33	32.18
	ID = 1 (0605):	2.39	0.442	1.33	33.09

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0605):	2.39	0.442	1.33	33.09
	+ ID2= 2 (0026):	0.36	0.078	1.33	36.84
	ID = 3 (0605):	2.75	0.521	1.33	33.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0606)		OUTFLOW	STORAGE		OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)		(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000		0.0140	0.1331
		0.0090	0.0575		0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0605)	2.750	0.521	1.33	33.58
OUTFLOW: ID= 1 (0606)	2.750	0.011	4.08	33.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.04
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.0821

CALIB	
STANDHYD (0025)	Area (ha)= 1.43
ID= 1 DT= 5.0 min	Total Imp(%)= 31.90 Dir. Conn.(%)= 31.50

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.46	0.97
Dep. Storage	(mm)=	1.00	5.00

Average Slope	(%)=	5.06	5.06	
Length	(m)=	97.64	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		81.25	76.57	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.68 (ii)	7.63 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.32	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.10	0.14	0.229 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	37.09	30.76	32.75
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09
RUNOFF COEFFICIENT	=	0.97	0.81	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

****
** SIMULATION NUMBER: 2 **
****

CHICAGO STORM
Ptotal= 48.94 mm

IDF curve parameters: A= 592.209
B= 1.501
C= 0.707
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	170.20	157.65
10.	105.60	105.33
15.	79.90	81.60
30.	49.70	51.66
60.	30.90	32.19
120.	19.20	19.89
360.	9.10	9.20
720.	5.70	5.65
1440.	3.60	3.46

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.08	1.17	21.57	2.17	8.28	3.17	4.72
0.33	4.57	1.33	105.33	2.33	7.27	3.33	4.43
0.50	5.24	1.50	27.08	2.50	6.51	3.50	4.19
0.67	6.21	1.67	16.08	2.67	5.92	3.67	3.97
0.83	7.77	1.83	11.97	2.83	5.44	3.83	3.78
1.00	10.83	2.00	9.72	3.00	5.05	4.00	3.61

CALIB
STANDHYD (0022)
ID= 1 DT= 5.0 min

Area (ha)= 0.47
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.42	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00

Mannings n = 0.013 0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.08	1.083	21.57	2.083	8.28	3.08	4.72
0.167	4.08	1.167	21.57	2.167	8.28	3.17	4.72
0.250	4.57	1.250	105.33	2.250	7.27	3.25	4.43
0.333	4.57	1.333	105.33	2.333	7.27	3.33	4.43
0.417	5.24	1.417	27.08	2.417	6.51	3.42	4.19
0.500	5.24	1.500	27.08	2.500	6.51	3.50	4.19
0.583	6.21	1.583	16.08	2.583	5.92	3.58	3.97
0.667	6.21	1.667	16.08	2.667	5.92	3.67	3.97
0.750	7.77	1.750	11.97	2.750	5.44	3.75	3.78
0.833	7.77	1.833	11.97	2.833	5.44	3.83	3.78
0.917	10.83	1.917	9.72	2.917	5.05	3.92	3.61
1.000	10.83	2.000	9.72	3.000	5.05	4.00	3.61

Max.Eff.Inten.(mm/hr)=	105.33	********		
over (min)	5.00	5.00		
Storage Coeff. (min)=	1.09 (ii)	3.83 (ii)		
Unit Hyd. Tpeak (min)=	5.00	5.00		
Unit Hyd. peak (cms)=	0.34	0.25		
				TOTALS
PEAK FLOW (cms)=	0.07	0.06		0.133 (iii)
TIME TO PEAK (hrs)=	1.33	1.33		1.33
RUNOFF VOLUME (mm)=	47.94	47.43		47.68
TOTAL RAINFALL (mm)=	48.94	48.94		48.94
RUNOFF COEFFICIENT =	0.98	0.97		0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0023)	Area (ha)= 1.43
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.29	0.14
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	3.68	3.68
Length	(m)=	97.64	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=	105.33	********		
over (min)	5.00	5.00		
Storage Coeff. (min)=	1.67 (ii)	4.69 (ii)		
Unit Hyd. Tpeak (min)=	5.00	5.00		
Unit Hyd. peak (cms)=	0.32	0.22		
				TOTALS
PEAK FLOW (cms)=	0.21	0.16		0.364 (iii)
TIME TO PEAK (hrs)=	1.33	1.33		1.33
RUNOFF VOLUME (mm)=	47.94	37.49		42.71
TOTAL RAINFALL (mm)=	48.94	48.94		48.94
RUNOFF COEFFICIENT =	0.98	0.77		0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| CALIB            |
| STANDHYD  (0024) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      57.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33     ********
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.21 (ii)    4.23 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.24
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.05          0.126 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      47.94        37.49          42.71
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.77           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     105.33     ********
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.00 (ii)    3.75 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.25
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.05          0.102 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      47.94        47.43          47.68
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.97           0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0605) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0022):     0.47   0.133     1.33    47.68
       + ID2= 2 (0023):     1.43   0.364     1.33    42.71
         ================================================
         ID = 3 (0605):     1.90   0.498     1.33    43.94
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0605):	1.90	0.498	1.33	43.94
	+ ID2= 2 (0024):	0.49	0.126	1.33	42.71
	ID = 1 (0605):	2.39	0.624	1.33	43.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0605):	2.39	0.624	1.33	43.69
	+ ID2= 2 (0026):	0.36	0.102	1.33	47.68
	ID = 3 (0605):	2.75	0.726	1.33	44.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0606)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.0140	0.1331
			0.0090	0.0575	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0605)	2.750	0.726	1.33	44.21
OUTFLOW: ID= 1 (0606)	2.750	0.012	4.08	43.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.71
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.1096

CALIB	STANDHYD (0025)	ID= 1 DT= 5.0 min	Area (ha)= 1.43	Total Imp(%)= 31.90	Dir. Conn.(%)= 31.50

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.46	0.97	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	5.06	5.06	
Length	(m)=	97.64	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		105.33	102.35	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.52 (ii)	6.81 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.13	0.19	0.317 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	47.94	41.56	43.56
TOTAL RAINFALL	(mm)=	48.94	48.94	48.94
RUNOFF COEFFICIENT	=	0.98	0.85	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

```
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

**** SIMULATION NUMBER: 3 ****

CHICAGO STORM	Ptotal= 55.89 mm

IDF curve parameters: A= 683.826
B= 1.501
C= 0.709
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	195.80	181.36
10.	121.40	121.03
15.	91.80	93.70
30.	57.00	59.24
60.	35.40	36.87
120.	22.00	22.75
360.	10.40	10.50
720.	6.50	6.43
1440.	4.10	3.94

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.63	1.17	24.61	2.17	9.42	3.17	5.36
0.33	5.19	1.33	121.03	2.33	8.26	3.33	5.03
0.50	5.95	1.50	30.93	2.50	7.40	3.50	4.75
0.67	7.06	1.67	18.33	2.67	6.73	3.67	4.51
0.83	8.83	1.83	13.63	2.83	6.18	3.83	4.29
1.00	12.33	2.00	11.06	3.00	5.73	4.00	4.10

CALIB STANDHYD (0022) ID= 1 DT= 5.0 min	Area (ha)= 0.47
	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.42	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.63	1.083	24.61	2.083	9.42	3.08	5.36
0.167	4.63	1.167	24.61	2.167	9.42	3.17	5.36
0.250	5.19	1.250	121.03	2.250	8.26	3.25	5.03
0.333	5.19	1.333	121.03	2.333	8.26	3.33	5.03
0.417	5.95	1.417	30.93	2.417	7.40	3.42	4.75
0.500	5.95	1.500	30.93	2.500	7.40	3.50	4.75
0.583	7.06	1.583	18.33	2.583	6.73	3.58	4.51
0.667	7.06	1.667	18.33	2.667	6.73	3.67	4.51
0.750	8.83	1.750	13.63	2.750	6.18	3.75	4.29
0.833	8.83	1.833	13.63	2.833	6.18	3.83	4.29
0.917	12.33	1.917	11.06	2.917	5.73	3.92	4.10

```
                1.000   12.33 | 2.000   11.06 | 3.000    5.73 |  4.00    4.10

     Max.Eff.Inten.(mm/hr)=     121.03     ********
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.03 (ii)     3.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.34          0.25
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.08          0.07          0.154 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      54.89         54.38          54.63
     TOTAL RAINFALL   (mm)=      55.89         55.89          55.89
     RUNOFF COEFFICIENT   =       0.98          0.97           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0023)  |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.29          0.14
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       3.68          3.68
     Length            (m)=      97.64         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03     ********
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.58 (ii)     4.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.33          0.23
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.24          0.19          0.427 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.33           1.33
     RUNOFF VOLUME    (mm)=      54.89         44.14          49.52
     TOTAL RAINFALL   (mm)=      55.89         55.89          55.89
     RUNOFF COEFFICIENT   =       0.98          0.79           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0024)  |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44          0.05
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       3.68          3.68
     Length            (m)=      57.15         40.00
     Mannings n             =     0.013         0.250

     Max.Eff.Inten.(mm/hr)=     121.03     ********
               over (min)         5.00          5.00
     Storage Coeff.  (min)=       1.14 (ii)     4.01 (ii)
     Unit Hyd. Tpeak (min)=       5.00          5.00
     Unit Hyd. peak  (cms)=       0.34          0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.08          0.07          0.148 (iii)
```

```
     TIME TO PEAK    (hrs)=       1.33         1.33          1.33
     RUNOFF VOLUME    (mm)=      54.89        44.14         49.51
     TOTAL RAINFALL   (mm)=      55.89        55.89         55.89
     RUNOFF COEFFICIENT   =       0.98         0.79          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD  (0026)  |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min  |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     121.03     ********
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       0.95 (ii)    3.55 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.26
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.06          0.118 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      54.89        54.38          54.64
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.98         0.97           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0605) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0022):     0.47   0.154     1.33    54.63
       + ID2= 2 (0023):     1.43   0.427     1.33    49.52
         ================================================
         ID = 3 (0605):     1.90   0.581     1.33    50.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0605) |
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (0605):     1.90   0.581     1.33    50.78
       + ID2= 2 (0024):     0.49   0.148     1.33    49.51
         ================================================
         ID = 1 (0605):     2.39   0.729     1.33    50.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0605) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0605):     2.39   0.729     1.33    50.52
       + ID2= 2 (0026):     0.36   0.118     1.33    54.64
         ================================================
         ID = 3 (0605):     2.75   0.847     1.33    51.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
--------------------
| RESERVOIR (0606) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0140     0.1331
                          0.0090     0.0575   |   0.0000     0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0605)      2.750      0.847      1.33      51.06
     OUTFLOW: ID= 1 (0606)      2.750      0.014      4.08      50.47

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.61
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1274

------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD  (0025) |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.97
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      97.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     121.03       118.73
                 over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.43 (ii)    6.42 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.15         0.23          0.373 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      54.89        48.49          50.51
     TOTAL RAINFALL   (mm)=      55.89        55.89          55.89
     RUNOFF COEFFICIENT   =       0.98         0.87           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
  ****************************
  ** SIMULATION NUMBER:   4 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 804.454
| Ptotal= 64.68 mm |                          B=   1.501
--------------------                          C=   0.712
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	228.80	212.16
10.	141.60	141.34
15.	107.10	109.30
30.	66.40	68.98
60.	41.20	42.84
120.	25.60	26.38
360.	12.10	12.14
720.	7.50	7.42
1440.	4.70	4.53

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.30	1.17	28.45	2.17	10.83	3.17	6.14
0.33	5.95	1.33	141.34	2.33	9.50	3.33	5.77
0.50	6.83	1.50	35.79	2.50	8.50	3.50	5.45
0.67	8.10	1.67	21.14	2.67	7.72	3.67	5.17
0.83	10.16	1.83	15.70	2.83	7.09	3.83	4.92
1.00	14.20	2.00	12.73	3.00	6.58	4.00	4.70

CALIB
STANDHYD (0022)
ID= 1 DT= 5.0 min

Area (ha)= 0.47
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.42	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.30	1.083	28.45	2.083	10.83	3.08	6.14
0.167	5.30	1.167	28.45	2.167	10.83	3.17	6.14
0.250	5.95	1.250	141.34	2.250	9.50	3.25	5.77
0.333	5.95	1.333	141.34	2.333	9.50	3.33	5.77
0.417	6.83	1.417	35.79	2.417	8.50	3.42	5.45
0.500	6.83	1.500	35.79	2.500	8.50	3.50	5.45
0.583	8.10	1.583	21.14	2.583	7.72	3.58	5.17
0.667	8.10	1.667	21.14	2.667	7.72	3.67	5.17
0.750	10.16	1.750	15.70	2.750	7.09	3.75	4.92
0.833	10.16	1.833	15.70	2.833	7.09	3.83	4.92
0.917	14.20	1.917	12.73	2.917	6.58	3.92	4.70
1.000	14.20	2.000	12.73	3.000	6.58	4.00	4.70

Max.Eff.Inten.(mm/hr)=		141.34	********	
over (min)		5.00	5.00	
Storage Coeff. (min)=		0.97 (ii)	3.41 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.34	0.26	
				TOTALS
PEAK FLOW	(cms)=	0.09	0.09	0.181 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	63.68	63.17	63.42
TOTAL RAINFALL	(mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT	=	0.98	0.98	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

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          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0023) |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.29         0.14
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      97.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34     ********
               over (min)          5.00         5.00
     Storage Coeff.  (min)=       1.48 (ii)    4.17 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.24
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.23          0.509 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68        52.63          58.15
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.81           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0024) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      57.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34     ********
               over (min)          5.00         5.00
     Storage Coeff.  (min)=       1.08 (ii)    3.76 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.25
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.08          0.176 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      63.68        52.63          58.15
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.81           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.32	0.04	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	5.06	5.06	
Length	(m)=	48.99	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		141.34	********	
over (min)		5.00	5.00	
Storage Coeff.	(min)=	0.89 (ii)	3.34 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	5.00	
Unit Hyd. peak	(cms)=	0.34	0.26	
				TOTALS
PEAK FLOW	(cms)=	0.07	0.07	0.138 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	63.68	63.17	63.42
TOTAL RAINFALL	(mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT	=	0.98	0.98	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0605)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0022):	0.47	0.181	1.33	63.42
+ ID2= 2 (0023):	1.43	0.509	1.33	58.15
ID = 3 (0605):	1.90	0.689	1.33	59.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0605):	1.90	0.689	1.33	59.46
+ ID2= 2 (0024):	0.49	0.176	1.33	58.15
ID = 1 (0605):	2.39	0.865	1.33	59.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0605):	2.39	0.865	1.33	59.19
+ ID2= 2 (0026):	0.36	0.138	1.33	63.42
ID = 3 (0605):	2.75	1.004	1.33	59.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0606)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0140	0.1331
	0.0090	0.0575	0.0000	0.0000

```
                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0605)      2.750      1.004      1.33      59.74
     OUTFLOW: ID= 1 (0606)      2.750      0.015      4.08      59.15

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.50
                   TIME SHIFT OF PEAK FLOW         (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1498

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--------------------
| CALIB            |
| STANDHYD  (0025) |   Area    (ha)=   1.43
|ID= 1 DT= 5.0 min |   Total Imp(%)=  31.90   Dir. Conn.(%)=  31.50
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.46         0.97
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      97.64        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     141.34       139.66
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.35 (ii)    6.02 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.18         0.27          0.446 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      63.68        57.26          59.28
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.98         0.89           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   5 **
  ****************************

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| CHICAGO STORM    |    IDF curve parameters: A= 889.943
| Ptotal= 71.55 mm |                          B=   1.500
--------------------                          C=   0.712
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

                     The CORRELATION coefficient is = 0.9996

                      TIME       INPUT INT.           TAB. INT.
                     (min)        (mm/hr)              (mm/hr)
                        5.         253.20               234.73
                       10.         156.70               156.37
                       15.         118.40               120.92
                       30.          73.40                76.31
                       60.          45.50                47.39
                      120.          28.20                29.18
                      360.          13.30                13.43
                      720.           8.30                 8.21
                     1440.           5.20                 5.02


                    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                    0.17    5.87 |  1.17   31.47 |  2.17   11.98 |  3.17    6.80
```

0.33	6.58	1.33	156.37	2.33	10.51	3.33	6.39
0.50	7.55	1.50	39.59	2.50	9.40	3.50	6.03
0.67	8.96	1.67	23.39	2.67	8.54	3.67	5.72
0.83	11.23	1.83	17.36	2.83	7.85	3.83	5.44
1.00	15.71	2.00	14.09	3.00	7.28	4.00	5.20

CALIB
STANDHYD (0022)
ID= 1 DT= 5.0 min

Area (ha)= 0.47
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.42	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.87	1.083	31.47	2.083	11.98	3.08	6.80
0.167	5.87	1.167	31.47	2.167	11.98	3.17	6.80
0.250	6.58	1.250	156.37	2.250	10.51	3.25	6.39
0.333	6.58	1.333	156.37	2.333	10.51	3.33	6.39
0.417	7.55	1.417	39.59	2.417	9.40	3.42	6.03
0.500	7.55	1.500	39.59	2.500	9.40	3.50	6.03
0.583	8.96	1.583	23.39	2.583	8.54	3.58	5.72
0.667	8.96	1.667	23.39	2.667	8.54	3.67	5.72
0.750	11.23	1.750	17.36	2.750	7.85	3.75	5.44
0.833	11.23	1.833	17.36	2.833	7.85	3.83	5.44
0.917	15.71	1.917	14.09	2.917	7.28	3.92	5.20
1.000	15.71	2.000	14.09	3.000	7.28	4.00	5.20

Max.Eff.Inten.(mm/hr)=		156.37	********	
over (min)		5.00	5.00	
Storage Coeff. (min)=		0.93 (ii)	3.27 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.34	0.27	
				TOTALS
PEAK FLOW	(cms)=	0.10	0.10	0.200 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	70.55	70.04	70.30
TOTAL RAINFALL	(mm)=	71.55	71.55	71.55
RUNOFF COEFFICIENT	=	0.99	0.98	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0023)
ID= 1 DT= 5.0 min

Area (ha)= 1.43
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.29	0.14
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	3.68	3.68
Length	(m)=	97.64	40.00
Mannings n	=	0.013	0.250

Max.Eff.Inten.(mm/hr)=		156.37	********
over (min)		5.00	5.00
Storage Coeff. (min)=		1.42 (ii)	4.01 (ii)

```
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.33         0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.31         0.26          0.570 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      70.55        59.32          64.93
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.83           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0024) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      57.15        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37     ********
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.03 (ii)    3.62 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.25
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.09          0.197 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      70.55        59.32          64.93
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.83           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     156.37     ********
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       0.86 (ii)    3.20 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.27
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.08          0.154 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      70.55        70.04          70.30
     TOTAL RAINFALL   (mm)=      71.55        71.55          71.55
     RUNOFF COEFFICIENT   =       0.99         0.98           0.98
```

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0022):	0.47	0.200	1.33	70.30
	+ ID2= 2 (0023):	1.43	0.570	1.33	64.93
	ID = 3 (0605):	1.90	0.770	1.33	66.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0605):	1.90	0.770	1.33	66.26
	+ ID2= 2 (0024):	0.49	0.197	1.33	64.93
	ID = 1 (0605):	2.39	0.967	1.33	65.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0605):	2.39	0.967	1.33	65.99
	+ ID2= 2 (0026):	0.36	0.154	1.33	70.30
	ID = 3 (0605):	2.75	1.120	1.33	66.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0606)		OUTFLOW	STORAGE		OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)		(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000		0.0140	0.1331
		0.0090	0.0575		0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0605)	2.750	1.120	1.33	66.55
OUTFLOW: ID= 1 (0606)	2.750	0.016	4.08	65.96

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.45
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.1675

CALIB				
STANDHYD (0025)	Area (ha)= 1.43			
ID= 1 DT= 5.0 min	Total Imp(%)= 31.90	Dir. Conn.(%)= 31.50		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.46	0.97
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06

Length	(m)=	97.64	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		156.37	155.08	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.29 (ii)	5.78 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.20	0.31	0.501 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	70.55	64.13	66.15
TOTAL RAINFALL	(mm)=	71.55	71.55	71.55
RUNOFF COEFFICIENT	=	0.99	0.90	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

**** SIMULATION NUMBER: 6 **

CHICAGO STORM	IDF curve parameters: A= 980.886
Ptotal= 77.58 mm	B= 1.508
	C= 0.715

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	277.00	257.04
10.	171.40	171.00
15.	129.50	132.12
30.	80.20	83.22
60.	49.70	51.59
120.	30.80	31.70
360.	14.50	14.54
720.	9.00	8.87
1440.	5.60	5.41

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.30	1.17	34.10	2.17	12.91	3.17	7.30
0.33	7.07	1.33	171.00	2.33	11.31	3.33	6.86
0.50	8.12	1.50	42.95	2.50	10.12	3.50	6.47
0.67	9.64	1.67	25.29	2.67	9.19	3.67	6.14
0.83	12.10	1.83	18.74	2.83	8.44	3.83	5.84
1.00	16.95	2.00	15.19	3.00	7.82	4.00	5.58

CALIB	
STANDHYD (0022)	Area (ha)= 0.47
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.42	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	5.06	5.06
Length	(m)=	55.98	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.30	1.083	34.10	2.083	12.91	3.08	7.30
0.167	6.30	1.167	34.10	2.167	12.91	3.17	7.30
0.250	7.07	1.250	171.00	2.250	11.31	3.25	6.86
0.333	7.07	1.333	171.00	2.333	11.31	3.33	6.86
0.417	8.12	1.417	42.95	2.417	10.12	3.42	6.47
0.500	8.12	1.500	42.95	2.500	10.12	3.50	6.47
0.583	9.64	1.583	25.29	2.583	9.19	3.58	6.14
0.667	9.64	1.667	25.29	2.667	9.19	3.67	6.14
0.750	12.10	1.750	18.74	2.750	8.44	3.75	5.84
0.833	12.10	1.833	18.74	2.833	8.44	3.83	5.84
0.917	16.95	1.917	15.19	2.917	7.82	3.92	5.58
1.000	16.95	2.000	15.19	3.000	7.82	4.00	5.58

Max.Eff.Inten.(mm/hr)=	171.00	********	
over (min)	5.00	5.00	
Storage Coeff. (min)=	0.89 (ii)	3.16 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.34	0.27	
			TOTALS
PEAK FLOW (cms)=	0.11	0.11	0.219 (iii)
TIME TO PEAK (hrs)=	1.33	1.33	1.33
RUNOFF VOLUME (mm)=	76.58	76.07	76.32
TOTAL RAINFALL (mm)=	77.58	77.58	77.58
RUNOFF COEFFICIENT =	0.99	0.98	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB STANDHYD (0023) ID= 1 DT= 5.0 min	Area (ha)= 1.43 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.29	0.14
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	3.68	3.68
Length (m)=	97.64	40.00
Mannings n =	0.013	0.250

Max.Eff.Inten.(mm/hr)=	171.00	********	
over (min)	5.00	5.00	
Storage Coeff. (min)=	1.37 (ii)	3.87 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.33	0.25	
			TOTALS
PEAK FLOW (cms)=	0.34	0.29	0.629 (iii)
TIME TO PEAK (hrs)=	1.33	1.33	1.33
RUNOFF VOLUME (mm)=	76.58	65.20	70.88
TOTAL RAINFALL (mm)=	77.58	77.58	77.58
RUNOFF COEFFICIENT =	0.99	0.84	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| CALIB             |
| STANDHYD  (0024) |   Area    (ha)=   0.49
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.44         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       3.68         3.68
     Length            (m)=      57.15        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00     ********
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       1.00 (ii)    3.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.26
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.12         0.10          0.217 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      76.58        65.20          70.88
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.99         0.84           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD  (0026) |   Area    (ha)=   0.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.32         0.04
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       5.06         5.06
     Length            (m)=      48.99        40.00
     Mannings n             =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=     171.00     ********
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       0.83 (ii)    3.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.34         0.27
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.08          0.168 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      76.58        76.07          76.32
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.99         0.98           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  99.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD   (0605) |
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0022):     0.47   0.219     1.33    76.32
        + ID2= 2 (0023):     1.43   0.629     1.33    70.88
          ================================================
          ID = 3 (0605):     1.90   0.848     1.33    72.23
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0605):	1.90	0.848	1.33	72.23
	+ ID2= 2 (0024):	0.49	0.217	1.33	70.88
	ID = 1 (0605):	2.39	1.065	1.33	71.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0605)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0605):	2.39	1.065	1.33	71.95
	+ ID2= 2 (0026):	0.36	0.168	1.33	76.32
	ID = 3 (0605):	2.75	1.234	1.33	72.52

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0606)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.0140	0.1331
		0.0090	0.0575	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0605)	2.750	1.234	1.33	72.52
OUTFLOW: ID= 1 (0606)	2.750	0.017	4.08	71.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.40
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.1829

CALIB				
STANDHYD (0025)	Area (ha)= 1.43			
ID= 1 DT= 5.0 min	Total Imp(%)= 31.90	Dir. Conn.(%)= 31.50		
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.46	0.97	
Dep. Storage	(mm)=	1.00	5.00	
Average Slope	(%)=	5.06	5.06	
Length	(m)=	97.64	40.00	
Mannings n	=	0.013	0.250	
Max.Eff.Inten.(mm/hr)=		171.00	169.99	
over (min)		5.00	10.00	
Storage Coeff.	(min)=	1.25 (ii)	5.57 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.33	0.16	
				TOTALS
PEAK FLOW	(cms)=	0.21	0.34	0.553 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	76.58	70.14	72.17
TOTAL RAINFALL	(mm)=	77.58	77.58	77.58
RUNOFF COEFFICIENT	=	0.99	0.90	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 99.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

FINISH

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\8b534161-cc44-471e-989d-675190541bf5\Scenario.out

  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\8b534161-cc44-471e-989d-675190541bf5\Scenario.sum


DATE: 06/15/2018                          TIME: 12:42:50

USER:


COMMENTS: _____________________________________________________________


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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              8b534161-cc44-471e-989d-675190541bf5\88e17da3
| Ptotal= 36.00 mm |    Comments: 2yr/6hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   12.24 |  3.75    5.04 |  5.50    0.72
                0.50    0.72 |  2.25   12.24 |  4.00    2.88 |  5.75    0.72
                0.75    0.72 |  2.50   33.12 |  4.25    2.88 |  6.00    0.72
                1.00    0.72 |  2.75   33.12 |  4.50    1.44 |  6.25    0.72
                1.25    0.72 |  3.00    9.36 |  4.75    1.44 |
                1.50    4.32 |  3.25    9.36 |  5.00    0.72 |
                1.75    4.32 |  3.50    5.04 |  5.25    0.72 |

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--------------------
| CALIB            |
| STANDHYD  (0062) |   Area    (ha)=   3.16
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.84         0.32
     Dep. Storage     (mm)=       1.00         5.00
```

Average Slope	(%)=	2.00	3.68
Length	(m)=	145.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.(mm/hr)=	33.12	141.53		
over (min)	5.00	10.00		
Storage Coeff. (min)=	4.04 (ii)	8.84 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.24	0.12		
			TOTALS	
PEAK FLOW (cms)=	0.15	0.11	0.260 (iii)	
TIME TO PEAK (hrs)=	2.75	2.75	2.75	
RUNOFF VOLUME (mm)=	35.00	25.33	30.16	
TOTAL RAINFALL (mm)=	36.00	36.00	36.00	
RUNOFF COEFFICIENT =	0.97	0.70	0.84	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0600)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0130	0.1845
0.0080	0.0623	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0062)	3.160	0.260	2.75	30.16
OUTFLOW: ID= 1 (0600)	3.160	0.009	4.83	29.54

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.43
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.0845

****
** SIMULATION NUMBER: 2 **
****

READ STORM	Filename: C:\Users\p001279d\AppD ata\Local\Temp\ 8b534161-cc44-471e-989d-675190541bf5\dae4df23
Ptotal= 47.81 mm	Comments: 5yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	16.25	3.75	6.69	5.50	0.96
0.50	0.96	2.25	16.25	4.00	3.82	5.75	0.96
0.75	0.96	2.50	43.98	4.25	3.82	6.00	0.96
1.00	0.96	2.75	43.98	4.50	1.91	6.25	0.96
1.25	0.96	3.00	12.43	4.75	1.91		
1.50	5.74	3.25	12.43	5.00	0.96		
1.75	5.74	3.50	6.69	5.25	0.96		

CALIB STANDHYD (0062) ID= 1 DT= 5.0 min	Area (ha)= 3.16 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.84	0.32
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	2.00	3.68
Length	(m)=	145.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

Max.Eff.Inten.(mm/hr)=		43.98	198.14	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.60 (ii)	7.89 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.25	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.19	0.16	0.358 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	46.81	36.41	41.61
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.98	0.76	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0130      0.1845
                          0.0080     0.0623   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0062)      3.160      0.358      2.75      41.61
     OUTFLOW: ID= 1 (0600)      3.160      0.010      4.92      40.98

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.88
                   TIME SHIFT OF PEAK FLOW         (min)=130.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1181

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  ***************************
  ** SIMULATION NUMBER:   3 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              8b534161-cc44-471e-989d-675190541bf5\7481a9db
| Ptotal= 55.69 mm |    Comments: 10yr/6hr
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.25    0.00 |  2.00   18.94 |  3.75    7.80 |  5.50    1.11
                 0.50    1.11 |  2.25   18.94 |  4.00    4.46 |  5.75    1.11
                 0.75    1.11 |  2.50   51.24 |  4.25    4.46 |  6.00    1.11
                 1.00    1.11 |  2.75   51.24 |  4.50    2.23 |  6.25    1.11
                 1.25    1.11 |  3.00   14.48 |  4.75    2.23 |
                 1.50    6.68 |  3.25   14.48 |  5.00    1.11 |
                 1.75    6.68 |  3.50    7.80 |  5.25    1.11 |

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--------------------
| CALIB            |
| STANDHYD  (0062) |   Area    (ha)=   3.16
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.84         0.32
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       2.00         3.68
     Length            (m)=     145.14        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    0.00 | 1.667    6.68 | 3.250   14.48 |  4.83    1.11
                 0.167    0.00 | 1.750    6.68 | 3.333    7.80 |  4.92    1.11
                 0.250    0.00 | 1.833   18.94 | 3.417    7.80 |  5.00    1.11
                 0.333    1.11 | 1.917   18.94 | 3.500    7.80 |  5.08    1.11
                 0.417    1.11 | 2.000   18.94 | 3.583    7.80 |  5.17    1.11
                 0.500    1.11 | 2.083   18.94 | 3.667    7.80 |  5.25    1.11
                 0.583    1.11 | 2.167   18.94 | 3.750    7.80 |  5.33    1.11
                 0.667    1.11 | 2.250   18.94 | 3.833    4.46 |  5.42    1.11
                 0.750    1.11 | 2.333   51.24 | 3.917    4.46 |  5.50    1.11
                 0.833    1.11 | 2.417   51.24 | 4.000    4.46 |  5.58    1.11
                 0.917    1.11 | 2.500   51.24 | 4.083    4.46 |  5.67    1.11
                 1.000    1.11 | 2.583   51.24 | 4.167    4.46 |  5.75    1.11
                 1.083    1.11 | 2.667   51.24 | 4.250    4.46 |  5.83    1.11
                 1.167    1.11 | 2.750   51.24 | 4.333    2.23 |  5.92    1.11
                 1.250    1.11 | 2.833   14.48 | 4.417    2.23 |  6.00    1.11
```

1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

			TOTALS
Max.Eff.Inten.(mm/hr)=	51.24	235.87	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.39 (ii)	7.42 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.26	0.13	
PEAK FLOW (cms)=	0.22	0.20	0.423 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	54.69	43.95	49.32
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.79	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0600)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0130	0.1845
0.0080	0.0623	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0062)	3.160	0.423	2.75	49.32
OUTFLOW: ID= 1 (0600)	3.160	0.011	4.92	48.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.65
TIME SHIFT OF PEAK FLOW (min)=130.00
MAXIMUM STORAGE USED (ha.m.)= 0.1409

****
** SIMULATION NUMBER: 4 **
****

READ STORM
Ptotal= 65.59 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\8b534161-cc44-471e-989d-675190541bf5\e3cd538f
Comments: 25yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	22.30	3.75	9.18	5.50	1.31
0.50	1.31	2.25	22.30	4.00	5.25	5.75	1.31
0.75	1.31	2.50	60.35	4.25	5.25	6.00	1.31
1.00	1.31	2.75	60.35	4.50	2.62	6.25	1.31
1.25	1.31	3.00	17.06	4.75	2.62		
1.50	7.87	3.25	17.06	5.00	1.31		
1.75	7.87	3.50	9.18	5.25	1.31		

CALIB
STANDHYD (0062)
ID= 1 DT= 5.0 min

Area (ha)= 3.16
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.84	0.32
Dep. Storage	(mm)=	1.00	5.00

Average Slope	(%)=	2.00	3.68
Length	(m)=	145.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)=	60.35	283.04		
over (min)	5.00	10.00		
Storage Coeff. (min)=	3.18 (ii)	6.95 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.27	0.14		
			TOTALS	
PEAK FLOW (cms)=	0.26	0.24	0.505 (iii)	
TIME TO PEAK (hrs)=	2.75	2.75	2.75	
RUNOFF VOLUME (mm)=	64.59	53.52	59.05	
TOTAL RAINFALL (mm)=	65.59	65.59	65.59	
RUNOFF COEFFICIENT =	0.98	0.82	0.90	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0600)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0130	0.1845
0.0080	0.0623	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0062)	3.160	0.505	2.75	59.05
OUTFLOW: ID= 1 (0600)	3.160	0.012	5.00	58.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.45
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 0.1697

****
** SIMULATION NUMBER: 5 **
****

| READ STORM | Filename: C:\Users\p001279d\AppData\Local\Temp\8b534161-cc44-471e-989d-675190541bf5\19441568
| Ptotal= 73.00 mm | Comments: 50yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	24.82	3.75	10.22	5.50	1.46
0.50	1.46	2.25	24.82	4.00	5.84	5.75	1.46
0.75	1.46	2.50	67.16	4.25	5.84	6.00	1.46
1.00	1.46	2.75	67.16	4.50	2.92	6.25	1.46
1.25	1.46	3.00	18.98	4.75	2.92		
1.50	8.76	3.25	18.98	5.00	1.46		
1.75	8.76	3.50	10.22	5.25	1.46		

CALIB	
STANDHYD (0062)	Area (ha)= 3.16
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.84	0.32
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	2.00	3.68
Length	(m)=	145.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	318.17	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.04 (ii)	6.66 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.27	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.29	0.27	0.566 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	72.00	60.73	66.36
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.83	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0130      0.1845
                          0.0080     0.0623   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0062)      3.160      0.566      2.75      66.36
     OUTFLOW: ID= 1 (0600)      3.160      0.013      5.08      65.74

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.34
                    TIME SHIFT OF PEAK FLOW         (min)=140.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1913

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  ***************************
  ** SIMULATION NUMBER:   6 **
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--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              8b534161-cc44-471e-989d-675190541bf5\27bd9bed
| Ptotal= 80.31 mm |    Comments: 100yr/6hr
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.25    0.00 |  2.00   27.30 |  3.75   11.24 |  5.50    1.61
                 0.50    1.61 |  2.25   27.30 |  4.00    6.42 |  5.75    1.61
                 0.75    1.61 |  2.50   73.88 |  4.25    6.42 |  6.00    1.61
                 1.00    1.61 |  2.75   73.88 |  4.50    3.21 |  6.25    1.61
                 1.25    1.61 |  3.00   20.88 |  4.75    3.21 |
                 1.50    9.64 |  3.25   20.88 |  5.00    1.61 |
                 1.75    9.64 |  3.50   11.24 |  5.25    1.61 |

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--------------------
| CALIB            |
| STANDHYD  (0062) |   Area    (ha)=   3.16
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.84         0.32
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       2.00         3.68
     Length            (m)=     145.14        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                               ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    0.00 | 1.667    9.64 | 3.250   20.88 |  4.83    1.61
                 0.167    0.00 | 1.750    9.64 | 3.333   11.24 |  4.92    1.61
                 0.250    0.00 | 1.833   27.30 | 3.417   11.24 |  5.00    1.61
                 0.333    1.61 | 1.917   27.30 | 3.500   11.24 |  5.08    1.61
                 0.417    1.61 | 2.000   27.30 | 3.583   11.24 |  5.17    1.61
                 0.500    1.61 | 2.083   27.30 | 3.667   11.24 |  5.25    1.61
                 0.583    1.61 | 2.167   27.30 | 3.750   11.24 |  5.33    1.61
                 0.667    1.61 | 2.250   27.30 | 3.833    6.42 |  5.42    1.61
                 0.750    1.61 | 2.333   73.88 | 3.917    6.42 |  5.50    1.61
                 0.833    1.61 | 2.417   73.88 | 4.000    6.42 |  5.58    1.61
                 0.917    1.61 | 2.500   73.88 | 4.083    6.42 |  5.67    1.61
                 1.000    1.61 | 2.583   73.88 | 4.167    6.42 |  5.75    1.61
                 1.083    1.61 | 2.667   73.88 | 4.250    6.42 |  5.83    1.61
                 1.167    1.61 | 2.750   73.88 | 4.333    3.21 |  5.92    1.61
                 1.250    1.61 | 2.833   20.88 | 4.417    3.21 |  6.00    1.61
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                1.333    9.64 | 2.917   20.88 | 4.500    3.21 |  6.08    1.61
                1.417    9.64 | 3.000   20.88 | 4.583    3.21 |  6.17    1.61
                1.500    9.64 | 3.083   20.88 | 4.667    3.21 |  6.25    1.61
                1.583    9.64 | 3.167   20.88 | 4.750    3.21 |

     Max.Eff.Inten.(mm/hr)=      73.88       352.74
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.93 (ii)    6.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.28         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.32         0.30          0.627 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      79.31        67.87          73.59
     TOTAL RAINFALL   (mm)=      80.31        80.31          80.31
     RUNOFF COEFFICIENT   =       0.99         0.85           0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0600) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0130      0.1845
                         0.0080     0.0623   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0062)       3.160      0.627      2.75       73.59
     OUTFLOW: ID= 1 (0600)       3.160      0.014      5.25       72.96

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.26
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2127

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 FINISH
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\3f075983-1684-4118-b92c-bd9fd0c0f446\Scenario.out

  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\3f075983-1684-4118-b92c-bd9fd0c0f446\Scenario.sum


DATE: 06/15/2018                          TIME: 12:41:01

USER:


COMMENTS: _____________________________________________________________


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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 453.462
| Ptotal= 38.09 mm |                          B=   1.500
--------------------                          C=   0.704
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
                       5.         131.10               121.41
                      10.          81.50                81.25
                      15.          61.70                63.01
                      30.          38.40                39.97
                      60.          24.00                24.96
                     120.          15.00                15.45
                     360.           7.10                 7.17
                     720.           4.50                 4.41
                    1440.           2.80                 2.71


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                                      Page 1
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0.17	3.20	1.17	16.80	2.17	6.49	3.17	3.71
0.33	3.59	1.33	81.25	2.33	5.70	3.33	3.48
0.50	4.11	1.50	21.07	2.50	5.11	3.50	3.29
0.67	4.87	1.67	12.55	2.67	4.64	3.67	3.12
0.83	6.09	1.83	9.35	2.83	4.27	3.83	2.97
1.00	8.47	2.00	7.61	3.00	3.96	4.00	2.84

CALIB STANDHYD (0063) ID= 1 DT= 5.0 min	Area (ha)= 3.16 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.84	0.32
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	2.00	3.68
Length	(m)=	145.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.20	1.083	16.80	2.083	6.49	3.08	3.71
0.167	3.20	1.167	16.80	2.167	6.49	3.17	3.71
0.250	3.59	1.250	81.25	2.250	5.70	3.25	3.48
0.333	3.59	1.333	81.25	2.333	5.70	3.33	3.48
0.417	4.11	1.417	21.07	2.417	5.11	3.42	3.29
0.500	4.11	1.500	21.07	2.500	5.11	3.50	3.29
0.583	4.87	1.583	12.55	2.583	4.64	3.58	3.12
0.667	4.87	1.667	12.55	2.667	4.64	3.67	3.12
0.750	6.09	1.750	9.35	2.750	4.27	3.75	2.97
0.833	6.09	1.833	9.35	2.833	4.27	3.83	2.97
0.917	8.47	1.917	7.61	2.917	3.96	3.92	2.84
1.000	8.47	2.000	7.61	3.000	3.96	4.00	2.84

Max.Eff.Inten.(mm/hr)=		81.25	299.95	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.82 (ii)	6.17 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.28	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.35	0.19	0.526 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	37.09	27.27	32.18
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09
RUNOFF COEFFICIENT	=	0.97	0.72	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0601) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0130	0.1845
	0.0080	0.0623	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0063)	3.160	0.526	1.33	32.18
OUTFLOW: ID= 1 (0601)	3.160	0.009	4.08	31.56

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.76

TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.0926

****
** SIMULATION NUMBER: 2 **
****

CHICAGO STORM	Ptotal= 48.94 mm

IDF curve parameters: A= 592.209
B= 1.501
C= 0.707
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	170.20	157.65
10.	105.60	105.33
15.	79.90	81.60
30.	49.70	51.66
60.	30.90	32.19
120.	19.20	19.89
360.	9.10	9.20
720.	5.70	5.65
1440.	3.60	3.46

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.08	1.17	21.57	2.17	8.28	3.17	4.72
0.33	4.57	1.33	105.33	2.33	7.27	3.33	4.43
0.50	5.24	1.50	27.08	2.50	6.51	3.50	4.19
0.67	6.21	1.67	16.08	2.67	5.92	3.67	3.97
0.83	7.77	1.83	11.97	2.83	5.44	3.83	3.78
1.00	10.83	2.00	9.72	3.00	5.05	4.00	3.61

CALIB STANDHYD (0063) ID= 1 DT= 5.0 min	Area (ha)= 3.16

Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.84	0.32
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	2.00	3.68
Length	(m)=	145.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.08	1.083	21.57	2.083	8.28	3.08	4.72
0.167	4.08	1.167	21.57	2.167	8.28	3.17	4.72
0.250	4.57	1.250	105.33	2.250	7.27	3.25	4.43
0.333	4.57	1.333	105.33	2.333	7.27	3.33	4.43
0.417	5.24	1.417	27.08	2.417	6.51	3.42	4.19
0.500	5.24	1.500	27.08	2.500	6.51	3.50	4.19
0.583	6.21	1.583	16.08	2.583	5.92	3.58	3.97
0.667	6.21	1.667	16.08	2.667	5.92	3.67	3.97
0.750	7.77	1.750	11.97	2.750	5.44	3.75	3.78
0.833	7.77	1.833	11.97	2.833	5.44	3.83	3.78
0.917	10.83	1.917	9.72	2.917	5.05	3.92	3.61
1.000	10.83	2.000	9.72	3.000	5.05	4.00	3.61

```
     Max.Eff.Inten.(mm/hr)=     105.33       421.59
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.54 (ii)    5.57 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.46         0.28          0.719 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      47.94        37.49          42.71
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.98         0.77           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0130      0.1845
                          0.0080     0.0623   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0063)      3.160      0.719      1.33      42.71
     OUTFLOW: ID= 1 (0601)      3.160      0.011      4.08      42.08

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.47
                    TIME SHIFT OF PEAK FLOW         (min)=165.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1245

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  ****************************
  ** SIMULATION NUMBER:   3 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 683.826
| Ptotal= 55.89 mm |                          B=   1.501
--------------------                          C=   0.709
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                     The CORRELATION coefficient is = 0.9996

                      TIME       INPUT INT.           TAB. INT.
                     (min)        (mm/hr)              (mm/hr)
                        5.         195.80               181.36
                       10.         121.40               121.03
                       15.          91.80                93.70
                       30.          57.00                59.24
                       60.          35.40                36.87
                      120.          22.00                22.75
                      360.          10.40                10.50
                      720.           6.50                 6.43
                     1440.           4.10                 3.94


                   TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                    hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                   0.17    4.63 |  1.17   24.61 |  2.17    9.42 |  3.17    5.36
                   0.33    5.19 |  1.33  121.03 |  2.33    8.26 |  3.33    5.03
                   0.50    5.95 |  1.50   30.93 |  2.50    7.40 |  3.50    4.75
                   0.67    7.06 |  1.67   18.33 |  2.67    6.73 |  3.67    4.51
                   0.83    8.83 |  1.83   13.63 |  2.83    6.18 |  3.83    4.29
```

1.00	12.33	2.00	11.06	3.00	5.73	4.00	4.10

CALIB			
STANDHYD (0063)	Area (ha)=	3.16	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.84	0.32
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	2.00	3.68
Length	(m)=	145.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.63	1.083	24.61	2.083	9.42	3.08	5.36
0.167	4.63	1.167	24.61	2.167	9.42	3.17	5.36
0.250	5.19	1.250	121.03	2.250	8.26	3.25	5.03
0.333	5.19	1.333	121.03	2.333	8.26	3.33	5.03
0.417	5.95	1.417	30.93	2.417	7.40	3.42	4.75
0.500	5.95	1.500	30.93	2.500	7.40	3.50	4.75
0.583	7.06	1.583	18.33	2.583	6.73	3.58	4.51
0.667	7.06	1.667	18.33	2.667	6.73	3.67	4.51
0.750	8.83	1.750	13.63	2.750	6.18	3.75	4.29
0.833	8.83	1.833	13.63	2.833	6.18	3.83	4.29
0.917	12.33	1.917	11.06	2.917	5.73	3.92	4.10
1.000	12.33	2.000	11.06	3.000	5.73	4.00	4.10

Max.Eff.Inten.(mm/hr)=		121.03	501.84	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.40 (ii)	5.26 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.30	0.16	
				TOTALS
PEAK FLOW	(cms)=	0.52	0.33	0.847 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	54.89	44.14	49.52
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89
RUNOFF COEFFICIENT	=	0.98	0.79	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0601)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0130	0.1845
	0.0080	0.0623	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0063)		3.160	0.847	1.33	49.52
OUTFLOW: ID= 1 (0601)		3.160	0.011	4.08	48.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.34
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.1452

****

** SIMULATION NUMBER: 4 **
****

CHICAGO STORM	Ptotal= 64.68 mm

IDF curve parameters: A= 804.454
B= 1.501
C= 0.712
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	228.80	212.16
10.	141.60	141.34
15.	107.10	109.30
30.	66.40	68.98
60.	41.20	42.84
120.	25.60	26.38
360.	12.10	12.14
720.	7.50	7.42
1440.	4.70	4.53

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.30	1.17	28.45	2.17	10.83	3.17	6.14
0.33	5.95	1.33	141.34	2.33	9.50	3.33	5.77
0.50	6.83	1.50	35.79	2.50	8.50	3.50	5.45
0.67	8.10	1.67	21.14	2.67	7.72	3.67	5.17
0.83	10.16	1.83	15.70	2.83	7.09	3.83	4.92
1.00	14.20	2.00	12.73	3.00	6.58	4.00	4.70

CALIB STANDHYD (0063) ID= 1 DT= 5.0 min

Area (ha)= 3.16
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.84	0.32
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	2.00	3.68
Length	(m)=	145.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.30	1.083	28.45	2.083	10.83	3.08	6.14
0.167	5.30	1.167	28.45	2.167	10.83	3.17	6.14
0.250	5.95	1.250	141.34	2.250	9.50	3.25	5.77
0.333	5.95	1.333	141.34	2.333	9.50	3.33	5.77
0.417	6.83	1.417	35.79	2.417	8.50	3.42	5.45
0.500	6.83	1.500	35.79	2.500	8.50	3.50	5.45
0.583	8.10	1.583	21.14	2.583	7.72	3.58	5.17
0.667	8.10	1.667	21.14	2.667	7.72	3.67	5.17
0.750	10.16	1.750	15.70	2.750	7.09	3.75	4.92
0.833	10.16	1.833	15.70	2.833	7.09	3.83	4.92
0.917	14.20	1.917	12.73	2.917	6.58	3.92	4.70
1.000	14.20	2.000	12.73	3.000	6.58	4.00	4.70

Max.Eff.Inten.(mm/hr)=		141.34	605.96
	over (min)	5.00	5.00
Storage Coeff.	(min)=	2.26 (ii)	4.95 (ii)
Unit Hyd. Tpeak	(min)=	5.00	5.00
Unit Hyd. peak	(cms)=	0.30	0.22

				TOTALS
PEAK FLOW	(cms)=	0.61	0.48	1.097 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	63.68	52.63	58.15
TOTAL RAINFALL	(mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT	=	0.98	0.81	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 79.2 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0601)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0130	0.1845
0.0080	0.0623	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0063)	3.160	1.097	1.33	58.15
OUTFLOW: ID= 1 (0601)	3.160	0.012	4.08	57.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.14
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.1715

****
** SIMULATION NUMBER: 5 **
****

CHICAGO STORM
Ptotal= 71.55 mm

IDF curve parameters: A= 889.943
B= 1.500
C= 0.712
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	253.20	234.73
10.	156.70	156.37
15.	118.40	120.92
30.	73.40	76.31
60.	45.50	47.39
120.	28.20	29.18
360.	13.30	13.43
720.	8.30	8.21
1440.	5.20	5.02

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.87	1.17	31.47	2.17	11.98	3.17	6.80
0.33	6.58	1.33	156.37	2.33	10.51	3.33	6.39
0.50	7.55	1.50	39.59	2.50	9.40	3.50	6.03
0.67	8.96	1.67	23.39	2.67	8.54	3.67	5.72
0.83	11.23	1.83	17.36	2.83	7.85	3.83	5.44
1.00	15.71	2.00	14.09	3.00	7.28	4.00	5.20

```
| CALIB             |
| STANDHYD  (0063) |   Area    (ha)=   3.16
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.84         0.32
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       2.00         3.68
     Length            (m)=     145.14        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.87 | 1.083   31.47 | 2.083   11.98 |  3.08    6.80
               0.167    5.87 | 1.167   31.47 | 2.167   11.98 |  3.17    6.80
               0.250    6.58 | 1.250  156.37 | 2.250   10.51 |  3.25    6.39
               0.333    6.58 | 1.333  156.37 | 2.333   10.51 |  3.33    6.39
               0.417    7.55 | 1.417   39.59 | 2.417    9.40 |  3.42    6.03
               0.500    7.55 | 1.500   39.59 | 2.500    9.40 |  3.50    6.03
               0.583    8.96 | 1.583   23.39 | 2.583    8.54 |  3.58    5.72
               0.667    8.96 | 1.667   23.39 | 2.667    8.54 |  3.67    5.72
               0.750   11.23 | 1.750   17.36 | 2.750    7.85 |  3.75    5.44
               0.833   11.23 | 1.833   17.36 | 2.833    7.85 |  3.83    5.44
               0.917   15.71 | 1.917   14.09 | 2.917    7.28 |  3.92    5.20
               1.000   15.71 | 2.000   14.09 | 3.000    7.28 |  4.00    5.20

     Max.Eff.Inten.(mm/hr)=     156.37       683.96
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      2.17 (ii)    4.75 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.31         0.22
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.68         0.55       1.231 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.33        1.33
     RUNOFF VOLUME    (mm)=     70.55        59.32       64.93
     TOTAL RAINFALL   (mm)=     71.55        71.55       71.55
     RUNOFF COEFFICIENT   =      0.99         0.83        0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0130      0.1845
                          0.0080     0.0623   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0063)      3.160      1.231      1.33      64.93
     OUTFLOW: ID= 1 (0601)      3.160      0.013      4.08      64.31

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.08
                   TIME SHIFT OF PEAK FLOW         (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1922

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  ****************************
  ** SIMULATION NUMBER:   6 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 980.886
```

| Ptotal= 77.58 mm |

B= 1.508
C= 0.715

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	277.00	257.04
10.	171.40	171.00
15.	129.50	132.12
30.	80.20	83.22
60.	49.70	51.59
120.	30.80	31.70
360.	14.50	14.54
720.	9.00	8.87
1440.	5.60	5.41

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.30	1.17	34.10	2.17	12.91	3.17	7.30
0.33	7.07	1.33	171.00	2.33	11.31	3.33	6.86
0.50	8.12	1.50	42.95	2.50	10.12	3.50	6.47
0.67	9.64	1.67	25.29	2.67	9.19	3.67	6.14
0.83	12.10	1.83	18.74	2.83	8.44	3.83	5.84
1.00	16.95	2.00	15.19	3.00	7.82	4.00	5.58

CALIB
STANDHYD (0063)
ID= 1 DT= 5.0 min

Area (ha)= 3.16
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.84	0.32
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	2.00	3.68
Length	(m)=	145.14	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.30	1.083	34.10	2.083	12.91	3.08	7.30
0.167	6.30	1.167	34.10	2.167	12.91	3.17	7.30
0.250	7.07	1.250	171.00	2.250	11.31	3.25	6.86
0.333	7.07	1.333	171.00	2.333	11.31	3.33	6.86
0.417	8.12	1.417	42.95	2.417	10.12	3.42	6.47
0.500	8.12	1.500	42.95	2.500	10.12	3.50	6.47
0.583	9.64	1.583	25.29	2.583	9.19	3.58	6.14
0.667	9.64	1.667	25.29	2.667	9.19	3.67	6.14
0.750	12.10	1.750	18.74	2.750	8.44	3.75	5.84
0.833	12.10	1.833	18.74	2.833	8.44	3.83	5.84
0.917	16.95	1.917	15.19	2.917	7.82	3.92	5.58
1.000	16.95	2.000	15.19	3.000	7.82	4.00	5.58

Max.Eff.Inten.	(mm/hr)=	171.00	758.88	
over	(min)	5.00	5.00	
Storage Coeff.	(min)=	2.09 (ii)	4.58 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	5.00	
Unit Hyd. peak	(cms)=	0.31	0.23	
				TOTALS
PEAK FLOW	(cms)=	0.75	0.61	1.360 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	76.58	65.20	70.88
TOTAL RAINFALL	(mm)=	77.58	77.58	77.58

```
     RUNOFF COEFFICIENT   =       0.99         0.84          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  79.2    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0601) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0130     0.1845
                          0.0080     0.0623   |   0.0000     0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0063)      3.160      1.360      1.33      70.88
     OUTFLOW: ID= 1 (0601)      3.160      0.014      4.08      70.26

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.03
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2103

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 FINISH
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HWY 27 STATION

REGIONAL MUNICIPALITY OF YORK
CITY OF VAUGHAN

METRIC

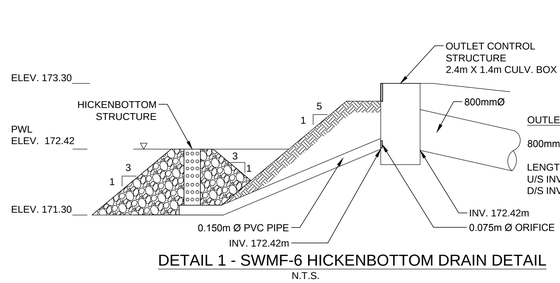
WESTBOUND
HIGHWAY 407 ETR
EASTBOUND

407/27 W/N-S RAMP
RAMP N-W
27 S-E RAMP
SOUTHBOUND
HIGHWAY 27
NORTHBOUND

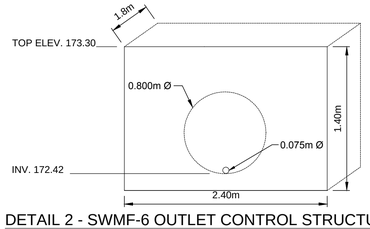
HIGHWAY 27
STATION

171.78 EX
PROPOSED CREEK ALIGNMENT
Size of Box Culvert: 8.0m x 2.0m
Size of Box Culvert: 5.0m x 2.0m
175.67 PROP
174.86 PROP
170.50 PROP CREEK
PROPOSED OPEN V CHANNEL
100-Yr FLOOD LINE: 172.26
172.50 EX
BERM
173.55 PROP
173.46 EX
BERM
174.48 PROP
170.27 EX
174.44 PROP
EXISTING CREEK TO BE RE-ALIGNED
H-1
2.29 90
173.55 PROP
173.80 PROP
172.08 EX
H-2
2.79 90
173.80 PROP
PERMANENT WL 172.42m
ACCESS ROAD
173.79 PROP
174.10 PROP
173.45 PROP
PERMANENT WL 172.42m
173.95 PROP
175.2 PROP
ACCESS ROAD
174.56 PROP
170.92 EX
170.75 EX
172.28 EX
174.10 PROP
173.45 PROP
OUTLET CONTROL STRUCTURE SEE DETAIL 2 IN THIS DRAWING
168.84 EX
SPILLWAY
OUTLET CONTROL STRUCTURE SEE DETAIL 2 IN THIS DRAWING
172.50 EX
172.01 EX
172.00 EX
SPILLWAY
171.66 EX
172.00 EX

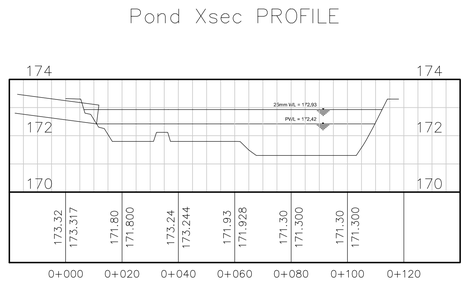
STEELES AVENUE WEST



DETAIL 1 - SWMF-6 HICKENBOTTOM DRAIN DETAIL
N.T.S.



DETAIL 2 - SWMF-6 OUTLET CONTROL STRUCTURE
N.T.S.



Ontario PARSONS IBI GROUP

SCALE
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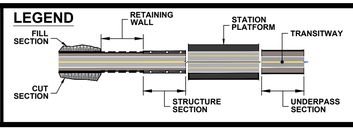
LEGEND



407 TWY BOUNDARY IN DRAINAGE ANALYSIS
PROPERTY LINE
FLOW DIRECTION
OVF
AREA ID
AREA (ha) 98-1 0.44 90 % IMPERVIOUS

407 TRANSITWAY
WEST OF HURONTARIO ROAD TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
HIGHWAY 27 STATION

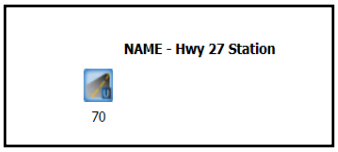
DRAWING SET
STATION DRAINAGE AREA MAP

PLATE
F-6

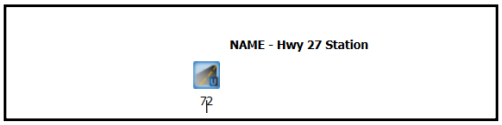
DATE
JULY. 2018

DRAWING NAME: \\XCCAN52FS01\Projects\Division\TTDrainage\602896 - 407_Transitway Huronontario\CAD\DesignStations\Hwy 27\Highway 27 Station.dwg
MODIFIED: Jun 20, 2018 - 5:39pm
CREATED:

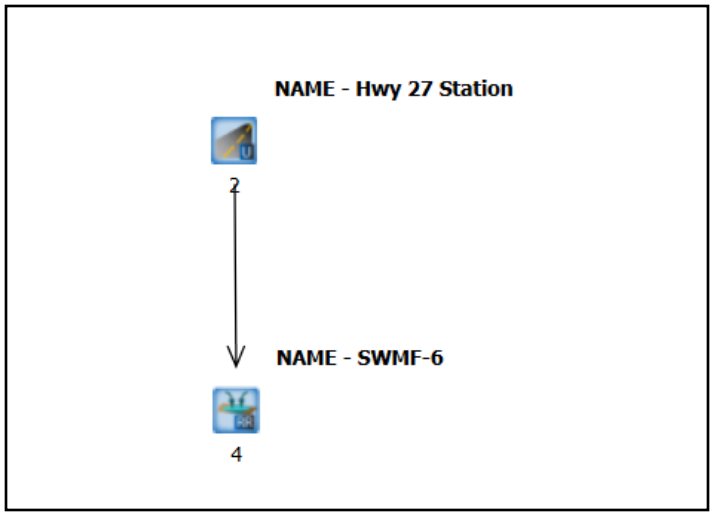
Visual OTTHYMO Modelling Schematic – HWY 27 Station SWMF-6



Existing Condition



Proposed (Uncontrolled) Condition



Proposed (Controlled) Condition

HWY 27 Station SWMF-6 Hydrologic Analysis - Existing Condition

Input parameters

Proposed Hwy 27 Station is located within Subcatchment 45.09 & 27.06 - Humber Watershed
For modeling purposes, input parameters of Area 45.09 are used in VO2 (Standhyd)

CN= 84.39
Ia= 5
Drainage area Total (ha)= 2.79

Table F.6-a: HWY 27 Station SWMF-6 Hydrologic Analysis - Existing Condition

Return Period	VO2 ID 70	
	EX Qp-6hr AES (m^3/s)	EX Qp-Chicago 4hr (m^3/s)
2-yr 5-yr 10-yr 25-yr 50-yr 100-yr	No Quantity Control Required	No Quantity Control Required

HWY 27 STATION HYDROLOGIC ANALYSIS - POST-DEVELOPMENT CONDITION

Table F.6-b: Hwy 27 Station Proposed SWMF-6 Hydrologic Analysis Post-Development Condition (6 hr AES)

6hr AES Return Period	**Allowable Release Rates** ID 601 (A = 2.79 ha)	**Post-Development Condition (Uncontrolled)** VO2 ID 602 (A = 2.79 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-7 POST-DEVELOPMENT CONDITION** VO2 ID 603 (A = 2.79 ha)		**Decrease from Allowable to Post-Dev Controlled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Provided** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	No Quantity Control Required	0.239		748	0.010	No Quantity Control Required
5-yr		0.325		1046	0.012	
10-yr		0.383		1247	0.013	
25-yr		0.455		1500	0.014	
50-yr		0.509		1690	0.015	
100-yr		0.562		1877	0.016	

Table F.6-c: Hwy 27 Station Proposed SWMF-6 Hydrologic Analysis Post-Development Condition (4 hr Chicago)

12hr AES Return Period	**Allowable Release Rates** ID 604 (A = 2.79 ha)	**Post-Development Condition (Uncontrolled)** VO2 ID 605 (A = 2.79 ha)	**Increase from Allowable to Post-Dev Uncontrolled**	**SWMF-7 POST-DEVELOPMENT CONDITION** VO2 ID 606 (A = 2.79 ha)		**Decrease from Allowable to Post-Dev Controlled**
	EX Qp (m^3/s)	**Qp** (m^3/s)	**(%)**	**Storage Provided** (m^3)	**Release Rate** (m^3/s)	**(%)**
2-yr	No Quantity Control Required	0.493		817	0.010	No Quantity Control Required
5-yr		0.667		1099	0.012	
10-yr		0.845		1283	0.013	
25-yr		1.004		1514	0.014	
50-yr		1.122		1695	0.015	
100-yr		1.237		1854	0.016	

Table F.6-d: HWY 27 STATION Proposed SWMF-6 - Design Parameters

Pond Catchment Area 2.80 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Enhanced 80% long term S.S. re	250	m^3/ha	Interpolated from Table 3.2 (MOECC)		
Extended	40	m^3/ha	(or 25mm rainfall event whichever greater)	*587.41*	m^3
25 mm Event From OTTHYMO	20.122	mm		*562.85*	m^3
% imperviousness	90	%			
Permanent Volume Required				*587.41*	m^3

~~**Quantity Control Required**~~

~~Total Volume required up to and including the 100 yr storm~~ ~~1,854.00~~ ~~m^3~~

~~Total Pond Volume Required~~ ~~(Permanent and Active Storage)~~ ~~2,441.41~~ ~~m^3~~

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	8	Minimum Forebay length	m
r	2	Length to width ratio	-
Qp	0.01	Peak flow rate from the pond during design quality storm	m^3/s
Vs	0.0003	settling velocity	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Minimum Bottom Widt 1.51 m

Dist	12	Minimum Dispersion Length	
Q	0.85	Inlet Flow Rate	(10 year Storm)
d	1.1	Depth of the Permanent Pool	
Vf	0.5	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

Width = Dist/8 Width 1.51 m

Design Quality Storm MOECC Eq 4.9

$$i_{25} = 43C + 5.9$$

A	2.7972	Area	
C	90	Runoff Coefficient	
i	44.6	Intensity	mm/hr
Qp	0.31	Flow Rational Method	

Flow Velocity Check

Qd	0.85	Inlet Flow Rate	m^3/s
A	5.88	Crossectional Area	m^2
Vfb	0.144	Flow Velocity	m/s
	Yes	< 0.15	

Forebay Dimensions

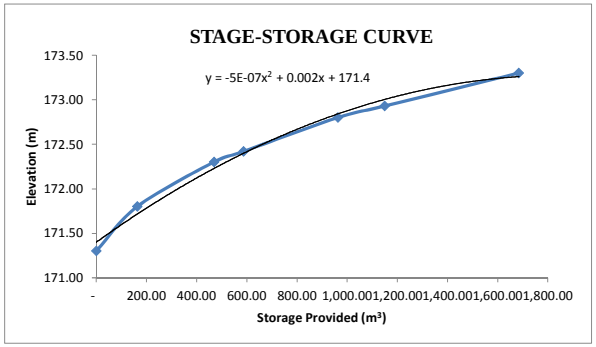
5:1	Average Side Slope	%
32.00	Top Length	m
16.00	Bottom Length	m
11.00	Average Top Width	m
2.06	Bottom Width	m
0.90	Average Depth of the Pool	m
173.23	Approximate Volume of the Pool	m^3
587.41	Total Permanent Pool Volume	m^3
0.29	Forebay/Total Volume Ratio	
281.45	Forebay Area	m^2
900.14	Total Permanent Pool Area	
0.31	Forebay/Total Area Ratio	
3.68	Average L/W Ratio Check	

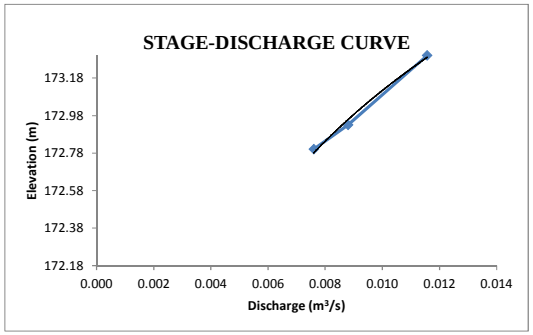
Forebay Cleanout Frequency MOECC Eq 4

Ac	2.7972	Contributing Area	(ha)
Ds	0.6	Maximum Sediment Depth	(m)
Vsf	115	Maximum Sediment Volume	(m3)
a	90%	Impervious Level	%
da	4.1	Annual Sediment Loading	(m^3/ha/yr) (Table 6.3 MOECC Manual)
Fs	10.0	Forebay Cleanout Frequency	(years)
	75%	Target Maintenance TSS Removal Efficiency	

Table F.6-e: HWY 27 STATION - Proposed SWMF-6 - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/ Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	**Discharge** Orifice 1 172.42 0.075	**Discharge** Total	**Description**
171.30		206.94	206.94	0.0	-	-						
171.80	16.55	431.55	448.09	327.5	163.76	163.76						
172.30	71.39	702.74	774.12	611.1	305.55	469.31						
172.42			900.14			***587.41***	-				0.000	**Permanent Water Level**
172.80	152.04	1048.89	1,200.93	987.5	493.76	963.07	375.66	0.38	0.0376	0.008	0.008	
172.93						***1,150.26***	562.85	0.51	0.0563	0.009	0.009	*25-mm*
173.30	248.58	1436.88	1,685.46	1443.2	721.60	1,684.67	1,097.26	0.88	0.1097	0.012	0.012	





Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q	Varies	Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Weir Discharge

Table F.6-f: HWY 27 STATION - Proposed SWMF-6
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	563	m^3
Orifice	0.07500	m	Initial Head:	0.51	m
Area	0.00442	m^2	Detention:	48.00	hrs
				2,880.00	min

FALLING HEAD EQUATION

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.5101	0.0088	2.64	562.85	560.21
5	0.5077	0.0088	2.64	560.21	557.58
10	0.5053	0.0088	2.63	557.58	554.95
15	0.5029	0.0087	2.62	554.95	552.32
20	0.5006	0.0087	2.62	552.32	549.71
25	0.4982	0.0087	2.61	549.71	547.10
30	0.4958	0.0087	2.60	547.10	544.49
35	0.4935	0.0087	2.60	544.49	541.89
40	0.4911	0.0086	2.59	541.89	539.30
45	0.4888	0.0086	2.59	539.30	536.72
50	0.4864	0.0086	2.58	536.72	534.14
55	0.4841	0.0086	2.57	534.14	531.56
60	0.4818	0.0086	2.57	531.56	529.00
65	0.4794	0.0085	2.56	529.00	526.44
70	0.4771	0.0085	2.55	526.44	523.88
75	0.4748	0.0085	2.55	523.88	521.33
80	0.4725	0.0085	2.54	521.33	518.79
85	0.4702	0.0085	2.54	518.79	516.25
2030	0.0006	0.0003	0.09	4.22	4.13
2035	0.0005	0.0003	0.08	4.13	4.05
2040	0.0004	0.0003	0.08	4.05	3.97
2045	0.0004	0.0002	0.07	3.97	3.90
2050	0.0003	0.0002	0.06	3.90	3.84
2055	0.0002	0.0002	0.06	3.84	3.78
2060	0.0002	0.0002	0.05	3.78	3.73
2065	0.0001	0.0001	0.04	3.73	3.68
2070	0.0001	0.0001	0.04	3.68	3.64
2075	0.0001	0.0001	0.03	3.64	3.61
2080	0.0000	0.0001	0.02	3.61	3.59
2085	0.0000	0.0001	0.02	3.59	3.57
2090	0.0000	0.0000	0.01	3.57	3.56

Table F.6-g: HWY 27 Station Proposed SWMF-6 Inlet Pipe Sizing

UP INV= 172.60 m
DS INV= 172.42 m
L= 14 m
SLOPE= 1.29 %

10-yr uncontrolled from the Site= 0.845 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.750	14.00	0.013	1.29	1.26	67%

Table F.6-h: HWY 27 Station Proposed SWMF-6 Outlet Pipe Sizing

UP INV= 172.42 m
DS INV= 172.00 m
L= 27 m
SLOPE= 1.56 %

100-yr uncontrolled from the Site= 1.237 m^3/s

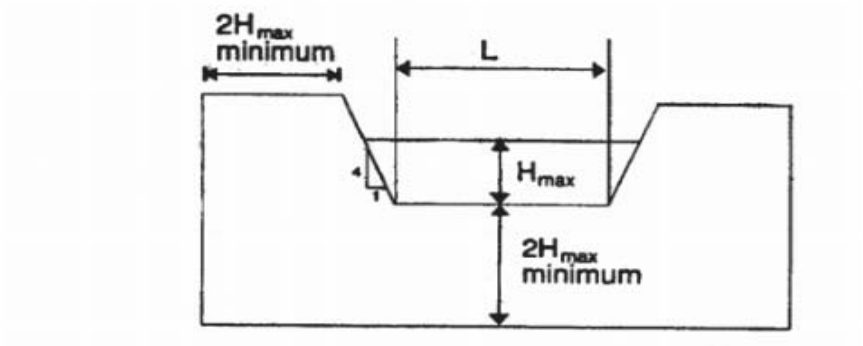
Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.800	27.00	0.013	1.56	1.65	75%

Table F.7-i: Pine Valley Station Proposed SWMF-7 Spillway

Trapezoidal Weir

Hmax=	0.3 m	2H=	0.6 m (MIN.)
Q=	0.562 m^3/s	or 2H=	1 m
L=	1.84 m		

Trapezoidal (Cipolletti)



$$0.1 < Q < 11\, m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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DATE: 06/12/2018                          TIME: 05:00:07

USER:


COMMENTS: _____________________________________________________________


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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              0eca91b4-7f9d-424a-9bea-e255de61b1b3\3b951620
| Ptotal= 36.00 mm |    Comments: 2yr/6hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   12.24 |  3.75    5.04 |  5.50    0.72
                0.50    0.72 |  2.25   12.24 |  4.00    2.88 |  5.75    0.72
                0.75    0.72 |  2.50   33.12 |  4.25    2.88 |  6.00    0.72
                1.00    0.72 |  2.75   33.12 |  4.50    1.44 |  6.25    0.72
                1.25    0.72 |  3.00    9.36 |  4.75    1.44 |
                1.50    4.32 |  3.25    9.36 |  5.00    0.72 |
                1.75    4.32 |  3.50    5.04 |  5.25    0.72 |

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| CALIB            |
| STANDHYD  (0602) |   Area    (ha)=   2.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.52          0.28
     Dep. Storage     (mm)=       2.00          5.00
```

Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.(mm/hr)=		33.12	150.46	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.37 (ii)	8.37 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.26	0.12	
				TOTALS
PEAK FLOW	(cms)=	0.13	0.11	0.239 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	34.00	27.59	30.79
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.94	0.77	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0603)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0120	0.1097
0.0090	0.0563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0602)	2.797	0.239	2.75	30.79
OUTFLOW: ID= 1 (0603)	2.797	0.010	4.75	30.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.21
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 0.0748

****
** SIMULATION NUMBER: 2 **
****

READ STORM	Filename: C:\Users\p001279d\AppD ata\Local\Temp\ 0eca91b4-7f9d-424a-9bea-e255de61b1b3\2bf49ad9
Ptotal= 47.81 mm	Comments: 5yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	16.25	3.75	6.69	5.50	0.96
0.50	0.96	2.25	16.25	4.00	3.82	5.75	0.96
0.75	0.96	2.50	43.98	4.25	3.82	6.00	0.96
1.00	0.96	2.75	43.98	4.50	1.91	6.25	0.96
1.25	0.96	3.00	12.43	4.75	1.91		
1.50	5.74	3.25	12.43	5.00	0.96		
1.75	5.74	3.50	6.69	5.25	0.96		

CALIB STANDHYD (0602) ID= 1 DT= 5.0 min	Area (ha)= 2.80 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.52	0.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

Max.Eff.Inten.(mm/hr)=		43.98	206.80	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.01 (ii)	7.47 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.28	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.17	0.15	0.325 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	45.81	38.98	42.40
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.96	0.82	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (0603) |
| IN= 2---> OUT= 1 |
| DT= 5.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0120	0.1097
0.0090	0.0563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0602)	2.797	0.325	2.75	42.40
OUTFLOW: ID= 1 (0603)	2.797	0.012	4.83	41.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.60
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.1046

****
** SIMULATION NUMBER: 3 **
****

| READ STORM |
| Ptotal= 55.69 mm |

Filename: C:\Users\p001279d\AppData\Local\Temp\0eca91b4-7f9d-424a-9bea-e255de61b1b3\55ebd6ed
Comments: 10yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	18.94	3.75	7.80	5.50	1.11
0.50	1.11	2.25	18.94	4.00	4.46	5.75	1.11
0.75	1.11	2.50	51.24	4.25	4.46	6.00	1.11
1.00	1.11	2.75	51.24	4.50	2.23	6.25	1.11
1.25	1.11	3.00	14.48	4.75	2.23		
1.50	6.68	3.25	14.48	5.00	1.11		
1.75	6.68	3.50	7.80	5.25	1.11		

| CALIB STANDHYD (0602) ID= 1 DT= 5.0 min |

Area (ha)= 2.80
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.52	0.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11

1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

Max.Eff.Inten.(mm/hr)=	51.24	244.22	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.83 (ii)	7.03 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.28	0.14	
			TOTALS
PEAK FLOW (cms)=	0.20	0.18	0.383 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	53.69	46.67	50.18
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.96	0.84	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0603)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0120	0.1097
0.0090	0.0563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0602)	2.797	0.383	2.75	50.18
OUTFLOW: ID= 1 (0603)	2.797	0.013	4.83	49.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.35
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.1247

****
** SIMULATION NUMBER: 4 **
****

READ STORM
Ptotal= 65.59 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\0eca91b4-7f9d-424a-9bea-e255de61b1b3\c2a0ebd3
Comments: 25yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	22.30	3.75	9.18	5.50	1.31
0.50	1.31	2.25	22.30	4.00	5.25	5.75	1.31
0.75	1.31	2.50	60.35	4.25	5.25	6.00	1.31
1.00	1.31	2.75	60.35	4.50	2.62	6.25	1.31
1.25	1.31	3.00	17.06	4.75	2.62		
1.50	7.87	3.25	17.06	5.00	1.31		
1.75	7.87	3.50	9.18	5.25	1.31		

CALIB
STANDHYD (0602)
ID= 1 DT= 5.0 min

Area (ha)= 2.80
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.52	0.28
Dep. Storage	(mm)=	2.00	5.00

Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)=	60.35	290.96		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.65 (ii)	6.58 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.29	0.14		
			TOTALS	
PEAK FLOW (cms)=	0.23	0.22	0.455 (iii)	
TIME TO PEAK (hrs)=	2.75	2.75	2.75	
RUNOFF VOLUME (mm)=	63.59	56.39	59.99	
TOTAL RAINFALL (mm)=	65.59	65.59	65.59	
RUNOFF COEFFICIENT =	0.97	0.86	0.91	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0603)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0120	0.1097
0.0090	0.0563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0602)	2.797	0.455	2.75	59.99
OUTFLOW: ID= 1 (0603)	2.797	0.014	4.83	59.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.13
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.1500

****
** SIMULATION NUMBER: 5 **
****

| READ STORM | Filename: C:\Users\p001279d\AppD
| | ata\Local\Temp\
| | 0eca91b4-7f9d-424a-9bea-e255de61b1b3\f216c51f
| Ptotal= 73.00 mm | Comments: 50yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	24.82	3.75	10.22	5.50	1.46
0.50	1.46	2.25	24.82	4.00	5.84	5.75	1.46
0.75	1.46	2.50	67.16	4.25	5.84	6.00	1.46
1.00	1.46	2.75	67.16	4.50	2.92	6.25	1.46
1.25	1.46	3.00	18.98	4.75	2.92		
1.50	8.76	3.25	18.98	5.00	1.46		
1.75	8.76	3.50	10.22	5.25	1.46		

CALIB	
STANDHYD (0602)	Area (ha)= 2.80
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.52	0.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	325.76	
	over (min)	5.00	10.00	
Storage Coeff.	(min)=	2.54 (ii)	6.31 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.29	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.26	0.25	0.509 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	71.00	63.69	67.34
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.97	0.87	0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0603) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0120      0.1097
                          0.0090     0.0563   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0602)      2.797      0.509      2.75      67.34
     OUTFLOW: ID= 1 (0603)      2.797      0.015      4.83      66.78

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.01
                    TIME SHIFT OF PEAK FLOW         (min)=125.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1690

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  ***************************
  ** SIMULATION NUMBER:   6 **
  ***************************


--------------------
|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              0eca91b4-7f9d-424a-9bea-e255de61b1b3\475fc3b4
| Ptotal= 80.31 mm |    Comments: 100yr/6hr
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.25    0.00 |  2.00   27.30 |  3.75   11.24 |  5.50    1.61
                 0.50    1.61 |  2.25   27.30 |  4.00    6.42 |  5.75    1.61
                 0.75    1.61 |  2.50   73.88 |  4.25    6.42 |  6.00    1.61
                 1.00    1.61 |  2.75   73.88 |  4.50    3.21 |  6.25    1.61
                 1.25    1.61 |  3.00   20.88 |  4.75    3.21 |
                 1.50    9.64 |  3.25   20.88 |  5.00    1.61 |
                 1.75    9.64 |  3.50   11.24 |  5.25    1.61 |

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| CALIB            |
| STANDHYD  (0602) |   Area    (ha)=   2.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.52          0.28
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       3.23          3.23
     Length            (m)=     136.56         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 1.667    9.64 | 3.250   20.88 |  4.83    1.61
                0.167    0.00 | 1.750    9.64 | 3.333   11.24 |  4.92    1.61
                0.250    0.00 | 1.833   27.30 | 3.417   11.24 |  5.00    1.61
                0.333    1.61 | 1.917   27.30 | 3.500   11.24 |  5.08    1.61
                0.417    1.61 | 2.000   27.30 | 3.583   11.24 |  5.17    1.61
                0.500    1.61 | 2.083   27.30 | 3.667   11.24 |  5.25    1.61
                0.583    1.61 | 2.167   27.30 | 3.750   11.24 |  5.33    1.61
                0.667    1.61 | 2.250   27.30 | 3.833    6.42 |  5.42    1.61
                0.750    1.61 | 2.333   73.88 | 3.917    6.42 |  5.50    1.61
                0.833    1.61 | 2.417   73.88 | 4.000    6.42 |  5.58    1.61
                0.917    1.61 | 2.500   73.88 | 4.083    6.42 |  5.67    1.61
                1.000    1.61 | 2.583   73.88 | 4.167    6.42 |  5.75    1.61
                1.083    1.61 | 2.667   73.88 | 4.250    6.42 |  5.83    1.61
                1.167    1.61 | 2.750   73.88 | 4.333    3.21 |  5.92    1.61
                1.250    1.61 | 2.833   20.88 | 4.417    3.21 |  6.00    1.61
                                      Page 8
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                1.333    9.64 | 2.917   20.88 | 4.500    3.21 |  6.08    1.61
                1.417    9.64 | 3.000   20.88 | 4.583    3.21 |  6.17    1.61
                1.500    9.64 | 3.083   20.88 | 4.667    3.21 |  6.25    1.61
                1.583    9.64 | 3.167   20.88 | 4.750    3.21 |

     Max.Eff.Inten.(mm/hr)=      73.88       360.01
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.45 (ii)    6.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.29         0.28          0.562 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      78.31        70.91          74.61
     TOTAL RAINFALL   (mm)=      80.31        80.31          80.31
     RUNOFF COEFFICIENT   =       0.98         0.88           0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR (0603) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0120      0.1097
                          0.0090     0.0563   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0602)      2.797      0.562      2.75       74.61
     OUTFLOW: ID= 1 (0603)      2.797      0.016      4.92       74.04

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.91
                  TIME SHIFT OF PEAK FLOW         (min)=130.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1877

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 FINISH
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\9ef59a18-dc53-4f50-9919-9b63a489d0a6\Scenario.out

  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\9ef59a18-dc53-4f50-9919-9b63a489d0a6\Scenario.sum


DATE: 06/12/2018                          TIME: 05:02:04

USER:


COMMENTS: _____________________________________________________________


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  ***************************
  ** SIMULATION NUMBER:   1 **
  ***************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 453.462
| Ptotal= 38.09 mm |                          B=   1.500
--------------------                          C=   0.704
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
                       5.         131.10               121.41
                      10.          81.50                81.25
                      15.          61.70                63.01
                      30.          38.40                39.97
                      60.          24.00                24.96
                     120.          15.00                15.45
                     360.           7.10                 7.17
                     720.           4.50                 4.41
                    1440.           2.80                 2.71


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                                      Page 1
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0.17	3.20	1.17	16.80	2.17	6.49	3.17	3.71
0.33	3.59	1.33	81.25	2.33	5.70	3.33	3.48
0.50	4.11	1.50	21.07	2.50	5.11	3.50	3.29
0.67	4.87	1.67	12.55	2.67	4.64	3.67	3.12
0.83	6.09	1.83	9.35	2.83	4.27	3.83	2.97
1.00	8.47	2.00	7.61	3.00	3.96	4.00	2.84

CALIB
STANDHYD (0605)
ID= 1 DT= 5.0 min

Area (ha)= 2.80
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.52	0.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.20	1.083	16.80	2.083	6.49	3.08	3.71
0.167	3.20	1.167	16.80	2.167	6.49	3.17	3.71
0.250	3.59	1.250	81.25	2.250	5.70	3.25	3.48
0.333	3.59	1.333	81.25	2.333	5.70	3.33	3.48
0.417	4.11	1.417	21.07	2.417	5.11	3.42	3.29
0.500	4.11	1.500	21.07	2.500	5.11	3.50	3.29
0.583	4.87	1.583	12.55	2.583	4.64	3.58	3.12
0.667	4.87	1.667	12.55	2.667	4.64	3.67	3.12
0.750	6.09	1.750	9.35	2.750	4.27	3.75	2.97
0.833	6.09	1.833	9.35	2.833	4.27	3.83	2.97
0.917	8.47	1.917	7.61	2.917	3.96	3.92	2.84
1.000	8.47	2.000	7.61	3.000	3.96	4.00	2.84

Max.Eff.Inten.(mm/hr)=		81.25	332.17	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.35 (ii)	5.84 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.30	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.31	0.19	0.493 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	36.09	29.60	32.85
TOTAL RAINFALL	(mm)=	38.09	38.09	38.09
RUNOFF COEFFICIENT	=	0.95	0.78	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0606)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0120	0.1097
0.0090	0.0563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0605)	2.797	0.493	1.33	32.85
OUTFLOW: ID= 1 (0606)	2.797	0.010	4.08	32.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.12

TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.0817

****
** SIMULATION NUMBER: 2 **
****

CHICAGO STORM	Ptotal= 48.94 mm

IDF curve parameters: A= 592.209
B= 1.501
C= 0.707
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	170.20	157.65
10.	105.60	105.33
15.	79.90	81.60
30.	49.70	51.66
60.	30.90	32.19
120.	19.20	19.89
360.	9.10	9.20
720.	5.70	5.65
1440.	3.60	3.46

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.08	1.17	21.57	2.17	8.28	3.17	4.72
0.33	4.57	1.33	105.33	2.33	7.27	3.33	4.43
0.50	5.24	1.50	27.08	2.50	6.51	3.50	4.19
0.67	6.21	1.67	16.08	2.67	5.92	3.67	3.97
0.83	7.77	1.83	11.97	2.83	5.44	3.83	3.78
1.00	10.83	2.00	9.72	3.00	5.05	4.00	3.61

CALIB STANDHYD (0605) ID= 1 DT= 5.0 min

Area (ha)= 2.80
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.52	0.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.08	1.083	21.57	2.083	8.28	3.08	4.72
0.167	4.08	1.167	21.57	2.167	8.28	3.17	4.72
0.250	4.57	1.250	105.33	2.250	7.27	3.25	4.43
0.333	4.57	1.333	105.33	2.333	7.27	3.33	4.43
0.417	5.24	1.417	27.08	2.417	6.51	3.42	4.19
0.500	5.24	1.500	27.08	2.500	6.51	3.50	4.19
0.583	6.21	1.583	16.08	2.583	5.92	3.58	3.97
0.667	6.21	1.667	16.08	2.667	5.92	3.67	3.97
0.750	7.77	1.750	11.97	2.750	5.44	3.75	3.78
0.833	7.77	1.833	11.97	2.833	5.44	3.83	3.78
0.917	10.83	1.917	9.72	2.917	5.05	3.92	3.61
1.000	10.83	2.000	9.72	3.000	5.05	4.00	3.61

```
     Max.Eff.Inten.(mm/hr)=     105.33       456.58
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.12 (ii)    5.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.41         0.27          0.667 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      46.94        40.08          43.51
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.96         0.82           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0606) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0120      0.1097
                          0.0090     0.0563   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0605)      2.797      0.667      1.33      43.51
     OUTFLOW: ID= 1 (0606)      2.797      0.012      4.08      42.94

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.80
                    TIME SHIFT OF PEAK FLOW         (min)=165.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1099

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  ****************************
  ** SIMULATION NUMBER:   3 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 683.826
| Ptotal= 55.89 mm |                          B=   1.501
--------------------                          C=   0.709
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                      The CORRELATION coefficient is = 0.9996

                       TIME       INPUT INT.           TAB. INT.
                      (min)        (mm/hr)              (mm/hr)
                         5.         195.80               181.36
                        10.         121.40               121.03
                        15.          91.80                93.70
                        30.          57.00                59.24
                        60.          35.40                36.87
                       120.          22.00                22.75
                       360.          10.40                10.50
                       720.           6.50                 6.43
                      1440.           4.10                 3.94


                    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                    0.17    4.63 |  1.17   24.61 |  2.17    9.42 |  3.17    5.36
                    0.33    5.19 |  1.33  121.03 |  2.33    8.26 |  3.33    5.03
                    0.50    5.95 |  1.50   30.93 |  2.50    7.40 |  3.50    4.75
                    0.67    7.06 |  1.67   18.33 |  2.67    6.73 |  3.67    4.51
                    0.83    8.83 |  1.83   13.63 |  2.83    6.18 |  3.83    4.29
```

1.00	12.33	2.00	11.06	3.00	5.73	4.00	4.10

CALIB			
STANDHYD (0605)	Area (ha)=	2.80	
ID= 1 DT= 5.0 min	Total Imp(%)=	90.00	Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.52	0.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.63	1.083	24.61	2.083	9.42	3.08	5.36
0.167	4.63	1.167	24.61	2.167	9.42	3.17	5.36
0.250	5.19	1.250	121.03	2.250	8.26	3.25	5.03
0.333	5.19	1.333	121.03	2.333	8.26	3.33	5.03
0.417	5.95	1.417	30.93	2.417	7.40	3.42	4.75
0.500	5.95	1.500	30.93	2.500	7.40	3.50	4.75
0.583	7.06	1.583	18.33	2.583	6.73	3.58	4.51
0.667	7.06	1.667	18.33	2.667	6.73	3.67	4.51
0.750	8.83	1.750	13.63	2.750	6.18	3.75	4.29
0.833	8.83	1.833	13.63	2.833	6.18	3.83	4.29
0.917	12.33	1.917	11.06	2.917	5.73	3.92	4.10
1.000	12.33	2.000	11.06	3.000	5.73	4.00	4.10

Max.Eff.Inten.(mm/hr)=		121.03	537.78	
over (min)		5.00	5.00	
Storage Coeff. (min)=		2.01 (ii)	4.98 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.31	0.22	
				TOTALS
PEAK FLOW	(cms)=	0.47	0.38	0.845 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	53.89	46.87	50.38
TOTAL RAINFALL	(mm)=	55.89	55.89	55.89
RUNOFF COEFFICIENT	=	0.96	0.84	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0606)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0120	0.1097
	0.0090	0.0563	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0605)		2.797	0.845	1.33	50.38
OUTFLOW: ID= 1 (0606)		2.797	0.013	4.08	49.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.54
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.1283

****

** SIMULATION NUMBER: 4 **
****

CHICAGO STORM Ptotal= 64.68 mm	IDF curve parameters: A= 804.454 B= 1.501 C= 0.712 used in: INTENSITY = A / (t + B)^C Duration of storm = 4.00 hrs Storm time step = 10.00 min Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	228.80	212.16
10.	141.60	141.34
15.	107.10	109.30
30.	66.40	68.98
60.	41.20	42.84
120.	25.60	26.38
360.	12.10	12.14
720.	7.50	7.42
1440.	4.70	4.53

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.30	1.17	28.45	2.17	10.83	3.17	6.14
0.33	5.95	1.33	141.34	2.33	9.50	3.33	5.77
0.50	6.83	1.50	35.79	2.50	8.50	3.50	5.45
0.67	8.10	1.67	21.14	2.67	7.72	3.67	5.17
0.83	10.16	1.83	15.70	2.83	7.09	3.83	4.92
1.00	14.20	2.00	12.73	3.00	6.58	4.00	4.70

CALIB STANDHYD (0605) ID= 1 DT= 5.0 min	Area (ha)= 2.80 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.52	0.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.30	1.083	28.45	2.083	10.83	3.08	6.14
0.167	5.30	1.167	28.45	2.167	10.83	3.17	6.14
0.250	5.95	1.250	141.34	2.250	9.50	3.25	5.77
0.333	5.95	1.333	141.34	2.333	9.50	3.33	5.77
0.417	6.83	1.417	35.79	2.417	8.50	3.42	5.45
0.500	6.83	1.500	35.79	2.500	8.50	3.50	5.45
0.583	8.10	1.583	21.14	2.583	7.72	3.58	5.17
0.667	8.10	1.667	21.14	2.667	7.72	3.67	5.17
0.750	10.16	1.750	15.70	2.750	7.09	3.75	4.92
0.833	10.16	1.833	15.70	2.833	7.09	3.83	4.92
0.917	14.20	1.917	12.73	2.917	6.58	3.92	4.70
1.000	14.20	2.000	12.73	3.000	6.58	4.00	4.70

Max.Eff.Inten.(mm/hr)=		141.34	642.55
over (min)		5.00	5.00
Storage Coeff. (min)=		1.89 (ii)	4.68 (ii)
Unit Hyd. Tpeak (min)=		5.00	5.00
Unit Hyd. peak (cms)=		0.32	0.22

				TOTALS
PEAK FLOW	(cms)=	0.55	0.46	1.004 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	62.68	55.49	59.08
TOTAL RAINFALL	(mm)=	64.68	64.68	64.68
RUNOFF COEFFICIENT	=	0.97	0.86	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 84.4 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0606)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0120	0.1097
0.0090	0.0563	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0605)	2.797	1.004	1.33	59.08
OUTFLOW: ID= 1 (0606)	2.797	0.014	4.08	58.51

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.43
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.1514

****
** SIMULATION NUMBER: 5 **
****

CHICAGO STORM
Ptotal= 71.55 mm

IDF curve parameters: A= 889.943
B= 1.500
C= 0.712
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	253.20	234.73
10.	156.70	156.37
15.	118.40	120.92
30.	73.40	76.31
60.	45.50	47.39
120.	28.20	29.18
360.	13.30	13.43
720.	8.30	8.21
1440.	5.20	5.02

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.87	1.17	31.47	2.17	11.98	3.17	6.80
0.33	6.58	1.33	156.37	2.33	10.51	3.33	6.39
0.50	7.55	1.50	39.59	2.50	9.40	3.50	6.03
0.67	8.96	1.67	23.39	2.67	8.54	3.67	5.72
0.83	11.23	1.83	17.36	2.83	7.85	3.83	5.44
1.00	15.71	2.00	14.09	3.00	7.28	4.00	5.20

```
| CALIB              |
| STANDHYD  (0605) |   Area    (ha)=   2.80
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.52         0.28
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       3.23         3.23
     Length            (m)=     136.56        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.87 | 1.083   31.47 | 2.083   11.98 |  3.08    6.80
               0.167    5.87 | 1.167   31.47 | 2.167   11.98 |  3.17    6.80
               0.250    6.58 | 1.250  156.37 | 2.250   10.51 |  3.25    6.39
               0.333    6.58 | 1.333  156.37 | 2.333   10.51 |  3.33    6.39
               0.417    7.55 | 1.417   39.59 | 2.417    9.40 |  3.42    6.03
               0.500    7.55 | 1.500   39.59 | 2.500    9.40 |  3.50    6.03
               0.583    8.96 | 1.583   23.39 | 2.583    8.54 |  3.58    5.72
               0.667    8.96 | 1.667   23.39 | 2.667    8.54 |  3.67    5.72
               0.750   11.23 | 1.750   17.36 | 2.750    7.85 |  3.75    5.44
               0.833   11.23 | 1.833   17.36 | 2.833    7.85 |  3.83    5.44
               0.917   15.71 | 1.917   14.09 | 2.917    7.28 |  3.92    5.20
               1.000   15.71 | 2.000   14.09 | 3.000    7.28 |  4.00    5.20

     Max.Eff.Inten.(mm/hr)=     156.37       720.51
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      1.81 (ii)    4.50 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.32         0.23
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.61         0.52        1.122 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.33         1.33
     RUNOFF VOLUME    (mm)=     69.55        62.26        65.91
     TOTAL RAINFALL   (mm)=     71.55        71.55        71.55
     RUNOFF COEFFICIENT   =      0.97         0.87         0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0606) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0120      0.1097
                          0.0090     0.0563   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0605)      2.797      1.122      1.33      65.91
     OUTFLOW: ID= 1 (0606)      2.797      0.015      4.08      65.34

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.37
                   TIME SHIFT OF PEAK FLOW         (min)=165.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1695

--------------------------------------------------------------------------------
  ***************************
  ** SIMULATION NUMBER:   6 **
  ***************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 980.886
```

| Ptotal= 77.58 mm |

B= 1.508
C= 0.715

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	277.00	257.04
10.	171.40	171.00
15.	129.50	132.12
30.	80.20	83.22
60.	49.70	51.59
120.	30.80	31.70
360.	14.50	14.54
720.	9.00	8.87
1440.	5.60	5.41

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.30	1.17	34.10	2.17	12.91	3.17	7.30
0.33	7.07	1.33	171.00	2.33	11.31	3.33	6.86
0.50	8.12	1.50	42.95	2.50	10.12	3.50	6.47
0.67	9.64	1.67	25.29	2.67	9.19	3.67	6.14
0.83	12.10	1.83	18.74	2.83	8.44	3.83	5.84
1.00	16.95	2.00	15.19	3.00	7.82	4.00	5.58

CALIB
STANDHYD (0605)
ID= 1 DT= 5.0 min

Area (ha)= 2.80
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.52	0.28
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	3.23	3.23
Length	(m)=	136.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.30	1.083	34.10	2.083	12.91	3.08	7.30
0.167	6.30	1.167	34.10	2.167	12.91	3.17	7.30
0.250	7.07	1.250	171.00	2.250	11.31	3.25	6.86
0.333	7.07	1.333	171.00	2.333	11.31	3.33	6.86
0.417	8.12	1.417	42.95	2.417	10.12	3.42	6.47
0.500	8.12	1.500	42.95	2.500	10.12	3.50	6.47
0.583	9.64	1.583	25.29	2.583	9.19	3.58	6.14
0.667	9.64	1.667	25.29	2.667	9.19	3.67	6.14
0.750	12.10	1.750	18.74	2.750	8.44	3.75	5.84
0.833	12.10	1.833	18.74	2.833	8.44	3.83	5.84
0.917	16.95	1.917	15.19	2.917	7.82	3.92	5.58
1.000	16.95	2.000	15.19	3.000	7.82	4.00	5.58

Max.Eff.Inten.(mm/hr)=	171.00	795.50		
over (min)	5.00	5.00		
Storage Coeff. (min)=	1.75 (ii)	4.34 (ii)		
Unit Hyd. Tpeak (min)=	5.00	5.00		
Unit Hyd. peak (cms)=	0.32	0.23		
			TOTALS	
PEAK FLOW (cms)=	0.66	0.57	1.237 (iii)	
TIME TO PEAK (hrs)=	1.33	1.33	1.33	
RUNOFF VOLUME (mm)=	75.58	68.21	71.89	
TOTAL RAINFALL (mm)=	77.58	77.58	77.58	

```
     RUNOFF COEFFICIENT   =       0.97         0.88          0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  84.4    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0606) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0120      0.1097
                          0.0090     0.0563   |   0.0000      0.0000

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0605)      2.797      1.237      1.33      71.89
     OUTFLOW: ID= 1 (0606)      2.797      0.016      4.08      71.32

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.31
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1854

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 FINISH
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PINE VALLEY STATION

REGIONAL MUNICIPALITY OF YORK
CITY OF VAUGHAN

METRIC

HIGHWAY 407 ETR
WESTBOUND
EASTBOUND

PINE VALLEY
DRIVE STATION

PINE VALLEY
DRIVE STATION

PINE VALLEY DRIVE

ISLINGTON AVENUE

CPR MACTIER

CNR

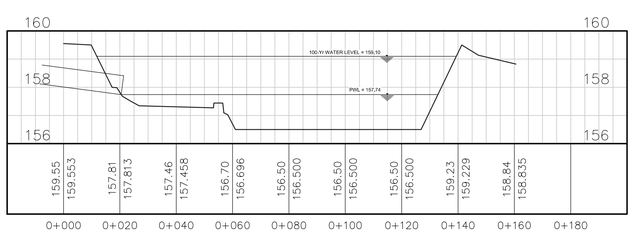
20+000.00
20+100.00
20+200.00
20+300.00
20+400.00
20+500.00
20+600.00
20+700.00

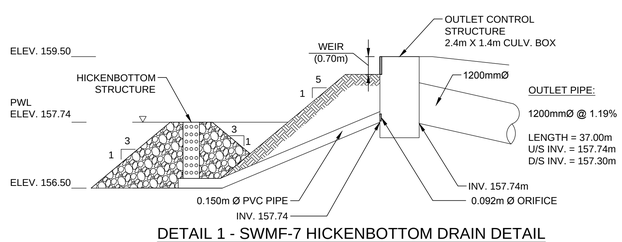
POND OUTLET TO DITCH
SPILLWAY
P-1
0.94 90

148.01 P
152.87 PROP TWY
153.67 PROP TWY
154.37 PROP
160.86 PROP
161.97 PROP
153.80 PROP
162.14 PROP
156.42 PROP

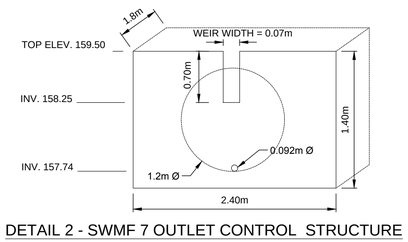
PERMANENT WL 157.74m
100-yr WL 159.10m
OUTLET CONTROL STRUCTURE (SEE DETAIL 2 BELOW)
BERM
159.65 PROP
ACCESS ROAD
POND INLET
160.48 PROP
161.35 PROP
P-3
4.66 90
159.71 PROP
161.39 PROP
162.14 PROP
REMOVE UTILITIES
160.41 PROP
161.26 PROP
158.31 PROP
P-2
0.47 90
P-4
0.40 90
BIOSWALE FOR PERVIOUS AREA
BIOSWALES FOR PERVIOUS AREA

Pond Xsec PROFILE





DETAIL 1 - SWMF-7 HICKENBOTTOM DRAIN DETAIL
N.T.S.

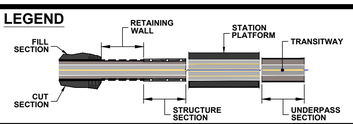


DETAIL 2 - SWMF 7 OUTLET CONTROL STRUCTURE
N.T.S.

Ontario PARSONS IBI GROUP

SCALE
1:1000

LEGEND



407 TWY BOUNDARY IN DRAINAGE ANALYSIS
PROPERTY LINE
FLOW DIRECTION
OVF
98-1 AREA ID
AREA (ha) 0.44 90 % IMPERVIOUS

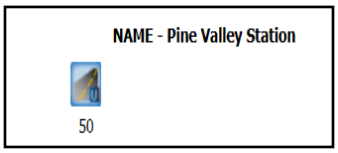
407 TRANSITWAY
WEST OF HURONTARIO ROAD TO EAST OF HWY 400
G.W.P. 14-20001, CA 2014-E-0013
PINE VALLEY STATION

DRAWING SET
STATION DRAINAGE AREA MAP

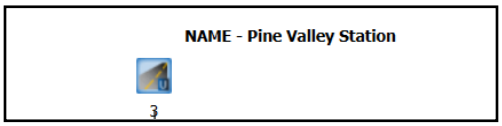
PLATE
F-7

DATE
JULY. 2018

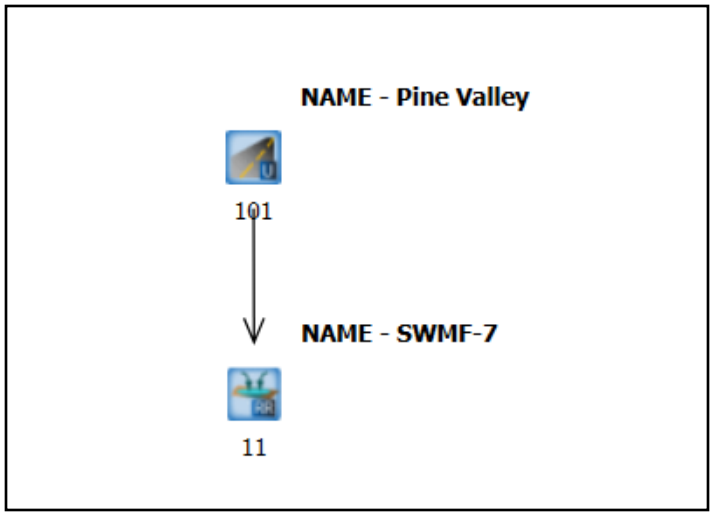
Visual OTTHYMO Modelling Schematic – Pine Valley Station SWMF-7



Existing Condition



Proposed (Uncontrolled) Condition



Proposed (Controlled) Condition

Pine Valley Station SWMF-7 Hydrologic Analysis - Existing Condition

Input parameters

Proposed Pine Valley Station is located within Subcatchment 27.01 - Humber Watershed
For modeling purposes, input parameters of Area 27.1 are used in VO2 (Standhyd)

CN= 75.69
Ia= 5
Drainage area Total (ha)= 6.47

Table F.7-a: Pine Valley Station SWMF-7 Hydrologic Analysis - Existing Condition

Return Period	VO2 ID 101 Allowable Flow (m^3/s)
2-yr	0.041
5-yr	0.061
10-yr	0.074
25-yr	0.092
50-yr	0.107
100-yr	0.121

Return Period	Basin Sub-Basin 46	Station Area(ha) 6.47
2-yr	Q=7.745-0.762*ln(A)	0.041
5-yr	Q=11.468-1.123*ln(A)	0.061
10-yr	Q=13.877-1.342*ln(A)	0.074
25-yr	Q=17.381-1.690*ln(A)	0.092
50-yr	Q=20.164-1.973*ln(A)	0.107
100-yr	Q=22.973-2.256*ln(A)	0.121

Pine Valley Station SWMF-7 Hydrologic Analysis - Post-Development Condition

Table F.7-b: Pine Valley Station Proposed SWMF-7 Hydrologic Analysis Post-Development Condition (6hr AES)

6hr AES Return Period	Allowable Release Rates	Post-Development Condition (Uncontrolled) VO2 ID 702 (A = 6.47 ha)	Increase from Allowable to Post-Dev Uncontrolled	SWMF-1 POST-DEVELOPMENT CONDITION VO2 ID 703 (A = 6.47 ha)		Decrease from Allowable to Post-Dev Controlled
	$Q_{allowable}$ (m^3/s)	Qp (m^3/s)	(%)	Storage Required (m^3)	Release Rate (m^3/s)	(%)
2-yr	0.041	0.521	1173.69%	1607	0.028	-46.09%
5-yr	0.061	0.721	1089.15%	2175	0.050	-21.26%
10-yr	0.074	0.855	1062.13%	2548	0.067	-9.81%
25-yr	0.092	1.023	1011.49%	3005	0.090	-2.27%
50-yr	0.107	1.148	976.66%	3345	0.108	1.27%
100-yr	0.121	1.272	947.94%	3688	0.124	2.11%

Table F.7-c: Pine Valley Station Proposed SWMF-7 Hydrologic Analysis Post-Development Condition (4 hr Chicago)

4hr Chicago Return Period	Allowable Release Rates	Post-Development Condition (Uncontrolled) VO2 ID 705 (A = 6.47 ha)	Increase from Allowable to Post-Dev Uncontrolled	SWMF-1 POST-DEVELOPMENT CONDITION VO2 ID 706 (A = 6.47 ha)		Decrease from Allowable to Post-Dev Controlled
	$Q_{allowable}$ (m^3/s)	Qp (m^3/s)	(%)	Storage Required (m^3)	Release Rate (m^3/s)	(%)
2-yr	0.041	1.058	2486.50%	1735	0.033	-23.95%
5-yr	0.061	1.448	2288.20%	2234	0.053	-14.40%
10-yr	0.074	1.709	2222.90%	2542	0.067	-9.81%
25-yr	0.092	2.222	2314.20%	2918	0.086	-7.02%
50-yr	0.107	2.496	2240.89%	3213	0.101	-5.57%
100-yr	0.121	2.761	2174.65%	3474	0.114	-6.47%

Table F.7-d: Pine Valley Station Proposed SWMF-7 - Design Parameters

Pond Catchment Area 6.47 ha

Water Quality Storage Requirements

MOECC (2003, Table 3.2)

Level 1	250	m^3/ha	Interpolated from Table 3.2 (MOECC)		
Extended	40	m^3/ha	(or 25mm rainfall event whichever greater)	*1,358.70*	m^3
25 mm Event From OTTHYMO	18.643	mm		*1,206.20*	m^3
% imperviousness	90	%			
Permanent Volume Required				*1,358.70*	m^3

Quantity Control Required

Total Volume required up to and including the 100 yr storm **3,688.00** m^3

Total Pond Volume Required (Permanent and Extended) **5,046.70** m^3

Settling Calculations MOECC Eq. 4.5

$$Dist = \sqrt{\frac{r \times Q_p}{V_s}}$$

Dist	9	Minimum Forebay length	m
r	2	Length to width ratio	-
Qp	0.013	Peak flow rate from the pond during design quality storm	m^3/s
Vs	0.0003	settling velocity	m/s

Dispersion Length MOECC Eq. 4.6

$$Dist = \frac{8Q}{dV_f}$$

Minimum Width 9 m

Dist	73	Minimum Dispersion Length	
Q	1.71	Inlet Flow Rate	(10 year Storm)
d	1.24	Depth of the Permanent Pool	
Vf	0.15	Desired Velocity in the Forebay	

(0.15 m/s is the maximum permissible velocity before erosion occurs in a channel (MOECC))

Minimum Forebay Deep Zone Bottom Width MOECC Eq. 4.7

Width = Dist/8 Width 1.17 m

Design Quality Storm MOECC Eq 4.9

$$i_{25} = 43C + 5.9$$

A	6.47	Area	
C	90	Runoff Coefficient	
i	44.6	Intensity	mm/hr
Qp	0.73	Flow Rational Method	

Flow Velocity Check

Qd	1.71	Inlet Flow Rate	m^3/s
A	12.00	Crossectional Area	m^2
Vfb	0.142	Flow Velocity	m/s
	Yes	< 0.15	

Forebay Dimensions

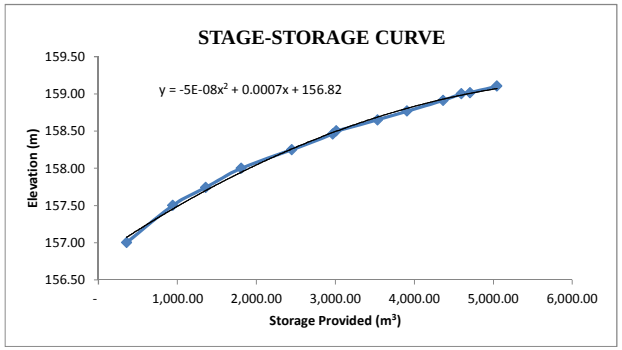
5:1	Average Side Slope	%
32.00	Top Length	m
20.00	Bottom Length	m
20.00	Average Top Width	m
10.00	Bottom Width	m
0.80	Average Depth of the Pool	m
336.00	Approximate Volume of the Pool	m^3
1358.70	Total Permanent Pool Volume	m^3
0.25	Forebay/Total Volume Ratio	
621.57	Forebay Area	m^2
1720.47	Total Permanent Pool Area	
0.36	Forebay/Total Area Ratio	
1.73	Average L/W Ratio Check	

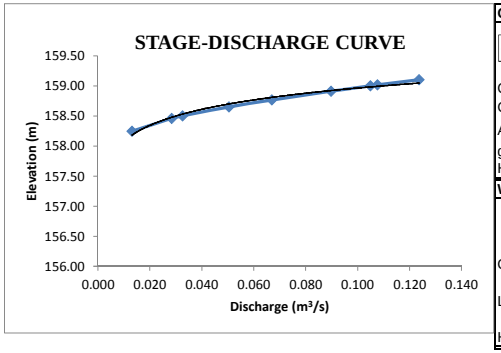
Forebay Cleanout Frequency

Ac	6.47	Contributing Area	(ha)
Ds	0.6	Maximum Sediment Depth	(m)
Vsf	260	Maximum Sediment Volume	(m3)
a	90%	Impervious Level	%
da	4.1	Annual Sediment Loading	(m^3/ha/yr) (Table 6.3 MOECC Manual)
Fs	10	Forebay Cleanout Frequency	(years)
	75%	Target Maintenance TSS Removal Efficiency	

Table F.7-e: Pine Valley Station - Proposed SWMF-7 - Stage-Storage, Stage-Discharge Relationships and Outlet Structure Design

Elevation m	Forebay	Cell 1	Sec Area m^2	Avg Area m^2	Sec Volume m^3	Cumulative Volume	Fluctuation/ Extended Cum.Volume	Stage (m) Active	Storage (ha.m) Active	Discharge Orifice 1 157.74 0.092	Discharge Weir 158.25 0.070	Discharge Total	Description	
156.50		496.44	496.44											
157.00		929.59	929.59	713.0	356.51	356.51								
157.50		1408.12	1,408.12	1168.9	584.43	940.93								
157.74			1,720.47			1,358.70						0.000	**Permanent Water Level**	
158.00	124.33	1931.21	2,055.55	1731.8	865.92	1,806.85	488.56							
158.25						2,445.70	1,087.00	0.51	0.1087	0.013	0.000	0.013	*25-mm*	
158.46						2,964.70	1,606.00	0.72	0.1606	0.016	0.013	0.028	*2-yr*	0.041
158.50	267.73	2499.15	2,766.88	2411.2	1,205.61	3,012.46	1,702.44	0.76	0.1702	0.016	0.016	0.033		
158.65						3,532.70	2,174.00	0.91	0.2174	0.018	0.033	0.050	*5-yr*	0.061
158.77						3,905.70	2,547.00	1.03	0.2547	0.019	0.048	0.067	*10-yr*	0.074
158.91						4,363.70	3,005.00	1.17	0.3005	0.020	0.070	0.090	*25-yr*	0.092
159.00	453.72	3111.93	3,565.65	3166.3	1,583.13	4,595.59	3,285.57	1.26	0.3286	0.021	0.084	0.105		
159.02						4,703.70	3,345.00	1.27	0.3345	0.021	0.087	0.108	*50-yr*	0.107
159.10						5,046.70	3,688.00	1.36	0.3688	0.022	0.102	0.124	*100-yr*	0.121
159.50			4,196.12	3880.9	1,940.44	6,536.03	5,226.01	1.76	0.5226	0.025	0.180	0.205		





Orifice Discharge

$$Q = C_d A\sqrt{2gH}$$

Q	Varies	Discharge	(m^3/s)
C_d	0.63	Discharge Coefficient	-
A	Varies	Area of Orifice	(m^2)
g	9.81	Gravitational Constant	(m/s^2)
H	Varies	Hydraulic Head	(m)

Weir Discharge

If $L > 2 * H_{max}$: $Q = 1.837 * (L - 0.06 * H_{max}) * H_{max}^{1.5}$

If $L < 2 * H_{max}$: $Q = 1.837 * L * H_{max}^{1.5}$

Q	Varies	Discharge	(m^3/s)
L	0.070	Weir Length	(m)
H	Varies	Hydraulic Head	(m)

Table F.7-f: Pine vally Station - Proposed SWMF-7
25 mm Drawdown Time Calculations

Project: 407 TWY Hurontario

C	0.63000		Extended Quality Volume:	1,206	m^3
Orifice	0.092	m	Initial Head:	0.51	m
Area	0.00665	m^2	Detention:	48.00	hrs
				2,880.00	min

F A L L I N G H E A D E Q U A T I O N

Time (min)	Head (m)	Q (m3/s)	Volume (m3)	Declining Volume Start	Declining Volume End
0	0.5053	0.0132	3.95	1,206.20	1,202.25
5	0.5036	0.0132	3.95	1,202.25	1,198.30
10	0.5020	0.0131	3.94	1,198.30	1,194.36
15	0.5003	0.0131	3.93	1,194.36	1,190.42
20	0.4987	0.0131	3.93	1,190.42	1,186.49
25	0.4970	0.0131	3.92	1,186.49	1,182.57
30	0.4954	0.0131	3.92	1,182.57	1,178.66
35	0.4937	0.0130	3.91	1,178.66	1,174.75
40	0.4921	0.0130	3.90	1,174.75	1,170.85
45	0.4905	0.0130	3.90	1,170.85	1,166.95
50	0.4888	0.0130	3.89	1,166.95	1,163.06
55	0.4872	0.0129	3.88	1,163.06	1,159.18
60	0.4856	0.0129	3.88	1,159.18	1,155.30
65	0.4839	0.0129	3.87	1,155.30	1,151.43
70	0.4823	0.0129	3.86	1,151.43	1,147.57
75	0.4807	0.0129	3.86	1,147.57	1,143.71
80	0.4791	0.0128	3.85	1,143.71	1,139.86
85	0.4775	0.0128	3.84	1,139.86	1,136.01
90	0.4759	0.0128	3.84	1,136.01	1,132.18
95	0.4743	0.0128	3.83	1,132.18	1,128.35
100	0.4727	0.0127	3.82	1,128.35	1,124.52
105	0.4711	0.0127	3.82	1,124.52	1,120.70
		-- B R E A K --			-
2860	0.0014	0.0007	0.21	11.93	11.72
2865	0.0014	0.0007	0.21	11.72	11.51
2870	0.0013	0.0007	0.20	11.51	11.31
2875	0.0012	0.0006	0.19	11.31	11.12
2880	0.0011		-	11.12	11.12

Table F.7-g: Pine Valley Station Proposed SWMF-7 Inlet Pipe Sizing

UP INV= 158.00 m
DS INV= 157.74 m
L= 21 m
SLOPE= 1.24 %

10-yr uncontrolled from the Site= 1.709 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	0.950	21.00	0.013	1.24	2.33	73%

Table F.7-h: Pine Valley Station Proposed SWMF-7 Outlet Pipe Sizing

UP INV= 157.74 m
DS INV= 157.30 m
L= 37 m
SLOPE= 1.19 %

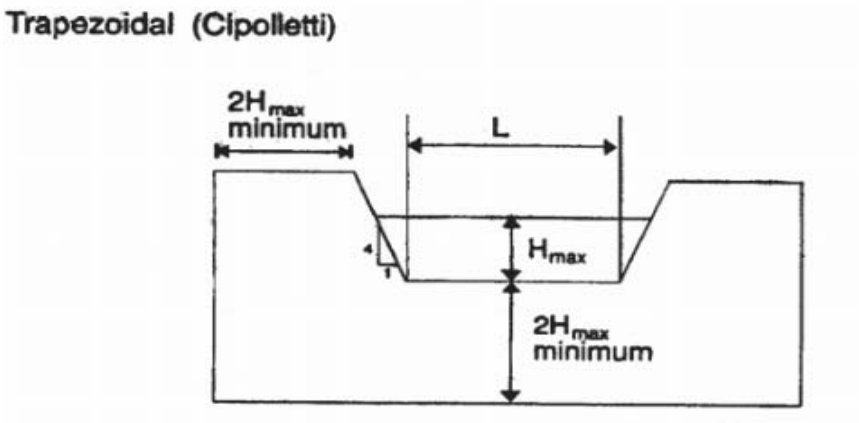
100-yr uncontrolled from the Site= 2.761 m^3/s

Pipe Material	Pipe Size (m)	Length L (m)	Roughness Coefficient n	Slope S (%)	Pipe Capacity Q_f (L/s)	
Conc.	1.200	37.00	0.013	1.19	4.25	65%

Table F.7-i: Pine Valley Station Proposed SWMF-7 Spillway

Trapezoidal Weir

Hmax=	0.3 m	2H=	0.6 m (MIN.)
Q=	1.272 m^3/s	or 2H=	1 m
L=	4.17 m		



$$0.1 < Q < 11\, m^3/s$$

$$0.1 < H_{max} < 1.5m$$

$$Q = 1.856 * L * H_{max}^{1.5}$$

```
================================================================================
====================

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename:
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  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\127e1d0d-3633-46a0-95aa-a18ce2b47b6a\Scenario.sum


DATE: 06/12/2018                          TIME: 01:59:52

USER:


COMMENTS: _____________________________________________________________


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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************


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|                  |              ata\Local\Temp\
|                  |              127e1d0d-3633-46a0-95aa-a18ce2b47b6a\89aff1f1
| Ptotal= 36.00 mm |    Comments: 2yr/6hr
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   12.24 |  3.75    5.04 |  5.50    0.72
                0.50    0.72 |  2.25   12.24 |  4.00    2.88 |  5.75    0.72
                0.75    0.72 |  2.50   33.12 |  4.25    2.88 |  6.00    0.72
                1.00    0.72 |  2.75   33.12 |  4.50    1.44 |  6.25    0.72
                1.25    0.72 |  3.00    9.36 |  4.75    1.44 |
                1.50    4.32 |  3.25    9.36 |  5.00    0.72 |
                1.75    4.32 |  3.50    5.04 |  5.25    0.72 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD  (0702) |   Area    (ha)=   6.47
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.82         0.65
     Dep. Storage     (mm)=       2.00         5.00
```

Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.(mm/hr)=	33.12	135.10		
over (min)	5.00	10.00		
Storage Coeff. (min)=	3.92 (ii)	8.45 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.24	0.12		
			TOTALS	
PEAK FLOW (cms)=	0.30	0.22	0.521 (iii)	
TIME TO PEAK (hrs)=	2.75	2.75	2.75	
RUNOFF VOLUME (mm)=	34.00	23.87	28.94	
TOTAL RAINFALL (mm)=	36.00	36.00	36.00	
RUNOFF COEFFICIENT =	0.94	0.66	0.80	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0703)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0670	0.2547
	0.0130	0.1087	0.0900	0.3005
	0.0280	0.1606	0.1080	0.3345
	0.0500	0.2174	0.1240	0.3688

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0702)	6.470	0.521	2.75	28.94
OUTFLOW: ID= 1 (0703)	6.470	0.028	4.50	28.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.38
TIME SHIFT OF PEAK FLOW (min)=105.00
MAXIMUM STORAGE USED (ha.m.)= 0.1607

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** SIMULATION NUMBER: 2 **
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Ptotal= 47.81 mm	Comments: 5yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	16.25	3.75	6.69	5.50	0.96
0.50	0.96	2.25	16.25	4.00	3.82	5.75	0.96
0.75	0.96	2.50	43.98	4.25	3.82	6.00	0.96
1.00	0.96	2.75	43.98	4.50	1.91	6.25	0.96
1.25	0.96	3.00	12.43	4.75	1.91		
1.50	5.74	3.25	12.43	5.00	0.96		
1.75	5.74	3.50	6.69	5.25	0.96		

CALIB	
STANDHYD (0702)	Area (ha)= 6.47
ID= 1 DT= 5.0 min	Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

Max.Eff.Inten.(mm/hr)=		43.98	191.56	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.50 (ii)	7.54 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.26	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.40	0.33	0.721 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	45.81	34.71	40.26
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.96	0.73	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0703)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0670	0.2547
0.0130	0.1087	0.0900	0.3005
0.0280	0.1606	0.1080	0.3345
0.0500	0.2174	0.1240	0.3688

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0702)	6.470	0.721	2.75	40.26
OUTFLOW: ID= 1 (0703)	6.470	0.050	4.33	39.93

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.94
TIME SHIFT OF PEAK FLOW (min)= 95.00
MAXIMUM STORAGE USED (ha.m.)= 0.2175

****
** SIMULATION NUMBER: 3 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\127e1d0d-3633-46a0-95aa-a18ce2b47b6a\f633ed47
Ptotal= 55.69 mm	Comments: 10yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	18.94	3.75	7.80	5.50	1.11
0.50	1.11	2.25	18.94	4.00	4.46	5.75	1.11
0.75	1.11	2.50	51.24	4.25	4.46	6.00	1.11
1.00	1.11	2.75	51.24	4.50	2.23	6.25	1.11
1.25	1.11	3.00	14.48	4.75	2.23		
1.50	6.68	3.25	14.48	5.00	1.11		
1.75	6.68	3.50	7.80	5.25	1.11		

CALIB STANDHYD (0702) ID= 1 DT= 5.0 min	Area (ha)= 6.47 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11

1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

Max.Eff.Inten.(mm/hr)=	51.24	229.36	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.30 (ii)	7.09 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.27	0.14	
			TOTALS
PEAK FLOW (cms)=	0.46	0.39	0.855 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	53.69	42.12	47.91
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.96	0.76	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0703)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0670	0.2547
0.0130	0.1087	0.0900	0.3005
0.0280	0.1606	0.1080	0.3345
0.0500	0.2174	0.1240	0.3688

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0702)	6.470	0.855	2.75	47.91
OUTFLOW: ID= 1 (0703)	6.470	0.067	4.33	47.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.84
TIME SHIFT OF PEAK FLOW (min)= 95.00
MAXIMUM STORAGE USED (ha.m.)= 0.2548

****
** SIMULATION NUMBER: 4 **
****

READ STORM
Ptotal= 65.59 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\127e1d0d-3633-46a0-95aa-a18ce2b47b6a\6de2f0ff
Comments: 25yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	22.30	3.75	9.18	5.50	1.31
0.50	1.31	2.25	22.30	4.00	5.25	5.75	1.31
0.75	1.31	2.50	60.35	4.25	5.25	6.00	1.31
1.00	1.31	2.75	60.35	4.50	2.62	6.25	1.31
1.25	1.31	3.00	17.06	4.75	2.62		
1.50	7.87	3.25	17.06	5.00	1.31		
1.75	7.87	3.50	9.18	5.25	1.31		

CALIB

| STANDHYD (0702) | Area (ha)= 6.47
|ID= 1 DT= 5.0 min | Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)=	60.35	276.71		
over (min)	5.00	10.00		
Storage Coeff. (min)=	3.09 (ii)	6.64 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.27	0.14		
			TOTALS	
PEAK FLOW (cms)=	0.54	0.48	1.023 (iii)	
TIME TO PEAK (hrs)=	2.75	2.75	2.75	
RUNOFF VOLUME (mm)=	63.59	51.56	57.58	
TOTAL RAINFALL (mm)=	65.59	65.59	65.59	
RUNOFF COEFFICIENT =	0.97	0.79	0.88	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0703)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0670	0.2547
0.0130	0.1087	0.0900	0.3005
0.0280	0.1606	0.1080	0.3345
0.0500	0.2174	0.1240	0.3688

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0702)	6.470	1.023	2.75	57.58
OUTFLOW: ID= 1 (0703)	6.470	0.090	4.25	57.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.80
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.3005

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  ****************************
  ** SIMULATION NUMBER:   5 **
  ****************************


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|    READ STORM    |    Filename: C:\Users\p001279d\AppD
|                  |              ata\Local\Temp\
|                  |              127e1d0d-3633-46a0-95aa-a18ce2b47b6a\ec11f88a
| Ptotal= 73.00 mm |    Comments: 50yr/6hr
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	24.82	3.75	10.22	5.50	1.46
0.50	1.46	2.25	24.82	4.00	5.84	5.75	1.46
0.75	1.46	2.50	67.16	4.25	5.84	6.00	1.46
1.00	1.46	2.75	67.16	4.50	2.92	6.25	1.46
1.25	1.46	3.00	18.98	4.75	2.92		
1.50	8.76	3.25	18.98	5.00	1.46		
1.75	8.76	3.50	10.22	5.25	1.46		

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| CALIB            |
| STANDHYD  (0702) |   Area    (ha)=   6.47
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
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```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

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    NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	312.01	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.96 (ii)	6.37 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.28	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.60	0.54	1.148 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	71.00	58.70	64.85
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.97	0.80	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0703)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0670	0.2547
0.0130	0.1087	0.0900	0.3005
0.0280	0.1606	0.1080	0.3345
0.0500	0.2174	0.1240	0.3688

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0702)	6.470	1.148	2.75	64.85
OUTFLOW: ID= 1 (0703)	6.470	0.108	4.00	64.52

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.40
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.3345

****
** SIMULATION NUMBER: 6 **
****

READ STORM	Filename: C:\Users\p001279d\AppData\Local\Temp\127e1d0d-3633-46a0-95aa-a18ce2b47b6a\008a0359
Ptotal= 80.31 mm	Comments: 100yr/6hr

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	27.30	3.75	11.24	5.50	1.61
0.50	1.61	2.25	27.30	4.00	6.42	5.75	1.61
0.75	1.61	2.50	73.88	4.25	6.42	6.00	1.61
1.00	1.61	2.75	73.88	4.50	3.21	6.25	1.61
1.25	1.61	3.00	20.88	4.75	3.21		
1.50	9.64	3.25	20.88	5.00	1.61		
1.75	9.64	3.50	11.24	5.25	1.61		

CALIB
STANDHYD (0702)
ID= 1 DT= 5.0 min

Area (ha)= 6.47
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61

0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

			TOTALS
Max.Eff.Inten.(mm/hr)=	73.88	346.75	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.85 (ii)	6.13 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.28	0.15	
PEAK FLOW (cms)=	0.66	0.61	1.272 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	78.31	65.78	72.04
TOTAL RAINFALL (mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT =	0.98	0.82	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0703)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0670	0.2547
0.0130	0.1087	0.0900	0.3005
0.0280	0.1606	0.1080	0.3345
0.0500	0.2174	0.1240	0.3688

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0702)	6.470	1.272	2.75	72.04
OUTFLOW: ID= 1 (0703)	6.470	0.124	4.00	71.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.75
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.3688

****
** SIMULATION NUMBER: 7 **
****

READ STORM
Ptotal= 25.00 mm

Filename: C:\Users\p001279d\AppData\Local\Temp\127e1d0d-3633-46a0-95aa-a18ce2b47b6a\d8dbe0fa
Comments: 25 mm, 4 hr. chicago dist'n. - water qua

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.40	1.17	33.60	2.17	3.45	3.17	1.65
0.33	1.95	1.33	38.10	2.33	3.00	3.33	1.80
0.50	2.40	1.50	13.80	2.50	2.70	3.50	1.50
0.67	2.85	1.67	7.35	2.67	2.25	3.67	1.50
0.83	4.65	1.83	5.55	2.83	2.25	3.83	0.75
1.00	9.60	2.00	4.35	3.00	1.95	4.00	0.60

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| CALIB            |
| STANDHYD  (0702) |   Area    (ha)=   6.47
|ID= 1 DT= 5.0 min |   Total Imp(%)=  90.00   Dir. Conn.(%)=  50.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.82         0.65
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       4.50         4.50
     Length            (m)=     207.69        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.40 | 1.083   33.60 | 2.083    3.45 |  3.08    1.65
              0.167    2.40 | 1.167   33.60 | 2.167    3.45 |  3.17    1.65
              0.250    1.95 | 1.250   38.10 | 2.250    3.00 |  3.25    1.80
              0.333    1.95 | 1.333   38.10 | 2.333    3.00 |  3.33    1.80
              0.417    2.40 | 1.417   13.80 | 2.417    2.70 |  3.42    1.50
              0.500    2.40 | 1.500   13.80 | 2.500    2.70 |  3.50    1.50
              0.583    2.85 | 1.583    7.35 | 2.583    2.25 |  3.58    1.50
              0.667    2.85 | 1.667    7.35 | 2.667    2.25 |  3.67    1.50
              0.750    4.65 | 1.750    5.55 | 2.750    2.25 |  3.75    0.75
              0.833    4.65 | 1.833    5.55 | 2.833    2.25 |  3.83    0.75
              0.917    9.60 | 1.917    4.35 | 2.917    1.95 |  3.92    0.60
              1.000    9.60 | 2.000    4.35 | 3.000    1.95 |  4.00    0.60

     Max.Eff.Inten.(mm/hr)=      38.10       125.28
                 over (min)       5.00        10.00
     Storage Coeff.  (min)=      3.71 (ii)    7.99 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.25         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.34         0.17       0.509 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42        1.33
     RUNOFF VOLUME    (mm)=     23.00        14.29       18.64
     TOTAL RAINFALL   (mm)=     25.00        25.00       25.00
     RUNOFF COEFFICIENT   =      0.92         0.57        0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0703) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0670      0.2547
                         0.0130     0.1087    |   0.0900      0.3005
                         0.0280     0.1606    |   0.1080      0.3345
                         0.0500     0.2174    |   0.1240      0.3688

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0702)      6.470      0.509      1.33       18.64
     OUTFLOW: ID= 1 (0703)      6.470      0.013      3.92       18.32

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.55
                   TIME SHIFT OF PEAK FLOW         (min)=155.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1087

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FINISH
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O    Company

        OOO     T      T    H   H    Y    M   M   OOO                Serial

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual Otthymo 2.4\VO2\voin.dat

  Output  filename:
C:\Users\p001279d\AppData\Local\Temp\ec498373-45c1-4a91-83f0-45c7cca91661\Scenario.out

  Summary filename:
C:\Users\p001279d\AppData\Local\Temp\ec498373-45c1-4a91-83f0-45c7cca91661\Scenario.sum


DATE: 06/12/2018                          TIME: 02:00:52

USER:


COMMENTS: _____________________________________________________________


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  ****************************
  ** SIMULATION NUMBER:   1 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 453.462
| Ptotal= 38.09 mm |                          B=   1.500
--------------------                          C=   0.704
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
                       5.         131.10               121.41
                      10.          81.50                81.25
                      15.          61.70                63.01
                      30.          38.40                39.97
                      60.          24.00                24.96
                     120.          15.00                15.45
                     360.           7.10                 7.17
                     720.           4.50                 4.41
                    1440.           2.80                 2.71


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                                      Page 1
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0.17	3.20	1.17	16.80	2.17	6.49	3.17	3.71
0.33	3.59	1.33	81.25	2.33	5.70	3.33	3.48
0.50	4.11	1.50	21.07	2.50	5.11	3.50	3.29
0.67	4.87	1.67	12.55	2.67	4.64	3.67	3.12
0.83	6.09	1.83	9.35	2.83	4.27	3.83	2.97
1.00	8.47	2.00	7.61	3.00	3.96	4.00	2.84

CALIB STANDHYD (0705) ID= 1 DT= 5.0 min	Area (ha)= 6.47 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.20	1.083	16.80	2.083	6.49	3.08	3.71
0.167	3.20	1.167	16.80	2.167	6.49	3.17	3.71
0.250	3.59	1.250	81.25	2.250	5.70	3.25	3.48
0.333	3.59	1.333	81.25	2.333	5.70	3.33	3.48
0.417	4.11	1.417	21.07	2.417	5.11	3.42	3.29
0.500	4.11	1.500	21.07	2.500	5.11	3.50	3.29
0.583	4.87	1.583	12.55	2.583	4.64	3.58	3.12
0.667	4.87	1.667	12.55	2.667	4.64	3.67	3.12
0.750	6.09	1.750	9.35	2.750	4.27	3.75	2.97
0.833	6.09	1.833	9.35	2.833	4.27	3.83	2.97
0.917	8.47	1.917	7.61	2.917	3.96	3.92	2.84
1.000	8.47	2.000	7.61	3.000	3.96	4.00	2.84

Max.Eff.Inten.(mm/hr)=	81.25	279.13		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.74 (ii)	5.90 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.28	0.15		
			TOTALS	
PEAK FLOW (cms)=	0.71	0.37	1.058 (iii)	
TIME TO PEAK (hrs)=	1.33	1.42	1.33	
RUNOFF VOLUME (mm)=	36.09	25.76	30.93	
TOTAL RAINFALL (mm)=	38.09	38.09	38.09	
RUNOFF COEFFICIENT =	0.95	0.68	0.81	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (0706)
IN= 2---> OUT= 1
DT= 5.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0670	0.2547
0.0130	0.1087	0.0900	0.3005
0.0280	0.1606	0.1080	0.3345
0.0500	0.2174	0.1240	0.3688

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0705)	6.470	1.058	1.33	30.93
OUTFLOW: ID= 1 (0706)	6.470	0.033	4.08	30.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.11
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.1735

****
** SIMULATION NUMBER: 2 **
****

CHICAGO STORM
Ptotal= 48.94 mm

IDF curve parameters: A= 592.209
B= 1.501
C= 0.707
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	170.20	157.65
10.	105.60	105.33
15.	79.90	81.60
30.	49.70	51.66
60.	30.90	32.19
120.	19.20	19.89
360.	9.10	9.20
720.	5.70	5.65
1440.	3.60	3.46

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.08	1.17	21.57	2.17	8.28	3.17	4.72
0.33	4.57	1.33	105.33	2.33	7.27	3.33	4.43
0.50	5.24	1.50	27.08	2.50	6.51	3.50	4.19
0.67	6.21	1.67	16.08	2.67	5.92	3.67	3.97
0.83	7.77	1.83	11.97	2.83	5.44	3.83	3.78
1.00	10.83	2.00	9.72	3.00	5.05	4.00	3.61

CALIB STANDHYD (0705) ID= 1 DT= 5.0 min

Area (ha)= 6.47
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.08	1.083	21.57	2.083	8.28	3.08	4.72
0.167	4.08	1.167	21.57	2.167	8.28	3.17	4.72
0.250	4.57	1.250	105.33	2.250	7.27	3.25	4.43
0.333	4.57	1.333	105.33	2.333	7.27	3.33	4.43
0.417	5.24	1.417	27.08	2.417	6.51	3.42	4.19
0.500	5.24	1.500	27.08	2.500	6.51	3.50	4.19
0.583	6.21	1.583	16.08	2.583	5.92	3.58	3.97
0.667	6.21	1.667	16.08	2.667	5.92	3.67	3.97
0.750	7.77	1.750	11.97	2.750	5.44	3.75	3.78
0.833	7.77	1.833	11.97	2.833	5.44	3.83	3.78
0.917	10.83	1.917	9.72	2.917	5.05	3.92	3.61

```
                1.000   10.83 | 2.000    9.72 | 3.000    5.05 |  4.00    3.61

     Max.Eff.Inten.(mm/hr)=     105.33       397.82
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.47 (ii)    5.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.93         0.54          1.448 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      46.94        35.77          41.35
     TOTAL RAINFALL   (mm)=      48.94        48.94          48.94
     RUNOFF COEFFICIENT   =       0.96         0.73           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR (0706) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0670      0.2547
                          0.0130     0.1087   |   0.0900      0.3005
                          0.0280     0.1606   |   0.1080      0.3345
                          0.0500     0.2174   |   0.1240      0.3688

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0705)      6.470      1.448      1.33      41.35
     OUTFLOW: ID= 1 (0706)      6.470      0.053      4.00      41.02

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.64
                  TIME SHIFT OF PEAK FLOW         (min)=160.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2234

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  ****************************
  ** SIMULATION NUMBER:   3 **
  ****************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 683.826
| Ptotal= 55.89 mm |                          B=   1.501
--------------------                          C=   0.709
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
                       5.         195.80               181.36
                      10.         121.40               121.03
                      15.          91.80                93.70
                      30.          57.00                59.24
                      60.          35.40                36.87
                     120.          22.00                22.75
                     360.          10.40                10.50
                     720.           6.50                 6.43
                    1440.           4.10                 3.94


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    4.63 |  1.17   24.61 |  2.17    9.42 |  3.17    5.36
```

0.33	5.19	1.33	121.03	2.33	8.26	3.33	5.03
0.50	5.95	1.50	30.93	2.50	7.40	3.50	4.75
0.67	7.06	1.67	18.33	2.67	6.73	3.67	4.51
0.83	8.83	1.83	13.63	2.83	6.18	3.83	4.29
1.00	12.33	2.00	11.06	3.00	5.73	4.00	4.10

CALIB STANDHYD (0705) ID= 1 DT= 5.0 min	Area (ha)= 6.47 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.63	1.083	24.61	2.083	9.42	3.08	5.36
0.167	4.63	1.167	24.61	2.167	9.42	3.17	5.36
0.250	5.19	1.250	121.03	2.250	8.26	3.25	5.03
0.333	5.19	1.333	121.03	2.333	8.26	3.33	5.03
0.417	5.95	1.417	30.93	2.417	7.40	3.42	4.75
0.500	5.95	1.500	30.93	2.500	7.40	3.50	4.75
0.583	7.06	1.583	18.33	2.583	6.73	3.58	4.51
0.667	7.06	1.667	18.33	2.667	6.73	3.67	4.51
0.750	8.83	1.750	13.63	2.750	6.18	3.75	4.29
0.833	8.83	1.833	13.63	2.833	6.18	3.83	4.29
0.917	12.33	1.917	11.06	2.917	5.73	3.92	4.10
1.000	12.33	2.000	11.06	3.000	5.73	4.00	4.10

Max.Eff.Inten.(mm/hr)=	121.03	476.79		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.34 (ii)	5.03 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.30	0.16		
			TOTALS	
PEAK FLOW (cms)=	1.08	0.65	1.709 (iii)	
TIME TO PEAK (hrs)=	1.33	1.42	1.33	
RUNOFF VOLUME (mm)=	53.89	42.32	48.10	
TOTAL RAINFALL (mm)=	55.89	55.89	55.89	
RUNOFF COEFFICIENT =	0.96	0.76	0.86	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR (0706) IN= 2---> OUT= 1 DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0670	0.2547
0.0130	0.1087	0.0900	0.3005
0.0280	0.1606	0.1080	0.3345
0.0500	0.2174	0.1240	0.3688

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0705)	6.470	1.709	1.33	48.10
OUTFLOW: ID= 1 (0706)	6.470	0.067	4.00	47.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.90
TIME SHIFT OF PEAK FLOW (min)=160.00
MAXIMUM STORAGE USED (ha.m.)= 0.2542

****
** SIMULATION NUMBER: 4 **
****

CHICAGO STORM
Ptotal= 64.68 mm

IDF curve parameters: A= 804.454
B= 1.501
C= 0.712
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	228.80	212.16
10.	141.60	141.34
15.	107.10	109.30
30.	66.40	68.98
60.	41.20	42.84
120.	25.60	26.38
360.	12.10	12.14
720.	7.50	7.42
1440.	4.70	4.53

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.30	1.17	28.45	2.17	10.83	3.17	6.14
0.33	5.95	1.33	141.34	2.33	9.50	3.33	5.77
0.50	6.83	1.50	35.79	2.50	8.50	3.50	5.45
0.67	8.10	1.67	21.14	2.67	7.72	3.67	5.17
0.83	10.16	1.83	15.70	2.83	7.09	3.83	4.92
1.00	14.20	2.00	12.73	3.00	6.58	4.00	4.70

CALIB
STANDHYD (0705)
ID= 1 DT= 5.0 min

Area (ha)= 6.47
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.30	1.083	28.45	2.083	10.83	3.08	6.14
0.167	5.30	1.167	28.45	2.167	10.83	3.17	6.14
0.250	5.95	1.250	141.34	2.250	9.50	3.25	5.77
0.333	5.95	1.333	141.34	2.333	9.50	3.33	5.77
0.417	6.83	1.417	35.79	2.417	8.50	3.42	5.45
0.500	6.83	1.500	35.79	2.500	8.50	3.50	5.45
0.583	8.10	1.583	21.14	2.583	7.72	3.58	5.17
0.667	8.10	1.667	21.14	2.667	7.72	3.67	5.17
0.750	10.16	1.750	15.70	2.750	7.09	3.75	4.92
0.833	10.16	1.833	15.70	2.833	7.09	3.83	4.92
0.917	14.20	1.917	12.73	2.917	6.58	3.92	4.70
1.000	14.20	2.000	12.73	3.000	6.58	4.00	4.70

```
     Max.Eff.Inten.(mm/hr)=     141.34       579.76
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       2.20 (ii)    4.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.30         0.22
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.26         0.96          2.222 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      62.68        50.69          56.68
     TOTAL RAINFALL   (mm)=      64.68        64.68          64.68
     RUNOFF COEFFICIENT   =       0.97         0.78           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0706) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0670      0.2547
                          0.0130     0.1087   |   0.0900      0.3005
                          0.0280     0.1606   |   0.1080      0.3345
                          0.0500     0.2174   |   0.1240      0.3688

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0705)      6.470      2.222      1.33      56.68
     OUTFLOW: ID= 1 (0706)      6.470      0.086      3.83      56.36

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.85
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2918

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  ***************************
  ** SIMULATION NUMBER:   5 **
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| CHICAGO STORM    |    IDF curve parameters: A= 889.943
| Ptotal= 71.55 mm |                          B=   1.500
--------------------                          C=   0.712
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                    The CORRELATION coefficient is = 0.9996

                     TIME       INPUT INT.           TAB. INT.
                    (min)        (mm/hr)              (mm/hr)
                       5.         253.20               234.73
                      10.         156.70               156.37
                      15.         118.40               120.92
                      30.          73.40                76.31
                      60.          45.50                47.39
                     120.          28.20                29.18
                     360.          13.30                13.43
                     720.           8.30                 8.21
                    1440.           5.20                 5.02


                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    5.87 |  1.17   31.47 |  2.17   11.98 |  3.17    6.80
                  0.33    6.58 |  1.33  156.37 |  2.33   10.51 |  3.33    6.39
```

0.50	7.55	1.50	39.59	2.50	9.40	3.50	6.03
0.67	8.96	1.67	23.39	2.67	8.54	3.67	5.72
0.83	11.23	1.83	17.36	2.83	7.85	3.83	5.44
1.00	15.71	2.00	14.09	3.00	7.28	4.00	5.20

CALIB STANDHYD (0705) ID= 1 DT= 5.0 min	Area (ha)= 6.47 Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.87	1.083	31.47	2.083	11.98	3.08	6.80
0.167	5.87	1.167	31.47	2.167	11.98	3.17	6.80
0.250	6.58	1.250	156.37	2.250	10.51	3.25	6.39
0.333	6.58	1.333	156.37	2.333	10.51	3.33	6.39
0.417	7.55	1.417	39.59	2.417	9.40	3.42	6.03
0.500	7.55	1.500	39.59	2.500	9.40	3.50	6.03
0.583	8.96	1.583	23.39	2.583	8.54	3.58	5.72
0.667	8.96	1.667	23.39	2.667	8.54	3.67	5.72
0.750	11.23	1.750	17.36	2.750	7.85	3.75	5.44
0.833	11.23	1.833	17.36	2.833	7.85	3.83	5.44
0.917	15.71	1.917	14.09	2.917	7.28	3.92	5.20
1.000	15.71	2.000	14.09	3.000	7.28	4.00	5.20

Max.Eff.Inten.(mm/hr)=		156.37	657.32	
	over (min)	5.00	5.00	
Storage Coeff. (min)=		2.11 (ii)	4.54 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.31	0.23	
				TOTALS
PEAK FLOW	(cms)=	1.40	1.10	2.496 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	69.55	57.30	63.43
TOTAL RAINFALL	(mm)=	71.55	71.55	71.55
RUNOFF COEFFICIENT	=	0.97	0.80	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 75.7 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR (0706)
IN= 2---> OUT= 1
DT= 5.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0670	0.2547
0.0130	0.1087	0.0900	0.3005
0.0280	0.1606	0.1080	0.3345
0.0500	0.2174	0.1240	0.3688

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0705)	6.470	2.496	1.33	63.43
OUTFLOW: ID= 1 (0706)	6.470	0.101	3.67	63.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.05

TIME SHIFT OF PEAK FLOW (min)=140.00
MAXIMUM STORAGE USED (ha.m.)= 0.3213

****
** SIMULATION NUMBER: 6 **
****

CHICAGO STORM
Ptotal= 77.58 mm

IDF curve parameters: A= 980.886
B= 1.508
C= 0.715
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

The CORRELATION coefficient is = 0.9996

TIME (min)	INPUT INT. (mm/hr)	TAB. INT. (mm/hr)
5.	277.00	257.04
10.	171.40	171.00
15.	129.50	132.12
30.	80.20	83.22
60.	49.70	51.59
120.	30.80	31.70
360.	14.50	14.54
720.	9.00	8.87
1440.	5.60	5.41

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.30	1.17	34.10	2.17	12.91	3.17	7.30
0.33	7.07	1.33	171.00	2.33	11.31	3.33	6.86
0.50	8.12	1.50	42.95	2.50	10.12	3.50	6.47
0.67	9.64	1.67	25.29	2.67	9.19	3.67	6.14
0.83	12.10	1.83	18.74	2.83	8.44	3.83	5.84
1.00	16.95	2.00	15.19	3.00	7.82	4.00	5.58

CALIB STANDHYD (0705) ID= 1 DT= 5.0 min

Area (ha)= 6.47
Total Imp(%)= 90.00 Dir. Conn.(%)= 50.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.82	0.65
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	4.50	4.50
Length	(m)=	207.69	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.30	1.083	34.10	2.083	12.91	3.08	7.30
0.167	6.30	1.167	34.10	2.167	12.91	3.17	7.30
0.250	7.07	1.250	171.00	2.250	11.31	3.25	6.86
0.333	7.07	1.333	171.00	2.333	11.31	3.33	6.86
0.417	8.12	1.417	42.95	2.417	10.12	3.42	6.47
0.500	8.12	1.500	42.95	2.500	10.12	3.50	6.47
0.583	9.64	1.583	25.29	2.583	9.19	3.58	6.14
0.667	9.64	1.667	25.29	2.667	9.19	3.67	6.14
0.750	12.10	1.750	18.74	2.750	8.44	3.75	5.84
0.833	12.10	1.833	18.74	2.833	8.44	3.83	5.84
0.917	16.95	1.917	15.19	2.917	7.82	3.92	5.58
1.000	16.95	2.000	15.19	3.000	7.82	4.00	5.58

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     Max.Eff.Inten.(mm/hr)=     171.00       731.80
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       2.04 (ii)    4.38 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.31         0.23
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.53         1.23          2.761 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      75.58        63.13          69.35
     TOTAL RAINFALL   (mm)=      77.58        77.58          77.58
     RUNOFF COEFFICIENT   =       0.97         0.81           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.7    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR (0706) |
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0670      0.2547
                          0.0130     0.1087   |   0.0900      0.3005
                          0.0280     0.1606   |   0.1080      0.3345
                          0.0500     0.2174   |   0.1240      0.3688

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (0705)      6.470      2.761      1.33      69.35
     OUTFLOW: ID= 1 (0706)      6.470      0.114      3.50      69.02

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.13
                    TIME SHIFT OF PEAK FLOW         (min)=130.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.3474

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